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Final Report

OPPOSED RATES OF ADVANCE OF
LARGE FORCES IN EUROPE
(ORALFORE)

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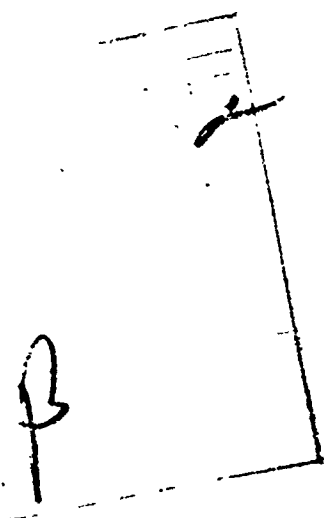
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HISTORICAL EVALUATION AND RESEARCH ORGANIZATION
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13. ABSTRACT
This report provides a detailed review and analysis of the operational and environmental circumstances relating to the advance rates in six different operations of World War II: (a) German 7th Panzer Div. in the Ardennes and Flanders, May 1940; (b) German XLVII Panzer Corps, 18th Panzer Div., and 29th Motorized Div. in Russia, Nov-Dec 1941; (c) German XL Panzer Corps and 3d Pz Div. in Russia, July-Aug 1942; (d) US VII Corps, 1st Inf.Div., 9th Inf. Div., and 3d Armored Div. in France, Aug-Sep 1944; (e) US XX Corps and 7th Armored Div. in France, Aug-Sep 1944; and (f) US XII Corps and 4th Armored Div in Lorraine, Nov-Dec 1944. General conclusions are: (1) it is feasible to determine historical rates of advance of large forces in combat and to identify the operational and environmental factors influencing those rates of advance; (2) it is likely that force ratios, however they may be calculated, do not influence rates of advance, but that sustained advances are probably not possible unless a threshold force ratio superiority has been achieved; and (3) the analysis initiated in this feasibility study cannot be completed without a larger data base. An approach to the formulation of "normalized" advance rates for differing tactical situations is also demonstrated.

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SUMMARY

This study report includes detailed reviews and analyses of the operational and environmental circumstances relating to the advance rates of large units in six operations of World War II: (a) German 7th Panzer Division in the Ardennes and Flanders, May 1940; (b) German XLVII Panzer Corps, 18th Panzer Division, and 29th Motorized Division in Russia, November-December 1941; (c) German XL Panzer Corps and 3d Panzer Division in Russia, July-August 1942; (d) US VII Corps, 1st Infantry Division, 9th Infantry Division, and 3d Armored Division in France, August-September 1944; (e) US XX Corps and 7th Armored Division in France, August-September 1944; and (f) US XII Corps and 4th Armored Division in Lorraine, November-December 1944.

The general conclusions of the study are: (1) it is feasible to determine historical rates of advance of large forces in combat and to identify the operational and environmental factors influencing those rates of advance; (2) it is likely that force ratios, however they may be calculated, do not influence rates of advance, but that sustained advances are probably not possible unless a threshold force ratio superiority has been achieved; and (3) the analysis initiated in this feasibility study cannot be completed without a larger data base.

The report also suggests a method for calculation of "normalized" advance rates for standard tactical situations, which can then be modified to reflect specific operational and environmental circumstances. Using tentative factors, this method is demonstrated in the study, producing ranges, and averages, of rates of advance for five different categories of operational situation.

Table of Contents

	<u>Page</u>
SUMMARY	i
I. INTRODUCTION	
Purpose and Nature of Study	1
Methodology	2
Problems Encountered	3
The Matrix Analysis	4
II. OPERATIONS	
A. Ardennes-Flanders Offensive, 10-24 May 1940	
7th Panzer Division	A- 1
Orders of Battle	A-18
Weather, 10-26 May 1940	A-20
German 7th Panzer Division Operational Summary	A-21
Analysis of Advance Rate, 7th Panzer Division	A-22
B. Orel to Moscow, 13 November-7 December 1941	
German XLVII Panzer Corps	B- 1
Orders of Battle	B-31
Weather, 13 November-3 December 1941	B-33
German XLVII Panzer Corps Operational Summary	B-34
German 29th Motorized Division	
Operational Summary	B-35
German 18th Panzer Division Operational Summary	B-35
Analysis of Advance Rate of XLVII Panzer Corps,	
29th Motorized and 18th Panzer Divisions . .	B-36
C. Don River to Caucasus, 21 July-23 August 1942	
XL Panzer Corps	C- 1
Orders of Battle	C-54
Weather, 21 July-23 August 1943	C-58
German XL Panzer Corps Operational Summary . .	C-59
German 3d Panzer Division Operational Summary	C-60
Analysis of Advance Rate of XL Panzer Corps,	
and 3d Panzer Division	C-61
D. Argentan to Liege, 13 August-12 September 1944	
VII Corps	D- 1
Orders of Battle	D-30
Weather, 13 August-12 September 1944	D-42
VII Corps Operational Summary	D-43
1st Infantry Division Operational Summary . .	D-44
3d Armored Division Operational Summary . . .	D-45
9th Infantry Division Operational Summary . .	D-46
Analysis of Advance Rate of VII Corps,	
3d Armored, 1st Infantry and 9th Infantry	
Divisions	D-47

	<u>Page</u>
E. Le Mans to Metz, 14 August-14 September 1944	
XX Corps	E- 1
Orders of Battle	E-29
Weather, 14 August-14 September 1944	E-32
XX Corps Operational Summary	35
7th Armored Division Operational Summary	36
Operational Statistics and Force Comparisons (Engagement Calculation Sheets 501-505)	,7
Analysis of Advance Rate of XX Corps and 7th Armored Division	42
F. Saar (Lorraine) Campaign, 8 November-7 December 1944, XII Corps	F- 1
4th Armored Division Operations	F-36
Orders of Battle	F-48
Weather, 8 November-7 December 1944	F-53
XII Corps Operational Summary	F-56
4th Armored Division Operational Summary	F-58
Operational Statistics and Force Comparisons (Engagement Calculation Sheets 601-613)	F-59
Analysis of Advance Rate of XII Corps and 4th Armored Division	F-72
 III. EVALUATION	
A. Overall Matrix Comparison	III- 1
Diagram of Overall Matrix Comparison	III- 2
B. General Comparative Analysis	III- 3
Diagram of Normalized Rates of Advance	III-10
 IV. CONCLUSIONS AND RECOMMENDATIONS	
A. Conclusions	IV- 1
B. Recommendations	IV- 3
 BIBLIOGRAPHICAL NOTE	
 APPENDIX A - Terms of Reference	
B - Operations for Rates of Advance Study	
C - Quantitative Data and Qualitative Data	
D - Preliminary List of Factors Potentially Influencing Rates of Advance	
E - The Quantified Judgment Method of Analysis of Historical Combat Data	

List of Maps
(in envelope)

- A. Ardennes-Flanders Offensive, 1940
Campaign in the West, 1940; Fortifications, Disposition of
Opposing Forces, and German Plan for the Battle of Flanders
Advance of 7th Panzer Division, 10-24 May 1940
- B. Orel to Moscow, 1941
Operations of German XLVII Panzer Corps in the Orel-Tula-
Ryazan Region, 13 November-3 December 1941
- C. Don River to Caucasus, 1942
Operations of the XL Panzer Corps in the Northern Caucasus,
21 July-23 August 1942
- D. Argentan to Liege, 1944
US VII Corps Operations, 13 August-12 September 1944
- E. Le Mans to Metz, 1944
Advance of US XX Corps, 14 August-14 September 1944
XX Corps, Situation, Noon, 6 September 1944
- F. Saar (Lorraine) Campaign, 1944
Third Army; The November Offensive, 8 November-2 December 1944
Advance in 26th Division Zone, 8-17 November 1944
Advance in 35th Division Zone, 8-15 November 1944
Advance in 80th Division Zone, 8-16 November 1944
XII Corps, Attack West and East of the Sarre, Right Wing,
18-30 November 1944
XII Corps, Operations West of the Sarre, Left Wing,
18-30 November 1944
XII Corps, 1-20 December 1944

Final Report

OPPOSED RATES OF ADVANCE OF LARGE FORCES IN EUROPE (ORALFORE)

I. INTRODUCTION

Purpose and Nature of Study

The Terms of Reference for this study are contained in Appendix A. This is the Work Statement prepared by the Office of the Deputy Chief of Staff of the U.S. Army for Operations (ODCSOPS), based upon an unsolicited proposal for a feasibility study on this subject submitted to the Department of the Army by the Historical Evaluation and Research Organization (HERO) in 1971.

The study objective, as stated in the Work Statement, was "to broaden the data base, improve the logical structure of current rates of advance tables and determine the influence of factors, in addition to force ratios, on the rates of advance."

In pursuing the objective HERO's purpose was to provide insight into some of the basic problems of dealing with rates of advance in wargaming and simulations of the US Army by attempting to ascertain whether historical combat experience provides a basis for calculating rates of advance of large forces (divisions and corps); by examining the assumption, accepted as valid in current models and wargames, that rates of advance can be related directly to the force ratios of opposing military forces; and by analyzing the factors that have influenced rates of advance in historical combat, to determine their significance, their relative importance, and their interrelationship. The ultimate result was intended to indicate the feasibility of using historical data to develop rates of advance inputs suitable for use in simulations of modern ground combat.

By a thorough examination of six operations in World War II, it was also expected that a considerable body of information would be assembled that would throw light on operational processes involved in the movements of large forces in combat.

Methodology

Within a specified level of professional effort, established by HERO,¹ and within the narrow time limits set by the client, HERO researchers examined six different operations of World War II, involving sustained movements of large forces over periods of time from two to five weeks. These six operations, presented in more detailed tabular form in Appendix B, are:

- A. The German 7th Panzer Division in the Ardennes and Flanders, 10-26 May 1940;
- B. The German XLVII Panzer Corps, 18th Panzer Division, and 29th Motorized Division in central Russia, 13 November-3 December 1941;
- C. The German XL Panzer Corps and 3d Panzer Division in southeast Russia, 21 July-23 August 1942;
- D. The US VII Corps, 1st Infantry Division, 9th Infantry Division, and 3d Armored Division in northern France, 14 August-12 September 1944;
- E. The US XX Corps and 7th Armored Division in northern France, 14 August-11 September 1944; and
- F. The US XII Corps and 4th Armored Division in Lorraine, 8 November-7 December 1944.

These operations were selected from a list suggested by HERO of about 20 possible World War II operations involving sustained movement and substantial combat. The principal criterion for selection was the availability of reliable data for the opposing forces, particularly in order to be able to evaluate the effects of possible influencing factors on the advancing force. It was not possible to include examples of Soviet advances against German forces, because sufficient data was not available for Russian forces. It should be noted, however, that in the process of the research it was discovered that there is a distinct possibility of finding adequate, reasonably reliable data on Soviet operations against German forces; if so, such data can be related to the relatively rich resources of German data on operations on the Russian front, available on microfilm in the US National Archives.

In some instances, in the process of selecting operations for analysis, it was found that data for one American or German division

¹These estimates were based upon earlier, comparable research, mostly on World War II operations in Italy.

was less complete, or less well-organized than that for other divisions in comparable operations. In such instances, in the light of the strict limitations on time available for the study, HERO selected those operations for which the data was most readily accessible. The Army's Study Advisory Group (SAG) was kept informed of the progress of this process of selection.

Early in the study HERO prepared a list of the data which would be sought from the records for each of these operations. This list, contained in Appendix C, provided guidance for the HERO researchers who were extracting the data from US and German records. As will be noted where appropriate in the body of this report, it was not always possible to find all of this data. In some instances gaps in data could be filled by interpolation or extrapolation on the basis of professional military or historical experience. HERO researchers did not feel sufficiently familiar with Soviet military practice to attempt any such gap-filling in the somewhat sketchy Soviet data which was available in the German records.

Also early in the study HERO prepared a list of the factors which appeared likely to have influenced rates of advance in World War II operations. This list, contained in Appendix D, has provided the basis for the analysis.

In order to examine the assumption that rates of advance can be directly related to force ratios and to analyze the factors that have influenced rates of advance in historical combat, HERO has used its method of analysis known as The Quantified Judgment Method of Analysis of Historical Combat (QJMA). (The method is briefly described in Appendix E.) This method includes the calculation of firepower scores for all weapons involved in an engagement and modification of these scores by factors representing the influence of such variables as terrain, weather, posture, combat effectiveness, mobility and vulnerability.

In addition to the QJMA analysis, HERO has prepared a matrix which relates all the elements and factors influencing the rate of advance in each of the six operations. These matrices indicate clearly those areas for which information was not available.

Problems Encountered

The principal problem encountered was the limitation of time in which to do the study. It proved to be impossible to complete the research and analysis for all six operations within the level of effort and the length of time provided. Problems of locating, translating, recording, and analyzing data consumed more time than was provided, with the result that some of the potential sources could not be completely exploited. It was decided to attempt to

complete the QJMA calculations and analysis for Operations F, E, and D in that order, with the result that only F and E could be completed with the time and effort available for the study.

The data immediately available for Operations B and C was not sufficient to permit calculation of the relative combat strengths of the opposing German and Russian forces. Nor was it possible within the limitations of this study to do the research in records of British and French forces necessary to secure accurate statistical information for Operation A. Consequently the analyses of these operations are based only on the information shown in the matrix. Also, because of changing corps boundaries, it has been necessary to study Operation A only from the point of view of the 7th Panzer Division. In Operation C translation and detailed exploitation of records of the 3d Panzer Division has not been possible, and the analysis has been made entirely on the basis of XL Corps records.

Despite the incomplete nature of the information developed in Operations A, B, and C, sufficient material has been available to make a productive analysis of these operations. The variety of conditions and types of combat studies in Operations D, E, and F has made it possible to draw from them the firm conclusions not permitted by the other three, and in particular to make significant observations on the effects of force ratios on the rates of advance.

The Matrix Analysis

The matrix analysis sheets present in tabular form on a daily basis the data assembled for this study from World War II records which appears to have a relation to the rate of advance in each operation. As such it summarizes information in the narratives, in the operational summaries, in the operational statistics and force comparisons, and in some cases estimates based upon firm information. Estimated in Operations A, B, C, and D are the force ratios, and relative combat effectiveness, relative mobility effectiveness and intensity of combat. For Operations E and F these have been calculated by the Quantified Judgment Method (QJM).

Intensity of opposition to advance is the historian's estimate from the narrative, and from an assessment of relative casualties suffered on each side, of the tenacity of the defender's resistance to the attacker's advance on any given day. It bears no relationship to force ratio, but rather is an effort to reflect the interaction of those advancing and defending elements which were engaged on a given day--elements which were frequently only a relatively small fraction of the total forces available on both sides. Intensity of opposition to advance should not be confused with intensity of combat.

Letters and comparative values for various items are explained on the sheet facing the matrix sheet. The figures derived by the QJM are explained in Appendix E.

The following members of the HERO staff participated in this study: Grace P. Hayes, Director of Research and study coordinator, Paul Martell, Lucille M. Petterson, Frank L. Pichini and John L. Rabb. Organization, preparation and production of the report was the responsibility of Billie P. Davis, with the assistance of Mary J. Picard. The undersigned, as Executive Director of HERO and a member of the research team, assumes full responsibility for the report and its conclusions.

Dunn Loring, Va.,
28 August 1972

T.N. Dupuy
Executive Director

II. OPERATIONS

A. Ardennes-Flanders Offensive, 10-24 May 1940 7th Panzer Division

Situation, 10 May

After the rapid German conquest of Poland in September 1939 there followed months in which the western front was quiet, while for one reason or another the Germans delayed attacking across the frontier into Belgium, Holland, and France. During that time German plans changed several times. The one that was finally executed in May 1940 had as its objective the isolation and destruction of Allied forces north and west of Sedan. Two Army Groups were behind the border, ready to participate. Of these Army Group A, commanded by General Gerd von Rundstedt, was to carry out the main attack, striking through the Ardennes with 45 divisions, spear-headed by seven panzer and three motorized divisions. On the north, Army Group B would occupy Holland and maintain pressure against the Belgian area north of Liege.

On the left of Army Group A, General von Kleist's Panzer group, consisting of the XIX Panzer Corps under Guderian and the XLI Panzer Corps under Reinhardt, with a total of five panzer and three motorized divisions, was to strike toward the Meuse at Montherme and Sedan. On the right the Fourth Army under von Kluge was to drive across the Meuse near Dinant. Two divisions formed the Fourth Army front, the 7th Panzer under General Rommel on the left, and the 5th Panzer Division on the right.¹

Facing the Germans along the French border were 42 French and British divisions, the French forces organized as the First Group of Armies, under command of General Billotte. Putting their faith in the Maginot Line and the natural defenses of the Ardennes Forest,

¹ Although postwar studies generally state that these two divisions were in the XXXIX Corps, as shown in the Order of Battle that follows this narrative official contemporary records indicate that as of 10 May the 7th Panzer Division was attached to the II Corps, and during most of the period covered in this study was attached to the XV Corps, becoming part of the XXXIX on 21 May. Since it has not yet been possible to study corps records no explanation for this can be given.

the French had their weakest forces in the area where the main attack of the German Army Group A was to come. Since the Belgians had pursued a policy of strict neutrality between the wars, the French and British remained on the French side of the Franco-Belgian border. From left to right, the French Seventh Army was holding from the coast to Lille, the nine divisions of the British Expeditionary Force were around Lille, the First Army was from Lille to the Sambre River, the Ninth faced the Ardennes, and the Second filled the rest of the front to the Maginot Line (see map). Convinced that the major attack would come through Belgium to the north, when the Germans crossed the border into Belgium on 10 May 1940, in accordance with prewar plans the French and British armies of the First Group of Armies advanced to aid the Belgians.

10 May

During the night of 9/10 May the German units of Army Group A assembled in the Eifel, just west of the border. In the early morning hours the 58th Engineer Battalion cleared the path of the 7th Panzer Division of border obstacles and various obstructions between Geiling and two kilometers west of Montleban. At 0535 the first elements of the division broke through the border defenses on the hills west of Maspelt, east of Espeler, and north of Durler, as well as in the area around Geiling. The 1st Battalion, 6th Rifle Regiment, led the advance, meeting no resistance in the largely undefended area. At 1500 the first fighting occurred, when the 7th Motorcycle Battalion encountered Belgian troops on the defense line west of Montleban. The battalion attacked and broke through to continue its advance. Moving rapidly forward, the division reached the hills around Chabrehez, about 3½ kilometers west-southwest of Tailles.

The division command post at 0500 had arrived in Winterspelt.

11 May 1940

In the morning the division advanced through numerous defense points toward the Ourthe River, passing through Marcourt, Beffe and Laroche. At 1030 it crossed the river at all three places, fording the river near Beffe, crossing on a hastily constructed duckboard trestle bridge near a bridge that had been destroyed near Marcourt and crossing on a bridge at Laroche. Later a 16-ton bridge was built near Marcourt.

During the afternoon reconnaissance troops of the 37th Panzer Reconnaissance Battalion encountered French motorized reconnaissance

units west of the Ourthe River, and drove them off. Late in the afternoon, west of Waha, the 7th Reinforced Motorcycle Battalion engaged a French mechanized force, supported by tanks and artillery. Artillery fire from the 6th Battery, 78th Artillery Regiment, dispersed the French. An attack by French tanks on this battery in the evening was beaten off.

The 37th Panzer Reconnaissance Battalion took Marche. The 6th Reinforced Rifle Regiment turned back weak enemy forces near Roy and advanced to the line Hendre-Harsin.

There was no contact with the German divisions on either flank.

12 May

At 0700 the division continued the advance to the Meuse from the line Marche-Harsin. The 25th Panzer Regiment (minus the 2d Battalion) encountered French mechanized forces with numerous antitank guns and artillery on the line Haversin-Forsee at 0900. After a stiff fight the Germans broke through at 1025 and pushed ahead toward the hills west of Leignon, which they reached at 1230.

The Reinforced 7th Rifle Regiment advanced on the left, encountering French defenders near Ychippe and northwest of Chevetogne but proceeding toward Achene.

French tanks attacked the 25th Panzer Regiment from the northwest in the early afternoon but were driven off. At 1450 the regiment reached the area north of Freche Try, four kilometers east of the Meuse River. One company of tanks, with a battalion of the 7th Rifle Regiment, reached the Meuse near Dinant at 1645, capturing part of the city. The bridges over the Meuse there had been blown up, and French artillery on the west bank was prepared to prevent a crossing. As other units advanced to the river in the late afternoon and evening, there was heavy fighting along the river bank, supported by fire from the west bank of the Meuse. The east bank between Dinant and Houx was held by the Germans as the day ended.

The advance detachment of the 5th Panzer Division -- one panzer regiment and one motorcycle battalion, under Col. Werner -- which had been attached to the 7th Panzer Division at noon because it was so far in front of the rest of its division, reached the bridge over the Meuse near Yvoir at 1800. The French blew up the bridge just as a Mark IV tank was crossing.

In preparation for an attack across the river, the 7th Panzer Division artillery and 23d Antiaircraft Battalion took up positions on the hills east of it. Covering the open left flank of the division were the 2d Battalion, 25th Panzer Regiment, the 37th Panzer Reconnaissance Battalion, and the 1st Battalion, 6th Rifle Regiment.

Ammunition and fuel depots were well behind the front, east of Samree, to which supplies were carried from St. Vith, about 100 kilometers, by truck. Because of the roads clogged with traffic there were temporary delays in getting fuel to the front.

13 May

The three panzer corps moved into position to make an all-out attempt to cross the Meuse, at Sedan, between Revin and Montherme, and between Anhee and Dinant. The 7th Panzer Division's attack began before dawn, when the 7th Motorcycle Battalion, reinforced with one combat engineer company, and the 6th Rifle Regiment, reinforced with antitank elements, captured a crossing about 800 meters south of Houx at 0430 and established a bridgehead. Crossing in rubber boats, the motorcycle battalion advanced to take Grange. Farther south, the 7th Rifle Regiment, reinforced by a combat engineer company, also secured a crossing near Leffe, about one kilometer north of Dinant. One company crossed before French gunfire destroyed so many boats that the crossing was halted.

The German attackers had the support of division artillery, which had been moved into place during the night, and German aircraft off and on during the day. On the west bank the French defenses were strong and well concealed, including blockhouses, bunkers, stone walls and field fortifications, with machine guns and antitank guns as well as artillery, which fired continually on the east bank throughout the day. Once the Germans crossed the river, however, the going was easier against the French 18th Infantry Division, which had just arrived in the area and was short of antitank guns, and the badly mauled 1st Cavalry Division.

Several times during the day and in the evening French infantry and tanks counterattacked the Germans in the northern bridgehead, supporting their attacks with concentrated artillery fire. Although they managed to retake some points the 7th Motorcycle Battalion had taken on the hill near Grange, the Germans managed to hold the bridgehead.

At Rommel's direction two field howitzers of the 78th Artillery Regiment concentrated their fire on specific targets near the river, and some Panzer Mark IIIs and IVs drove slowly north on the east bank, firing across at the French defenses.

The southern bridgehead was attacked at dusk by about two companies of French tanks, coming from the direction of Sommiere toward Bouvignes. At the hills west of Bouvignes antitank elements of the 7th Rifle Regiment drove off the attackers.

By nightfall the first tank and armored scout car had crossed the river. Rommel ordered the tanks of the panzer regiment to be taken across during the night. He also ordered the 7th Rifle Regiment to advance against Onhaye, five kilometers southwest of the crossing near Leffe, and directed the 78th Artillery Regiment, elements of the Panzer Regiment, and the 86th Light Antiaircraft Battalion to support the forces on the west bank.

The artillery ammunition depot supplying the 7th Panzer Division was in Habschied, Germany, about 100 kilometers behind the front. In the morning of 13 May three motorized columns were sent there for artillery and mortar ammunition, expected to return the following day. The fuel supply was presenting a problem. Because of the clogged roads various supply trains could not get through. Since the Army had not moved depots forward, the division was still dependent on the depot at St. Vith. The situation had been somewhat eased by the discovery of a large Allied fuel depot, with about 200,000 liters of gas.

French planes attacked the advancing columns near Leignon at 2000 and strafed the town.

To the south, both Guderian's and Reinhardt's corps had also gained bridgeheads on the west bank of the Meuse during the afternoon, at Sedan and Montherme respectively.

14 May

During the day French and British aircraft repeatedly bombed the Meuse crossings, concentrating the bulk of their effort against the bridge on which Guderian was moving the tanks of his three divisions across the river. It was a costly operation, for the French lost 40 planes and the British 41 during the day. The Luftwaffe meanwhile struck hard and repeatedly at the French First Army, hitting its command posts, its roads, its line of communications, and making it impossible for reinforcements to be moved up. The army was withdrawing in confusion, with its artillery and guns immobilized and its infantry avoiding open country or travelling in trucks away from the front.

The French 1st Armored Division had been taken by train on 12 May to a point east of Charleroi. At noon on the 14th it was ordered to proceed to the area of Dinant to participate in the battle. So clogged were the roads with civilians and soldiers that it was 2030 when the leading tanks reached Flavion, about 20 kilometers from the Meuse, having covered nearly 50 kilometers in seven hours.

The 7th Rifle Regiment, heavily supported by antitank elements, advanced from the southern bridgehead during the night to Onhaye, overrunning numerous enemy positions and encountering stiff resistance as it approached the town. Soon after daybreak word reached Rommel that the regiment was encircled near Onhaye, and he at once sent the thirty tanks of the 25th Panzer Regiment which had crossed the river and some panzer reconnaissance troops to help the encircled unit. It turned out, however, that the message had been misunderstood. The regiment had simply arrived and was not encircled. During a maneuver to move into an assembly area north of Onhaye heavy anti-tank fire from two 75mm batteries at a distance of 500 meters suddenly hit the tanks, knocking out several and slightly wounding General Rommel. The Germans withdrew until evening, when the 25th Panzer Regiment secured the assembly area.

At 1930 the 25th Panzer Regiment, followed by the 7th Rifle Regiment, advanced to Morville, accompanied by General Rommel. On the eastern outskirts of Morville stiff resistance was met, and antitank fire from the northwest struck the flank of the advancing Germans. However, the objective was reached and taken at 2230. Artillery, antiaircraft guns, and the 8th Machine Gun Battalion were brought up during the night.

In the northern bridgehead, meanwhile, French tanks in strength attacked the defenders at dawn but were driven off. Later in the day the 6th Rifle Regiment, supported by part of the 25th Panzer Regiment, advanced to Sommiere and then southwest to Weillen.

15 May

At 0130 General Corap, commanding the French Ninth Army, decided to abandon the Meuse north of Sedan and fall back on a line Rocroi-Signy l'Abbaye-Omont. In front of the 7th Panzer Division this meant a line about 15 miles from the Meuse. The withdrawal opened a gap through which the German panzers sped.

The French 1st Armored Division, which had passed the night in the area Emeton sur Biert-Flavion, advanced to the west of the road Anthee-Dinant. It was soon engaged with units of the 7th and 5th Panzer Divisions, in a battle that lasted all day.

The 7th Panzer Division, after a quiet night in the area of Morville-Gerin, launched an attack toward Philippeville-Cerfontaine at 1000. The 25th Panzer Regiment, with General Rommel, led the attacking force, followed by the 37th Reconnaissance Battalion, some artillery, and the 7th Rifle Brigade. Artillery covered the flanks of the advancing column, and dive bombers supported the attack by striking at Philippeville. A battle developed in the

vicinity of Flavion at 1030 between the 25th Panzer Regiment and a French tank unit, including some heavy tanks. Seven of the heavy tanks were destroyed, and the French withdrew. However, French armored units continued to attack in that area for the next few hours, and German artillery and antitank guns supported the 37th Panzer Reconnaissance Battalion, which was given the job of driving off the French. In all, 12 heavy and 14 light French tanks were destroyed in the fighting.

The 25th Panzer Regiment meanwhile had continued to advance toward Philippeville. East of the town the Germans destroyed more French tanks and antitank guns. The Germans passed the north edge of the town at 1300 and continued westward. French motorized columns northwest and southwest of the town were driven off by the advancing 25th Regiment, with close support from artillery. At 1540 the day's objective, Cerfontaine, was reached.

The 37th Panzer Reconnaissance Battalion and elements of the 7th Rifle Regiment, following the 25th Panzer Regiment, ran into difficulty as they emerged from the woods 3¹/₂ miles east of Philippeville. Strong French forces with machine guns and antitank guns were holding the forest one kilometer northeast of Vocedee and Villers le Gambon. In the afternoon a German motorcycle company and a panzer reconnaissance company, supported by a battery of artillery, attacked these defenders.

In the meantime General Rommel, in order to reestablish contact with the division elements that were following the 25th Panzer Regiment, turned back with a reinforced panzer company toward Philippeville. West of Philippeville at 1730 a French motorcycle battalion was encountered and forced to surrender. A half hour later French defenders of Samart, near Neuilly south of Philippeville, were driven out to the south. At 1340 the reinforced panzer company launched a surprise attack near Vocedee and captured three medium and ten light French tanks, taking them along. Shortly thereafter contact was reestablished northeast of Philippeville between Rommel and the rest of the division. Rommel promptly turned around and led those elements, including the 8th Machine Gun Battalion, through Senzeille into the area which had been taken by the panzer regiment, where they established a defense on the hills west of Cerfontaine. During the night the 7th Rifle Regiment silenced a French battery near Soumoy.

Advancing on the right of the 7th Panzer Division, the 5th Panzer Division's panzer brigade attacked and destroyed a strong French tank force in the area of Flavion. On the left Guderian and Reinhardt also were advancing rapidly to the west.

Between them the 7th and 5th Panzer Divisions had virtually annihilated the French 1st Armored Division. The 1st Demi-brigade

was engaged in bitter fighting until 1730. In the 28th Battalion only seven tanks remained when it was ordered to fall back on the line Forennes-Mettet. The 37th Battalion lost almost all of its tanks before withdrawing from Flavion-Ermeton. The 25th and 26th Battalions, which had been in reserve behind the 1st Demi-brigade, were thrown into the battle, and by evening all but about a twentieth of their tanks were gone. An attempt by the division commander, General Bruneau, to regroup around Solre le Chateau failed because of inadequate communications, and he ordered a general retreat to Beaumont. However, German panzers hit the French at numerous points along the route of withdrawal, destroying another 28 tanks, and leaving very little of the 1st Armored Division.

At the close of the day General Corap was replaced by General Giraud in command of the remnants of the Ninth Army. Seventh Army troops, no longer needed in Belgium, were to be used to reconstitute the Ninth.

16 May

The French Ninth Army, commanded by Giraud, continued its retreat between the Meuse and the Sambre Rivers.

The 7th Panzer Division was ordered to proceed via Sivry to cut through the French border defenses and advance to the hills around Avesnes.

The 37th Panzer Reconnaissance Battalion attacked at 0400 and took Froidchapelle, capturing the armored and motorcycle troops that were defending the town. The 6th Rifle Regiment moved up into the area east of the town.

The main attack was launched at 1430 against no opposition, and Sivry was occupied by 1615. While the 37th Panzer Reconnaissance Battalion reconnoitered fortifications across the border, the division artillery and one 37mm anti-aircraft battery took up positions around Sivry and started shelling the fortifications. The 25th Panzer Regiment stood ready in Sivry to attack across the border.

Although the reconnaissance troops reported strong anti-tank defenses and the presence of many French tanks, the 25th Panzer Regiment attacked across the border at 1800. Rommel accompanied the regiment. Near the permanent fortifications west of Clairfayts a long and bitter battle took place. One by one the tanks overcame the French fortifications, pillboxes, machine gun and anti-tank gun nests, and infantry troops in trenches, while the French troops in the rear zone were partly immobilized by German artillery fire and partly blinded by a smoke screen.

Late at night engineer elements of the 7th Motorcycle Battalion and of the 37th Panzer Reconnaissance Battalion blew up heavy steel obstacles blocking the road west of Clairfayts. French antitank guns and artillery inflicted casualties on the Germans as they occupied the zone of fortifications. With Rommel in command, the advance detachment of the division, consisting of the 25th Panzer Regiment, the 7th Motorcycle Battalion (less one company), and the 37th Panzer Reconnaissance Battalion, launched an attack at 2300 across the defense zone west of Clairfayts. In moonlight the tanks advanced, with the motorcycle troops moving beside them. Division artillery protected the flanks and blanketed the roads and the area far to the front.

With the panzer forward unit firing violently and the main force of the 25th Panzer Regiment following close behind, the advancing elements broke through the deep defense zone and seized the road Solre le Chateau - Avesnes, one kilometer west of Solre le Chateau. Attacking rapidly down the road toward Avesnes, the panzer regiment broke through artillery positions two kilometers west of Solre le Chateau. As French guns fired on the flanks of the advancing German column, the racing tanks fired back. The German tanks overtook the French 18th Division and an artillery group of the 1st Division, including a number of tanks. The Germans destroyed or overran the tanks, advancing quickly through the bulk of the French forces, which except for sporadic firing could not defend themselves. The closer the Germans came to Avesnes the more French troops and refugees they met. At midnight the leading panzer elements, pushing through the congestion on the highway, penetrated the French defenses at Avesnes and drove on through to the hills west of the city. As they occupied the area French soldiers fled to north and south, spreading panic wherever they went.

Since dusk radio communication between the division commander and the advance command post of the 7th Rifle Brigade and supporting artillery had been lost. The brigade commander, unaware of the success of the breakthrough, and knowing nothing of the situation at Avesnes, ordered the 6th Rifle Regiment to occupy the area around Sivry and the 7th to bivouac along the road between Cerfontaine and Froidchappelle.

17 May

The 2d Battalion, 25th Panzer Regiment, and the 7th Motorcycle Battalion were far enough behind Rommel and the lead battalion for the French defenders of Avesnes to intervene with heavy tanks between the elements of the German 25th Panzer Regiment. Heavy street fighting ensued, during which the Germans suffered many casualties. French tanks fired wildly in all directions, and

German tanks and antitank guns could not get close to them nor pierce the thick French armor. Between 0300 and 0400, however, Rommel sent a Mark IV tank in from the west, which succeeded in destroying the French tanks.

Although there had been no exchange of communications with the Corps command during the night, and details of the situation of the other units of the 7th Panzer Division as well as the divisions on either flank were not clear. Rommel decided on his own responsibility to continue the advance at dawn with the whole division, to seize the bridge over the Sambre River close to Landrecies, assuming that the remainder of the division was close behind the leading panzers. The attack was launched at about 0515, with the 25th Panzer Regiment leading and the 7th Motorcycle Battalion following. A short time later the regiment surprised a strong motorized French formation. The sudden appearance of the German tanks so unnerved the French that they offered no resistance. So crowded did the roads become with military units and refugees that the German tanks could move only very slowly.

The regiment reached Landrecies at 0600 and, with assistance from a battery of the 78th Artillery Regiment, seized the bridge over the Sambre intact, forcing the French guards to surrender. Proceeding westward, the regiment found a large ammunition depot in the woods east of Pommereuil. At the hill east of Le Cateau the division commander ordered the regiment to halt. Only then did it become clear that only two battalions and elements of the 7th Motorcycle Battalion had crossed the Sambre. The rest of the division was still far behind.

Leaving the defense of the hills east of Le Cateau in the hands of Col. Rothenburg, commander of the 25th Panzer Regiment, Rommel, in an armored reconnaissance car, hastened back to Avesnes, capturing 40 truckloads of French soldiers, with the aid of a couple of German tanks, on the way. The remaining elements of the 7th Panzer Division started arriving at Avesnes in the late afternoon, and Rommel ordered them to defend the territory from the French defense zone west of Clairfayts through Avesnes to Landrecies. The 2d Battalion, in the course of carrying out this order, captured 48 combat-ready French tanks on the northern outskirts of Avesnes, preventing a planned attack on the rear of the panzer regiment.

On orders of XV Corps, the 2d Battalion of the 6th Rifle Regiment, reinforced by the 2d Battalion, 77th Artillery Regiment, from the 5th Panzer Division, moved out from Avesnes in the afternoon and seized the Sambre crossing near Berlaimont, for the use of the 5th Panzer Division, which had not kept pace on the division's right.

18 May

The rapidly advancing Germans had pushed a deep pocket into the French defenses. Around it the French armies formed a semicircle, from left to right: the First Army withdrawing to the Sambre, the Ninth Army thrown back to the Oise, but with its rear elements attempting to hold a line a little to the west, running from the Forest of Mormal to Wassigny, passing through Le Cateau. The French line was continued to the south by the Seventh Army, astride the upper Oise and joined on its right at the Ailette River by the newly-arrived Sixth Army. The Sixth continued southeast to the Aisne, then followed that river as far as Kethel, where it met the Second Army, which stretched eastward to the Argonne.

The 7th Panzer Division was ordered by the Corps to launch an attack toward Cambrai at 0900, but because of strong enemy resistance the start of the attack was delayed, French forces in strength in Pommereuil and in the woods to the east held up the 7th Rifle Brigade, which was not ready in time to attack on both sides of the town. In addition, the 25th Panzer Regiment was short of ammunition and fuel.²

The 5th Panzer Division, on the right, had reached the Sambre near Berlaimont the previous evening and apparently found the crossing there inadequate, for the 7th was informed that the 5th needed a crossing near Landrecies as well. Consequently the 7th Rifle Regiment was sent to capture a crossing farther south, near Ors. It was successful, but an attempt by the 37th Panzer Reconnaissance Battalion, reinforced by the 2d Company, 53th Engineer Battalion, to take the crossing near Catillon was repulsed by a strong French force. The Germans were forced to withdraw to the northeast.

After the 6th Rifle Regiment mopped up the forest east of Pommereuil and cleared out the town, Rommel ordered an attack in two groups, the 25th Panzer Regiment remaining behind until it could be refueled. The 1st Battalion, 6th Rifle Regiment, attacked northward toward Inchy. After a short fight the reinforced 7th Rifle Regiment took Caudry. The 25th Panzer Regiment, having obtained some fuel, together with the 7th Motorcycle Battalion and the 1st Battalion, 6th Rifle Regiment, and supported by artillery and anti-aircraft guns, took Beauvois and pursued the French, who were fleeing toward Cambrai. It was after dusk when the Germans entered Cambrai. Rommel ordered the 7th Motorcycle Battalion and the 1st Battalion, 6th Rifle Regiment, with a few tanks and a platoon

² Rommel's account (The Rommel Papers, pp. 26-27) differs from the official division records for this day. The latter version has been used here.

of anti-aircraft, to advance north around Cambrai to Morenchies, to seize the bridge over the L'Escaut Canal. The mission was accomplished.

The 25th Panzer Regiment met very strong resistance in Cambrai and withdrew to the vicinity of Awoingt and then back down the road to the area between Inchy and Caudry. During the night the Reinforced 7th Rifle Regiment took Awoingt and the hills south and southeast of Cambrai.

The 6th Rifle Regiment (less one battalion) near Neuville with strong elements of the division artillery was attacked by armored French forces from the Solesmes area. Other French armored units attempted an attack through the Forest against Landrecies, but the attacks were unsuccessful.

Ammunition and fuel were replenished during the night.

On the east of the 7th Panzer Division the 5th Panzer Division and the 11th Rifle Brigade were engaged in heavy fighting on the western edge of the Bois de Mormal. Opposing them were elements of the French First Army which was withdrawing from its forward positions in Belgium.

The Army ammunition and fuel depots were in Morville and Rosee, and the division complained that the trucking distance was becoming too long.

19 May

The division consolidated its captured positions between Le Cateau and Cambrai, mopping up areas and repulsing French tank attacks from Cambrai. The 7th Rifle Regiment crossed the L'Escaut Canal in the afternoon, establishing a bridgehead on the western bank. The 37th Panzer Reconnaissance Battalion took up defense positions around Catillon and attempted to prevent the enemy from retreating to the west. In the afternoon General Giraud, whose Ninth Army had virtually ceased to exist, was captured by the Germans. In an attempt to prevent the complete catastrophe that seemed inevitable, General Gamelin was replaced as commander of the French armies by General Weygand.

20 May

In an attempt to halt the onrushing Germans, the commander of the British Expeditionary Force, Lord Gort, planned a counterattack.

south of Arras, using the British 5th and 50th Divisions. The French agreed to participate by attacking Cambrai with two divisions of the First Army, but they could not be ready until the 21st. By then it was too late.

The 7th Panzer Division launched its attack against Arras at 0140, with the 25th Panzer Regiment at the head of the northern column, General Rommel with it. Enemy forces on the hills 4 kilometers north of Cambrai were put out of action by shelling. The bridge near Marquion was reached at 0300. It had been blown by a demolition group of 100 French and 30 British, who were captured. At Sains les Marquion, farther south, the Germans succeeded in crossing the canal at 0500.

With a heavy infantry gun company following, the 25th Panzer Regiment advanced through Vis en Artois, Guemappe, and Tilloy, to the hills northeast and southeast of Beaurains, where it dug in. French and British troops were surprised in their barracks and many prisoners were taken.

Again it was realized that most of the division was not following the 25th Panzer Regiment, and Rommel set out in a tank accompanied by an armored reconnaissance car to try to reestablish communications. At Vis en Artois heavy French tanks put the German tank out of action, and Rommel and his radio detachment were encircled for several hours. The rest of the division succeeded in breaking through the enemy resistance and rescuing Rommel before noon. Enemy counterattacks were repulsed, notably a very heavy one against the 37th Panzer Reconnaissance Battalion and the 7th Motorcycle Battalion in the area of Lecluse-Etaing. An SS Battalion was attached to the division to lengthen the front to the east on the right flank of the 37th Reconnaissance Battalion.

The 58th Combat Engineer Battalion constructed a 16-ton bridge across the Canal du Nord near Marquion.

On the right of the 7th Panzer Division the 5th Panzer Division took crossings over the L'Escaut Canal near Bouchain and Estrum. On the left the 8th Panzer Division crossed the Canal du Nord and reached Saulty, 20 kilometers southwest of Arras, by midday.

Farther south, the other armored units of the Twelfth and Sixteenth German Armies were racing for the coast. Guderian's panzers reached it at 2000, effectively cutting the Allied forces in two. Lord Gort immediately put into effect his plan to attack Arras.

21 May

Although the commander of the French First Army now reported that his divisions which were to participate in the counterattack could not advance on the heavily blocked roads until at least the 22d, Gort proceeded to attack before preparations were complete. At 1400 the Allied forces moved out, two tank battalions, (74 tanks) supported by two infantry battalions, with part of the French 3d Light Mechanized Division (70 tanks) assisting on the right.

The 7th Panzer Division had been assured that it might rest during the 21st, but nevertheless at 1015 the XXXIX Corps, to which the division had been transferred the day before, ordered an advance around Arras from the southwest and across the Scarpe River on both sides of Aco, about 12 kilometers northwest of Arras. At about 1500 the 25th Panzer Regiment crossed the road between Arras and Beaumetz, 2½ kilometers northeast of Beaumetz, and then launched an attack against Agnez, bypassing Warlus. The 6th and 7th Rifle Regiments, reinforced, followed in two columns, through Agny and Mercatel.

As the main units of the division proceeded south of Arras they were suddenly struck by a surprise attack on the flank, from the line of Dainville-southern edge of Arras. A fierce battle raged from 1530 to 1900 against British and French tanks and infantry in the area Achicourt-le Bac du Nord-Berneville-Bretencourt-Ficheux-Mercatel-Tilloy. Although the Allies had neither artillery nor air support, the heavy armor of their tanks proved too much for the German antitank guns. The Allies broke through the German defense lines, shot up or overran the artillery guns, and in most cases killed the crews. The 1st Battalion, 3th Rifle Regiment, and the 52d Antitank Battalion suffered particularly heavy casualties. Finally, after concentrating the fire of all the batteries of the 78th Artillery Regiment, the 86th Light Antiaircraft Battalion, the 3d Battery of the 59th Antiaircraft Battalion, one 88mm battery of the 23d Antiaircraft Battalion, and elements of the 42d Antiaircraft Battalion, and with support from the Luftwaffe, the Germans halted the attacks. The Allies, having suffered heavy losses of tanks, retreated toward Arras.

Meanwhile the 25th Panzer Regiment reached the hills south of the Scarpe River close to Aco. There it waited for the rest of the division to catch up. At 1900 Rommel ordered the regiment to attack southeast through Agnez, one kilometer south of Dainville, to attack the rear and flank of the Allied tanks that were moving out of Arras. The 25th Panzer Regiment accordingly attacked south of Agnez against enemy strongpoints, held by superior formations of light and heavy tanks. In a fierce tank battle the German panzers broke through the Allied defense and destroyed seven heavy

tanks and six antitank guns, losing three Mark IV tanks, six Mark III, and numerous light ones. Pushing on, the regiment reached the area south of Dainville at about 2300.

Rommel, who had been directing the battle from a hill one kilometer northwest of Wailly, in the meantime sent the 6th and 7th Rifle Regiments against the Scarpe. Elements of the 6th, advancing east of Warlus, reached the Scarpe close to Aco after midnight and organized a hedgehog defense (all-around defense).

During the evening the 7th Rifle Regiment took Berneville and advanced toward Warlus, where it met a strong French tank force. Unable to overcome it, the regiment took up defense positions between Berneville and a hill one kilometer south of Le Bac du Nord.

There was a serious shortage of 100mm ammunition, but neither the Corps nor the Army could be of any help.

On the left of the 7th Panzer Division the SS Division was concentrated in the area Ficheux-Bretencourt. Elements of its antitank battalion and division artillery took part in the battle south of Arras.

22 May

General Weygand endeavored to get the Allied military commanders to agree on an operation designed to cut through the German forces, but the Belgian and British chiefs had other ideas of how best to protect their interests. The French 25th Motorized Infantry Division did attack along the Auberchicourt-Cambrai axis, driving back the German 32d Division, taking Bentigny, and reaching the outskirts of Cambrai. By 2200 the French division was ordered to fall back and destroy the bridges over the Sensee and its canal.

At dawn, Allied tanks approached from the north and east and seriously endangered the 7th Rifle Regiment, which was deployed in Berneville. However, German artillery shelled Warlus, which assisted the regiment and drove off the attackers.

At 1015 the division launched an attack toward the Scarpe River, advancing rapidly on a wide front, with Rommel accompanying the attack, between the 25th Panzer and 7th Rifle Regiments. The division came under heavy flank artillery fire from the area of Ste. Catherine north of Arras at 1230. Concentrated fire from the division artillery silenced the enemy battery. The Scarpe was reached at 1315, and contact was made with the 6th Rifle Regiment, which had advanced to the area of Bray during the night. Supported by tanks, heavy weapons, and artillery, the two rifle regiments attacked across the river at 1515. The 2d Battalion,

6th Rifle Regiment, promptly took Mont St. Eloi. Shortly after 1600 the French blanketed the town with artillery fire from the northeast. Soon enemy tanks appeared from the east and attacked the 5th and 7th companies, then pushed into Mont St. Eloi, driving the Germans out or taking them prisoner. Ecoivres, however, was held.

The 7th Rifle Regiment reached its objective at about 1600 and took up defense positions on the general line Villers au Bois-Camblain l'Abbee.

In the evening the 6th Rifle Regiment was relieved by the 5th Panzer Division, which had advanced at the right rear.

23 May

Again the Allies were unable to reach agreement on a coordinated attack.

The German 6th Rifle Regiment, deployed to the left of the 7th Rifle Regiment, supported by artillery and antiaircraft, attacked in the early morning and by 0800 had reached and occupied its day's objective, the area north of Ruitz. On the right, the 25th Panzer Regiment and the 7th Reinforced Rifle Regiment occupied the area Hersin-Barlin at about 0900, quickly taking up defense positions. A strong enemy tank force attacked the 7th Rifle Regiment at about noon from the direction of Noeux les Mines. Elements of the 25th Panzer Regiment, with the support of artillery and antiaircraft guns, beat off the attack, destroying numerous enemy tanks. During the afternoon the 25th Panzer Regiment and the 37th Panzer Reconnaissance Battalion occupied the line Aix-Boyeville-Hersin and drove off enemy attacks from Lens. The 6th Rifle Regiment was relieved by the SS Division in the afternoon and sent as division reserve to the area Vedrei-Servins.

The 5th Panzer Division advanced slowly because of enemy tanks. The SS Division on the left approached Bethune without resistance, and made contact with the 7th Panzer Division near Barlin.

24 May

During the night the British 5th and 50th Divisions withdrew from Arras to the Upper Deule Canal, and Lord Gort ordered the destruction of the bridges between Bethune and Pont a Vengin. Three British divisions that had been stationed around Lille also were pulled back, as the British proceeded with plans to evacuate their forces from the continent if necessary, and prepared to defend the widest possible bridgehead around Dunkirk. General Weygand abandoned his plans for a coordinated attack.

In the afternoon the 7th Panzer Division occupied the area Aix-Mazingarbe-western outskirts of Cambrai-Annequin-Beuvry with little resistance except for a few Allied pockets in the scrub growth south of the La Bassee Canal. During the afternoon, as the division mopped up the area all the artillery was displaced forward and fired at targets in the vicinity of the railroad station at Quinchy and near Givenchy.

During the preceding two days the German artillery had used about 140 tons of ammunition. Ammunition arrived for the 100mm guns, but it had to be stored, because the battery had received some, perhaps from the cache that was seized near Pommereuil.

There was little doubt by this time that the British troops would be evacuated. Fortunately for the success of this operation, Hitler on 24 May ordered the panzer divisions to halt and turn over the conclusion in that area to the slowly-arriving infantry and the Luftwaffe.

German Order of Battle
May 1940

Army Group B

Eighteenth Army
Sixth Army

Army Group A

Fourth Army
 XV Corps*
 5th Panzer Division
 7th Panzer Division
Panzer Group von Kleist
 XLI Corps
 6th Panzer Division
 8th Panzer Division
 XIX Corps
 2d Panzer Division
 10th Panzer Division
 1st Panzer Division
Twelfth Army
Sixteenth Army

Army Group C

First Army
Seventh Army

7th Panzer Division (10 May 1940)

Headquarters Staff
25th Panzer Regiment
42d Antitank Battalion
7th Rifle Brigade
 6th Rifle Regiment
 7th Rifle Regiment
37th Panzer Reconnaissance Battalion
7th Motorcycle Battalion
78th Artillery Regiment
58th Combat Engineer Battalion
83d Armored Signal Battalion
86th Light Antiaircraft Battalion
Support Services

The division was attached to Corps as follows: 10-11 May to II Corps
 11-20 May to XV Corps
 20-31 May to XXXIX Corps

*See 7th Panzer Division Order of Battle.

French Order of Battle
10 May 1940

Ninth Army

XLI Corps

61st Division

102d Division

XI Corps

18th Division

22d Division

II Corps

5th Division

53d Division

4th Division

Cavalry Corps

1st Light Cavalry Division

4th Light Cavalry Division

3d Algerian Cavalry Brigade (spahis)

WEATHER, 10-26 MAY 1940

Date	Weather
May 10	Sunny, dry, very dusty
11	Warm and sunny; cool at night
12	Sunny and cool
13	Unknown; presumably good, or it would have been noted
14	Good
15	Good
16	Good
17	Good
18	Unknown; presumably good
19	Good
20	Good
21	Good; rain in the evening
22	Rain; thunderstorm
23	Good
24	Good
25	Unknown; presumably good
26	Good; thunderstorm

GERMAN 7TH PANZER DIVISION OPERATIONAL SUMMARY
10-24 May 1940

Date	Engagement Designation	Mission Factor	Remarks	Defenders Posture	Distance Advanced			
					Intense Oppositn	Moderate Oppositn	Slight Oppositn	Negligible Opposition
May 10	Adv into Belgium	. .	Crossed into Belgium; adv to Chabrehez	W/d	. .	. .	. .	42.0
11	. .	. .	Adv continues to Marche	W/d	. .	. .	. .	32.0
12	Meuse R	. .	Leading elements reach Meuse R. at Dinant	W/d	. .	. .	36.0	. .
13	Meuse R	9	Bridgeheads established N and S of Dinant	PD	2.0	. .	. .	. .
14	Meuse R.	9	Crossing continues; adv to Morville	PD	. .	14.0	. .	. .
15	. .	. .	Adv continues to Cerfontaine; continues running battle, particularly near Philippeville	Del	. .	. .	27.0	. .
16	Franco-Belgian border	9	Crossed into Belgium; some hard fighting near border	FD-W/d	. .	. .	8.0	30.0
17	Sambre-Le Cateau	. .	Sambre R. crossed easily; resistance near Le Cateau	Del	. .	. .	30.0	. .
18	Cambria	9	Adv reaches Escaut Canal at Cambria	W/c	. .	. .	27.0	. .
19	. .	. .	Consolidation & mopping up	. .	. .	. .	. .	P-3
20	. .	. .	Adv to vicinity of Arras	W/d	. .	. .	33.0	. .
21	Arras	8	Fierce engagement S & W of Arras	Del	3.0	. .	14.0	. .
22	Mt St Eloy-Ecoivres	8	Adv northward toward La Bassee Canal	Del	. .	9.0	. .	. .
23	Bethune-La Bassee	8	Adv continues against growing resistance	Del	. .	. .	10	. .
24	Bethune-La Bassee	8	Approach to La Bassee Canal	Del	. .	9.0	. .	. .
Total Distance Advanced:					5.0	32.0	185.0	107.0
Average Advance per Day:					3.3(1.5 days)	10.6(3 days)	26.4(7 days)	42.8(2.5 days)
Days Not Advancing:					1 (6.7%)			

Analysis of Advance Rate of 7th Panzer Division

The matrix analysis sheet presents in tabular form on a daily basis the data assembled from World War II records which appears to have a relation to the rate of advance of the 7th Panzer Division during the period 10-24 May 1940. No research has been done in French or British records or in German records of corps or army. From secondary sources it appears that the 7th Panzer Division had close air support on more days than are shown on the matrix, but it has not yet been possible to verify this.

From this matrix the following initial comments are made:

1. The highest advance rate occurred during the first three days, when the attack achieved surprise and the only real opposition to the advance was provided by the physical obstacles at the border. Thereafter the rate of advance generally declined, as the intensity of opposition increased.
2. Natural and man-made obstacles tended to reduce the advance rates, although the extent of this reduction is not calculable from the data.
3. Higher casualty rates generally accompanied lower daily rates of advance; the cause and effect relationship is not clear.
4. It has been necessary to estimate force ratios, since the Allied figures are not available, and no attempt has been made to do this on a daily basis. The raw force ratio values indicated represent estimates of availability rather than forces actually engaged. Although it is not possible to draw firm conclusions from these estimates about the relation of force ratio to rate of advance, it appears that the fluctuation in rates reflects rather the fluctuating intensity of opposition, the presence of physical obstacles, and modified missions on both sides.
5. Since this analysis is made from the point of view of a single German division which advanced at a rapid rate, the opposing force was not the same units throughout the period. The French 1st Armored Division, for example, appeared and was demolished by the German 5th and 7th Panzer Divisions in one day, and the British 5th and 50th Divisions were engaged with the 7th Panzer Division for only two days.

KEY TO ABBREVIATIONS AND VALUES ANALYSIS MATRICES

General

Pause . . . P Yes Y
Unknown . . U Not Applicable . NA

Roadnet Mobility Factors

		<u>Normal Values</u>
Unlimited cross-country movement	1.0	. .
Good road net	0.7-0.9	. . 0.8
Fair road net	0.4-0.6	. . 0.5
Poor road net	0.1-0.3	. . 0.2
Impassable terrain	0.0	

Mission Variables

Unlimited	1
Related to specific objectives or contingencies .	2
Related to adjacent units advance	3
Limited by higher authority control	4
Other	5

Exceptional Obstacles to Advance

R = River F1 = Flooded area FZ = Fortified Zone
Dn = Exceptionally effective demolitions Ur = Urban area
Sa = Sabotage by local populace Ds = Desert

Intensity of Opposition to Advance

I = Intense M = Moderate S = Slight N = Negligible

Situation on Flanks

L = Left flank units C = Comparable advance F = Faster advance
R = Right flank units S = Slower advance T = Flank threatened

Readiness Condition

Fr = Fresh W = Weary
T = Tired E = Exhausted

Posture - Mission

W/d = Withdrawal HD = Hasty Defense FD = Fortified Defense
Del = Delay PD = Position Defense

ANALYSIS OF RATE OF ADVANCE 7TH PANZER DIVISION, 10-24 MAY 1940

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Number O. Days	May 10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
General Factors															
Weather (armor mobility)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.8	1.0	1.0
Season (air support)	0.9	(no change)													
Terrain (mobility)	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9
Roadnet (mobility)	0.7	0.8	0.9	(no change)											
Exceptional Obstacles	0.7	R		R	R			R							R
Comparative Factors-Force Ratio (raw)															
Force Ratio (variables considered)	0.6	(estimate; no change)													
Relative Combat Effectiveness	1.3	(estimate; no change)													
Relative Mobility Characteristics	2.0	(estimate; no change)													
Intensity of Combat: Attacker	1.0	(estimate; no change)													
Intensity of Opposition to Advance	U														
Intensity of Opposition to Advance	U														
Defender	N	N	S	I	M	S	S-N	S	M	P-N	M	I-S	M	S	M
Daily Distance Advanced in Kms.															
	42	32	36	2	14	27	38	30	27	3	33	17	9	10	9
Daily Rate (P = Pause)	42	74	110	112	126	153	191	221	248	251	284	301	310	320	329
Cumulative Distance Advanced	42.0	37.0	36.7	28.0	25.2	25.5	27.3	27.6	27.6	25.1	25.8	25.1	23.8	22.9	21.9
Cumulative Daily Rate				2.0											
Cumulative Rate: Intense Opp.					14.0										
Moderate Opp.															
Slight Opp.						31.5	28.4	28.9							18.4
Negligible Opp.	42.0	37.0					41.6			42.8					
Defending Forces: Readiness Condition.	Fr	Fr	Fr	Fr	Fr	Fr	Fr	Fr	Fr	P	T	T	T	T	T
Posture-Mission	W/d	W/d	W/d	PD	PD	Del	FD-W/d	Del	W/d	P	W/d	Del	Del	Del	Del
Casualties %	U	(no change)		Y											
Air Support Present	1.0	(no change)													
Logistics-General	1	2	3	4	5	5	7	8	9	P	1	2	3	4	5
Logistics-Specific	U	(no change)													
Days Without Pause															
Casualties Since Pause															
Advancing Forces: Readiness Condition	Fr	Fr	Fr	Fr	Fr	Fr	Fr	Fr	Fr	P	T	T	T	T	T
Mission	1	1	1	1	1	1	1	3	2	P	2	2	2	2	2
Casualties %	3	13	70	288	208	71	20	95	112	52	193	378	101	40	75
Air Support Present										0.4	1.3	2.6	0.7	0.3	0.5
Logistics-General	1.0	(no change)													
Logistics-Special															
Days Without Pause	1	3	4	5	5	6	7	8	9	P	1	2	3	4	5
Casualties Since Pause															
Distance Since Pause	42	110	112	126	153	153	191	221	248	654	674	69	672	712	787
Situation on Flanks: L	C	C	C	C	C	C	C	C	C	P	P	P	P	P	P
R	S	S	S	S	S	S	S	S	S	P	C	C	C	C	S

F. Orel to Moscow, 13 November-7 December 1941
German XLVII Corps

Following the encirclement of major portions of the Russian Bryansk Front, the Second Panzer Army had practically halted, slowed by the deep mud and resultant breakdown of vehicles. On 6 November the army was ordered to attack in the general direction of the Oka River, making the main effort east of Tula, with the objective the Stupino-Kashira bridge across the Oka, northeast of Tula. For the XLVII Panzer Corps this meant initially sending the 18th Panzer Division to the area of Plavsk, the 29th Infantry Division (motorized) to the area northeast of Chern, the 10th Infantry Division (motorized) to Mtsensk, and the 25th Infantry Division (motorized) to concentrate in the area of Orel. The corps units had been almost immobilized as the roads had proved inadequate to cope with the heavy vehicles and the cold and rain. Except for the 25th Division, mopping up in the area around Sevsk (165km southwest of Orel), there had been no contact with the Russians.

The XLVII Corps had been having, and continued to have, problems with supply of fuel and food. Roads were very bad in the areas of Roslav, Bryansk, and Orel. It took five days to drive from Karachev (70km west of Orel) to the supply base at Roslav (160km), and four days to the base at Dubrovka (110km). Traffic between Orel and Karachev was at a standstill for several days and moved very slowly during the entire period the Corps units were trying to join the attack. However, by November 10 bitter cold had frozen the muddy roads, greatly improving movement conditions.

The 18th Panzer Division, except for the 18th Panzer Regiment, which was attached to the XXIV Corps, was concentrated in the area in and around Orel. Heading the move toward Mtsensk, the 88th Reconnaissance Battalion, reinforced by the 18th Motorcycle Rifle Battalion and one battery of the 36th Artillery Regiment, got to within four kilometers of Mtsensk on 9 November. With the rest of the division coming up behind it, the battalion was held there by heavy traffic until artillery prime movers had cleared the area the following evening. The 88th Battalion then entered Mtsensk. On 11 November the battalion reached Trosna, where all bridges had been destroyed by the Russians. No enemy forces had yet been encountered. The following day the battalion advanced to a stream 18 kilometers east of Trosna, where the bridge had been destroyed and Russians were defending the opposite bank. The Second Panzer Army command on the morning of 12 November decided that the 18th Panzer Division and the Eberbach Group (18th Panzer Regiment, 27th Motorcycle Battalion, part of the 27th Artillery Regiment and two antiaircraft batteries) should advance toward Yefremov the following

day and take the city. The 29th Infantry Division (motorized), which had been concentrated around Karachev while the road between Karachev and Orel was being repaired and cleared of a monstrous traffic jam, was ordered to move to Orel on 14 November. The 10th Infantry Division (motorized), was to guard the road and railroad between Orel and Minsk. The 25th Infantry Division (motorized) was to concentrate in the area of Kromy (southwest of Orel).

13 November

13th Panzer Division. The bulk of the division advanced to the area Trosna-Chern. The 88th Reconnaissance Battalion, advancing toward the east, took Nikolskoye in the evening. The Eberbach Group was to be dissolved, the motorcycle and artillery regiments returning to the 17th Panzer Division, while the remainder was to be attached to the 18th Panzer Division.

29th Infantry Division (motorized). The division prepared to move to Orel; some of its leading elements had already arrived.

25th Infantry Division (motorized). Forward elements of the division reached the region of Cherny by evening. Other groups were in the area of Privitschy, 15 kilometers south of Dmitrovsk (approximately 30km southwest of Orel).

Adjacent Units. On the right the XXXV Corps had reached Novosil. On the left the LIII Corps was regrouping for an attack to the east.

14 November

Corps Situation

According to information received from the XXXV Corps, it was not planning to leave Novosil until 19 November. XLVII Corps asked the army to order the XXXV Corps to move sooner toward Yefremov to cover the deep flanks of the XLVII Corps as it advanced toward Yepifan.

The 167th Infantry Division on the left of the Corps was on the line Dorobina-Ogare--Sapolye.

18th Panzer Division. The Reinforced 52d Infantry Regiment reached the crossroad at Arkhangelskoye in the afternoon and took the western part of Yablonovo in the evening. Strong enemy forces were reported east of the Mecha River. The 88th Reconnaissance Battalion was mopping up the area Borkovo-Nikolskoye-Arkhangelskoye,

encountering stragglers and reconnaissance patrols. A Russian patrol of 30 men on sleds (two to a sled) had been sighted. The elements of the division which had remained temporarily in Orel moved east of Chern in the evening.

At 2300 the Army decided that the division should continue to advance toward Yefremov, but the 18th Panzer Regiment, previously promised, would not be given to the XLVII Panzer Corps. The regiment would remain in Varvarina, attached to the LIII Panzer Corps, in order to conserve tanks and vehicles. If the combat became difficult it would go to the 18th Panzer Division.

29th Infantry Division (motorized). Division Headquarters, the 15th Infantry Regiment, the 29th Motorcycle Rifle Battalion, the 29th Reconnaissance Battalion, the 29th Artillery Regiment (less one battalion), and the Antitank Battalion entered Orel.

10th Infantry Division (motorized). All units reached the Kromy-Orel area.

25th Infantry Division (motorized). The division was in the area south and southwest of Kromy. Like all the other divisions the 25th was having difficulty obtaining winter clothes.

Corps Situation (cont.). All Divisions reported many vehicles broken down because of cold weather. In the 3d Battalion, 83th Artillery Regiment, only one gun was combat ready. In the 1st Antitank Battery, 88th Antitank Battalion, six of ten guns had been abandoned. During the march the 88th Reconnaissance Battalion lost 30 motorcycles, 14 trucks, and 7 armored cars. Additional reason for the tragic transport situation was the very bad roads and the fact that the vehicles were being used off the roads in cross-country travel.

15 November

Corps Situation

The corps had two possible ways to fulfill its mission, either take Yefremov or bypass it, leaving only holding units in the area between the Krasivaya Mecha River and Turdey, and advance with the main force toward Yepifan. After consulting with the Army commander, the Corps commander decided to take Yefremov first. The chief reason for the decision was apparently a shortage of gasoline, but Yefremov was a very important crossroad on the flank of the 2d Army. It was hoped that an attack on it would trigger a withdrawal of Russian forces from the area of Korovinka.

18th Panzer Division. Strong forces of the division reached the Mecha River near Yablonovo. The Russians (estimated as one or two regiments) were well entrenched on the east bank. Efforts to cross the river were unsuccessful. Because of the difficult combat situation, the 18th Panzer Regiment, still at Varvarvina, was attached to the division. Air reconnaissance reported heavy enemy movements in and around Yefremov. The 88th Reconnaissance Battalion, which had been ordered to Gaiitsy, to protect the southern flank, reported that Gaiitsy was in Russian hands.

At 1730 the Army ordered the Eberbach Group to be attached to the XL Corps. Elements of the 17th Panzer Division attached to the 18th Panzer Division were to remain there until the next day at 1800.

There were numerous strong Russian air attacks in support of combat activities. In the Yablonovo area the Russians attacked 12 times during the afternoon. The attacks were resented by the troops who had no anti-aircraft protection and could not dig in. Elements of the 101st AA Regiment could not be attached to the forward units, because the regiment had given its vehicles to the 104th 7A Regiment and had to remain in Orel.

th Infantry Division (motorized). Accompanied by the 119th Reinforced Regiment, the division was moving from Sevsk to the area of Dmitrovsk (midway between Sevsk and Orel). Many vehicles had broken down because of cold and bad road conditions. It was to continue toward Kromy.

29th Infantry Division (motorized). One company of the 5th Machine Gun Battalion was ordered to Chern. The rest was to go to Mtsensk. At 1600 the division was ordered to move on 17 November to the Mtsensk-Chern area, finding quarters on both sides of the roads Chern-Mtsensk and Chern-Volovo.

16 November

18th Panzer Division. Protected by a covering detachment near Yablonovo, the division left the Krasivaya Mecha sector in search of a better place to cross the river. Advancing toward Yefremov, the reinforced 18th Panzer Regiment came in contact with an entrenched Russian force, supported by artillery, near Mal. Kadnaya Bol. Since the bridge in the area was damaged, the regiment was withdrawn in the evening.

To protect the right flank the 88th Reconnaissance Battalion took Goliza and the hills west of Kruglaya. A 100mm artillery battery was brought to the area for use against Yefremov.

The division discovered that Russian defenses were weakest in the area where the river curves, north of Isrog, and that it would be a good place for building a bridgehead, except for access roads. The division would take over the river crossing at night.

The 17th Motorcycle Rifle Regiment, and elements of the 27th Artillery Regiment, formerly in the Eberbach Group, were returning to the XXIV Corps. The Reinforced 41st Infantry Regiment, which was to reach Lipizy Sybino on 17 November, would be attached to the 18th Panzer Division.

The Army ordered at 1925 that combat reconnaissance be conducted the next day in the direction of Korovinka to protect the southeast flank of the LIII Corps. One battalion of the 18th Panzer Division was to secure Railroad Station Volovo.

The 5th Machine Gun Battalion, which had entered the Mtsensk-Chern area, was to secure the southern flank of the LIII Corps.

There was little change in the enemy situation facing the 18th Panzer Division. In the sector Kruglaya-Mel. Kadnaye Bol. the enemy was entrenched in well prepared field fortifications. Air reconnaissance reported heavy traffic, including railroad traffic, in and around Yefremov. It was difficult to say whether the Russians were bringing in fresh troops or withdrawing their forces from the Mecha sector. Air reconnaissance was limited because of bad weather.

Adjacent Units

On the right the 2d Army was still in the Nerut cha area and near Novossil. Its advance would start on 19 November. On the left the LIII Corps had reached the line Ogarev-Sapolye-Bogoroditsk.

29th Infantry Division (motorized). The division staff moved to new quarters in Orel. Russian planes dropped about six bombs on Orel. The 29th Field Replacement Battalion arrived at Orel.

17 November

18th Panzer Division. Building up of the bridgehead secured during the night northwest of Isrog, near Rybalki, continued during the night and early morning. The bridgehead was to be defended by the 52nd Infantry Regiment and enlarged toward the east.

Preparations for the attack on Yefremov were proceeding.

The 5th Machine Gun Battalion replaced the 8th Reconnaissance Battalion on the line from west of Mogilki to the hills west of Kruglaya.

The Reinforced 41st Infantry Regiment (motorized) reached the Trozna area.

The 18th Panzer Regiment was en route in the area of Arkhangelskoye, making slow progress because of bad roads.

18 November

Corps Situation

The Army planned an advance in strength through Railroad Station Volovo toward Yepifan, to secure the right flank of the LIII Corps and to take the important bridge over the Don River near Yepifan undamaged.

The Corps commander considered it very regrettable that despite the lull in combat from mid-October to mid-November the railroad had not brought in enough fuel. The corps had only enough for one division to advance through Yepifan toward the Oka River.

18th Panzer Division. The 13th Reconnaissance Battalion in the evening reached Ossinovy Kust, 12 kilometers northwest of Korovinka. There was no contact with the enemy.

In preparation for the attack on Yefremov, it was important to bring up to the division all of the vehicles and especially the artillery that had bogged down on the road. More and more vehicles and equipment were being abandoned because of broken axles and springs. The 18th Reconnaissance Battalion on its march toward Ossinovy Kust had left behind all three guns of the attached battery and all of the heavy weapons. One of the two batteries attached to the 41st Infantry Regiment (motorized) and one battery of the antitank battalion was left behind during the march from Orel to Arkhangelskoye. During the advance by the 3d Battalion, 25th Artillery Regiment, from east of Dmitrovsk to Kromy, 11 prime movers, 12 trucks, and 10 armored cars were abandoned.

10th Infantry Division (motorized). After the 18th Panzer Division had been supplied with enough fuel to advance from Yefremov toward Yepifan, the remaining fuel would be given to the 10th Infantry Division (motorized) for a new advance.

20th Infantry Division (motorized). At 1530 the Panzer Army ordered one regiment to be shifted as soon as possible to Krapivna, to establish a defense against eventual Russian counterattacks from Tula. With Army approval the Corps decided to send instead one regiment of the 10th Infantry Division (motorized).

19 November

18th Panzer Division. With the 41st Infantry Regiment (motorized) and the 52d Rifle Regiment the division attacked from the bridgehead at Isrog toward Yefremov. After heavy fighting the division moved into a seven kilometer sector on both sides of Bolchovskaya. The Russian infantry was not especially strong, but it was accompanied by artillery and some tanks, of which 11 were destroyed. The German panzer regiment was not engaged in combat, because it had not yet reached the area. On the right a battalion of the 41st Infantry advanced through Sagryadskoya and reached Yefremov. Strong enemy forces were encountered at the road fork north and west of Yasenovo.

A reinforced company of the 5th Machine Gun Battalion took the bridge over the Mecha River near Kruglaya, but had to withdraw when the Russians counterattacked in regimental strength.

The 88th Reconnaissance Battalion, advancing toward Yepifan, made contact with the Russians ten kilometers northeast of Korovinka. The 18th Panzer Regiment, which could not be used in Yefremov, was to be brought to this area.

10th Infantry Division (motorized). The Motorcycle Rifle Battalion entered Chern in the evening, and the reconnaissance battalion reached Gorbachevo.

25th Infantry Division. The division continued to concentrate its units in Orel and the area to the southwest. The division was repairing its vehicles and preparing for combat.

29th Infantry Division (motorized). One reinforced regimental group was to be moved to the area Mtsensk-Chern, which the 10th Infantry Division would leave the next day. At 1445 the 71st Infantry Regiment was ordered to advance from Karachev on 20 November to the Chern-Mtsensk area. One battalion was to concentrate in the area of Gorbachevo.

Corps Situation

At 1530 General Guderian arrived at Corps headquarters to review the situation. The 2d Panzer Army was to advance toward Kashira. The XL Corps was to advance through Yepifan, northeast toward the Oka River, and secure the Army's right flank. In order to accomplish this the corps would have to destroy the important railroad crossing ten kilometers east of Gorlovo.

The Corps Commander decided that the 18th Panzer Division should continue its attack near Yefremov and throw the enemy back across the Mecha River. Then the 41st Infantry Regiment should advance through Korovinka toward Yepifan. The 88th Panzer Battalion should take Yepifan from the south.

The 25th Infantry Division should relieve all the security detachments of the 10th Infantry Division (motorized) on the highway and railroad between Orel and Gorbachevo, and move all its troops to Orel.

The 71st Infantry Regiment (motorized), concentrated east of Karachev and at Naryshkino, should proceed to the Gorbachevo-Mtsensk area.

Adjacent units

On the right, advance elements of the XXXV Corps reached the vicinity of Kulaschi. On the left the 167th Infantry Division reached the vicinity of Nikitskoye-Bogoroditsk. The day before reconnaissance patrols entered lightly defended Yepifan, but were recalled. In the next few days the LIII Corps was to turn north and attack strong Russian positions south of Stalinogorsk.

20 November

18th Panzer Division. The division attacked and broke through enemy defenses at the road fork north of Yaserovo, and a battalion reached the western edge of Yefremov. Elements of the 41st Infantry Regiment (motorized), advancing from the north, took the northern suburbs and, pushing into the town, took the railroad station as an enemy transport train was unloading. The Russians counterattacked inside the town several times, with tank support, but all of the attacks were repulsed.

The corps commander decided that after taking Yefremov the 41st Infantry should advance toward Yepifan, destroying as much of the enemy as possible on the way. The 52d Infantry Regiment should secure the bridgehead from the Russian concentrated northeast of Bolchovskaya.

The 38th Panzer Reconnaissance Battalion at noon reached Mikhailovskoye. A small Russian force stationed there retreated toward the southeast.

In the afternoon the situation of the division became critical. The 41st Infantry repulsed Russian counterattacks and took the northern and western parts of Yefremov, with its important synthetic rubber plant, but from the south strong Russian forces, after penetrating through covering elements of the 5th Motorcycle Battalion, attacked the line Gaiitsy-Arsenjeva. In addition, troops were observed detraining from a transport south of the Mecha. The advance of the 18th Panzer Regiment to join the 38th Panzer Reconnaissance Battalion was stopped, and the regiment was ordered to the area of the railroad crossing south of Arkhangelskoye, to protect the division's supply line. The advance of the 41st Infantry toward Yepifan was postponed.

10th Infantry Division (motorized). The 20th Infantry Regiment (motorized) and the motorcycle battalion in the evening reached the area of Teploye.

29th Infantry Division (motorized). The Reinforced 71st Infantry Regiment (motorized) reached the Mtsensk-GorLachevo area in the evening. At noon the corps informed the division that, as soon as its gasoline supply had been replenished, the division would move to the Teploye area. At 1700 the Corps directed that the division move the next day to the Bogoroditsk area. The following day it was to cross the Don between Yepifan and Lyutovich and attack Savina.

Corps Situation

There was a fuel shortage, which made it difficult to plan long marches. Because of lack of fuel, elements of the 10th Infantry Division could not leave the Gorbachevo-Mtsensk area before midday. Clogged roads made the transport of fuel very difficult. Because of accidents and bad roads the columns were very long, and only about half of the marching units reached their destination.

Adjacent Units.

On the left only light holding elements of the LIII Corps remained in the area east and northeast of Bogoroditsk. Most of the corps was engaged in heavy fighting south and southwest of Stalinogorsk.

293d Infantry Division. Advance elements of the division were approaching Darischtschi and should reach it in the evening. Most of the division would enter Novocsil the following day.

21 November

18th Panzer Division. The Russians who had penetrated the Kamentkoye area were thrown back by the combined efforts of the 18th Panzer Regiment, which attacked from the northwest and northeast, and elements of the 5th Motorcycle Rifle Regiment, which attacked from the southeast. The Russians fled south, where most of them were intercepted by advancing units of the 293d Infantry Division and destroyed.

The situation north of Yefremov was difficult. In the city bitter street fighting continued. One regiment of the Russian 6th Guard Division was defending it. The Russians had also brought in tanks of the 150th Tank Brigade, and most of them were damaged. It was reported before noon that a large column, partly motorized, partly horse-drawn, was observed west of Andreyevka moving south, and another large column, including 35 guns, was moving along the railroad toward Yefremov. The Luftwaffe attacked the column with the guns, and the

Russians were unable to commit those troops. Reinforcements did reach Yefremov from the east. Russian planes supported the ground battle for Yefremov continuously, and with considerable intensity.

10th Infantry Division (motorized). The 88th Panzer Reconnaissance Battalion, attached to the 10th Division, reached Yepifan from the south, taking it after overcoming stiff resistance. Other forward motorized elements of the 10th Infantry Division (except for the 41st, which was with the 18th Panzer Division), reached Yepifan in the evening. Most of the division was in the area of Bogoroditsk and southwest.

29th Infantry Division. Marching Group 1, the 29th Reconnaissance Battalion and 29th Motorcycle Rifle Battalion, and Marching Group 2, the 15th Infantry Regiment with attached elements of the 29th Artillery Regiment and the 29th Engineer Battalion, were advancing to the northeast. At 0800 the leading echelon reached Chern. The advance was held up by heavy traffic and bad road conditions on the highway toward Tula. Especially difficult was the section where the road from Chunino to Teploye branches to the east and is not paved.

The advance detachment reached Pavlova after dark. Further advance was impossible. Some elements of the 29th Reconnaissance Battalion had reached Chernyayevka. The rest of the division was sitting on both sides of the road.

At 2250 the division ordered the 15th Infantry to proceed the next day to Kaganovich, south of Bogoroditsk, and be ready for an attack on Yepifan.

Corps Situation

The 18th Panzer Division was ordered, first, in cooperation with the advance battalion of the 293d Infantry Division, to destroy the enemy west of Yefremov, then open the road to the north for the 41st Infantry.

The 29th Infantry Division (motorized), minus the Reinforced 71st Infantry Regiment (motorized), which was to remain in the Mtsensk-Gorbachevo area in Army reserve, was to advance through Yepifan and take the crossroads at Savina. It was also to reconnoiter to the south from Yepifan toward Kruykova, and destroy road bridges near Kruykova and Nikitskoye. At 2300 the Corps ordered the 71st Infantry to move the next day to the area Krasnoye-Sloboda-Chunino.

The 10th Infantry Division (motorized) was to destroy the railroad crossing ten kilometers east of Gurlovo. The Reinforced 35th Infantry Regiment (motorized) of the 25th Infantry Division was to be moved to the area Chunino-Krapivna-Plavsk, to remain in Army reserve.

At 1000 the Corps was informed that in view of the very difficult situation its mission to proceed in the general direction of Ryazan was called off. Elements of the Corps east of Tula and near Yefremov must be committed there if new units of a Russian Siberian division had arrived as reported. The whole Second Panzer Army would take up defensive positions.

22 November

14th Panzer Division. Fighting in Yefremov was heavy. The Russians still held the southern tip of the city. Some enemy tanks advancing from the north along the railroad from Snamenskoye were thrown back by elements of the 41st Infantry Regiment (motorized). During the day the Yablonova bridge was repaired, and the troops which were defending the bridgehead near Isrog were moved farther south. It was not clear whether the Russians still occupied the area Kamenka-Kolozeci-southwest of Turdey.

10th Infantry Division (motorized). Despite difficulties with the supply of gasoline the division was approaching Yepifan. The 28th Reinforced Reconnaissance Battalion reached Orlovka in the evening. Local sources reported that the Russians were holding Goriovo with one regiment and some tanks.

25th Infantry Division (motorized). The 35th Infantry Regiment (motorized) was sent to Army reserve in the area Chunino-Plavsk-Krapivna to replace the 71st Infantry. The rest of the division was concentrated southwest of Orel.

23rd Infantry Division (motorized). The mission for the day was to take Savina. At 0500 the Corps command ordered the 71st Infantry to move to the Krasnoye-Sloboda-Chunino area to corps reserve. Later in the day it was ordered to move to the area Yepifan-Kaganovich. The regiment entered Gorbachevo at 1140.

At 0700 the advance detachment of the reconnaissance battalion reached Chernyayevka. At 1300 the battalion reached Lomovka. An hour later forward patrols reached Sukroma. The battalion reached Yepifan at 1700 and was ordered to advance the next day toward the north. At 2040 the battalion reported that Roshdestvena was in Russian hands. It also reported that 50% of its vehicles were lost and its supply of fuel would take it only 20 kilometers.

Close behind the reconnaissance battalion came the 3d Battalion, 15th Infantry Regiment. The Motorcycle Battalion followed it, reaching Lomovka a half hour after the reconnaissance battalion. The staff of the 15th Infantry and the 3d Battalion entered Barikovo at 1600.

The 2d Battalion was in Pavlovka. The 1st had not arrived, because it was out of gasoline. Many vehicles had been left behind. Combat elements of the 15th Infantry were ordered to move to Railroad Station Yepifan* the next day.

The division informed the corps that because of very bad roads, vehicle accidents and breakdowns, and difficulties with the supply of fuel, continuing with the advance would present problems. Corps directed, however, that at least the advance elements should proceed the next day to Yepifan.

The 29th Engineer Battalion was ordered, in cooperation with the reconnaissance patrols of the reconnaissance battalion, to send a special detachment to the Don River crossing near Kruykova to blow up the bridge there as well as the one at Nikitskoye.

Adjacent Units

On the left the LIII Corps was engaged in heavy fighting south and southwest of Donskoy with newly arrived Siberian troops.

293d Infantry Division. Advance elements, advancing from Gaiitsy, in the evening reached Gumova. Most of the division was in the region Glebova-Meslova.

23 November

18th Panzer Division. The 5th Machine Gun Battalion crossed the Mecha and was mopping up the southern part of the Mecha curve, up to the Dubiki-Bod. Myedovaya area. The 18th Panzer Regiment and the 52d Infantry Regiment advanced toward the east toward Railroad Station Burelom and then along the railway to the south, attacking the Russians reported the day before to be north of Yefremov. The Russians were thrown back and retreated toward the east. The northern tip of Yefremov was reached.

The second Army, on the night, had decided to bypass Yefremov with its left wing, and consequently the elements of the 18th Panzer Division north of Yefremov could not be relieved.

10th Infantry Division (motorized). The 88th Reconnaissance Battalion took Gorlovo without resistance and reached the railroad junction to the east in the evening. The demolition party destroyed the western part of the crossing, while the Russians were destroying the eastern part. Reconnaissance patrols reconnoitering in the

* Note that, as is the case in many instances in Russia, the town and its railroad station are a considerable distance apart.

direction of Mikhaylov reported that Gagarino was clear of Russians. Because of a lack of fuel the rest of the 10th Infantry Division could not follow the reconnaissance battalion.

29th Infantry Division (motorized). The reconnaissance battalion started north at 0730. Near Aleskhina it encountered enemy forces, which were driven off after a short fight. At 0900 the battalion took Roshdestvena and the bridge north of it, capturing two officers and ten men of the Russian 172d Regiment, 41st Cavalry Division. At 1200 the battalion took Adshomka after heavy fighting. At 1700 the reconnaissance battalion was concentrated at Railroad Station Yepifan, on the east, north, and west.

At 0830 the 3d Battalion, 15th Infantry Regiment, reached Yepifan and followed the elements of the reconnaissance battalion on the road to Railroad Station Yepifan. The battalion reached Roshdestvena at 1100. At 1340, after heavy fighting, the battalion took Bolschaya Mikhaylovka and reached the railroad station. The Russians had blown up the railroad tracks and burned the station, but large amounts of grain and fuel were saved. The battalion advanced to Alexeyevka.

The 2d Battalion, 15th Infantry, having advanced through Yepifan, encountered Russians three kilometers north of the town and drove them off. From a hill, infantry guns fired on a Russian column marching from Urusovo northwest toward Suchovka. The 2d Battalion spent the night in Urusovo. The 1st Battalion was in Yepifan.

One platoon of the 29th Engineer Battalion, assigned to guard the crossing of the Don at Bryukova, reached the river without making contact with the enemy. Because the bridge at Nikitskoye was occupied by the enemy, the platoon would spend the night in Sinkovo and blow up the bridge the next day. The bridge over the Don near Yepifan was being held by elements of the 2d Company, 29th Engineer Battalion. Other elements of the company were assigned to the bridge at Muravlyanka.

The division had reported its strength to Corps as follows:

- 2d Battalion, 15th Infantry - 9 squads
- 3d Battalion, 15th Infantry - 7 squads
- 2d & 3d Battalions, 29th Artillery Regiment - each 5 guns
- 529th AT Battalion and 59th AAA Company - no guns

At 1850 the Corps released the 71st Infantry Regiment, less one battalion, and the division ordered it to move on the 24th to Alexeyevka through Railroad Station Yepifan. The reconnaissance battalion, 15th Infantry, was to attack Rogatscheva, through Savina. The 15th Infantry would proceed to the crossroads three kilometers west of Savina. At 2210 the corps informed the division that the 4th Panzer Division would advance through that crossroad to attack Venev.

25th Infantry Division. One infantry battalion relieved the infantry elements of the 10th Infantry Division that were in the sector Orel-Mtsensk.

Corps Situation

In the area between Yefremov and the Don, the southeastern flank was protected by the 1st battalion, 101st Infantry Regiment, in the Korovinka area, one company of the 88th Panzer Reconnaissance Battalion in the Mikhaylovskoye area, and a detachment of the 29th Infantry Division (motorized) near Kruykova.

Reconnaissance reported Russian infantry and artillery in the area Ivanovskoye-Sofinka-Railroad Station Ptan, and near Nikitskoye.

Russian air activity was particularly heavy near Yefremov, Gorlovo, and Yepifan. Because of a lack of antiaircraft artillery and fighter planes, casualties to men and vehicles were heavy.

The 29th Infantry Division was ordered to advance through Savina toward Zaraysk, while its reserve elements turned west to destroy the Russian forces near Donskoy, in front of the LIII Corps. On 25 November the 25th Infantry Division would take over protection of the southeast flank of the Corps, deploying the 35th Infantry Regiment (motorized) for that purpose in the Teploye-Kusovka area. The 119th Infantry Regiment (motorized) would be sent to Army reserve in the Gorbachevo-Mtsensk area, replacing the 35th Infantry Regiment.

24 November

18th Panzer Division. Most of the Russians opposing the division withdrew a short distance to the east and northeast. However, strong forces occupied the eastern and southern bank of the Mecha River and were shelling Yefremov from time to time. In the morning one reinforced battalion of the 41st Infantry Regiment advanced through Koldezi toward Korovinka. Overcoming weak enemy resistance in the area of Andreyevka, the battalion reached the area south of Korovinka. Reconnaissance east to the line Andreyevka-Railroad Station Ptan-Ivanovskoye-Chernava, organized by the 18th Panzer, and 29th and 10th Infantry Divisions (motorized), reported weak enemy forces except in Ivanskoye. Skopin was clear of Russians.

25th Infantry Division (motorized). The reconnaissance battalion moved to Teploye and the motorcycle rifle battalion to Chern.

10th Infantry Division (motorized). The 88th Panzer Reconnaissance Battalion secured the railroad crossing east of Gorlovo. The Reinforced 10th Reconnaissance Battalion took Mikhaylov around noon and seized the crossing over the Pronya River intact. At the airport on the northern edge of Mikhaylov eight loaded transport planes were

taken, and three others destroyed. The motorcycle rifle battalion and the 1st Battalion, 20th Infantry, were moving from Yepifan to Gorlovo and eventually Mikhaylov.

29th Infantry Division (motorized). In the morning the reconnaissance battalion started advancing to the north, followed an hour later by the 15th Infantry Regiment, minus the 2d Battalion, which was defending the area around Railroad Station Yepifan until the arrival of a battalion of the 71st Infantry Regiment.

At 0820 the reconnaissance battalion encountered strong Russian infantry and cavalry forces at the eastern edge of Novosyolki. The division ordered the battalion to bypass the enemy on the east and proceed to Savina. However, the order was not received in time, and the battalion attacked Novosyolki. Taking the village at 1030, the battalion advanced toward the hills southeast of Dudkino, whither the Russians had retreated. Taking Dudkino, it continued on toward the high ground to the north, where, according to a prisoner, elements of the 168th, 170th, and 117th regiments of the Russian 41st Cavalry Division were deployed.

The reconnaissance battalion reached the hills west of Postoschi, took Lichatshevka, and at 1600 encircled and took Savina. The battalion took 42 prisoners, three trucks, one tank, one infantry gun, and one antitank gun.

The 71st Infantry Regiment took over from the 29th Engineer Battalion protection of the bridge in Muravlyanka. The 1st Battalion was ordered to Railroad Station Yepifan, where it arrived at 1445.

The 1st Battalion, 15th Infantry, took Karkadinovo at 1140 and followed the reconnaissance battalion through Sokolovka. The 3d Battalion advanced through Aleksandrovka and crossed the Pronya. At 1250, with little resistance, the 15th Infantry took Pustoschi, capturing about 40 prisoners, many horses, and various items of equipment. Advancing toward the west, the 1st Battalion met no Russian resistance. At 1520 it reached Spaskoye. There it remained. The 3d Battalion reached Novaya Yakovlevka at 1600 and was to proceed to Isbitschi. (An order not to go to Novaya Yakovlevka, but to turn west and southwest and attack in that direction, had been received at 1140.)

The division plan was to advance to the north, with the west flank guarded by the 71st Infantry Regiment. After Savina was taken the mission would be to destroy the enemy in front of the LIII Corps. To this end the division would turn to the west and attack in that direction, the reconnaissance battalion continuing toward the north. The corps at 1900 ordered the reconnaissance battalion to stay in Savina, prepared to move to the southwest in case the Russians retreated toward the north. Plans for 25 November were:

The 3d Battalion, 15th Infantry, should advance toward Sokol-iniki and reconnoiter toward Sadonskaya. The 71st Infantry, with the 2d Battalion, 15th Infantry, attached, should reach Granki. The 1st Battalion should proceed to Mikhaylovka. Another battalion and most of the artillery should, as division reserve, proceed to Novaya Yakovlenka. The engineer battalion was ordered to send a stationary patrol to the southern part of Lyutovich. The reconnaissance battalion was ordered to send a strong combat patrol to the bridge at Serebryanye Prudy, while the rest of the battalion remained at Savina, and established liaison with the 4th Panzer Division in Ozerki.

A platoon of the 2d Company, 29th Engineer Battalion, successfully blew up the bridge in Nikitskoye. It was ordered next to destroy the bridge near Kul'kovo and then proceed to Uctye-Bryukova.

Adjacent Units

On the right the Second Army had not yet relieved the elements of the 18th Panzer Division that were near Yefremov. On the left the 4th Panzer Division advanced across the Shat river and then turned east to Ozerki. Its advance elements reached Podkozheye.

The 18th Panzer Division was ordered to send the remaining elements of the 41st Infantry Regiment (motorized) to Yepifan and start preparing to move. The 10th Infantry Division (motorized) was ordered to take Skopin with the 83th Panzer Reconnaissance Battalion and prepare to advance toward Ryazhk and Ryazento to destroy the railroad. The 29th Infantry Division (motorized) was to destroy the fresh, rested, fully-equipped 239th Siberian Infantry Division which was in combat with the LIII Corps, in coordination with the 4th Panzer Division, attacking from the north.

25 November

18th Panzer Division. The situation at Yefremov made it possible for the rest of the 41st Infantry Regiment (motorized) and the 18th Panzer Division, except for a part of the 52d Infantry Regiment, two artillery battalions, and the attached 5th Machine Gun Battalion, to start marching toward Korovinka. The 2d Battalion, 101st Infantry, was to be used in the area of Burelom to protect the advance to the north. The troops of the 18th Panzer Division remaining in and around Yefremov would be relieved by elements of the 511th Infantry Regiment.

During the battle for Yefremov the 18th Panzer Division engaged the following Russian units: 293d Infantry Division, 137th Infantry Division, 6th Guard Division, 121st Armored Brigade, and the 150th Armored Brigade. The fighting was very bitter, and the enemy counter-attacked many times. A total of 2,235 prisoners were taken. Destroyed

were: 23 tanks (medium and heavy), two armored scout cars, two antitank guns, four guns, and a great number of infantry weapons and ammunition. The German unit which distinguished itself most in the battle was the 41st Infantry Regiment.

The 1st Battalion, 101st Infantry, of the 18th Panzer Division, guarding the area near Korovinka, was to be attached to the 25th Division.

25th Infantry Division (motorized). The reconnaissance battalion reached Mikhailovskoye. The Motorcycle Rifle Battalion reached Nikitskoye. The rest of the division was on schedule, and proceeded according to corps orders. The situation in the area of Ivanskoye-Ptan Railroad Station was unchanged.

10th Infantry Division (motorized). The 28th Panzer Reconnaissance Battalion occupied Chernava and took Skopin by midday. The 10th Reconnaissance Battalion took Sacharovskaya and Plachino. Reconnaissance reports indicated the enemy forces west of Pronsk were weak. Maskovo, to the north, was free of Russians. Air attacks on the division were especially heavy.

29th Infantry Division (motorized). As the Russian 239th Division forces broke out of the encirclement in which the German 29th Division had been participating, they encountered units of the 29th Division. At 1015 the 15th Infantry Regiment was ordered to move its 1st Battalion from Spaskoye to Shirina. One patrol of the battalion, mopping up Shirina, encountered strong enemy forces and had to retreat. In a reconnaissance of Ivanikovo (by the 3d Battalion, 15th Infantry) a combat patrol was overrun by Russians. One officer and several men were reported missing. The 1st and 3d Battalions of the 15th Infantry attacked Shirina and Ivanikovo in the afternoon. An officer of the Russian 317th Rifle Regiment, 239th Division, who was taken prisoner, reported that his regiment had been alerted at midnight and started moving at 0200 from Donskoy toward Ivanikovo.

The Rifle Battalion of the 15th Infantry was reported at 1645 to have encountered strong enemy forces in Ivanikovo and suffered 34 casualties, including 16 dead. The battalion withdrew to Sokoliniki. The 1st Battalion, meanwhile, was unable to take Shirina because of strong resistance and prepared new defense positions 1.5 kilometers southwest of Spaskoye in the face of enemy forces advancing toward the northeast. During the evening the battalion was encircled and attacked, taking heavy casualties, and losing three heavy field howitzers of the 7th and 8th Batteries and one light howitzer of the 6th Battery, 29th Artillery Regiment. The battalion commander and two artillery officers were killed. The battalion managed to withdraw toward Novaya Yakovlevka, but only about three squads of the battalion survived.

The 71st Infantry Regiment, most of which was near Railroad Station Yepifan, was ordered at noon to enter Mikhaylovka, earlier reported to be clear of Russians, and from there to reconnoiter toward Donskoy. (Elements of the 1st Battalion, 71st Infantry, were at Proscatschenyi Kolodezi.) The regiment encountered weak Russian forces in Dubovaya and Nikolskaya. Russian cavalry patrols were reconnoitering from these places toward the northeast. A truck and cavalry column was seen on the road between Nikolskaya and Bobrik, heading north. The 2d Battalion, 71st Infantry, was at Novaya Yakovlevka, where the remnants of the 1st Battalion, 15th Infantry Regiment, had retreated.

The reconnaissance battalion reported at 1100 that it had made contact with the 33d Rifle Regiment, 4th Panzer Division, in Ozerki. Patrols of the battalion met advance detachments of the 4th Panzer Division in Podkhezheye. The supply vehicles of the reconnaissance battalion were attacked by Luftwaffe in Gremyacheye before noon and suffered some casualties. (The division asked the corps to tell the Luftwaffe that Gremyacheye was in German hands.) Reconnaissance patrols of the reconnaissance battalion reached Prudskiye-Vyselki at 1300. No enemy were encountered. At 1400 a patrol reached Krasnoye, which a patrol of the 4th Panzer Division had also entered. The reconnaissance patrol was attacked by an enemy company and withdrew in the evening toward Prudskiye-Vyselki. After the attack on the 1st Battalion, 15th Infantry, the reconnaissance battalion was ordered to send a detachment at once to G. Matovo, to establish liaison with the 2d Battalion, 71st Infantry. The battalion was to be prepared to advance to the southwest the following day.

The 4th Panzer Division was to advance on the 26th from Ozerki to Spaskoye, and the 29th Division was to establish liaison with it.

Yepifan, and Railroad Station Yepifan, where division headquarters had been moved, were bombed many times during the day.

The division was ordered to attack and destroy the enemy in the area north of Donskoy on the 26th, where the enemy was reported to have well prepared defense positions.

Corps Situation

Because of inadequate supply stores, the advance to the Oka River was cancelled. The army ordered that the railroad between Ryazhk and Ryazan be cut, as well as the railroad east of Moscow. This was assigned to the 10th Infantry Division (motorized). The 18th Panzer Division, except for the elements still at Yefremov, was to concentrate near Korovinka, and defend the area from attack from the southeast. The 29th Infantry Division was to hold against a Russian breakthrough with its right wing, and attack Donskoy with its left.

The 25th Infantry Division was to move the 35th Infantry Regiment (motorized) to the Yepifan area.

The following units were ordered to Germany for rest and replenishment: The staff and two battalions of the 18th Panzer Regiment, the 63d Artillery Battalion (10cm guns), less one battery, which was with the 422d Heavy Artillery Battalion.

26 November

18th Panzer Division. Division elements near Yefremov had not yet been relieved. Some units of the division, to the extent transport was available, were moving toward Korovinka. There were strong Russian forces in the area Ivanovskoye-Ptan Railroad Station-Pyatelka. The 1st Battalion, 101st Infantry, and the Reconnaissance Battalion of the 25th Infantry Division (motorized) were assigned to hold the enemy forces. The 18th Panzer and 25th Divisions were to attack there on the 28th.

25th Infantry Division (motorized). The 35th Infantry Regiment, less the 3d Battalion, which was proceeding on foot, reached the Yepifan area in the evening.

10th Infantry Division (motorized). The Russians introduced new troops near Chernava and Skopin. An attack in battalion strength near Chernava was repulsed at midday. Under pressure from strong enemy forces, about two regiments in strength, the 88th Panzer Reconnaissance Battalion retreated to the railroad crossing west of Gorlovo, where the division organized a covering force. Because of lack of German air support and anti-aircraft defense, the Russian air force was very active, and the 10th Division could move only at night. On the road from Gorlovo to Mikhaylov even single vehicles were attacked from the air. There were many casualties in men and materiel.

29th Infantry Division (motorized). At midnight the Reconnaissance Battalion sent a patrol to G. Matevo and established contact with the 1st Battalion, 15th Infantry, and the 2d Battalion, 71st Infantry, in Novaya Yakovlevka. At 1215 reconnaissance patrols cut the railroad line two kilometers northwest of Serebryanye Prudy, taking four prisoners from the 13th Division (from Omsk).

The Reconnaissance Battalion took Dudkino at 1430. At 1800 the battalion was ordered to advance, without the motorcycle battalion, to Vyselki to stop the Russians, who seemed to be trying to break through to the northeast. The battalion arrived at Vyselki at 2010. When word came at 2300 from the Corps that a captured Russian army order indicated that the 239th Infantry Division was to attack near Ozerki during the night of 26/27 November or at latest the next morning, the 1st Battalion, 71st Infantry Regiment, already ordered to proceed to Vyselki in the morning, was told to start off at 0600.

The 1st Battalion, 71st Infantry, had been ordered at 0935 to postpone temporarily the scheduled attack on Nikolskaya, until the situation on the right wing of the division cleared up. At 1440 the 1st Battalion had established contact with the LIII Corps in Donskoy and Bobrik.

The 3d Battalion, 71st Infantry Regiment, which had been in corps reserve in Yepifan, was ordered to return to the division and move to Alexandrovka, to relieve the 15th Infantry Regiment. The battalion reached Alexandrovka at 0930. At 1645 the battalion was attached to the 15th Infantry Regiment.

In the early morning, elements of the 4th Panzer Division entered Spaskoye, but took so many casualties that they had to withdraw. The 2d Battalion, 71st Infantry, was ordered to take their place. At 1020 the 15th Infantry Regiment reported that, as a result of the attacks made by the two units on Spaskoye, Russian troops were moving from Spaskoye toward Shirina. As of 1230, however, Spaskoye had not been taken. The 33d Rifle Regiment, 4th Panzer Division, was in the hills north of Spaskoye, while the 2d Battalion, 71st Infantry, was advancing on the town from the northeast. (Apparently it did not take it.) The 15th Infantry Regiment reported enemy movements of regiment strength from Shirina toward Spaskoye at 1705.

The 2d Battalion, 15th Infantry, cleared the enemy from Sadonskaya, taking several prisoners from the 818th Regiment, 229th Division. The 2d Battalion, in Granki, and the 1st Battalion, 71st Infantry, were to be relieved by a battalion of the 35th Infantry Regiment. The 2d Battalion, 15th Infantry, was to move to Dudkino in division reserve.

The Motorcycle Rifle Battalion was ordered to advance at 0900 on 27 November through Savina and attack Serebryanye Prudy, then reconnoiter to the north and east. The 4th Battery would be reattached to the battalion.

The railroad station at Yepifan was bombed many times during the day, but no damage resulted.

The division was ordered to send its Reinforced Reconnaissance Battalion to secure the east flank of the XXIV Panzer Corps in the Osetr sector. One enemy battalion was reported north of the Osetr. The 119th Infantry Regiment was to be assigned to the XXIV Corps to secure its right flank.

The 42d Engineer Combat Battalion was ordered to defend the Kruykova area (having been relieved at Bryukova) and to reconnoiter toward the southeast.

27 November

18th Panzer Division. Although sizable forces of the left wing of the 2d Army (the 293d Division) reached Yefremov, the elements of the 18th Panzer Division and the 5th Machine Gun Battalion were not relieved. The rest of the division continued to concentrate in the Korovinka area. The 2d Battalion, 101st Infantry Regiment, was defending the area of Burelom. Remnants of the Russian 137th Infantry Division were concentrated near Granovaya and east of Burelom.

25th Infantry Division (motorized). The enemy line ran from west of Ptan Railroad Station to Mikhaylovskoye. Attacking Mikhaylovskoye, the Russians took the eastern part of the town and shelled the western part. The 25th Reconnaissance Battalion, which was west of the town, was forced to withdraw to north of Rostovo. Russian combat reconnaissance attacks toward Rostovo were repulsed.

The area Druykovka-Mikhaylovskoye was reported to be clear of Russians.

The 42d Engineer Combat Battalion was concentrated northwest of Kruykova, defending toward the southeast.

The 119th Reinforced Infantry Regiment (motorized) reached the Kaganovich area in the evening.

10th Infantry Division (motorized). Because of a shortage of fuel, only the 3d Battalion of the 41st Infantry Regiment entered Gorlovo. The remainder of the regiment was in the Yepifan area.

The two Russian regiments which retook Skopin the day before were no longer pushing forward.

The demolition group sent to destroy the railroad bridge at Miloslavskoye accomplished its mission.

Because of Russian air attacks movement of troops during the day was impossible. Even individual vehicles on the highway from Mikhaylov to Ryazan were attacked. On the 26th and 27th the Russians had about 60 planes in the air intermittently. All units reported heavy losses. The 10th Reconnaissance Battalion had 1 dead, 29 wounded.

29th Infantry Division (motorized). At 0430 the 15th Infantry Regiment reported that the Russians were attacking the 2d Battalion, 71st Infantry Regiment, at Novaya Yakovlevka. The Russians struck

with over two regiments from three directions, and forced the defending battalion to withdraw toward Alexandrovka. Camouflaged in white coveralls, the enemy had been able to come up on the defenders unobserved.

The 1st Battalion, 71st Infantry, was ordered to Dudkino at 0645. The 2d Battalion, 15th Infantry Regiment, having been relieved by the 2d Battalion of the 35th Infantry Regiment at Granki, was ordered at 0900 to proceed at once to Dudkino, for probable use against Novaya Yakovlevka. Ten minutes later the order went out to the 71st Regiment, to advance north from Dudkino and retake Novaya Yakovlevka with all available forces. These amounted to the 1st Battalion, 71st Infantry Regiment, remnants of the 2d Battalion, the 2d Battalion, 15th Infantry, and remnants of the 1st. Actually elements of the 2d Battalion, 71st Infantry, and 1st Battalion, 15th Infantry, had already attacked and taken Novaya Yakovlevka. The 2d Battalion suffered 40 men dead and about the same number wounded.

The 1st Battalion, 15th Infantry, and elements of the Reconnaissance Battalion had occupied defensive positions south of Vyselki, with their front to the south. The enemy burned radio stations of the 1st Battalion, 15th Infantry, and the 3d Battalion, 71st Infantry, at 0935. One heavy howitzer, two light howitzers, and all antitank guns were lost. The 2d Battalion, 71st Infantry, had only 20 vehicles left. It had been ordered to attack Vyselki from the southwest.

The 2d Company of the Motorcycle Rifle Battalion reported at 1010 that it had reached Alexandrovka. Enemy stragglers were withdrawing to the northeast. The battalion was ordered to proceed toward Gremyacheye. Having reached that town at 1215, the battalion was ordered to stop the enemy south of the town, moving east.

At 1120 new regrouping was ordered. The 1st and 2d Battalions, 71st Infantry, with the Motorcycle Battalion, were given the northern sector of the division area; the 1st and 3d Battalions of the 15th Infantry, and the 2d Battalion, 35th Infantry, were given the southern sector. The 2d Battalion, 15th Infantry, was to be in division reserve behind the 71st Infantry.

One company of the 15th Infantry made an unsuccessful attempt to retake Spaskoye. At 1445 the LIII Corps reported that the 167th Division had taken the town, capturing 36 guns, 15 tanks, 700 prisoners, and numerous other items.

The Reconnaissance Battalion reached the Podkhozheye area at 1600, and its advance elements made contact with the 4th Panzer Division.

The division was ordered to advance on the 20th toward Zaraysk to protect the flanks and rear of the XXIV Corps. The Motorcycle Rifle Battalion and the 4th Battery were to be attached to it, and to send an advance detachment toward Serebryanye Prudy after entering Podskhosheye.

Corps Situation.

In an attempt to halt the enemy advance near Mikhaylovskoye, the Corps Commander decided to attack in the Railroad Station Ptan-Ivanovskoye area. The 18th Panzer Division and 25th Infantry Division (motorized) (minus the 35th Infantry Regiment, in corps reserve) were ordered to attack and attempt an encirclement of the area on 29 November. The 10th Infantry Division (motorized), upon arrival of the 41st Infantry Regiment (motorized), was to retake Skopin, which had been occupied by two Russian regiments. The 29th Infantry Division (motorized) was to advance through Serebryanye Prudy toward Zaraysk to protect the flank of the XXIV Panzer Corps, and send detachments to destroy the railroad bridge over the Oka north of Schurova.

The boundary line between the 10th and 29th Divisions ran: eastern edge of Yopifan-Maschkovo-18 kilometers northwest of Mikhaylov - Railroad Station Alpayovo-40 kilometers northwest of Ryazan. Between the 29th Division and XXIV Panzer Corps the line ran: Ozerki, west of Savrina-Usunovo-Ozerki, 30 kilometers east of Kashira.

28 November

Corps Situation.

The situation in front of the 18th Panzer Division and the 25th Infantry Division (motorized) was unchanged, except for intermittent artillery fire from both sides, as the two German divisions prepared to attack the next day. The 13th was to attack toward Sofinka and the hills to the west, making its main effort astride the railroad through Railroad Station Ptan. The 25th Infantry Division (motorized) was to make its main effort along the highway between Mikhaylovskoye and Ivanovskoye. Both divisions were the target of several air attacks during the day.

The 10th Infantry Division situation was unchanged.

The 101st Antiaircraft Regiment was able to find motor transport for some of its elements and was proceeding from Orel, with three light and three heavy batteries. They were to be attached to the 10th Infantry Division (motorized).

On the southeast flank of the corps, toward Kanneburg, there were no Russian forces established. Skopin and Pronsk were in Russian hands. Although the Russians seemed to have no plans to attack, combat reconnaissance units in strength, including tanks, probed from the direction of Ryazan toward the area northwest of Mikhaylov. At night Russian columns (apparently from the area northwest of Railroad Station Yepifan) were crossing the road Gorlovo-Mikhaylov under cover of darkness.

29th Infantry Division (motorized). The Reconnaissance Battalion reported at 0950 that Prudskiye-Vyselki was clear of Russians, but Krasnoye and the forest two kilometers west of it were occupied.

Various units were engaged in mopping up the area north of Yepifan. The regiments were ordered to regroup after the mopping up was completed, the 15th in the Dudkino Area, and the 71st in the area southwest of Gremyacheye. The remnants of the 1st Battalion, 15th Infantry, and the 2d Battalion, 71st Infantry, were to be combined into a replacement battalion.

The Motorcycle Rifle Battalion entered Podskosheye at 1145.

The Reconnaissance Battalion at 1245 encountered strong enemy forces in Krasnoye and the hills to the northeast. Attacking, the battalion took Krasnoye and reported that the railroad station at Prudy was clear of the enemy. The battalion was ordered to proceed at 0630 the next morning and occupy Railroad Station Prudy, then establish a bridgehead over the Osetr and reconnoiter toward the northeast, up to the highway Venev-Zaraysk. The 71st Infantry was ordered to advance to Serebryanye Prudy in the morning. One heavy and one light antiaircraft battery were to be attached to the division, but the time of their arrival was uncertain.

The 2d Battalion, 35th Infantry, was ordered back to the regiment.

29 November

18th Panzer and 25th Infantry Divisions. During the night strong enemy counterattacks were repulsed on the southern wing of the 18th Panzer Division, coming from the area west of Mikhaylovskoye (25 kilometers northeast of Yefremov). The enemy along the Burelom-Drasovka line was increasingly active.

The joint attack of the two divisions proceeded according to schedule. The Russians near Mikhaylovskoye fought hard and were defeated only by encirclement. The divisions reached the line

Railroad Station Ptan-Sofinka-Ivanovskoye, completing their mission. The 18th Panzer Division took 200 prisoners and three guns; the 25th Division took 60 prisoners and four antiaircraft pieces and counted 200 Russian dead.

10th Infantry Division (motorized). There was no change in the situation.

29th Infantry Division (motorized). The Reconnaissance Battalion left Podskosheye at 0630, marched through Krasnoye, and reached Serebryanye Prudy at 0835. The bridge across the Osetr was captured intact and the place was set afire. The bridgehead was secure from all sides. Reconnaissance patrols were sent toward Zaraysk and along the railroad line toward Uzunovo. For about 15 kilometers in all directions no Russians were reported. Small rear guards were retreating to the north. Prudy was bombed several times during the day, but with minor damage.

The Reinforced 71st Infantry Regiment left Gremyacheye and reached Serebryanye Prudy at 1300, making contact with the Reconnaissance Battalion. The 3d Battalion secured the southern part of Prudy. The 1st Battalion was at Krasnoye.

The Reconnaissance Battalion was to attack Zaraysk on 30 November and send out demolition groups against the railroad line. The 71st Infantry was ordered to take over protection of the bridgehead by 1100 and then reconnoiter on a 20 kilometer radius. The 15th Infantry should move at 0900 from Gremyacheye and concentrate in the Prudy-Krasnoye area.

Corps Situation.

A light AA battery of the 101st AA Regiment, which had reached Gorlovo in the morning, shot down four Russian planes during the day. In addition the 10th Infantry Division, which had taken 11 planes at the Mikhaylov airfield, shot down two planes with infantry fire and damaged five. The damaged planes made forced landings and were destroyed by reconnaissance patrols.

Adjacent Units

On the right, the 293d Infantry Division had its left wing near Yefremov and extended to the south-southeast. On the left, the 167th Infantry was regrouping for a march to the north. The 17th Panzer Division, under heavy pressure, retreated to the area of the road fork 20 kilometers south of Kashira.

30 November

18th Panzer Division. The division consolidated on the line it had reached on the day before. The front line extended from Burelom, through Krasavka-Malaya-Nikolskoye-Railroad Station Ptan and to the north.

25th Infantry Division (motorized). The division took an airfield 8 kilometers southeast of Ivanovskoye.

10th Infantry Division (motorized). The division conducted intensive reconnaissance in its sector. A Russian detachment of battalion strength, from the officers' school at Vladimir, supported by twelve tanks, attacked in the area northeast of Mikhaylov. The attack was repulsed and three tanks were destroyed.

29th Infantry Division (motorized). The 71st Infantry Regiment took over the bridgehead at Serebryanye Prudy so that the Reconnaissance Battalion could move on Zaraysk. According to prisoners (180th Regiment), the city was heavily defended, with minefields and field fortifications south of it.

The Reconnaissance Battalion encountered a strong enemy force near Alferyevo. These were construction troops laying minefields and other obstacles. The battalion took Alferyevo and reached the road fork north of the town. Low flying Russian planes attacked there and at Serebryanye Prudy around noon. The division ordered the Reconnaissance Battalion to take Zaraysk the next day. Four groups of engineers from the engineer battalion would be attached to the battalion to blow up the railroad line the following night.

The 15th Infantry Regiment reached the area Prudy-Krasnoye. A reinforced company of the regiment was ordered to take over the securing of the road fork north of Alferyevo from the Reconnaissance Battalion.

Army Plans

The army was preparing to launch a concentrated assault on Tula on 2 December, while guarding its flanks on the east and the north. To the XLVII Panzer Corps was assigned the job of covering the east flank, north from its southern wing, which was in contact with the Second Army, on the line Korovinka-Chernava-Gorlovo-Mikhaylov-Serebryanye Prudy. Beyond this line only reconnaissance activity would be carried on.

Great importance was attached to the permanent destruction of the railroad line between Moscow and Voronezh.

The corps was to reconnoiter a supporting position on the line from east of Korovinka to Yepifan to the railroad bridge over the Don west of Railroad Station Yepifan.

Adjacent Units. The Second Army, on the right of the XLVII Corps, was to continue its offensive toward the Don River. On its left the 293d Infantry Division would start its advance toward the northeast from Yefremov on the 1st. On the left of the Second Panzer Army the Fourth Army would attack from the area northwest of Serpuchov toward the northeast on 2 December.

1 December

Corps orders.

At 1000 the Army Commanding General reported that the Army intended to strengthen its front near Kashira in order later to advance to the west against Tula with the XXIV Corps. In view of this the 29th Infantry Division (motorized) was to be attached to the LIII Corps and advance northwest on the right wing of the 17th Panzer Division. The 25th Infantry Division (motorized) was to go to Army reserve in the Savina-Railroad Station Yepifan area. The XLVII Corps, with the 18th Panzer and 10th Infantry Divisions, was to secure the east flank of the Army on the line Korovinka-east of Gorlovo-Mikhaylov. In addition, since the 2d Army had not moved its left wing to Korovinka, the 18th Panzer Division would also cover another 30 kilometers between Korovinka and Yefremov, making the front 180 kilometers in length.

Because of the new mission the advance toward Zeraysk was cancelled. The assault on Skopin planned for 2 December, and the destruction of the road from Ryazk to Ryazan, were to be postponed, because the units of the 25th Infantry Division which were to have secured the southern wing of the 10th Infantry Division during the advance were not available. The length of the front and the lack of available troops made it impossible to tie up large forces of the 10th Division in the attack on Skopin.

The Corps Commander decided to shorten the right wing of the 18th Panzer Division to the north to the area of Tudey. Only weak forces would be deployed in the Burelov-Krasovka area until relieved by the 2d Army. The 10th Infantry Division, supported by the battle group at Mikhaylov, would secure the line from Chernava through Pavelets to northeast of Mikhaylov, and prepare defense positions.

29th Infantry Division (motorized). The 7th Company, 15th Infantry, was ordered to take over the defense of Alferyevo and the road fork to the north. The company arrived there at noon, and was sent back at 1840 to Serebryanye Prudy. The Reconnaissance

Battalion sent patrols toward Zaraysk, which reported active Russian patrolling in the area. Following receipt of the Army's order, the battalion was ordered to continue its reconnoitering toward Zaraysk but to make its main effort toward Kashira.

Strong combat groups of the Reconnaissance Battalion reached Skukovo at 1400. Patrols west of the Osetr established the fact that the line Yakschino-Maslovo was clear of the enemy, but that the Russians had reconnaissance patrols in front of Zaraysk. No place for crossing the Osetr was found.

Reconnaissance patrols of the 71st Infantry Regiment reported that Osovo and Nekrasovo were clear of Russians, but that they were laying mines on the road southwest of Nekrasovo. Motorized elements were reported locally to have withdrawn from Osovo to the northeast.

The Reconnaissance Battalion at 1600 reported that the area west of Alferyevo as far as Bogatishchevo was clear of the enemy, weak enemy forces having withdrawn toward the northeast the previous night. One patrol of the battalion moved through Petrovo and Dyakonovo and established that the area was defended by about 40-50 men and one tank. More tanks were seen near Petrovo, but the number was undetermined.

Reconnaissance patrols of the 15th Infantry Regiment found no enemy forces up to the road Buginka-Serkova. To the west no troops were found either, but a partly finished minefield was discovered near Rogatskiye Vyselki.

The division reported to the LIII Army Corps that each of the regiments had two weak battalions. The artillery regiment had five light batteries, each with two or three guns, and one heavy battery with two guns. One howitzer battery of the 17th Heavy Artillery Battalion was still at Railroad Station Yepifan. It was reported at 1600 that the enemy was advancing in strength from the northeast, east and southeast. An especially strong force was in the forest southeast of Railroad Station Mordves, where about 50 tanks were observed.

The Commanding General of the LIII Corps gave the 29th Division the following mission for the next day: The division was to move to the line Glubokoye-Bolschaya-Orechava. The Reconnaissance Battalion should remain in Alferyevo and protect the east and north flanks. The 29th Motorcycle Battalion was ordered to Railroad Station Uzunovo.

2 December

29th Infantry Division (motorized). The regiments started toward the new area at 1000. Near Tolstyie the 15th Infantry encountered a bridge that had been destroyed. A patrol found another way across, and the lead elements crossed the Osetr at 1430. Passing through Tolstyie and Moygora Novaya, near which the 3c Battalion encountered an extensive minefield, the bulk of the regiment reached its assigned position. Some elements turned to the east and at 1500 were passing through Yesipovo.

The Reconnaissance Battalion reported weak enemy forces in Bogatishchevo and Chernevo and light motorized forces on the road to Trasna. The battalion reported at 1410 that the hills north of Sokolvo were occupied by entrenched Russian troops.

Most of the 29th Motorcycle Battalion reached Railroad Station Uzunovo, where Russian planes bombed from high altitude at 1530. Only a few casualties were suffered.

The 71st Infantry Regiment moved to its assigned area across difficult terrain, which caused the loss of many vehicles. Reconnaissance patrols, ranging toward the Mordves area, established that Krutoye and Tyunesh were free of the enemy, but weak enemy forces were northeast of Nikolayevka.

The commanding officer of the 29th Artillery Regiment reported the loss of the howitzer battery.

Adjacent Units

The 17th Panzer Division reported Russian troops and 30 tanks near Dyakonovo at 1600, apparently moving northwest. The 17th Panzer Division was to be withdrawn during the night to the line from north of Mordves to Gritchino to Mokroy.

3 December

29th Infantry Division (motorized). At 0015 the 15th Infantry reported that it had reached its assigned area, losing many vehicles on the way. The 3d Battalion had arrived on foot, its vehicles to follow.

The 71st Infantry Regiment attacked at 0900, while the 15th remained in place, except for reconnaissance patrols. The 3d Battalion, 71st Infantry, reached Nikolskoye at 0930 without enemy resistance, and advanced to Tyunesh, which it took after a fight.

The 1st Battalion, 71st Infantry, by 1045 was two kilometers southeast of Marjinka, having encountered no enemy resistance. Moving to the town, the battalion took it at 1230, then was ordered to cooperate with the 15th Infantry in an attack on Marygino.

The 2d Battalion, 15th Infantry, after heavy fighting, took Marygino at 1215. The 3d Battery, 29th Artillery Regiment, the only light field artillery battery attached to the 15th Infantry, was left behind because of the breakdown of its vehicles. Three guns of the 1st Battery were without fuel. Enemy columns withdrew toward the north. Motorized units headed for Dyakonovo.

The 3d Battalion, 15th Infantry, attacked Dorovaya, but was unsuccessful. The Russians, with 12 T-34 tanks, counterattacked and halted the battalion. One enemy tank was destroyed; three were stuck in the brook. The battalion retreated to the hills west of Marygino, taking up defensive positions facing west and northwest.

The 10th Company of the 71st Infantry Regiment (battalion unknown) occupied Masalovo in midafternoon. The 29th Motorcycle Battalion arrived there after the town had been taken and received permission to move on to Korovina and Krutoye.

The division commander reported to the corps at 1525 that the division was no longer combat effective because so many of its vehicles had broken down. Roads were covered with ice and very difficult to travel on. It was ordered to hold the next day. The 167th Division was being sent to the area. That division had reached Brosdenki-Lokoshkino without enemy resistance. Later, however, the corps informed the 15th Infantry Regiment that the 17th Panzer Division would support the attack on Dorovaya with strong combat reconnaissance.

Reconnaissance patrols in the course of the day reported:

At 1100 Novikoff was reported clear of the Russians. Russian forces were in Dyakonovo and truck traffic on the road to Dorovaya. Russian forces were in the Trasn-Chernovo area, in Bogatishchevo and south of the railroad station near it. Strong Russian forces were in Topkonovo. Local informers reported that Russian traffic had been moving for many days from Kashira toward Zaraysk.

German Order of Battle
November 1941

Second Panzer Army

XLVII Corps

422d Artillery Battalion
71st Artillery Regiment, 2d Battalion
817th Mortar Battalion
29th Infantry Division (Motorized)
15th Infantry Regiment
71st Infantry Regiment
29th Artillery Regiment
29th Reconnaissance Battalion
29th Motorcycle Rifle Battalion
29th Antitank Battalion
29th Engineer Battalion
529th Antitank Battalion, attached
18th Panzer Division
101st Infantry Regiment
52d Infantry Regiment
18th Panzer Regiment
88th Panzer Reconnaissance Battalion
88th Artillery Regiment
10th Infantry Division (Motorized)
20th Infantry Regiment
41st Infantry Regiment
10th Artillery Regiment
25th Infantry Division (Motorized)
35th Infantry Regiment
119th Infantry Regiment
25th Artillery Regiment

LIII Corps

XXIV Corps

Russian Order of Battle
November 1941

Fiftieth Army

41st Cavalry Division
 168th Cavalry Regiment (each with one artillery battery)
 170th Cavalry Regiment
 172d Cavalry Regiment
239th Siberian Rifle Division
 239th Rifle Regiment
 313th Rifle Regiment
 317th Rifle Regiment
 125th Tank Battalion
 689th Artillery Regiment
229th Siberian Rifle Division (Regiment numbers unknown)
413th Siberian Rifle Division
 115th Rifle Regiment
 156th Rifle Regiment
 180th Rifle Regiment
11th Tank Brigade

Third Army

283d Rifle Division
137th Rifle Division
6th Guard Division
29th Cavalry Division
121st Tank Brigade
148th Rifle Division
150th Tank Brigade
269th Rifle Division
52d Cavalry Division
96th Mountain Division

Miscellaneous Units

31st Cavalry Division
 116th Cavalry Regiment
 114th Cavalry Regiment
322d Rifle Division
 1085th Rifle Regiment
 1087th Rifle Regiment
 1089th Rifle Regiment
71st Infantry Division (Motorized)
9th Motorized Infantry-Machine Gun Battalion
35th Tank Battalion
103th Tank Brigade
108th Motorized Rifle Battalion
35th Tank Battalion
168th Antiaircraft Battalion

WEATHER, 13 NOVEMBER-3 DECEMBER 1941

Date	Weather
November 13	Strong east winds, light snow
14	Cloudy, -15°C
15	Very cold
16	Cold, dry
17	Clear, -5°C
18	Cloudy, -5°C
19	Heavy overcast
20	Cold, intermittent rain
21	Warmer, intermittent snow, evening temperature -10 - -15°C
22	Intermittent snow, -10 - -15°C
23	Overcast, intermittent snow
24	Overcast, intermittent snow
25	Light snow
26	Light snow
27	Overcast
28	Overcast, -12 - -15°C
29	Intermittent snow
30	Misty, snow mixed with rain, clear from midday
December 1	Overcast, strong winds
2	Clear, northerly winds, -20°C
3	Cloudy, light snow, -3 - -8°C

GERMAN XLVII PANZER CORPS OPERATIONAL SUMMARY
13 - 30 November 1941

Date	Engagement Designation	Mission Factor	Remarks	Defenders Posture	Distance Advanced			
					Intense Oppositn	Moderate Oppositn	Slight Oppositn	Negligible Opposition
Nov 13	Adv toward Yefremov	. .	18 Pz Div adv from Chern toward Yefremov	W/d	. .	. .	. .	60.0
14	Yefremov	. .	18 Pz Div reaches Yablonovo	W/d	. .	. .	25.0	. .
15		5	18 Pz Div encounters strong resistance on Mecha R, E of Yablonovo	HD	2.0	. .	. .	. .
16		6	18 Div crosses Mecha N of Isrog	HD	6.0	. .	. .	. .
17		7	18 Div expands bridgehead	HD	1.0	. .	. .	. .
18		. .	18 Div approaches Yefremov; elements bypass city to N	HD	. .	5.0	. .	. .
19	Yefremov	6	Adv reaches outskirts of Yefremov & Korcvinka	HD	. .	11.0	. .	. .
20		6	18 Div reaches outskirts of Yefremov; elements adv toward Yepifan	HD-Del	2.0	. .	. .	14.0
21	Yefremov-Yepifan	7	18 Div hard fighting in Yefremov; 10 Div reaches Yepifan	HD-W/d	. .	20.0	. .	. .
22	Yefremov-Yepifan	7	18 Div still fighting in Yefremov; 10 Div forward elements reach Orlovka	HD-W/d	. .	18.0	. .	. .
23	Yefremov-Yepifan	7	18 Div secures Yefremov; 10 Div reaches Gorlova & destroys RR crossing to E, 29 Div takes Yepifan RR Sta	W/d	. .	15.0	. .	. .
24	Yepifan area	7	10 Div reaches Mikhaylov; 29 Div reaches Savina; 18 Div secures Korovinka-Yefremov area	W/d	. .	. .	28.0	. .
25	Yepifan area	7	29 Div & 4 Pz Div of LIII Corps encircle Siberian 239 Div; Recon Bns of 29 & 10 Divs continue to adv N & E	HD-W/d	. .	. .	26.0	. .
26	Yepifan area	5	Generally defensive posture as 29 Div continues fighting to encircle 239 Div, & to press N toward Oka R.	HD	. .	10.0	. .	. .
27	Yepifan area	5	No change; all divs engaged against varying resistance in arc from Korovinka-Gorlova-Mikhaylov-Savina	HD	. .	4.0	. .	. .
28	Serebryanye-Prudy	6	No change, save 29 Div, which began adv toward Zaraysk	W/d	. .	. .	8.0	. .
29	Serebryanye-Prudy	6	No change; 29 Div secures Serebryanye-Prudy	W/d	. .	. .	8.0	. .
30	Zaraysk	6	No change; 29 Div adv toward Zaraysk	Del	. .	2.0	20.0	18.0
Dec 1		. .	Corps goes on defensive; 29 Div attached to LIII Corps	HD	. .	. .	. .	. .
Total Distance Advanced: 286.0 km					11.0	85.0	95.0	95.0
Average Advance per Day: 15.9 km (18 days)					3.1(3.5 days)	11.5(7.5 days)	19.0(5 days)	47.5(2 days)
Days Not Advancing: 0								

GERMAN 29 MOTORIZED DIVISION OPERATIONAL SUMMARY
25 November - 3 December 1941

Date	Engagement Designation	Mission Factor	Remarks	Defenders Posture	Distance Advanced			
					Intense Opposition	Moderate Opposition	Slight Opposition	Negligible Opposition
Nov 23	Yepifan RR Sta	..	Adv from Yepifan to Yepifan RR Sta and Aleksiyka	D-1	..	..	20.0	..
24	Savina	6	Adv to Savina on a broad front	D-1	..	5.0	20.0	..
25	Sharina	6	Faces to left in hard battle to encircle Siberian 239 Div; Recon Bn adv N to Ozerki	HD	2.0	..	18.0	..
26	Sharina-Praskaye	5	Confused fighting in Donskoy-Savina area to prevent breakout of 239 Div; Recon units approach Serel'nyanye-Prudy	HD	1.0	8.0	..	..
27	Sharina-Praskovo	5	Confused fighting continues; remnants of 239 Div break out through Novaya Jakovlevka & Grzymachy; Recon elements continue probe to N and W	D-1	1.0	4.0	..	..
28	Serel'nyanye-Prudy	7	Adv toward Serel'nyanye-Prudy continues	W/d	..	..	8.0	..
29	Serel'nyanye-Prudy	7	Serel'nyanye-Prudy secured	W/d	..	..	4.0	..
30	Alferyevo	7	Adv toward Zaravsk; fight at Alferyevo	D-1	..	2.0	..	19.0
Dec 1		..	Div attached to LIII Corps; axis shifted to NW, toward Kashira; active patrolling, & consolidation	W/d	..	..	..	1
2		..	Adv NW begins; active patrolling	W/d	..	..	10.0	..
3	Maryino-Drovaya	6	Adv continues against intensifying resistance; Div seriously depleted	HD	..	4.0	..	..
Total Distance Advanced: 123.0 km					4.0	25.0	44.0	14.0
Average Distance per Day: 12.9 km (10 days)					2.7(1.5 days)	7.7(3 days)	16.8(5 days)	36.0(10.5 days)
Days Not Advancing: 1 (9.1%)								

GERMAN 10 TANKER DIVISION OPERATIONAL SUMMARY
13 - 23 November 1941

Date	Engagement Designation	Mission Factor	Remarks	Defenders Posture	Distance Advanced			
					Intense Opposition	Moderate Opposition	Slight Opposition	Negligible Opposition
Nov 13		..	Adv from Chern to Yefremov	W/d	..	..	..	60.0
14		..	Adv to Yel'lonovo	W/d	..	..	25.0	..
15	Mecha R.	5	Adv halted by strong resistance	HD	2.0	..	..	..
16	Mecha R.	7	Crossing forced N of Isroj	HD	6.0	..	..	..
17	Mecha R.	7	Bridgehead expanded eastward	HE	1.0	..	..	..
18		..	18 Recon Bn reaches Ossinowyy Kust; main body prepares to attack Yefremov	D-1-HD	..	5.0	..	..
19	Yefremov	6	18 Recon Bn reaches Korovinka; main body approaches Yefremov	D-1-HD	..	11.0	..	..
20	Yefremov	..	Fighting on outskirts of Yefremov; Recon Bn reaches Mikhaylov	HD-D-1	2.0	..	..	P-17.0
21	Yefremov	6	Hard fighting continues in Yefremov; Recon Bn attached to 10th Mot Div	HE	1.0	4.0	..	..
22	Yefremov	6	Most of town cleared, hard fighting continues; elements envelop city from N and E	HD	1.0	4.0	..	..
23	Yefremov	..	City secured after enveloping force arrives from NE	HD	..	5.0	..	..
Total Distance Advanced: 144.0 km					13.0	29.0	25.0	77.0
Average Advance per Day: 13.1 km (11 days)					2.9(4.5 days)	7.3(4 days)	25.0(1 day)	51.3(11.4 days)
Days Not Advancing: 0								

Analysis of Advance Rate of the XLVII Panzer Corps

The matrix analysis sheet presents in tabular form on a daily basis all data assembled for this study from World War II records that appear to have a relation to the rate of advance of the XLVII Panzer Corps during the period 13-30 November 1941. No research has been done in Russian sources, and consequently it is not possible to include much information about the Russian strength and performance. German records make little comment on the presence or absence of air support. Despite the miserable weather conditions there may have been more air support by both sides than is indicated.

Other comments on this matrix are:

1. No attempt was made to check possible correlations between rates of advance and temperature readings; such an attempt might yield further understanding of the factors affecting rates of advance.
2. The relationship between low casualties and higher rates of advance which is apparent in most other operations is not so clear in this one.
3. Although the actual daily rate of advance fluctuated, the average over the period remained fairly steady.
4. In the absence of Russian statistics it has been necessary to estimate force ratios, and no attempt has been made to do this on a daily basis. Consequently no conclusions can be drawn from them. However, the fluctuating rates of advance appear to have been more directly influenced by the intensity of opposition and the adverse weather conditions than by the comparative size and strength of the opposing forces.

Additional Comments on Analysis of Advance Rates of 18th Panzer and 29th Infantry (Motorized) Divisions

1. The relatively brief periods of combat do not permit firm conclusions regarding advance rate differentials of armored and motorized divisions.

KEY TO ABBREVIATIONS AND VALUES ANALYSIS MATRICES

General

Pause . . . P Yes Y
 Unknown . . U Not Applicable . NA

Roadnet Mobility Factors

		<u>Normal Values</u>
Unlimited cross-country movement	1.0	. . . . .
Good road net	0.7-0.9	. . . . . 0.8
Fair road net	0.4-0.6	. . . . . 0.5
Poor road net	0.1-0.3	. . . . . 0.2
Impassable terrain	0.0	

Mission Variables

Unlimited	1
Related to specific objectives or contingencies	2
Related to adjacent units advance	3
Limited by higher authority control	4
Other	5

Exceptional Obstacles to Advance

R = River Fl = Flooded area FZ = Fortified Zone
 Dn = Exceptionally effective demolitions Ur = Urban area
 Sa = Sabotage by local populace Ds = Desert

Intensity of Opposition to Advance

I = Intense M = Moderate S = Slight N = Negligible

Situation on Flanks

L = Left flank units C = Comparable advance F = Faster advance
 R = Right flank units S = Slower advance T = Flank threatened

Readiness Condition

Fr = Fresh W = Weary
 T = Tired E = Exhausted

Posture - Mission

W/d = Withdrawal HD = Hasty Defense FD = Fortified Defense
 Del = Delay PD = Position Defense

	Number of Days											
	Dates	1	2	3	4	5	6	7	8	9	10	11
	Nov 13	14	15	16	17	18	19	20	21	22	23	24
General Factors												
Weather (armor mobility)	0.6	0.8	0.9	0.8	0.8	0.9	0.8	0.5	0.6	0.6	0.6	0.6
Season (air mobility)	1.0	(no change)										
Terrain (mobility)	0.8	(no change)										
Roadnet (mobility)	0.7	(no change)										
Exceptional Obstacles												
Comparative Factors-Force Ratio (raw)												
Force Ratio (variables considered)	0.3	(estimate, decreasing to 0.25 by 23 Nov)										
Relative Combat Effectiveness	2.0	(estimate, no change)										
Relative Mobility Characteristics	1.3	(estimate, decreasing to 1.1 by 23 Nov)										
Intensity of Combat: Attacker	U	(no change)										
Defender	U	(no change)										
Intensity of Opposition to Advance	N	S	I	I	M	M	I-N	I-M	I-M	M		
Daily Distance Advanced in Kms.	20	30	20	10								
Daily Rate (P = Pause)												
Daily Rate	60	25	2	6	1	5	11	19	5	5	5	20
Cumulative Distance Advanced	60	85	87	93	94	99	110	129	134	139	144	20
Cumulative Daily Rate	60.0	42.5	23.0	23.3	18.8	19.5	15.7	16.2	14.9	13.9	13.1	20
Cumulative Rate: Intense Opp.			2.0	4.0	3.0	5.0	8.0	3.1	3.0	2.9		20
Moderate Opp.									3.0	9.0	7.3	
Slight Opp.		25.0										
Negligible	60.0								51.3			
Defending Forces:												
Readiness Condition	U	(no change)										
Posture-Mission	w/d	(no change)										
Casualties	U	(no change)										
Air Support Present		Y										
Logistics-General	U	(no change)										
Logistics-Specific	U	(no change)										
Days without Pause	U	(no change)										
Casualties Since Pause	U	(no change)										
Advancing Forces:												
Readiness Condition	Fr	Fr	Fr	T	T	T	T	T	T	T	T	W
Mission	2	2	2	2	2	2	2	2	2	2	2	2
Casualties	15	25	40	55	55	50	30	15	14	1	10	37
%	0.03	0.04	0.3	0.04	0.03	0.03	0.5	0.5	0.1	0.05	0.06	0.17
Air Support Present		U										
Logistics-General	U	(no change)										
Logistics-Specific	U	(no change)										
Days without Pause	U	(no change)										
Casualties Since Pause	U	(no change)										
Distance Since Pause	0.03	0.07	0.10	0.14	0.17	0.13	0.15	0.11	0.11	0.11	0.11	0.11
Situation on Flanks: L	C	C	C	C	C	C	C	C	C	C	C	C
P	S	S	S	S	S	S	S	S	S	S	S	S

ANALYSIS OF RATE OF ADVANCE GERMAN 18th PANZER DIVISION, 13-23 NOVEMBER 1941

GERMAN 24th NOV

	Number of Days											
	Dates	1	2	3	4	5	6	7	8	9	10	11
	Nov 13	14	15	16	17	18	19	20	21	22	23	24
General Factors												
Weather (armor mobility)	0.6	0.8	0.9	0.8	0.8	0.9	0.8	0.5	0.6	0.6	0.6	0.6
Season (air mobility)	1.0	(no change)										
Terrain (mobility)	0.8	(no change)										
Roadnet (mobility)	0.7	(no change)										
Exceptional Obstacles												
Comparative Factors-Force Ratio (raw)												
Force Ratio (variables considered)	0.3	(estimate; no change)										
Relative Combat Effectiveness	0.9	(estimate; decreasing to 0.85 by 23 Nov)										
Relative Mobility Characteristics	2.0	(estimate; no change)										
Intensity of Combat: Attacker	1.4	(estimate; decreasing to 1.1 by 23 Nov)										
Defender	U	(no change)										
Intensity of Opposition to Advance	U	(no change)										
Daily Distance Advanced in Kms.	40	30	20	10								
Daily Rate (P = Pause)												
Daily Rate	60	25	2	6	1	5	11	19	5	5	5	20
Cumulative Distance Advanced	60	85	87	93	94	99	110	129	134	139	144	20
Cumulative Daily Rate	60	42.5	23.0	23.3	18.8	19.5	15.7	16.2	14.9	13.9	13.1	20
Cumulative Rate: Intense Opp.			2.0	4.0	3.0	5.0	8.0	3.1	3.0	2.9		20
Moderate Opp.									3.0	9.0	7.3	
Slight Opp.		25.0										
Negligible Opp.	60								51.3			
Defending Forces:												
Readiness Condition	U	(no change)										
Posture-Mission	w/d	(no change)										
Casualties	U	(no change)										
Air Support Present		Y										
Logistics-General	U	(no change)										
Logistics-Specific	U	(no change)										
Days without Pause	U	(no change)										
Casualties Since Pause	U	(no change)										
Advancing Forces:												
Readiness Condition	Fr	Fr	Fr	T	T	T	T	T	T	T	T	W
Mission	2	2	2	2	2	2	2	2	2	2	2	2
Casualties	12	18	49	53	49	30	30	15	14	1	10	37
%	0.1	0.2	0.5	0.5	0.5	0.3	0.3	0.5	0.1	0.2	0.2	0.17
Air Support Present		U										
Logistics-General	U	(no change)										
Logistics-Specific	U	(no change)										
Days without Pause	U	(no change)										
Casualties Since Pause	U	(no change)										
Distance Since Pause	0.1	0.3	0.7	1.3	1.7	2.0	2.4	2.1	0.1	0.1	0.1	0.1
Situation on Flanks: L	C	C	C	C	C	C	C	C	C	C	C	C
P	S	S	S	S	S	S	S	S	S	S	S	S

C. Don River to Caucasus, 21 July-23 August 1942
XL Panzer Corps

By mid-July 1942 most of the Soviet Army forces had been driven east of the Don River, as the German Army Group B (generally north and east of the Donets River) had attacked in strength, seized Voronezh, and threatened Stalingrad. Field Marshal W. List's Army Group A, on the right of Army Group B (with its right on the Black Sea and Sea of Azov), had initiated its attack later and advanced east and southeast, meeting little resistance. Plans and objectives for the two army groups had been changed several times by Hitler before 19 July, when the decision was made that the First and Fourth Panzer Armies, of Army Group A, should cross the lower Don River between Rostov and Tsimlyanskaya on a front about 125 miles long.

The XL Panzer Corps, on the right of the Fourth Panzer Army, on 21 July held a front extending eastward from the juncture of the Donets and Don Rivers to Nikolayevskaya, with the 3d Panzer Division on the right and the 23d on the left. The division boundary ran from Lisichkin to Bogoyavlenskaya to Zadono Kagal'nitskiy. Temporarily attached to the Corps were two infantry divisions, the Grossdeutschland and the 16th, awaiting the arrival of the XXIV Corps Headquarters. These divisions were in the area west of the 3d Panzer Division, the Grossdeutschland taking Shakhty on the 21st, and the 16th, heading westward across the Donets, north of the two panzer divisions. Since their attachment was brief and they did not participate in the Corps advance to the south they are not considered in the Corps study.

21 July

23d Panzer Division. Two advance battalions established a bridgehead across the Don, south of Nikolayevskaya, on the 20th and moved more troops across in the early morning hours. By 0600 the bridgehead had been enlarged to the road Zadono Kagal'nitskiy-Romanovskaya. One reinforced battalion of the division was assigned to corps reserve.

3d Panzer Division. The advance battalion of the 3d Division, near Konstantinovskaya, encountered strong Russian forces with supporting artillery on the southern bank of the Don. Consequently the corps commander ordered the division to leave only a small force at Konstantinovskaya and move the rest of the battalion to

Nikolayevskaya, to cross the river there with the rest of the division. Because of a shortage of fuel the rest of the 23d Panzer Division could not cross, and its advance battalion was to be attached to the 3d Panzer Division. The 16th Infantry Division was ordered to follow the 3d Panzer Division across the Don.

Corps Orders

At 2230 the corps ordered an advance from the bridgehead to the south with the objective the establishment of a bridgehead across the Sal River.

Russian Forces*

Weak Russian forces south of Nikolayevskaya were retreating toward Pirozhok and Karnaukhov. West of Golubinsky and Terechovskiy the Russians were withdrawing toward the west. Mariinskaya was still in Russian hands.

As of 1945 the XL Panzer Corps had taken 200 POWs, four tanks, and 200 vehicles.

22 July

Corps Situation

During the night Russian aircraft attacked the bridgehead at Nikolayevskaya. At 0700 the corps command post moved to Tyapkin (15 kilometers north of Nikolayevskaya).

3d Panzer Division. The crossing of the Don was made under difficult conditions, because the access roads were very sandy and the area immediately south of the river is marshy.

At 0300 a Russian battalion attacked toward Morozov, but it was halted before it reached the town. Later in the morning, however, Russian troops attacking from the west took Pirozhok.

Bridge construction units arrived at noon and commenced building a bridge across the Don, which was scheduled for completion at 2000. During the day elements of the 3d Panzer Division were able to cross the river, and by evening the following units were on the southern bank: 23d Motorcycle Battalion reinforced by a heavy infantry howitzer company; one light field howitzer battery;

* Information on Russian forces is from XL Panzer Corps Intelligence reports.

one company of the 1st battalion, 3d Panzer Grenadier Regiment; one light antiaircraft battery; one heavy antiaircraft battery.

Despite Russian artillery and infantry fire combat patrols of the 3d Panzer Division succeeded in building a small bridgehead south of Konstantinovskaya.

23d Panzer Division. The division, except for the elements already in the bridgehead, was ordered to army reserve in the area of Tozinskaya.

Russian Forces

Russian resistance near Konstantinovskaya was weakening. The 156th Rifle Division was deployed south of the town, while the 91st Rifle Division was south of Nikolayevskaya. About two Russian batteries were shelling the bridgehead near Konstantinovskaya.

The Corps command post was attacked by bombers and fighter-bombers.

In the Sal area Russian movements toward the east and northeast were observed. Bridges over the river near Nemeyanovka and Martynovka had been destroyed.

23 July

Corps Situation

Heavy Russian air attacks hit the whole Corps area during the night. They were especially heavy in the bridgehead.

At 1300 the Corps was ordered to prepare to send a task force of at least one battalion with artillery and antitank guns toward the dam on the Manych River near Veselyy Chutor, to take the dam and, by blocking the road, to hold off the strong Russian forces which were advancing from Rostov. A second battalion was to protect the east flank. The rest of the Corps was to halt and concentrate in the area between the Don and the Sal Rivers.

Air reconnaissance reported at 1700 that trains were unloading at railroad stations south of the river (whether troops or materiel is not stated), and that columns were on the march to the northeast and northwest.

3d Panzer Division. The bridgehead at Konstantinovskaya was shelled heavily during the night, as 3d Panzer Division units were relieved by elements of the 23d Panzer Division.

Task Force Westhoven (23d Reinforced Motorcycle Battalion; 1st Battalion, 3d Panzer Grenadier Regiment; two light field batteries; 2d Battalion, 75th Artillery Regiment; one company of the 670th Antitank Battalion) started its advance to the south, the 23d Reinforced Motorcycle Battalion remaining behind to mop up on both sides of the bridgehead at Nikolayevskaya. At 0845 the leading elements of the task force had reached the Sal River. Encountering only weak enemy resistance it established a bridgehead near Orlovka.

At 1745 the corps ordered the division to defend the area between the Sal and the Don until the completion of the Sal bridgehead. The newly constructed bridge over the Don was destroyed in an air attack at 1835.

23d Panzer Division. The Army informed the Corps at 1710 that the division was to be returned from reserve. The division was ordered to march one battalion to Konstantinovskaya to relieve Task Force Boehm of the 3d Panzer Division. As far as the fuel situation permitted, other combat groups of the 23d Panzer Division were to close in the area of Lisichkin.

Russian Forces

Russian forces south of Konstantinovskaya were reinforced. The 417th Rifle Regiment of the 156th Rifle Division was deployed there. South of Nikolayevskaya the 47th Rifle Regiment of the 5th Rifle Division and the 900th Rifle Regiment of the 242d Rifle Division were deployed. These two divisions were in the Thirty-eighth Army.

The Fifty-first Russian Army took over the defense of the Don and the Sal Rivers. Two strong tank brigades were attached to the Army.

24 July

Corps Situation

Despite problems in making repairs the ponton bridge across the Don was moved ten meters from its original site and was again passable at 0330. At 1100 the Russians struck it from the air, knocking out 24 pontoons. After still another direct hit at 1215 the bridge was reported by the chief of the Corps engineers to be beyond repair. The Don would have to be crossed by ferry.

At 1130 the Fourth Panzer Army ordered that the 191st Assault Gun Battalion should be attached to the XL Corps, the 674th Engineer

Regiment Staff be relieved by the 515th Engineer Regiment Staff, and the 91st Antiaircraft Regiment be relieved by the 104th Antiaircraft Regiment. The latter relief was to be done by platoons, so that the bridgehead would be covered in the event of airraids.

The fuel supply in the corps continued to be unsatisfactory, and because of it closing in on the Don could be done only in small combat groups after the arrival of the supply shipments.

The 2d and 3d Companies of the Brandenburg 800th Regiment were to be attached to the corps for the capture of the crossing over the Manych River.

At 2110 the Corps issued an order to move out from the Sal bridgehead to the south and advance to the railroad line Proletarskaya-Stalingrad.

3d Panzer Division. Early in the morning the Russians attacked in regimental strength from Morozov toward Karnaukhov. The attack was repulsed. In a counterattack, after a heavy fight the 23d Motorcycle Battalion took Morozov. Two Russian companies attacked again in the afternoon, after heavy shelling, and were driven off.

Ground reconnaissance reported a strong Russian column moving from the south toward Pady and a concentration of forces in Pady itself. VIII Air Corps planes dropped bombs on the town. (Note that all of this activity was taking place 20 to 30 km behind the bridgehead over the Sal.)

The division was ordered to continue to cross the Don without interruption.

23d Panzer Division. The division was ordered to close in the area of Nikolayevskaya and to cross the Don in contact with the 3d Panzer Division, to capture the Sal sector in the area of Martynovka. At 2300 the Corps received an order from the Fourth Panzer Army for elements of the 23d Panzer Division to advance through Romanovskaya toward the east to take over the Don bridgehead at Tsimlyanskaya from the 29th Infantry Division (motorized).

Russian Forces

At 0330 the Russians attacked Karnaukhov from Morozov and were driven back. In a counterattack the defenders of Morozov (about one regiment) were driven out east and south of the town. The town was under attack from Russian rockets in the afternoon.

Reconnaissance reported Russian columns with rocket launchers and antiaircraft artillery moving south toward Pady. Pady itself contained strong Russian forces.

During the day 70 POWs were taken.

25 July

Corps Situation

During the night continuous bombing attacks were carried out by the Russians on the bridgeheads at Nikolayevskaya and Konstantinovskaya. Harassing mortar and artillery fire hit Morozov and Konstantinovskaya. An attack on Morozov was driven off.

Ground reconnaissance again reported enemy columns advancing from the south toward Pady and troop concentrations in Pady.

The 602d Antiaircraft Machine Gun Battalion was attached to the corps.

At 0930 Colonel General H. Hoth, commanding the Fourth Panzer Army, arrived at the Corps command post. The Corps reported that the enemy was concentrating strong forces in the area of Orlovskaya with the intention of hitting the Corps' east flank. To the west of the bridgehead the Russians had withdrawn across the Manych River, where they were preparing defense positions. The Army suspected that they had shifted strong forces to the area of the southern flank of the XL Panzer Corps.

In response to a report from the corps that it was short of fuel, the Army promised to send some up the next day.

In the enlarging of the Nikolayevskaya bridgehead the corps took 700 POWs and destroyed 12 light and three heavy tanks.

The ponton bridge over the Don was again ready at 1400. Ferries continued to operate. An afternoon thunderstorm blocked roads in the lowlands near the Don with mud which slowed down the advance.

The 2d Company of the Brandenburg Regiment, one antitank company, and one battery of the 3d Panzer Division were assigned to Corps reserve.

During the night 25/26 the Army informed the Corps that defense of the Nikolayevskaya bridgehead would be taken over by the IV Corps.

3d Panzer Division. The 3d Panzer Division continued to cross the Don during the night. The bridgehead was enlarged to both east and west during the morning. The western flank was near Zadono-Kagal'nitskiy and the east at Cholodnyy.

An enemy column which was marching from Martynovka to Nesmeyanovka was routed by artillery fire. Because of the rain-soaked ground an attack on the column could not be carried out.

Russian planes attacked the Sal bridgehead at Orlovka in the morning for the first time.

At 2300 the Corps ordered the division to throw back the enemy across the Sal in the sector Orlovskaya-Martynovka and prepare to advance to the south to the area of Budennovskaya and then to the east.

23 Panzer Division. At dawn the division was closing in the area of Nikolayevskaya. Elements of one battalion relieved a battalion of the 3d Panzer Division which was defending Konstantinovskaya.

At 2300 the division was ordered to attack toward the line Pobeda-Cholodnyy and be ready to attack the rear of the enemy forces in combat with the 29th Infantry Division (motorized). The 2d Battalion of the 128th Regiment, which had been in corps reserve, was ordered returned to the division.

Russian Forces

In the process of enlarging the Don bridgehead Zadono-Kagal'nitskiy, Bolshovskaya, and Cholodnyy were taken. About 1,000 troops withdrew from Cholodnyy. During the operation 12 tanks were destroyed.

A Russian column moving north toward Nemeyanovka was attacked by German artillery and dispersed. Reconnaissance reported that the Russians attacking from Martynovka had seized Nesmeyanovka.

Defending the Cholodnyy area was the 823d Rifle Regiment, 312th Rifle Division, Forty-fourth Army, apparently currently attached to the Fifty-first Army and deployed east of Denisoff.

Captured were 743 POWs, 16 tanks, four planes, seven antitank guns, three mortars, 22 antitank rifles, two machine guns, and two caissons.

26 July

Corps Situation

There was a great deal of enemy air activity during the night, including attacks on the Don River bridge site. In the morning the Corps command post was moved from Tyapkin to Pirozhok, south of the Don.

The 3d Smoke Mortar Regiment was attached to the Corps, which assigned the 2d Battalion to the 3d Panzer Division and the 1st Battalion to the 23d. However, because of the shortage of gasoline the regiment had not yet arrived. The 13th Bridge Train and the 906th Assault Boat Detachment also were attached to the Corps.

In the evening the Corps issued orders to complete preparations for the offensive scheduled for the 38th. The main effort would be made across the Sal toward Budenovskaya and east of it, while other elements of the corps attacked from the line Pobeda-Cholodnyy toward Romanovskaya.

During the night the Army ordered that the offensive be launched at 0330. The XL Panzer Corps was to support the offensive of the XLVIII Panzer Corps by advancing through Romanovskaya toward Tsimlyanskaya, capturing the Sal sector between Orlovka and Mrynovka, and be ready to attack from there to the south to seize the highway and railroad line Proletarskaya-Orlovskaya.

3d Panzer Division. The division advanced west to take Kalininski in the afternoon and east to Nesmeyanovka. In the evening the division was ordered to close on the Sal and prepare to attack to the south.

23d Panzer Division. Late in the afternoon the division occupied Pobeda and Voskhod. Ground reconnaissance reported strong enemy forces in the village of Pady.

The Corps ordered the division in the evening to prepare a task force composed of one panzer grenadier regiment and one panzer company to attack toward Romanovskaya. One battalion should be assigned to protect the bridge site at Nikolayevskaya. The rest of the division should move closer to the Sal and prepare to advance east on the north bank of the river and south on the left flank of the 3d Panzer Division. Elements that had been assigned to defend Konstantinovskaya were to be withdrawn.

Russian Forces

The Russians attacked in the early morning in battalion strength west of Ladono-Kagal'nitskiy and were driven back. One hundred POWs were taken. An attack of two companies from Nez-meyanovka was also halted.

From the area of Vislyy a Russian column of 400-500 vehicles, partly organized, partly in full flight, was reported withdrawing through Tapilin and Sporny toward the south, with six tanks protecting the column.

Three low level air attacks struck the bridge site near Nikolayevskaya during the day.

The 156th Rifle Division, deployed near Zadono-Kagal'nitskiy, had the mission of defending the south bank of the Don between Nikolayevskaya and Konstantinovskaya.

27 July

Corps Situation

There were numerous air attacks on the Don River bridge during the day.

The 52d Light Mortar Regiment was attached to the XL Corps. The commander of the 128th Artillery Battalion reported that the 2d Battalion, 40th Artillery Regiment, and staff, which because of loss of transport had become useless to the Corps, was no longer attached to it. The 128th Artillery Battalion was also having difficulties with supply.

3d Panzer Division. In the early morning the enemy attacked the bridgehead at Orlovka from the vicinity of Dolgiy. The Germans counterattacked, extending the bridgehead to the line Dolgiy-Krepyanka.

In the evening the Corps ordered the division to launch an attack at 0230 and, while protecting its west flank, advance to the Budennovskaya area. It was to reconnoiter the Manych River sector west and southwest of Budennovskaya.

23d Panzer Division. Elements of the division moved against Pady at dawn, capturing the village in the evening. Reconnaissance patrols ascertained that there were only weak Russian forces in the northern part of Martynovka.

The Corps ordered the division to send its lead column out at 0230 and advance to Malo Lesnoy in corps reserve. One regimental group was to remain in the area north of Martynovka-Cholodnyy to protect the east flank of the Corps. Other division elements were to mop up in the Pady area.

The 274th Infantry Regiment of the 94th Infantry Division, which as the most advanced regimental group of the IV Corps was temporarily attached to the XL Panzer Corps, was ordered to defend the bridgehead over the Don, making its main effort toward the west and southwest.

Russian Forces

Nesmeyanovka was taken in the morning. It was defended by the 825th Rifle Regiment of the 302d Rifle Division.

A Russian attack on the bridgehead at Orlovka was driven off. The following units were identified: the 275th Rifle Division, with its 980th Rifle Regiment in Dolgiy and its 982d and 984th Rifle Regiments near Komarovskiy. During the day the Russians evacuated Dolgiy, Neventshenko, and Krepyanka.

Reconnaissance reported that the Russians held Komarvoskium Bolotov, and NovoSadkovskiy. In the Moskovsky area 500-800 men including cavalry, artillery, and heavy antitank guns were reported. Martynovskoye was occupied by only a weak force.

The 156th Rifle Division (361st and 417th Rifle Regiments) was deployed near Zadono-Kagal'nitskiy. The 275th Rifle Division was deployed with the 980th Rifle Regiment near Dolgiy and the 982d and 984th Rifle Regiments near Komarovskiy. The 825th and 827th Rifle Regiments of the 302d Rifle Division were near Nesmeyanovka.

28 July

Corps Situation

At 0825 the Army ordered the Corps to start to advance toward Proletarskaya only after the left wing of the corps had secured the crossing near Martynovka. At 1200 the Corps was given the main mission of destroying the enemy forces which were escaping from the area between the Sal and the Manych Rivers toward Proletarskaya.

The 602d Antiaircraft Machine Gun Battalion was assigned to the commander of antiaircraft defense for the Corps.

3d Panzer Division. At 0300 a Russian attack from Batlayevskaya toward Krepyanka was driven off. The division started its offensive according to plan at 0230. Encountering only weak enemy resistance the division took Novo Sadkovskiy and Kazuryn at 0400, Sukhoy at 0500, and Budenovskaya at 0700. At 0800 the Corps ordered the division to protect the west flank of the corps on the line Bolschaya Odovskaya-Komarov-Bolotov.

The division was later ordered to reconnoiter a suitable place to build a ponton bridge over the Manych River and establish a bridgehead on the other side. This directive was promptly enlarged to include blocking the sector Oblivnoy-Manych (i.e., defend the west flank of the corps between those two points), build a bridgehead

on the Manych, and cut the railroad line between Proletarskaya and Orlovskaya.

Enemy attacks in the afternoon from the direction of Bolotov against the elements of the 3d Panzer Division in Novo Sadkovskiy were driven off.

23d Panzer Division. Enemy resistance forced the division to withdraw its patrols from Kamyshevskaya to Cholodnyy in the early morning hours.

An attack from Marynovka toward Nesmeyanovka at 0430 was driven off.

Task Force Bachmann took over protection of the east and southeast flanks of the Sal sector, on both sides of the river.

At 0300 the Corps ordered the division to protect the east flank of the Corps on the line Nesmeyanovka-Krepyanka. At 1105 this was enlarged to the area Pady-Cholodnyy and the Nesmeyanka region.

Combat elements of the 201st Panzer Regiment were ordered to attack Moskovskiy.

The 274th Regiment of the 94th Infantry Division was ordered to relieve Task Force Zeydlich (apparently part of the 23d Division) on the line Titoff-Kalinskiy.

The 201st Panzer Regiment and 128th Panzer Grenadier Regiment of the 23d Panzer Division attacked Batlayevskaya and Moskovskiy and took both places after a heavy fight. One T-34 and three T-60 tanks were destroyed.

Russian Forces

Disposition of Russian forces:

156th Rifle Division, two battalions, and command post of the 361st Rifle Regiment, at Vislyy.

417th Rifle Regiment - Bolshaya Orlovka.

807th Artillery Regiment, 27th Rifle Division, near Komarovskiy.

276th NKVD Regiment, and possibly the 275th, of the 11th NKVD Division, near Martynovka.

Moskovskiy area: 45 tanks, including T-34s.

80th Tank Battalion - near Ribikov, southwest of Martynovka. The battalion consisted of two tank companies and one infantry company.

297th Cavalry, 115th Cavalry Division, concentrated in the Moskovskiy area.

302d Rifle Division (823d, 825th, 827th Rifle Regiments) - concentrated in the area Karnaukhov-Pady.

The 23d German Panzer Division took 260 POWs and four T-34 tanks. The 3d Panzer Division took 600 POWs.

29 July

Corps Situation

The Corps reserve (2d Company of the Brandenburg Regiment, and 2d Company of the 670th Antitank Battalion) was sent on a security mission to Kalininskiy.

The Commanding General, Fourth Panzer Army, arrived at the Corps command post at 1300. He ordered the Corps to build ponton bridges at once upon reaching the Manych River. If the bridges were captured intact they should be used and the advance should proceed immediately.

The Army intended to move the 29th Infantry Division to the Orlovskaya area, on the left of the XL Panzer Corps, to which it would be attached upon arrival. On the east flank of the Corps the situation should be eased on 31 July with the arrival of the 371st Infantry Division near Novo Nikolayevskiy. The 29th Division should attack with most of its units toward Romanovskaya, and with the remainder toward the east.

During the fighting on 28 and 29 July the following were taken or destroyed: 68 tanks, 2,100 POWs, 26 guns (76mm and 152mm), 2 antitank guns, 7 Do Gerate, 4 freight trains loaded with artillery, planes, and optical instruments, and 9 locomotives.

3d Panzer Division. During the night and in the early morning the Russians attacked Novo Sadovskiy from the direction of Bolotov. The attacks were beaten off. In addition to many POWs, six 152mm guns were captured. The attackers were part of the Russian Fifty-first Army, which was defending the Don and trying to escape encirclement between the Don and the Manych.

At 0830 the Corps ordered the division to attack in full strength toward the railroad line and if possible encircle Proletarskaya. Covering elements were to be left on the line Dolgiy - Stalingradskiy. At 1015 Task Force Westhofen and at 1040 Task Force Liebenstein launched their attack toward Proletarskaya and the railroad line northeast of the city. Overcoming weak enemy resistance near Beketny and south of Don-koy, the task force on the left reached the railroad line northeast of Proletarskaya and blew it up in several places. The other task force seized the highway bridge near Privol'nyy, northwest of Proletarskaya, undamaged. The two groups converged on the city. Despite a stubborn defense supported by artillery and antitank guns, German troops reached the outskirts of the city in the afternoon and captured the city in the evening. The bridges over Karychepak Lake were taken intact, and only one road bridge was damaged. That could be easily repaired. Continuation of the advance was halted in the evening by the Russians, who blew up a dam in the upper part of Proletarskaya. Large masses of water poured out on the advancing units and threatened the newly repaired bridge.

At 2300 the Corps ordered the division to enlarge the bridgehead the next day from Proletarskaya to the south across the Menyeh. In case heavy enemy resistance was encountered it should be attacked from the rear by putting a task force across at Budennovskaya or Proletarskaya.

23d Panzer Division. The division won its battle for Batlayevskaya during the night. After losing two T-34 and two light tanks (probably the same ones mentioned the day before), the enemy withdrew to the east.

At 0830 the division was ordered to attack Martynovka and protect the east flank of the Corps. Attacking from the south with the 201st Panzer Regiment and from the west with the 23d Motorcycle Battalion, the Germans encountered close to two tank brigades defending the town. The 23d Motorcycle Battalion entered the town at 1500. In the battle the enemy lost 62 tanks to the division's three.

Task Force Zeydlick, which had been just south of the Don, returned to the division and attacked and took the hills south of Fany from the west.

At 2300 the Corps ordered the division on the following day to protect the Corps flanks on the east and southeast.

Russian Force:

After destroying the bridges over the Sal River the Russians withdrew to the south bank.

The Germans took Moskovskiy, destroying 3 T-34 and 3 T-70 tanks. The Russians were reported to be retreating from Kamylovskiy toward the east. Reconnaissance reported that Martynovka was occupied by two companies with artillery and antitank gun.

There were weak Russian forces facing the 3d Panzer Division in the area of Proletarskaya, and artillery fired from the area.

The 23d Panzer Division encountered stiff resistance in Martynovka. After the town was taken the Russian retreated to the east.

Reconnaissance reported 300 Russian holding Komarovskiy, on the western flank of the Corps.

Composition of Russian forces:

155th Tank Brigade
two tank battalions
one company of 7 T-34 tanks
two companies of 3 T-70 tanks
one battalion motorized infantry

115th Cavalry Division
297, 273, 316 Cavalry Regiments
134 Artillery Battalion

11th NKVD Division
276, 275, 278 NKVD Regiments
16th Cavalry Regiment

Russian plumer attacked Nesmeyanovka, Batlayevskaya, and Moskovskiy.

30 July

Corp. Situation

Except for harassing air raids the night passed quietly in the Corps area. During the forenoon Corps Headquarters was moved to Bolgarski, north of Budennovskaya.

3d Panzer Division. Early in the morning the division launched an attack toward the Manych River in the face of stiff enemy resistance. Nine artillery batteries, some of them heavy, were identified on the south bank of the river. Although the division reached the north bank further advance was impossible because of the strong enemy defense. The division recommended that an artillery observation battery be brought in. Because the 20th Observation Battery was no longer attached to the Corps, the 120th Panzer Observation Battery of the 23d Panzer Division was temporarily attached to the 3d Panzer Division. Stuka raids and artillery air reconnaissance of the south bank of the river were also ordered.

Despite the enemy defenses, elements of the division started across the Manych west of Budennovskaya on a ferry. One motorcycle rifle company had crossed by 1245, and by evening the 20 Battalion, 394th Panzer Grenadier Regiment, without vehicles, was on the opposite bank. However, the risk was considered too great, and the units that had crossed were ordered back to the north side of the river. The 120th Panzer Artillery Observation Battery started firing in the afternoon and knocked out Russian artillery and observation posts.

At 2245 the Corps ordered the division on the next day to capture a crossing south of Proletarskaya and build a bridgehead there. At the same time one reinforced battalion should be transferred across the river west of Budennovskaya. As soon as possible the units should advance toward the road Gigant - Railroad Station Manych.

The III Panzer Corps at 2100 established contact with patrols of the 3d Panzer Division near Dolgiy and Novo Sadkovskiy.

23d Panzer Division. While protecting the east flank of the corps the division continued to move toward the south, hampered by heavy rains and bad roads. At about 0600 the 201st Panzer Regiment attacked the enemy in the area east of Martynovka. After a short fight the Russians withdrew toward the east.

At 2245 the division was ordered the next day to protect the east flank of the Corps on the general line Donskoy - Highland south of Beketny - Kovrina No. 2 - Martynovka.

Russian Forces

The surprised Russians left the railroad and highway bridges over the Manych south of Proletarskaya intact and retreated behind the Manych and the railroad line.

On the western flank of the corps, in the area south of Bolskaya Orlovka, there were remnants of a battered rifle division.

The 135th Tank Brigade was indentified near Martynovka. It had two battalions, each with one company of four T-34 tanks and two with eight T-70 tanks.

South of Proletarskaya, on the south bank of the Manych, strong Russian forces, including artillery, antiaircraft and anti-tank guns, were reported.

The 23d Panzer Division took 1,000 POWs, five tanks, and four guns.

31 July

Corps Situation

The corps was to advance to the highway Pregradnoye - Dimitriyevskaya - Takhta, with the 3d Panzer division on the right. The boundary between the two divisions ran Yekaterinovka - roadfork southwest of Beresovka - Bashanta - Dimitriyevskaya - Bezopansnoye - Pelogiada - Voroshilovsk. The last three points were to be held by the 3d Panzer Division, the others by the 23d. The right boundary of the 3d ran Salsk - Pregradnoye - Roshestvenskaya - Voroshilovsk. The two pursuit task forces were to cross the Manych with the 23d leading, followed by the Burmeister Task Force and the two divisions.

3d Panzer Division. At midnight the division launched an attack across the Manych at Proletarskaya. Despite stiff Russian resistance with antitank guns and DoGerats (probably rocket launchers), the division was able to establish a bridgehead. With air support, the Germans repulsed a counterattack during the morning hours. The bridge over the dam was damaged but could be repaired. By 1100, in spite of Russian artillery, machine gun and sniper fire, the bridgehead had been pushed to Railroad Station Manych. An hour before, the enemy had started to withdraw slowly toward the south. Patrols on the west flank of the Corps reported an enemy column with all kinds of vehicles moving from north to south. A Russian company that was deployed as a covering detachment to protect the marching column was wiped out west of Kasyevin.

Crossing of the Manych west of Budennovskaya continued during the night. In addition to the battalion a light field howitzer battery was taken across.

To east the situation of the 3d Panzer Division in the Manych bridgehead the III Panzer Corps, whose advance elements reached

Gigant in the evening, was asked to attack the enemy from the rear. One panzer company of the 13th Panzer Division of that corps reached Railroad Station Manych at 1530.

The 3d Panzer Division continued to enlarge the bridgehead at Proletarskaya, and prepared to send out a pursuit detachment to build a bridgehead over the Sandata River.

23d Panzer Division. On the east flank of the corps an armored train was destroyed at Railroad Station Poteomkinskiy. The 23d Panzer Division established contact with the 74th and 371st Infantry Divisions in Martynovka. In the afternoon the division prepared to send a pursuit detachment to build a bridgehead near Novyy Ye'gorlyk. The bulk of the division was closing in near Donkoy, trying to cut off Russian units between the Sal and the Manych.

Russian Forces

In the area of the Manych bridgehead the Russians, after an unsuccessful counterattack, were withdrawing to the east. During the night reconnaissance reported long enemy columns with vehicles and all sorts of artillery moving from north to south.

A Russian covering company was wiped out west of Kasyurin.

On the eastern flank an armored train was destroyed at Railroad Station Poteomkinskiy.

The 110th Cavalry Division (292d Cavalry Regiment) was reported near the Manych bridgehead west of Budenovskaya. Other regiments of the division were the 273d and the 311th.

Facing the bridgehead west of Budenovskaya was the 685th Rifle Regiment of the 295th Rifle Division, Thirty-seventh Army, retreating toward the south.

1 August

Corps Situation

During the night the XL Panzer Corps was transferred from the Fourth to the First Panzer Army. The Corps mission, advance to the south toward Voroshilovsk, (Stavropol) remained unchanged.

In the forenoon the Corps command post was moved to Mokroye Yel'muta.

The III Panzer Corps, on the right of the XL Panzer Corps, reported that in the morning the 13th Panzer Division had established a bridgehead over the Sandata River near Nikolayevka and was advancing on the west of the Ye'gorlyk.

Forward movement of the pursuit battalions was jeopardized by the extremely tight fuel situation. The reason for lack of fuel was that additional infantry and panzer divisions had arrived at the bridge over the Don, and the supply columns were forced to wait for days on the north bank. The Fourth Panzer Army was receiving supplies by air, and it was expected that supplies would be delivered by air to the First Panzer Army as well.

3d Panzer Division. The pursuit battalions started their advance in the early morning as planned. At 0430, after a short fight, Shabliyevka was taken. Rain during the night caused the advance to proceed slowly.

At 0700 a battalion of the Russian 404th Rifle Regiment, supported by ten tanks of the 155th Tank Brigade, attacked Proletarskaya from the east. After losing five tanks the Russians turned and retreated to the south.

The pursuit battalion advanced through Sal'sk to Sandata, which was taken at 1125. The bridges over the river were intact.

At 1425 the Corps ordered the division to continue its advance toward the south, while protecting the bridgehead at Proletarskaya.

23 Panzer Division. Security elements of the division protecting the western flank of the Corps launched an attack on the northern bank of the Manych River against Russian columns which were withdrawing across the river to the south. At 0545 the division (apparently the 125th Panzer Grenadier Regiment) took D Iniy and proceeded to Khirnyy, where 1200 POWs were taken. Mopping up of the area was left to the Grossdeutschland Infantry Division.

The pursuit battalion at 0345 encountered enemy resistance near Yekaterinovka. After a short battle with the withdrawing Russians, who covered their retreat with tanks, the town was taken, and the pursuit battalion continued its advance toward Novyy Ye'gorlyk. The bridge across the Ye'gorlyk River was damaged, and repairs were started at once. The enemy withdrew toward Bashanta-Shin-Terl.

Russian Forces

The following Russian units were identified south of the Manych:

170th Rifle Regiment, 19th Rifle Division (Twelfth Army)
404th Rifle Regiment, 176th Rifle Division (Fifty First Army)

142d Rifle Regiment, 74th Rifle Division (Thirty seventh Army)
24th NKVD Regiment
142d Antitank Battalion

Between 21 and 31 July the following was captured: 3,113 POWs, 79 tanks, 26 guns, 9 antitank guns, three mortars, 209 vehicles, four planes.

The 351st Rifle Regiment, 156th Rifle Division, was reported near Dalniy at 1315. The 155th Tank Brigade was east of Proletarskaya.

Eleven tanks and a battalion of the 413th Rifle Regiment, 73d Rifle Division, launched an attack ten kilometers east of Proletarskaya, which was driven off.

Captured were 700 POWs, five tanks, two guns, and four antitank guns.

2 August

Corps Situation

The shortage of fuel continued to hamper the advance of the Corps. Because of it the Corps ordered the divisions to form small pursuit groups.

The Corps command post was moved to Yekaterinovka in the forenoon. Corps reserve (23d Motorcycle Battalion, reinforced with one artillery battery) was ordered to Novyy Manyel. The Corps mission continued to advance toward Voroshilovsk and protect the east flank of the army.

3d Panzer Division. At 1300 the pursuit battalion reached Nizhniy Burl, the enemy withdrawing to the south and southeast. At 1530 the pursuit had reached Kolosniko, and an hour later Pregradnoye was taken without a fight. From there an attack was launched at 1915 toward Bezopasnoye. Encountering only weak resistance the battalion reached the village in the evening.

23d Panzer Division. The pursuit battalion moved out from the bridgehead at Novyy Yegorlyk at 0500, as soon as the bridge was repaired. At 0955 it had reached Bashanta. An attack was launched from there at 1915 toward Dmitriyevskoye, but because of darkness the objective was not reached.

The division was ordered to protect the east flank of the Corps during the advance of these pursuit groups, and with the 3d Panzer Division protect the supply routes of the Corps at the strong point. Budennovskaya, Proletarskaya, and Salsk.

Russian Forces

At 1340 the Corps reported to the Army that the Russians, under cover of rear guards reinforced with tanks, were retreating toward the south in small groups.

Near Sandata the following Russian units were identified:

883d and 885th Rifle Regiments, 295th Rifle Division } Thirty
986th Rifle Regiment, 230th Rifle Division } seventh
Training battalion of the 275th Rifle Division } army
974th Rifle Regiment, 261st Rifle Division,
Twelfth Army

Near Novyy Ye'gorlyk the following Russian units were identified:

39th, 101st, 220th Rifle Regiments, 4th Rifle Division
1175th, 1177th, 1179th Rifle Regiment, 347th Rifle Division
41st Motorized Brigade
26th NKVD Regiment
395th Rifle Regiment, 2d Guard Rifle Division
875th Rifle Regiment, 423d Artillery Regiment, 158th
Rifle Division

3 August

Corps Situation

Forward elements of the advancing columns were attacked by Russian planes in the morning hours. Two planes were shot down by the 3d Panzer Division. Fighter support was requested. German close support air reconnaissance could not keep up with the rapid advance of the units, however, and long range air reconnaissance was required.

The First Panzer Army ordered the Corps to send motorized reconnaissance units toward the Kalas River in the sector between Petrovskoye and Divnoye to reconnoiter bridges and enemy positions on the eastern bank. But the Corps reported that this could not be done on 3 August, because of a lack of fuel. Air reconnaissance was requested.

The Corps command post was moved to Veselyy north of Pregradnoye. The 23d Reinforced Motorcycle Battalion in Corps reserve was ordered to Kolosniko.

3d Panzer Division. The bridge at Bezopasnoye was captured and a bridgehead established. At 0700 the advance task force moved out from there and a second task force started south from Preg-radnoye. Because of the shortage of fuel, however, the first could plan to go only as far as Voroshilovsk, and the second only to Donskoy. At 0830 the division was ordered to continue the advance and take Voroshilovsk. Russian troops were encountered at Donskoye, but by 0945 the town had been taken. The enemy withdrew toward the east and southeast, fighting rear guard actions. At 1020 Moskovskoye was taken, and by 1150 the task force was on the outskirts of Voroshilovsk.

The Russians had established strong defenses in Voroshilovsk, and because of it the advance task force was ordered to proceed toward the west of the city through Railroad Station Palagiada to encircle the city. Endless enemy columns moving south and southeast were observed in the area of Roshevskaya and south of the railroad station. Elements of the Liebenstein Task Force and the advance task force were ordered to attack the marching columns. The attack on Voroshilovsk started at 1530, and by 1615 the city had been taken.

At 1345 the 3d and 23d Panzer Divisions were ordered during the next three days to blow up the railroad line between Novo Aleksandrovskaya and Petrovskoye, the 3d as far as possible to the northwest of Voroshilovsk and the 23d to the northeast. However, when the 16th Infantry Division (motorized), on the right of the 3d Panzer Division, reported that the 13th Panzer Division had reached Kamennobrodskiy at 1100, the 3d Division's order was cancelled.

During the day the 3d Panzer Division shot down 16 Russian planes.

In the evening the Corps ordered the division to defend the Voroshilovsk area, cut the railroad line between Armavir and Georgiyevsk, and close in the area Pregradnoye-Voroshilovsk.

23d Panzer Division. At 0500 the advance task force was eight kilometers northeast of Dmitriyevskaya. The division was ordered to protect the eastern flank of the corps and attack with a pursuit battalion toward eastern Voroshilovsk. It was to establish strongpoints on roads coming in from the east on the line Trunovskoye-Takhta-Sadkyi (apparently now Solenoye). The advance task force reached lightly-defended Trunovskoye at 1125, and after refueling set off for Voroshilovsk at 1325. At 1800 it was in the area Tuguluk-Kazinka.

A Russian attack on Novyy Ye'gorlyk at 1700 was driven off.

In the evening the Army ordered that the highlands around Tuguluk be seized and that the division reconnoiter to the Kalas

River in the line Sergiyevskoye-Petrovskoye-Ipatovo-Divnoye. The Corps ordered the division to protect the east from the highway Voroshilovsk-Petrovskoye to the highway Bashanta-Kiyevka.

Russian Forces

As of 2200 the following Russian units were identified near Bashanta:

273d, 292d, 311th Cavalry Regiments, 110th Cavalry Division
20th Combat Engineer Brigade
1409, 1410, 1417, 1419, 1325 Combat Engineer Battalions
183d and 372d Fortification Battalions
56th Construction Column
58th Signal Regiment, Thirty seventh Army

Captured were 1,893 POWs, one antitank gun, four mortars, three vehicles, one close support airplane.

4 August

Corps Situation

The night passed quietly. The Corps command post moved to Donskoy during the forenoon.

It was reported that the villages of Sadkiy and Yanushevskoye were in Russian hands. An enemy column had been sighted south of Lake Rybnoye heading southeast.

The railroad line between Voroshilovsk and Petrovskaya was blown up near Staromaryevka, presumably by elements of the 23d Panzer Division.

3d Panzer Division. As far as the fuel supply allowed the division was closing in and advance units were reconnoitering toward the south. In the evening the Corps ordered the division to secure the area Moscovskaya-Voroshilovsk and move one task force to Nevinnomyssk to destroy the railroad junction there.

23d Panzer Division. Within the limits of the fuel supply the division was closing in and reconnoitering toward the east and southeast. In the evening the Corps ordered the division to protect the east flank of the Corps and reconnoiter up to the Kalas River.

Russian Forces

The enemy was fleeing in small groups toward the south and southeast. East of Romanovskiy were some weak Russian reconnaissance patrols. Sandkiy was in Russian hands.

The Russians were surprised at the speed with which Voroshilovsk was captured. A state of siege there had been ordered only two days before. The radio station was taken intact.

As of 1715 air reconnaissance reported that the water level in the Kalas River between Ipatovo and Petrovskoye was very low. In some places the river was dry.

Antitank ditches were constructed, 3-4 meters deep, along the railroad line between Voroshilovsk and Petrovskoye.

The following units were identified near Dmitriyevska:

25th Combat Engineer Brigade
1588 and 1597 Combat Engineer Battalions

311th Cavalry Regiment, 110th Cavalry Division

62d Transportation Battalion

180th Rifle Regiment

The breakthrough south of Dmitriyevska was made by the 591st Rifle Regiment, 176th Rifle Division.

Remnants of the following units were reported near Dmitriyevska:

467th Rifle Regiment, 102d Rifle Division
983th Rifle Regiment, 230th Rifle Division
767th Rifle Regiment, 228th Rifle Division

273d and 292d Cavalry Regiments, 110th Cavalry Division

248th Rifle Regiment, 31st Rifle Division
389, 404, 591 Rifle Regiments, and 1845h Antitank Battalion,
176th Rifle Division

The division captured 440 POWs, three anti-aircraft guns, and four rocket launchers and destroyed five planes on the ground.

5 August

Corps Situation

The Army ordered the LII Corps to relieve elements of the XL Panzer Corps assigned to protect the area Proletarskaya-Salsk-Novyy Ye'gorlyk.

3d Panzer Division. At 0400 Task Force Pape of the 3d Panzer Division moved out. It reached Barsukovskaya at 0830 and Nevinnomyssk at 0900. There it encountered heavy shelling by artillery and antitank guns on the south bank of the Kuban River. The railroad bridge across the Kuban, carrying the double-tracked line between Armavir and Georgiyevsk, was taken intact. An airport near the bridge was also captured and five planes destroyed. The Russian defenders were reported withdrawing toward the south. Enemy defenses around the city and on the west bank of the river were constructed in a systematic plan, and included field fortifications, bunkers, pillboxes, and artillery and antitank gun positions.

23d Panzer Division. At 0415 a combined Russian task force broke through from west to east south of Dmitriyevskoye. The division command post was attacked by Katiusha rocket launchers. A pursuit task force immediately attacked the enemy near Inogradny (near Yerokhinskiy, east of Dmitriyevskoye).

On the east flank of the Corps, reconnaissance reported Russian forces in Petrovskoye, near Dobrovol'noye, in Kugulta-Tal, near Inogradny, in Yanshevskoye and Sadkiy. Enemy stragglers were in the whole area. In the afternoon the enemy abandoned Sadkiy. Straggler units were reported southwest of Bezopasnoye. Mopping up of the area on both sides of the road from Dmitriyevskoye to Donskoy yielded 300 POWs.

In the evening the division was ordered to prepare a reconnaissance in force against Ipato'o, where the headquarters of the Russian Thirty-seventh Army was reported to be located. The division was further ordered to withdraw its elements from Budennovskaya as soon as they were relieved by the LII Corps. In view of the fact that there were still many Russian stragglers in the Corps area, the division was to close the road between Pregradnoye and Moskovskiy for the night and patrol it with tanks.

6 August

Corps Situation

The 23d Artillery Observation Battalion was attached to the Corps.

Russian straggler units attacked a motorized column of the 1st Battalion, 7th Antiaircraft Regiment, which was advancing along the Corps supply road, seriously damaging or destroying 3/4 of the vehicles. The Corps ordered that the road between Pregradnoye and Voroshilovsk be closed again during the night 6/7 August.

3d Panzer Division. The division enlarged the bridgehead from Nevinnomysk to Ivarovskoye. Ten kilometers south of Ivanovskoye reconnaissance elements attacked Russian columns heading north. One enemy battalion was smashed south of Tatarskoye (which is about 10km south of Ivanovskoye).

In the evening the Corps ordered the division to close in the area Barsukovskaya-Nevinnomysk and send an advance task force toward Pyatigorsk. A covering force should be sent toward Cherkessk.

23d Panzer Division. In the early morning a strong Russian task force, most of the 4th Rifle Division, attempted a breakthrough from west to east south of Dmitriyevskoye. The panzer reconnaissance elements of the 23d Panzer Division which were assigned to reconnoiter toward Ipatovo were ordered to attack the enemy units. The breakthrough was prevented, 2,240 POWs were taken, and 26 guns, some of them heavy, were captured. After refueling, the elements of the 23d Panzer Division advanced toward Ipatovo, reaching Talata without making contact with the enemy.

The division was ordered to defend the road from Pregradnoye to Voroshilovsk, using tank patrols and organizing and escorting convoys.

In the evening the Corps ordered the division to continue to protect the east flank of the Corps and to send a pursuit task force toward Mineralnyye Vody. It was to establish strongpoints at Veselyy, at the road fork northeast of Staromaryevka, in Kugulta, and in Novovasil'yevka and to reconnoiter toward the east.

The covering detachment in the Proletarskoye area (Staff and 2d Battalion, 126th Panzer Grenadier Regiment; 2d Battalion of 3d Panzer Grenadier Regiment) and in Novyy Ye'gorlyk were to rejoin the division after being relieved by the LII Corps. The 2d Battalion, 3d Panzer Grenadier Regiment, should move to Voroshilovsk as Corps reserve. The 23d Motorcycle Battalion was to return to the division.

Russian Forces

In the forenoon the 23d Panzer Division prevented a breakthrough of strong enemy forces south of Dmitriyevskoye and in the pursuit wiped out the bulk of the 4th Rifle Division of the Twelfth Army. The division took over 1,000 POWs and 23 guns. Elements of the battered division retreated toward the west.

The following units were identified near Donskoy:

60th Disinfection Company
15th Reserve Cavalry Regiment (no horses)
1200th Labor Regiment
426th Labor Battalion
173d Bridge Construction Detachment
26th Motorcycle Training Regiment
130th Training Regiment
423d Labor Column
15th Training Regiment
81st Medical Battalion
988th Rifle Regiment, 230th Rifle Division

7 August

Corps Situation

The divisions spent the day closing in and preparing for the planned advance toward Pyatigorsk-Mineralnyye Vody. The Corps informed the Army that to assure mobility it was absolutely necessary to supply more fuel. The Army made it clear that no fuel would be brought in for 24 hours and possibly not for 48.

3d Panzer Division. In the morning the division discovered, 15 kilometers north of Barsukovskaya, an enemy group with horse-drawn vehicles and antitank guns retreating to the southeast.

23d Panzer Division. The reinforced reconnaissance elements took Ipatovo, capturing few prisoners. Most of the Russians had left the city the day before. The railroad line had been blown up but the road bridge over the Kalas River was intact. During the evening the 3d Battalion, 201st Panzer Regiment, established a bridgehead on the Kalas near Sergeevka.

Russian Forces

A First Lieutenant of the 591st Rifle Regiment, 176th Rifle Division, reported in respect to the attempted breakthrough the day before, that the division commander, Col. Rubanyuk, ordered the 176th and 4th Rifle Divisions of the Twelfth Army to launch such a breakthrough operation, as the first element of an assault force under General Marzinkevitch. The assault force was to be concentrated in the area Koroshiye Lake - Kulodzy. The second element of the assault force consisted of the 33d Rifle Division of the Fifty-sixth Army and a few motorized brigades. It was to break through to the east in the area south of Dmitriyevskoye on August 7 or 8. After crossing the Kugulta River the assault force was to close and continue to advance to the east. Replacement battalions to replenish

the divisions were to be east of the Kalaus. Both divisions would receive two antitank gun battalions. A tank destroyer brigade would also be added to the force. The objective was to attack the rear and flanks of the German force. At the time of the breakthrough, 5 August, the strength of the 176th Rifle Division was:

591st Rifle Regiment - 8 men plus one attached battalion
404th Rifle Regiment - 150 men
389th Rifle Regiment - 150-180 men

With these troops and available heavy weapons, including 20 rocket launchers, the division succeeded in breaking through.

On the east flank of the Corps the Russians did not take advantage of the defense positions already prepared on the Kalaus, and the remaining units retreated from the line Petrovskoye-Ipatovo to the southeast.

The following units were identified: near Nevinnomyssk, the 113th Rifle Brigade; between Voroshilovsk and Nevinnomyssk, the 4th Rifle Division, 1644th Engineer Construction Battalion, 115th Cavalry Training Regiment.

The Corps captured 102 POWs, 52 guns, 13 mortars, 11 antitank guns, six machine guns, and five vehicles.

8 August

Corps Situation

The two divisions launched their attack in the early morning. The Corps command post moved during the morning to a convalescent house three kilometers west of Voroshilovsk. The Corps reserve (2d Battalion, 3d Panzer Grenadier Regiment, minus one company, and one artillery battery) was ordered to move to Voroshilovsk. In the evening the Corps was ordered to advance, if the fuel situation permitted, and establish a defense line on the Kuma River.

3d Panzer Division. Starting in the early morning, by 0800 leading elements, having encountered only weak resistance, reached Kursavka. After a fight, the town was taken, and the division continued to Soluno-Dmitriyevskoye, which it reached at 0930. The Russians, after destroying the bridges, crossings, and fuel dumps, were withdrawing toward the east. At 1350 an antitank ditch north of Grazhdankiy was reached, and the crossing was seized against weak resistance. Radio interference made it impossible to receive further reports from the division, which reached the area west of Mineralnyye Vody in the evening. There it halted after an advance.

reported as 180 kilometers. (Assuming a start from Nevinromysk the advance is closer to 108. From Vorochilovsk it is about 150km. Donskoy is about 190. This is following the road, not a direct line.) Steep mountain roads and bridges made it impossible to proceed further at night. The second task force (reinforced 6th Panzer Regiment), which apparently was advancing on another road, reached the area of Vorovskoleskaya.

In the evening the division was ordered to establish a bridgehead on the Kuma River. Whether or not to capture Pyatigorsk was left for the division to decide, on the basis of the fuel supply and the enemy situation.

23d Panzer Division. The division moved out in the early morning, against little opposition on the ground, but the forward elements were attacked repeatedly by low flying planes, which caused serious delays. However, at 1330 the division advanced through Aleksandrovskoye, and at 1845 it was at the elevation point 497 (meters), ten kilometers northeast of Mineralnyye Vody. The roads were getting worse as the forces entered the foothills of the Caucasus Mountains. Steep slopes and deep valleys began to present serious traffic problems. Covering forces on the east flank of the Corps reported no contact with the enemy, which withdrew far beyond the Kalas.

9 August

Corps Situation

The two divisions continued their advance and attacked Mineralnyye Vody and Pyatigorsk.

3d Panzer Division. At 0500 the Kuma was crossed south of Kangly, and the German units struck to the south, driving off the Russian combat group in the area. Fighting their way through the defile northeast of Zheleznovodsk the Germans reached Karras, where weak resistance was overcome.

The other task force (the reinforced 6th Panzer Regiment) advanced through Suvorovskaya and by 1530 had reached the area six kilometers northwest of Pyatigorsk. The two combat groups attacked the city in a combined assault, entering the outskirts from the north, and then from the west. Despite stiff resistance, in house-to-house combat the Germans held most of the northern part of the city by evening. The bridge across the Podkumok was taken intact.

The elements of the division which had remained near Nevinromysk were ordered to move to Pyatigorsk after being relieved by the 23d Panzer Division.

23d Panzer Division. The division advanced to the northern outskirts of Mineralnyye Vody, where it encountered stiff enemy resistance. Numerous minefields and demolition charges held up the advance, and the task force was also under flanking fire from the combat group which had been driven east of Kangly by the 3d Panzer Division and was trying to withdraw to the east and southeast.

Because of that, and after interpreting data from air reconnaissance which indicated that strong Russian columns were moving through the Georgievsk area toward the southeast, the Corps concluded that the retreat was in that direction and that strong delaying rear guard units would be encountered around Mineralnyye Vody and Pyatigorsk and in the mountain terrain north of Zhelesnovodsk. For this reason Task Force Burmeister was attached to the 3d Panzer Division.

The attack across the Kuma to take Mineralnyye Vody made slow progress, because the bridge there had been destroyed and tanks could not be used. An artillery group southeast of the city further delayed progress. Nevertheless, by evening most of the enemy forces had been pushed out to the south and southeast, and most of the city was in German hands. Small pockets of resistance were still holding out.

At 2200 the Corps ordered that the two cities, Mineralnyye Vody and Pyatigorsk, should be mopped up the following day.

Russian Forces

Composition of Russian forces:

Pyatigorsk area, to defend the city: 11th NKVD Division, with the 18th and 279th Rifle Regiments and 17th Cavalry Regiment

Voroshilovsk Garrison:

15th Cavalry Training Regiment
26th Motorcycle Training Battalion
Officer training groups

Near Dmitriyevskoye: (8 August)

75th Rifle Regiment, 31st Rifle Division
220th Rifle Regiment, 4th Rifle Division

Near Ipatovo: Thirty seventh Army units: (8 August)

one battery, 370th Artillery Regiment, 230th
Rifle Division
884th Rifle Regiment, 295th Rifle Division
staff of the 347th Rifle Division

Northwest of Vor shilovsk:

295th Rifle Division
Signal Battalion, Thirty seventh Army

The Panzer Division took 700 POWs.

10 August

Corps Situation

At 1230 the Corps command post arrived at Kursavka. The Corps intended, within fuel supply limitations, to close in the Pyatigorsk and Mineralnyye Vody areas the following day. It was believed that the enemy had withdrawn from the Cherkessk area to the southeast.

3d Panzer Division. During the night small groups of Russians attempted repeatedly to enter Pyatigorsk from the east, apparently trying to cross the bridge over the Podkumok and escape to the south. All these attempts were beaten off. The center of the city was shelled from the southern bank with rockets, and the bridge from time to time was under fire from machine guns.

With the dawn, mopping up of Pyatigorsk started again. Defending the city were NKVD troops, a tank school, and elements of a women's battalion. The enemy fought with dogged obstinacy and in the evening still held many blocks in the southern part of the city. However, in general it seemed that the enemy south of the Podkumok was weak. The German defense line was advanced to the Maschul River. (Apparently a small one just east of the city.)

At 0600 the units covering the western flank repelled an enemy group near Suvorovskaya which was trying to escape to the east. Grazhdanskoye, northeast of Suvorovskaya, was reported later in the day to be in Russian hands. Russians also were reported in the hills northeast of Zheleznovodsk.

23d Panzer Division. By noon, after a 24-hour house-to-house fight, the last enemy resistance in Mineralnyye Vody ended. The defense line to the east was established on the line between the city, Railroad Station Rykova, and Karras.

Russian Forces

The 3d Panzer Division took 300 POWs and four guns.

11 August

Corps Situation

The night passed quietly in the whole Corps area.

The 3d Heavy Mortar Regiment was sent to Army reserve at Voroshilovsk. The 80th and 90th Bridge Construction Detachments were attached to the XL Panzer Corps, arriving at 1200 in the area.

Since the units covering the Corps west flank reported no enemy movement, and the 1st Mountain Division captured Cherkessk without much resistance, the Corps estimated that there were no more significant Russian forces between Cherkessk and Pyatigorsk. The Corps believed that the enemy would continue to withdraw to the south and build a new line of defense in the general area around Nal'chik and Ordzhonikidze. To prevent preparation of the defense line there it was considered urgent to advance rapidly toward Nal'chik. Such an advance would depend upon the availability of fuel and require extension of the flanks to the southwest and the east. At 1720 the Corps asked the Army for instructions.

The Army agreed to the Corps plan at 2100, dependent upon mopping up in the Corps area. Because there were no military roads leading south from Pyatigorsk into the Caucasus, the Corps recommended using the paved road from Pyatigorsk to Ordzhonikidze via Baklan and Nal'chik as the best mountain route. To this the Army agreed.

3d Panzer Division. Facing only isolated enemy resistance the division enlarged the bridgehead across the Pookumok to Lake Tambukan. Enemy forces retreating to the east were shelled.

In the afternoon it was reported that there were enemy troops northwest of Pyatigorsk. They had heavy weapons and succeeded in temporarily cutting the road between Kangly and Pyatigorsk. An advance detachment of the 23d Construction Unit, including six officers, was taken by surprise in that area and had been missing since. At 1655 the division was ordered to mop up the area the next day, and the Corps reserve (reinforced 2d Battalion, 3d Panzer Grenadier Regiment) was ordered to assist the division in this operation.

23d Panzer Division. After overcoming a serious fuel shortage the division was able to move the staff and to organize a weak combat task force. The forward elements of the staff reached Mineralnyye Vody by noon, and the Burmeister Task Force, which had been attached to the 3d Panzer Division, was returned to the 23d.

At 1700 one company of the 128th Panzer Grenadier Regiment and one battery were sent from Mineralnyye Vody to Lysogorskaya to build a bridgehead. Before dark the detachment had arrived one kilometer northwest of Lysogorskaya.

Russian Forces

Corps units took 65 POWs.

12 August

Corps Situation

Soon after the mopping up operation in the area of Zhelesnovodsk began it became clear that the enemy was fighting very fiercely and slowly retreating toward the east and southeast through the countless wooded canyons. The officers who had been reported missing the day before were found dead, some of them mutilated. Zhelesnovodsk was cleared after a long battle. Further advance in the thick forest was slow. The planned move of the Corps command post to Zhelesnovodsk had to be postponed until the following day.

Air reconnaissance reported heavy movements of Russian forces from the area of Kislovodsk through Malka toward the south. In other areas there was less movement than the day before, with only small units moving mostly toward the east and southeast.

At 1115 the Army gave the Corps permission to advance toward Mal'chik if there was enough fuel for the advance battalion to reach the town.

Enemy aviation was particularly active in the area of Mineralnyye Vody and Pyatigorsk.

The 104th AA Regiment with the 1st Battalion, 5th AA Regiment, attached, left the Corps. The 1st Battalion, 7th AA Regiment, and the 77th Light AA Regiment remained with the Corps.

3d Panzer Division. Advance units of the division moved from the area south of the Podkumok to the hill southeast of Lake Tambukan without encountering Russian troops.

Mopping up of the wooded hills south of Zhelesnovodsk was still continuing. According to a prisoner of the Russian regiment, after stiff fighting, had retreated to the hills farther south, over very difficult terrain.

At 1730 the division was ordered to send advance elements, including artillery, toward Malka, to support the 23d Panzer Division in its advance to Saksanenok.

23d Panzer Division. The bridgehead at Lysogorskaya was established without enemy resistance, and held without difficulty. Reconnaissance reported that the enemy had left Nezlobnaya after noon, and that there were apparently strong Russian forces near Georgiyevsk.

The Corps ordered the division to send its pursuit task force the following day to take Baksanenok.

Russian Forces

A women's aircraft warning battalion, about 130 women, half of them armed with rifles and bayonets, took part in the combat near Pyatigorsk. Units identified in that area were: 14th Cavalry Regiment; 29th Cavalry Regiment, probably of the 4th Cavalry Division from Ordzhonikidse; 12th Motorcycle Battalion from Cherkessk; 76th Marine Rifle Regiment from Rostov; 778th Rifle Regiment; 26th Signal Battalion; 279th NKVD Regiment of the 11th NKVD Division.

Also identified:

Near Georgiyevsk: 185th Motorcycle Battalion, 125th Rifle Training Regiment

Near Voroshilovsk: one motorized training regiment; 201st Training Regiment

After losing Voroshilovsk the Russians retreated toward the east and northeast. While most of the units were withdrawing behind the Terek River, elements of the 11th NKVD Division (motorized) were deployed as a rear guard and fought fiercely in the Pyatigorsk-Mineralnyye Vody sector. After house-to-house fights the Russians were forced to leave both towns and were unable to prevent the establishment of a bridgehead on the Podkumok.

13 August

Corps Situation

Except for a few Russian air attacks there were no special activities during the night. The pursuit task forces of the two divisions, plus a combat group of the 3d Panzer Division, refueled during the night and launched an attack at 0500 from the Podkumok bridgehead toward the south.

After the Germans took the Malka sector in the afternoon, Russian aircraft switched their main effort to that area and hit both pursuit task forces with high and low level attacks. The Corps urgently requested fighter protection.

The surprisingly stiff resistance that had been encountered in the area of Zhelesnovodsk and in Pyatigorsk on 11 August was explained by a reliable POW, who reported that Marshal Budenny was personally organizing the defenses of both places. The prisoner further reported that he saw Marshal Budenny wounded during an air raid on Georgiyevsk and that he had been evacuated.

Depending on the fuel supply, the Corps intended to continue its advance toward Nal'chik. According to the latest report the situation would ease at the earliest the next evening.

3d Panzer Division. The pursuit task force very quickly reached the area three kilometers northwest of Malka, where it encountered stiff Russian resistance. The Russians there had built strong defense positions. They had many antitank and antiaircraft guns and controlled a wide stretch of the northern bank of the river. Heavy artillery and mortar fire also held up the advance, and reconnaissance established that all of the existing bridges had been destroyed. Further advance was impossible.

Mopping up of the woodlands south of Zhelesnovodsk was progressing slowly because of a shortage of infantry. However, the area around the town was clear of Russians and the Corps command post moved there at 0700. Mopping up of nearby forest areas made only slight progress. In order to destroy the enemy and finish up the operation, the Corps ordered the 52d Engineer Battalion to take over the mopping up operations the next day.

West of Pyatigorsk, Yessentuki was taken without a fight. Reconnaissance established that Kislovodsk was clear of Russians. Russian columns retreating from there to the south were shelled by artillery fire.

23d Panzer Division. After a short fight with straggler units one kilometer north of Mar'inskaya, the pursuit task force entered the town and cleared it of a few troops by 0945. In Kuba and on the hills on both sides of it, the enemy had about seven heavy guns. The German troops captured them, crossed successfully over the destroyed bridge, and pushed into the town, taking it at 1900 after heavy fighting. With the arrival of motor transport equipment the reconstruction of the bridge was started. The division was ordered to continue its advance toward Baksanenok.

Russian Forces:

According to a deserter the 4th Parachute Training Brigade was stationed in Ordzhonikidse.

As of 1535 elements of the 278th Rifle Regiment of the 11th NKVD Division were still on the eastern slopes of the Beshtau Mountain. Remnants of the 2d Battalion of that regiment, including the regimental and division commanders, were in the woods between Beshtau and Zhelesnovodsk.

According to a deserter from the 980th Rifle Regiment, 275th Rifle Division, the regiment on 10 August was in the Alexandrovskoye area. It had only 18 men.

14 August

Corps Situation

Enemy air raids during the night, especially heavy around Mineralnyye Vody and the Malka sector, inflicted some casualties.

At 0200 the Army ordered the Corps to mop up the area around Voroshilovsk, where enemy straggler units were reported. Execution of this order would tie up some elements of the 23d Panzer Division for quite a long time. These elements, which had been immobile because of a shortage of fuel in Voroshilovsk, were urgently needed in other areas. For this reason the Corps requested that the Army order another unit to mop up the region.

The 2d Rumanian Mountain Division was to be attached to the Panzer Corps on 16 August, after it had reached Nevinnomysk.

The III Panzer Corps was concentrating its forces west of the Kuban and would move out on 16 August on the left of the XL Panzer Corps. Advancing through Voroshilovsk its advance force would reach the area of Sablinskoye, 30 kilometers north of Mineralnyye Vody, on 17 August.

Late in the evening the chief of staff of the First Panzer Army gave the Corps a free hand in regard to the further advance of the divisions toward Ordzhonikidze.

3d Panzer Division. The advance force of the division remained northwest of Malka, unable to cross the river. There it was subjected to numerous air attacks, some of them by groups of 25 low-flying planes.

The combat reconnaissance unit of the 3d Panzer Division, which was preparing a mopping up operation in the area of Beshtau, south of Zhelesnovodsk, reported that it would make a concentrated assault on enemy strongpoints in the forest on 15 August.

23d Panzer Division. At 0650 the pursuit task force launched an advance toward Baksanenok from the bridgehead at Kuba. The enemy attacked the bridge site with rockets from the hills to the southwest, but nevertheless the bridge was ready for use at 0900. Enemy resistance proved lighter than it had been the day before, and Konstantinovskoye was taken at 0900. After the bridge there was repaired the advance force moved on and took Baksanenok at 1100.

Other units of the 23d Panzer Division entered Georgiyevsk in the morning, finding it clear of the enemy. They captured a considerable amount of booty, including 20 heavy guns.

In view of the fact that there was no enemy activity near Baksanenok at 1430, the Corps decided to continue the advance toward Nal'chik and deny the Russians the night for building defense positions around the city. The division was ordered at 1520 to launch an attack immediately. If those elements which had taken Baksanenok were unable to continue the advance, the division should organize another combat group, which should start to advance as soon as possible in the afternoon.

Russian Forces

On the western edge of Georgiyevsk a gun depot was taken. Captured were 20 152mm guns, 110 limbers, numerous antiaircraft and antitank guns (50mm and 88mm), some of them German. Many were in good condition.

15 August

Corps Situation

During the night enemy aviation was active again over the Malka sector and around Baksanenok. Otherwise the night was quiet.

Air reconnaissance reported only small movements in front of the southern sector of the Corps. On the Georgian Military Highway, running south from Ordzhonikidze, 1,100 vehicles were observed moving from north to south. The bulk of the enemy forces continued to withdraw to the south under the protection of strong rear guards, making the main effort along the highway Pyatigorsk-Nal'chik.

The 2d Rumanian Mounted Division reported in the evening that it had entered Barsukovskaya and would continue to Nevinnomysk the next day. To expedite and organize the arriving troops the Corps shifted the 128th Artillery Command to Nevinnomysk to act as liaison staff.

In the afternoon the Corps ordered the divisions to organize detachments for combat in high mountains. The immediate Corps objective was the capture of passes near Salugardan (Alagir?) and Ordzhonikidze, while protecting the flank along the Terek and denying the area to the enemy advancing from the north.

3d Panzer Division. Reconnaissance patrols across the river established that the enemy had withdrawn from Malka under cover of darkness. The Germans occupied the town and started constructing a bridge.

The mopping up in the mountain area north of Pyatigorsk was nearly completed. The enemy broke up into small groups that could be considered stragglers. Some materiel and 80 prisoners were taken.

23d Panzer Division. The start of the advance of the advance force of the 23d Panzer Division from Baksanenok was delayed by lack of fuel. In addition, enemy air attacks, beginning at dawn, hampered all movements. Although the advance force started out at 0915, it could not find a usable crossing of the river south of Baksanenok. High water had flooded the terrain. Combat patrols managed to cross without vehicles and, after a very heavy fight, took Kishpek at 1545. Because the bridge site there was flooded, further advance on that road had to be given up. Waves of 25 to 40 Russian planes attacked near Baksanenok. The German Luftwaffe had a fighter group based in Mineralnyye Vody, but because of a shortage of fuel very few planes could be used. The Corps ordered the division to proceed on foot toward Nal'chik if the enemy air attacks let up the next day.

At 0400 another combat group of the division was moved up from Lysogorskaya to the Malka sector. Reserve elements of the division, specifically the reinforced 126th Panzer Grenadier Regiment, had been on the march from Voroshilovsk since morning. When the Corps received a report that one to two enemy companies with antitank artillery and machine guns were northeast of Vorovskoleskaya, the 126th was ordered to reconnoiter that area. The regiment reported at 1555 that there were no enemy troops there.

16 August

Corps Situation

Except for a few air raids there were no special developments during the night.

To clear all misunderstanding between the divisions, the Corps at 1340 ordered that the 3d Panzer Division should continue to advance on the main highway until it took Nal'chik. The 23d Panzer Division should cover the east flank on the line east of Nal'chik-Kuba.

At 2100 the Corps reported its intentions to the Army, i.e., to seize the Georgian and Ossetian Military Highways. The Army

attached to the Corps an advisory group for mountain combat, including mountain artillery, mountain engineers, a mountain signal unit, and a mountain rifle battalion. It also reported that Tshetshen and Dagestani platoons would be attached to the Corps. A truck column was also attached by the Army to move one battalion (presumably the Rumanians) from Nevinnomysk. The 906th Assault Boat Battalion was attached to the Corps, and the Corps allocated it to the 515th Engineer Regiment.

At 0800 the forward elements of the 2d Rumanian Mountain Division entered Nevinnomysk, and the division was formally attached to the Corps. It would be brought forward by train and trucks via Kursava-Pyatigorsk-Malka. The first battalion to be combat ready would be attached to the 23d Panzer Division and brought up through Mineralnyye Vody to Kuba.

3d Panzer Division. The bridge over the Malka was repaired by 0900, and the division sent out its forward detachment at 1030. At 1230 it had reached Baksan. Reconnaissance indicated that the enemy could see every approach to the river from the north from its fortified positions on the southern bank. Units approaching the river were being struck by heavy artillery fire. Reconnaissance by the 3d Panzer Division reported also that Kysburun on the north bank of the Baksan was still in enemy hands.

23d Panzer Division. The advance force (128th Panzer Grenadier Regiment) withdrew from Kishpek during the night, leaving covering patrols on the northern edge of the town. High water on the Baksan near Kishpek made the establishment of a bridgehead next to impossible. The 128th advanced toward Baksan to seize the bridge there, intact if possible. In Baksan the Germans encountered only weak Russian forces, and the town was taken at 1120. The bridge across the Baksan had been destroyed, and it soon became clear that crossing the river would be just as difficult there as near Baksanenok. In addition the southern bank was strongly defended by the enemy. The elements of the 23d Panzer Division returned to Baksanenok.

The second combat group (reinforced 2d Battalion, 201st Panzer Regiment), which was south of Kuba, was to be sent to the bridge over the Terek near Mayskiy. A strong reconnaissance group advanced, without making contact with the enemy, through Karagach to the bridge southeast of the town, which the Germans started to repair. Enemy air attacks concentrated on this group. By 1600 the reconnaissance group reached Novo Poltavskoye (8km south of Prokhladnyy). On the southern bank of the Chegem River, Russian forces were weak. The bridge had been destroyed, and everything was flooded.

At Kishpek the division elements failed to seize an improvised dam before the Russians blew it up. Kishpek was again in Russian hands.

Russian Forces

Units identified in the Prokhladnyy area were:

291st Rifle Regiment, 63d Rifle Division, Forty-fourth Army
190th Cavalry Regiment, 72d Cavalry Division
372d and 862d Training Battalion, 24th Replacement Division

Remnants of the following units were reported near Baksanenok at 1640:

410th Rifle Regiment, 102d Rifle Division
78th Rifle Regiment, 74th Rifle Division

According to POWs the scattered elements of the Ninth and Thirty-seventh Armies were ordered to assemble in Nal'chik.

One hundred POWs were taken. One plane was destroyed on the ground.

17 August:

Corps Situation

During the night the Russian ground forces on the south bank of the Baksan were inactive. On the other hand, air forces were very active.

At 0905 air reconnaissance reported a long enemy column (450 vehicles) on the move from Nal'chik to the east. In the city and on the road toward Baksan traffic was light.

The Corps command post moved to Mer'inskaya during the morning.

The 1st Battalion, 99th Mountain Rifle Regiment, from the XLIX Mountain Corps, reinforced with one battalion of the 79th Mountain Artillery Regiment, was to reach Nevinnomysk in the evening and report to the XL Panzer Corps.

Movement of the 2d Rumanian Mountain Division was proceeding smoothly. The battalion which was assigned to the 23d Panzer Division was to be at Railroad Station Nagutskaya in the afternoon of 18 August. The 1st Battalion, 99th Mountain Rifle Regiment, assigned to the 3d Panzer Division, would reach Railroad Station Nagutskaya on the 19th.

The Corps considered it very important to take Nal'chik as soon as possible and not to permit the enemy to build a new line of defense around it. The Russians appeared to have only strong rear guard elements on the Baksan, holding the road to Nal'chik. The crossing near Baksan must be taken. To support the operation,

the 23d Panzer Division was ordered to advance to Novoivanovka, and then turn southwest to take Nal'chik. Exploiting the advance of the 23d Division the 3d Panzer Division on the 19th should launch an attack. The 1st Battalion, 99th Mountain Rifle Regiment, and the Rumanian battalion, attached to the 3d Panzer Division, should attack west of Baksan to open the crossing from the rear.

3d Panzer Division. At 0630 the division command post arrived in Malka. Reconnaissance reported that during the night the enemy had evacuated the village of Kysburun. South of the Baksan the enemy had installed field fortifications. Air raids were continuing to make it difficult to reconnoiter the crossing. The water was so high, because of melting glaciers and blown up dams, that in some places the streams were 250 meters wide.

23d Panzer Division. Although the Chegem was also flooded, reconnaissance patrols crossed the river south of Novo Poltavskoye in the morning. The whole group was ordered at 1345 to cross and advance toward Mayskiy to seize the bridge over the Terek River. Thereafter the Corps intended that the division advance toward the south on either the east or the west bank of the river. The Reconnaissance Group put 1¹/₂ companies of the motorcycle battalion across the Chegem by 1900. There were only patrols of the enemy in the area. The south bank of the river was marshy and flooded, making crossing difficult. The Corps Chief of Engineers reported at 2200 that in his view it would be possible to construct a bridge south of Novo Poltavskoye. It was also technically possible to build one near Baksan.

In the afternoon harassing artillery fire was reported on Karagach from the direction of Soldatskaya. According to a POW there was an armored train there. Corps reserve was ordered to find out about it.

Russian Forces

Remnants of the 410th and 519th Rifle Regiments in the Kuba area were ordered to assemble in the Nal'chik area.

Remnants of the 220th Rifle Regiment of the 4th Rifle Division, the 71st NKVD Regiment, and the 333d Antiaircraft Battalion near Mineralnyye Vody were ordered to withdraw toward Grosnyy.

Remnants of the 218th Artillery Regiment, 176th Rifle Division, were near Mikoyan-Shaha.

18 August

Corps Situation

The 14th Close Air Reconnaissance Group reported that it had no combat ready planes. Consequently the Corps requested at 1040 that the Army send its air reconnaissance to reconnoiter the bridges over the Terek near Mayskiy, Terek and El'Khotovo. If the bridges were already destroyed the advance of the units of the 23d Panzer Division on the east side of the river would not pay.

At 1045 the Corps asked the Army to attach a bridge construction battalion and two more bridge trains to the Corps.

The Corps intended the next day that the 23d Panzer Division should advance toward the south. The 3d Panzer Division should be ready to advance near Baksan, but whether the advance would be made near Baksan or through Novo Poltavskoye would be dependent on the situation in front of the 23d.

Late in the evening, two batteries of the 1st Heavy Mortar Regiment were attached to the Corps. Because of the shortage of fuel, however, the 2d Battalion of the 52d Mortar Regiment was to remain behind. The Army was immobilizing the III Panzer Corps and sending all incoming fuel to the XL Panzer Corps. The Corps was ordered to share with the III Panzer Corps its mission of seizing the Georgian Military Highway and the oil rich region of Groznyy.

The following units were attached to the Corps: 627th Engineer Battalion, 1st Company, 406th, and 2d Company, 413th Bridge Trains; 58th and 2d Company of Task Force Bergmann.

3d Panzer Division. Because elements of the engineer battalion of the 23d Panzer Division could not arrive because of the shortage of fuel, the 3d Panzer Division was ordered to send one company of the 52d Engineer Battalion to the Chegem crossing.

In the afternoon enemy artillery fired rockets on Baksan.

23d Panzer Division. At dawn the Russians at Novoivanovka started to fire on the crossing of the Chegem with mortars. The 23d Artillery Observation Battalion was attached to the division to silence the enemy artillery south of the Baksan. Despite great difficulties the crossing near Novo Poltavskoye continued. At 1300 forward elements had seized the highway Primalkinskiy-Nal'chik. In front of the bridgehead Russian forces retreated toward the southeast.

The reinforced 128th Panzer Grenadier Regiment was moved from the Baksanenok area to Novo Poltavskoye. After a fight Novoivanovka was taken. Late in the afternoon the Russians counter-attacked the town from the southwest along the highway, supported by a heavy artillery battery. Fighting continued through the night. Construction of the bridge across the Chegem proceeded slowly because of high water and numerous air attacks on the crossing.

The reconnaissance patrol on the north bank of the Malka River reported weak Russian covering detachments, supported by anti-aircraft and antitank guns at Railroad Station Soldatskaya. At 1630 the Corps reserve, which was concentrated at Kura, was ordered to organize a strong defense on the Malka River ten kilometers northwest of Soldatskaya and reconnoiter toward the railroad line.

At 2000 the reconnaissance patrol reported that Railroad Station Apollonskaya was clear of the enemy. Large storage sheds there and at Railroad Station Soldatskaya were on fire.

Russian Forces

Near Karagach a deserter from the 15th Training Brigade indicated that it included the 42d, 46th and 50th Training Regiments.

The 24th Training Brigade (51st, 54th, 52d, and 372d Training Regiments) left Prokhladnyy.

Corps units took 120 POWs.

The 875th Rifle Regiment, probably of the 24th Rifle Division, was stationed near Novoivanovka to prevent a crossing of the river. It was identified as belonging to the 2d Guard Rifle Division.

19 August

Corps Situation

After a conference with the Corps Chief of Engineers and the division commanders, the Corps Commander was convinced that advance across the streams west of the Terek would be a very slow operation. Because of the destruction of many dams, and the melting of glaciers, the level of water in the streams was so high that serious difficulties could be expected in the construction of bridges. This situation was reported to the Army at 0735 with the request that the advance be transferred to Prokhladnyy and the area to the east. The commander of the 14th Close Air Reconnaissance Group was ordered to investigate the condition of the bridges between Prokhladnyy and Novo Georgievsk (near Mozdok), and the enemy situation in this part of the Terek.

At 0730 the Westhoven Task Force (elements of the 3d Panzer Division), still in Pyatigorsk, was ordered to be prepared to march toward Prokhladnyy. The von Bodenhausen Task Force (elements of the 23d Panzer Division), still in Mineralnyye Vody, received the same order. It was to establish liaison with the Westhoven Task Force.

At 0745 the III Panzer Corps informed the XL Panzer Corps that the 627th Engineer Battalion, with three bridge train detachments, was in Sablinskoye. These units would proceed to Pyatigorsk, and advance behind Task Force Westhoven.

Corps reserve (2d Battalion, 3d Panzer Grenadier Regiment,) received an order at 0945 to advance through Soldatskaya on the north bank of the Malka and, in a surprise attack, seize the bridge over the Terek near Prokhladnyy.

Task Force Westhoven at 1000 was ordered, with Task Force von Bodenhausen attached, to be ready to advance at noon, initially to Apollonskaya. This order was extended at 1200 to an advance on the line Prokhladnyy-Sovetskaya toward Novo Georgievsk in order to establish a bridgehead on the Terek near Mozdok and hold it for the 3d Panzer Division. The Corps intended to relieve the units of the 3d Panzer Division deployed near Baksan with the advance force of the 2d Rumanian Mountain Division. The elements of the 3d Panzer Division would then follow the Westhoven Task Force.

3d Panzer Division. The combat task force near Baksan reported that the Russians were building field fortifications on the south bank of the river. On the north bank strong enemy reconnaissance patrols probed west of Baksan, but by evening were forced to retreat across the river.

In order to reinforce the Westhoven Task Force as soon as possible the Corps decided to dissolve the combat group of the 3d Panzer Division during the night. The following units were sent to the Westhoven Task Force: staff of the 70th Artillery Regiment, 52d Engineer Battalion, Brandenburg unit, medical company, and antiaircraft company.

The head column of the Westhoven Task Force, which left Pyatigorsk at 1330, reached Apollonskaya at 1600. A heavy storm which made the roads impassable held up most of the force, especially the tank trucks. Most of the 2d Battalion, 3d Panzer Grenadier Regiment, reached Soldatskaya by 1200. Forward Patrols reached Lagernyy. In the afternoon the battalion sent out reconnaissance patrols, which reported only sparse contact with the enemy. Prokhladnyy and Railroad Station Shardanovo were in enemy hands.

23d Panzer Division. During the night the division reported that before a reconnaissance detachment could be sent toward the Terek bridge it would be necessary to reinforce the bridgehead. A tough enemy force was still holding the eastern part of Novoivanovka. The ferry embarkation point was under machine gun and artillery fire. Despite difficulties, however, division elements crossed the Urvan River. The Russians attacked that bridgehead several times but were driven off. Elements on the south bank were not strong enough to form a combat group and advance to the east. Moreover Novoivanovka had to be evacuated because its defense was tying up too many troops.

Russian Forces

The 392d and 471st Rifle Regiments of the 73d Rifle Division were also identified south of Novoivanovka.

The 274th Rifle Regiment of the 11th NKVD Division was deployed as blocking troops in the Mikoyan-Shaha area.

Remnants of the 7th Technical Battalion were near Kuba.

The 1028th Combat Engineer Brigade and perhaps the 27th Combat Engineer Brigade were near Nal'chik.

20 August

Corps Situation

Rain during the night made the roads muddy and delayed advance.

General von Kleist, commander of the First Panzer Army, arrived at the Corps command post at 0845 and made it clear that no special help with the fuel problems would be forthcoming from the Army. The Corps should make every effort to reach the prime objectives with available resources.

3d Panzer Division. The Westhoven Task Force (3d Rifle Brigade) did not leave Apollonskaya until about 0900, because the fuel delivery was held up by bad roads. Proceeding rapidly along the highway to the east without encountering enemy resistance, by 1145 the task force had reached Sovetskaya. Two damaged bridges temporarily halted the advance. By 1600 the task force moved on slowly, progress retarded by the muddy roads and flooded bridge at Sovetskaya. At 1900 weak enemy forces were dispersed at Kurskaya. Further advance depended on the availability of fuel.

Patrols of the 2d Battalion, 3d Panzer Grenadier Division, deployed near Lagernyy, reported that Prokhladnyy was in enemy hands. An armored train in Prokhladnyy repeatedly shelled Lagernyy. An enemy reconnaissance patrol probing from Prokhladnyy toward Lagernyy was forced to turn back. A German reconnaissance patrol reported a gun sited on the railroad line two kilometers northwest of Prokhladnyy. An enemy company attacked Lagernyy from the east at 1525 but was driven off. German reconnaissance patrols sent north from Lagernyy reached Sovetskaya without encountering any Russians.

The division requested attachment of more heavy antiaircraft artillery, because the 4th Battalion, 75th Artillery Regiment, had only six heavy guns left. The Russian air force had discovered the movement of the division toward Terek and after noon increasing numbers of planes were raiding the roads on which the division was advancing.

Elements of the division which were still near Baksan engaged isolated Russian reconnaissance patrols near Kysburun, but otherwise that sector was quiet. An advance command post and 1st Battalions and two batteries of the 2d Rumanian Mountain Division reached Baksan by evening. The bulk of the division was at Pyatigorsk. The elements of the 3d Division near Baksan were to be relieved at 0300 on 22 August. The 2d Battalion, 394th Panzer Grenadier Regiment, would thereupon concentrate at Apollonskaya as Corps reserve.

23d Panzer Division. The bridge across the Chegem was repaired by evening of the 19th, and in the early morning a combat group of the division advanced to the Urvan River, where it found that the bridges were destroyed. With other units that had crossed the Chegem the group attacked and took Novoivanovka. Enemy units continued to hold the road to the west. During the day units succeeded in fording the Urvan. After a fight, by 1730 a bridgehead had been established, a bridge site had been secured near the ford, and construction of a bridge was started. Strong Russian forces, supported by artillery, attacked Novoivanovka from the west, but were driven off. Russian air attacks hindered work on the crossings of both rivers. Between 1515 and 1630 alone, over 50 Russian planes flew over Novo Poltavskoye.

At about 2230 the Russians attacked Novoivanovka from the southwest. The attack was halted on the western edge of the town.

Russian Forces

The 24th Training Brigade (51st, 54th, 62d, and 372d Training Regiments) took up defense positions at the Prokhladnyy troop training camp. About 1100 men were sent to build fortifications near Gudermes.

In the afternoon many waves of Russian planes attacked the bridge site in the 23d Panzer Division sector. German fighter planes were not in the air. The 61st NKVD Regiment from Tiflis was assigned to defend the railroad line in the sector. The 119th NKVD Regiment was being used as a blocking unit.

A prisoner reported that the road between Novoivanovka and Nal'chik was mined.

21 August

Corps Situation

The 2d Company of the Bergmann Battalion, which was attached to the Corps with the mission of seizing the Georgian and Ossetinian Military Highways, arrived in the Corps area and was attached to the 2d Rumanian Mountain Division.

The III Panzer Corps reported that an advance force of the 13th Panzer Division would reach the area northeast of the 3d Panzer Division on the 22d.

3d Panzer Division. Reconnaissance patrols by 1200 reached the area south of Solomenskoye (north of Kurskaya) and around Durtuyev (south of Kurskaya). At dawn Russian planes, probably from bases in the Mozdok area, struck the troops in the Kurskaya area. Further advance of the division awaited the arrival of fuel, which was being delayed by bad roads.

At 1630 the Corps commander decided that the division should turn south and on 23 August attack toward Mozdok.

Railroad Station Shardonovo was taken at 1100.

By 1800 over 100 Russian planes had attacked the division area.

23d Panzer Division. The Russians west of Novoivanovka continued to be active, tying up a strong German force. An armored train which came from the southwest was forced to withdraw. In the process of enlarging the Urvan bridgehead the railroad which runs between nal'chik and Mayskiy was cut, and two freight trains were captured.

By 1045 the bridge over the Urvan was completed and the reinforced 2d Battalion, 201st Panzer Regiment, launched an advance toward the bridge over the Terek near Mayskiy. This proved to be particularly difficult. By 1600 the Germans were fighting at the distant approaches to Terek. The Russians had destroyed the railroad and highway bridges over the Cherek river, creating additional

obstacles in front of the very important bridges at Terek. A small German force managed to cross the river, but because of the situation around Novoivanovka the troops could not be reinforced. Under cover of darkness the force was withdrawn to the Urvan bridgehead. The bridgehead was subjected to heavy shelling.

The Russians attacked the western outskirts of Novoivanovka again during the day and infiltrated the edge of the town in some places.

Because the success of the advance toward Mozdok depended greatly on tying up strong Russian forces in the area around Mayskiy, the Corps decided that the division should attack toward the east on 22 August, repair the bridges over the Terek, and build a bridgehead on the east bank.

2d Rumanian Mountain Division. The advance force of the division started to relieve the reinforced 2d Battalion of the 394th Panzer Grenadier Regiment near Baksan. The rest of the division was in the Malka-Baksan area. Although there was some artillery fire in the area, the Russians on the south bank of the river continued to be inactive. At 1400 the 2d Battalion, 99th Mountain Rifle Regiment, which was temporarily attached, arrived at Pyatigorsk and was immediately sent to Malka.

Russian Forces

Near Novoivanovka were: 851st Rifle Regiment (278th Rifle Division), 646th Rifle Regiment (152d Rifle Division), 626th, 581st, 683d Rifle Regiments, 151st Rifle Division. These units came from Erivan, where they belonged to the Forty-fifth Army. They were currently attached to the Forty-fourth. Only forward elements were near Novoivanovka. The remainder were along the Terek, between Prokhladnyy and Murtasovo.

The 3d Panzer Division reported that the 8th Guard Rifle Division was near Mozdok, most of it on the southern bank, some elements on the north bank of the river. There were 20 tanks in Mozdok. Civilians had been removed from the city, and it was prepared for defense.

The 2d Battalion, 3d Panzer Grenadier Regiment, deployed as a covering detachment northwest of Prokhladnyy, was assigned to Corps reserve. The battalion reported increased enemy reconnaissance activity and brisk artillery harassing fire.

23d Panzer Division. At 1300 the reinforced 23d Motorcycle Rifle Battalion captured a crossing of the Cherek River north of the railroad line, but this success could not be immediately exploited. Strong enemy forces supported by artillery had launched an attack

on the Urvan bridge site at 1300, and all available elements of the division were needed to defend the place. Despite the heavy fight in which the 23d Motorcycle Rifle Battalion was engaged, no reinforcements could be sent to it. The battalion's position grew worse as darkness fell. At 1800 the bridgehead was attacked by Russian troops supported by several batteries of artillery. After a long battle the bridgehead was finally abandoned. Evacuation of the wounded was extremely difficult because 70% of the stream crossing equipment had been lost.

At 1915 the Corps ordered the division to halt its advance toward the south and concentrate all its forces on seizing the crossings of the Terek.

2d Rumanian Mountain Division. By 0045 the division completed the relief of the 3d Panzer Division units and started to close in for the forthcoming attack on the 23d. The enemy was largely inactive. It was ascertained that Zayukovo and Kysbarun, on the northern bank of the river, were in Russian hands.

The advance task force of the 1st Mountain Division was deployed on the right wing of the 2d Rumanian Mountain Division, ready to advance along the highway Baksan-Elbrus, exploiting the crossing of the river by the Rumanians. In this way the task force would assist the rest of the 1st Mountain Division, which was engaged in heavy combat for the Elbrus region.

To reinforce the weak Rumanian artillery, and to facilitate the crossing of the difficult Baksan sector, the Corps requested that for a short time the Army attach a battery of the 52d Mortar Regiment, which was still in Pyatigorsk. Because of one fuel shortage, however, the battery could not be used to support the attack in the morning of 23 August.

Russian Forces

South of Prokhladnyy and south of the river the 151st Rifle Division was defending a 40 kilometer wide sector. One antiaircraft battery and two howitzer batteries were near the bridge at Prokhladnyy.

The 8th Guard Rifle Division and elements of another division were near Mozdok.

Ruskiy was occupied by Russian infantry with antitank guns. Two infantry companies were along the Lenin Canal.

Three German planes were shot down at 1445.

Southwest of Novoivanovka the 884th Rifle Regiment (295th Rifle Division) was identified.

A Russian landing field was discovered east of Prokhladnyy and north of Yekaterinovskaya.

The Russians, taking advantage of the terrain and the pause in the German advance resulting from the shortage of fuel, stopped the retreat on the Terek. They brought up new units -- two or three divisions, including artillery, tanks, and rocket launchers -- and were fiercely defending the line Nal'chik-Prokhladnyy-Mozdok.

The Russians counterattacked the bridgehead near Zhelyansu (east of Kishpek).

23 August

Corps Situation

Except for the 23d Panzer Division sector, where Russian planes attacked repeatedly, and Russian artillery shelled the Urvan bridgehead, the Corps area was quiet during the night.

The 8th Technical Battalion (motorized) was to be attached to the Corps. The 795th Turkomanian Battalion would be attached to the 1st Battalion, 99th Mountain Rifle Regiment. The 4th Parachute Company of the Brandenburg Training Regiment (800th) was scheduled to arrive at Mineralnyye Vody on the 24th or 25th for Corps use.

The LII Corps was ordered to turn and advance to the Terek river 100 kilometers east of Mozdok.

3d Panzer Division. Covering detachments near Soldatskaya and Lagernyy again reported brisk enemy reconnaissance activities originating from Prokhladnyy, as well as light artillery and mortar fire.

Shipment of fuel was delayed by bad roads.

Although hampered by waves of bombers, which struck the assembly areas and inflicted many casualties, the eastern task force was ready to attack by 1000. It achieved surprise and seized the bridge over the Lenin Canal near Grafskiy as well as the town itself, scattering the enemy defenders. Advancing to the railroad line near Veselevskoye (near Mozdok), the combat group blew it up. One armored train was shelled and forced to withdraw to the west. The second advance task force by 1400 had forced the Russians out of Russkiy and taken the canal crossing there intact. This group advanced to the railroad line near Railroad Station Novo Georgiyevsk (west of Mozdok). There it destroyed two armored trains.

Despite stiff enemy resistance and minefields the group advanced with the other group to the outskirts of Novo Georgiyevsk and Mozdok. The bridge over the Terek had been blown up by the enemy.

During the day antiaircraft units attached to the division completely exhausted their ammunition, defending the area against Russian bombers and low flying attacks by groups of up to 30 planes.

23d Panzer Division. Despite various Russian counterattacks from the southwest against the Urvan bridgehead, the division's eastern combat group advanced toward the Cherek River. The Russians were found to be occupying the commanding heights on the east bank, and they shelled every approach to the river. Continuation of the advance to the Terek near Mayskiy was halted because of poor prospects. Only weak forces were available to undertake it, because of the necessity of defending the Urvan and Chegem bridgeheads from the west. In addition, the Russians were taking advantage of the natural defenses of the Cherek River and making it a considerable obstacle.

The division was ordered to continue to simulate an advance against the bridges at Mayskiy. After it was refueled the Corps intention was that the 23d, leaving a reinforced panzer grenadier regiment as a covering detachment, should pull up behind the 3d Panzer Division.

2d Rumanian Mountain Division. At 0500 the division launched an attack across the river between Baksan and Baksanenok, using one group. Despite stiff enemy resistance it captured a small bridgehead. The main assault group on the north bank attacked through Kysburun to Zayukovo and had taken both places by 0800. The Russians retreated southward across the Baksan. By the end of the day the bridgehead had been enlarged only a little. The Russians held Kysburun and Kishpek, flanking the crossing site. A Rumanian attack against Kishpek was turned back. The Russians still held the south bank of the river.

Russian Forces

The command post of the Thirty-seventh Army was located in Nal'chik. The command post of the 295th Rifle Division was located in Chernorechenkoye. The command post of the 151st Rifle Division was in a pig breeding station six kilometers northwest of Novo Ostinovskaya.

The 295th Rifle Division and the blocking battalion of the 11th NKVD Division (motorized) assigned to the defense of the Baksan River between Kysburun and Mayskiy were composed of the following units:

884th Rifle Regiment, 295th Rifle Division - 300 men
with heavy machine guns

683d Rifle Regiment, 151st Rifle Division - full strength

Cavalry school from Novo Cherkessk (three battalions of
three companies)

one battalion of the 875th Rifle Regiment, 2d Guard Rifle
Division training battalion of the 153d Rifle Division

4th Artillery Regiment (three battalions of three batteries,
each with two guns)

During the day enemy bombers in groups of 8-10 planes dropped
heavy bombs at Novo Poltavskoye and the bridgehead.

Postscript

On 24 August the 2d Rumanian Mountain Division was driven
back. It subsequently retook the area and built a bridgehead at
Zarukhova.

Prokhladnyy was taken and so was Mozdok, but the enemy
resistance in Mozdok was strong. Even when the Germans succeeded
in wresting the city from its Russian defenders strong Russian
units still held the south bank of the river.

Russian Situation Summary, 25 August 1942*

After losing Pyatigorsk and Mineralnyye Vody, on 9-10 August,
the Russians had taken advantage of the pause in the German advance
resulting from the shortage of fuel and organized their defenses
along the line Gundelen-Baksan-Maiskiy-Prokhladnyy, and east along
the bank of the Terek River. By bringing up new units and reor-
ganizing the battered ones, the Russians succeeded in establishing
strong defenses which exploited the natural defensive value of the
mountain foothills and the broad swift-running rivers. They had
four or five more divisions than the Germans had previously estimated,
providing them with a substantial force strength advantage, and with
air superiority and favorable terrain their situation was extremely
strong.

The defenses on the Terek had as their main objective the
protection of the oil-rich regions of Grosnyy and Baku.

The units which German intelligence now thought to be available
to the Russians were:

* From XL Panzer Corps, Review of the Situation of the Enemy,
25 August 1942.

In the Gundelen-Baksan-Maiskiy-Prokhladnyy sector:

Thirty-seventh Army (command post in Nal'chik)

2d Guards Rifle Division
295th Rifle Division
151st Rifle Division
parts of the 11th NKVD Division

In the Mozdok bridgehead and to the east:

Ninth Army (Ordzhonikidze command post)
4th Parachute Brigade (later changed to 8th)
10th Rifle Brigade (motorized)
elements of a rifle division from Iran
Artillery School from Voronzevo

In the Makash-Kala-Baku area:

Forty-fourth Army
three rifle divisions and two rifle brigades.

Facing the XL Corps on or about 23-25 August were the following forces:

Nal'chik - Novoivanovka:

Units of the Thirty-seventh Army which retreated from the Don, assembled for reorganization:

2d Guard Rifle Division

Identified on 3 August near Novyy Ye'gorlyk, on 18 August near Novoivanovka, on 23 August near Zayukovo

74th Rifle Division

First identified near Rubashkin on 31 July. On 2 August confirmed southeast of Salsk. 78th Rifle Regiment on 16 August was near Baksanenok; the 109th was west of Novoivanovka on 24 August, having been replenished in Nal'chik on 15 August.

102d Rifle Division

Composed of 16-18 year-olds from Proletarskaya. On 16 August identified near Mineralnyye Vody. 410th Rifle Regiment fought near Baksanenok on 16 August. Mortar Battalion was west of Novoivanovka on 24 August.

295th Rifle Division

First identified on 2 August near Sandata. Confirmed on 8 August near Ipatovo. 885th Rifle Regiment west of Ivanovskoye on 22 August and 884th on the 23d. 884th Rifle Regiment still had 300 men and many machine guns.

4th Guard Artillery Regiment

South of Novoivanovka on 23 August. Regiment had three battalions of three batteries each, two 152mm guns per battery.

Cavalry School from Novo Cherkassk

3 battalions of three companies each. Took part in the defense of Pyatigorsk.

11th NKVD Division

Deployed as blocking troops near Pyatigorsk and in the Mikoyan-Shaha area. Some units supposedly in Prokhladnyy.

30th NKVD Battalion

Identified on 20 August near Novoivanovka. Two companies, 360 men without heavy weapons.

151st Rifle Division

Identified on 21 August near Novoivanovka. Most of the division was west of the Terek, some on the east bank. Its defense was a little south of Pavlodolyskaya.

8th Rifle Brigade

Formerly the 4th Parachute Brigade. Identified on 25 August near Mozdok.

10th Rifle Brigade

Identified on 24 August east of Mozdok.

German Order of Battle
July 1942

XL Panzer Corps

3d Panzer Division

3d Panzer Grenadier Regiment
394th Panzer Grenadier Regiment
6th Panzer Regiment
3d Motorcycle Battalion
75th Armored Artillery Regiment
670th Antitank Battalion

23d Panzer Division

126th Panzer Grenadier Regiment
128th Panzer Grenadier Regiment
201st Panzer Regiment
23d Motorcycle Battalion
128th Armored Artillery Regiment

2d Rumanian Mountain Division (mid-August)

4th Mountain Regiment
5th Mountain Regiment
7th Mountain Regiment

Russian Order of Battle
1-2 August 1942

Thirty-seventh Army

102d Rifle Division	(First identified 28 July near Budennovskaya)
467th Rifle Regiment	
230th Rifle Division	(Identified 1 August near Sandata)
986th Rifle Regiment	
988th Rifle Regiment	
156th Rifle Division	(First identified 26 July near Zadono-Kagal'nitsiy. All regts. and engr. bn. near Novyy Ye'gorlyk on 2 Aug.)
361st Rifle Regiment	
417th Rifle Regiment	
530th Rifle Regiment	
24th Engineer Battalion	
275th Rifle Division	
980th Rifle Regiment	(Near Dolgiy on 27 July)
982d Rifle Regiment	(Near Komarovskiy 27 July)
984th Rifle Regiment	
807th Artillery Regiment	(Near Budennovskaya on 28 July)
Training Battalion	(Near Sandata on 1 August)

295th Rifle Division
885th Rifle Regiment (Near Rubashkin on 31 July)
883d Rifle Regiment (Both near Sandata on 1 August)
884th Rifle Regiment (Not identified)

110th Cavalry Division
292d Cavalry Regiment (Near Rubashkin on 31 July)
273d Cavalry Regiment
311th Cavalry Regiment

Twelfth Army

4th Rifle Division
39th Rifle Regiment (One regiment first identified near
101st Rifle Regiment Ye'gorlyk on 2 August)
220th Rifle Regiment

74th Rifle Division
78th Rifle Regiment (Rubashkin area on 31 July)
360th Rifle Regiment (Division southeast of Salsk on 1 Aug.
109th Rifle Regiment Near Novyy Ye'gorlyk on 2 August)

261st Rifle Division
974th Rifle Regiment (First identified 2 Aug. near Sandata)

19th Rifle Division
179th Rifle Regiment

Fifty-sixth Army

2d Guard Rifle Division
395th Rifle Regiment (First Identified 2 Aug. near Novyy
535th Rifle Regiment Ye'gorlyk)

347th Rifle Division (Division first identified 2 Aug. near
1175th Rifle Regiment Novyy Ye'gorlyk. Division was in
1177th Rifle Regiment 56th Army reserve and was withdrawn
1179th Rifle Regiment from Novo Cherkessk to Salsk)
907th Artillery Regiment

Fifty-first Army

155 Tank Brigade (Near Martynovskoye on 29 July. About
50 tanks. On 1 Aug. attacked Prole-
tarskaya from the west. Identified
near Novyy Ye'gorlyk on 2 Aug. It
apparently had only four T-70 tanks)

Ninth Army

176th Rifle Division (Identified on 28 July near Mokraya
404th Rifle Regiment Yelmuta. 404th southeast of Salsk
389th Rifle Regiment on 1 Aug.)
591st Rifle Regiment
300th Light Artillery Regiment
184th Antitank Battalion

Army Attachment Unknown

73d Rifle Division
413th Rifle Regiment (On 1 Aug. attacked Proletarskaya from
east in cooperation with 155th Tank
Brigade)

320th Rifle Division
481st Rifle Regiment (Near Salsk on 1 Aug.)

158th Rifle Division
875th Rifle Regiment (Identified on 2 Aug. south of
423d Artillery Regiment Proletarskaya)

41st Brigade (Motorized) (Near Novyy Ye'gorlyk on 2 Aug. About
3,000 men in groups of 500. Ordered
to retreat toward Volga-Stalingrad)

24th NKVD Regiment (South of the Manych on 1 Aug. Possibly
same as 26th NKVD Regiment first iden-
tified near Novyy Ye'gorlyk on 1 Aug.)

142d Tank Destroyer Battalion (First identified on 1 Aug south of
the Manych)

302d Rifle Division
825th Rifle Regiment (Near Nesmeyanovka 27 July)
827th Rifle Regiment
823d Rifle Regiment

11th NKVD Division
275th NKVD Regiment (Near Martynovka on 28 July)
276th NKVD Regiment
278th NKVD Regiment
15th Cavalry Regiment

115th Cavalry Division
297th Cavalry Regiment (Moskovskiy area 28 July)
278th Cavalry Regiment
316th Cavalry Regiment
104th Artillery Battalion

135th Tank Brigade (Near Martynovka 30 July)

Russian Units Facing the XL Corps, Nal'chik-Novoiivanovka
25 August 1942

Thirty-seventh Army

2d Guard Rifle Division
395th Rifle Regiment
535th Rifle Regiment
Attached: 875th Rifle Regiment of the 158th Rifle Division

74th Rifle Division
78th Rifle Regiment
109th Rifle Regiment
360th Rifle Regiment
6th Artillery Regiment
Attached: 110th Combat Engineer Battalion

102d Rifle Division
410th Rifle Regiment
467th Rifle Regiment
519th Rifle Regiment

295th Rifle Division
883d Rifle Regiment
884th Rifle Regiment
885th Rifle Regiment

4th Guard Artillery Regiment

Novo Cherkessk Cavalry School
three battalions

11th NKVD Division
274th NKVD Regiment
278th NKVD Regiment
279th NKVD Regiment
Attached: 30th NKVD Battalion

151st Rifle Division
581st Rifle Regiment
626th Rifle Regiment
683d Rifle Regiment

8th Rifle Brigade

10th Rifle Brigade

WEATHER, 21 JULY-23 AUGUST 1943

Date	Weather
July 21	Hot, dry, sunny
22	Sunny, very hot
23	Hot, strong westerly winds
24	Hot, sultry
25	Sultry, in the afternoon thunderstorm
26	Warm, windy
27	Pleasant weather, light wind
28	Nice weather, very hot
29	Nice weather, easterly wind
30	Rain at night, during the day a little cooler
31	Warm, windy
August 1	Pleasant weather, windy
2	Sunny, hot
3	Sunny, warm
4	Pleasant weather, warm
5	Fine, sunny weather, windy
6	Clear, strong easterly winds (steppe <u>prairie</u> winds with a lot of dust)
7	Hot, dry, strong easterly winds
8	Pleasant weather, windy
9	Nice, dry, partly cloudy
10	Cloudy, dry, light wind
11	Pleasant, very warm, light wind
12	Warm, dry, strong winds
13	Warm, light winds
14	Very nice, warm, dry
15	Very nice, but very hot
16	Nice weather, tropical heat
17	Cloudy, sultry
18	Overcast, warm
19	Overcast and sultry in forenoon; thunderstorm with torrential rain in afternoon
20	Sultry, intermittently cloudy
21	Overcast, intermittent rain
22	Cloudy, intermittent rain in afternoon
23	Overcast, sultry

GERMAN XL PANZER CORPS OPERATIONAL SUMMARY
21 July-23 August 1942

Date	Engagement Designation	Mission Factor	Remarks	Defenders Posture	Distance Advanced			
					Intense Oppositn	Moderate Oppositn	Slight Oppositn	Negligible Oppositn
Jul 21	Nikolayevskaya-Don River	7	23 Pz Div establishes bridgehead at Nikolayevskaya; 3d Pz Div begins to cross into bridgehead	HD	..	2.0	..	..
22	Nikolayevskaya-Konstantinovskaya	7	3d Pz Div establishes bridgehead at Konstantinovskaya; continues crossing at Nikolayevskaya	HD	..	..	8.0	..
23	Sai River-Orlovka	8	3d Pz Div crosses Sai R to establish bridgehead at Orlovka; 23d Div relieves 3d Div elements at Konstantinovskaya	HD	..	..	14.0	..
24	Morozov	8	Russian counterattack in Sai bridgehead repulsed	A-HD	..	..	..	P
25	..	..	Bridgehead consolidation; both divs prepare to attack	HD	..	..	..	P
25	..	..	3d Div expands bridgehead; 23d adv to Voskhod	HD	..	..	7.0	..
27	Dolgyi-Pady	8	3d Div adv S of Sai R; 23d captures Pady & approaches Sai at Martynovka	Del	..	14.0	..	..
28	Advance toward Manych River	8	3d Div reaches Budennovskaya; 23d, against more resistance reaches Moskovskiy	Del	..	..	20.0	..
29	Advance toward Manych River	7	3d Div captures Proletarskaya; 23d held up by Soviet resistance at Martynovka	Del	..	5.0	10.0	..
30	Advance toward Manych River	..	3d reaches Manych; 23d approaches Beketny	Del	..	..	20.0	..
31	Manych River	8	3d crosses to Manych R S, 23d approaches Manych S of Donskoy	Del	..	..	8.0	..
Aug. 1	Advance to Kulan R	..	3d adv through Salsk to Sandata; 23d crosses Manych to Novyy Ye'gorlik	W/d	..	..	5.0	40.0
2	Advance to Kulan R	..	Pursuit on parallel roads	W/d	..	..	..	65.0
3	Advance to Kuban R	9	Pursuit on parallel roads. 3d captures Voroshilovsk	W/d	..	..	..	55.0
4	Advance to Kuban R	..	Rest & consolidation	..	..	..	..	P
5	Advance to Kuban R	9	3d Div reaches Kuban at Nevinomyssk, 23d patrols to E	..	..	..	..	30.0
6	..	..	Consolidation & patrolling	Del	..	6.0	..	..
7	..	8	Consolidation; 23d reconnoiters Ipatovo, establishes Kalas R bridgehead at Sergeyevka	W/d	..	..	..	P=30
8	Advance to Kama R	9	Pursuit toward Mineralnyye Vody on converging roads	W/d	..	..	..	95.0
9	Pyatigorsk-Mineralnyye Vody	9	3d attacks Pyatigorsk, 23d attacks Mineralnyye Vody	Del	..	6.0	..	20.0
10	Pyatigorsk-Mineralnyye Vody	8	Consolidation against stiff resistance	HD	3.0	..	..	..
11	Pyatigorsk-Mineralnyye Vody	..	Mopping up & pursuit	W/d	..	10.0	..	..
12	Pyatigorsk-Mineralnyye Vody	..	Mopping, prep to continue into Caucasus	W/d	..	..	6.0	..
13	Adv into Caucasus Mts	6	Pursuit against intensifying resistance	Del	..	..	22.0	..
14	Adv into Caucasus Mts	6	3d Div held up at Malka; 23d adv to Baksanenck	Del	..	..	20.0	..
15	Adv into Caucasus Mts	6	Lack of fuel, terrain, & enemy air & ground resistance slow adv; 23d reaches Zaksan R	Del	..	5.0	..	..
16	Baksan-Chegem Rivers	5	3d reaches Baksan R at Baksan, 23d moves E seeking crossing site	Del	..	..	25.0	..
17	Baksan-Chegem Rivers	6	23d adv elements cross Chegem near Nova Poltavskoye	Del	..	..	3.0	..
18	Baksan-Chegem Rivers	5	3d held up by river; 23d expands bridgehead	HD	2.0	..	..	..
19	Terek River	6	3d still held up; task force prepares drive toward Mozdok; 23d established bridgehead over Urvan I.	HD	1.0	..	..	..
20	Terek River	7	3d task force makes good progress; 23d Urvan bridgehead expanded slightly	HD	1.0	..	..	35.0
21	..	6	3d task force stopped by lack of fuel; 23d expands Urvan bridgehead to Cherek R	HD	3.0	..	..	..
22	..	6	3d still held up by fuel shortage; 23d establishes bridgehead over Cherek, then driven back	HD	0	..	..	..
23	..	7	3d task force reaches outskirts of Mozdok & Terek R; 23d unable to adv; 2d Rumanian Div establishes Baksan R bridgehead	HD-Del	..	3.0	..	30.0
Total Distance Advanced:					10.0	61.0	168.0	410.0
Average Advance per Day:					1.8(5.5 days)	7.8(6.5 days)	14.0(12 days)	58.6(7 days)
Days Not Advancing:					..	..	..	..
					3 (8.8%)	..	..	..

GERMAN 3D PANZER DIVISION OPERATIONAL SUMMARY
21 July-23 August 1942

Date	Engagement Designation	Mission Factor	Remarks	Defenders Posture	Distance Advanced			
					Intense Opposition	Moderate Opposition	Slight Opposition	Negligible Opposition
Jul 21	.	.	Bulk of Div moves from Konstantinovskaya to Nikolayevskaya, to cross into 23d Div Bridgehead over Don R	.	.	.	.	23.0
22	Nikolayevskaya-Konstantinovskaya	6	Main body continues crossing at Nikolayevskaya; elements establish bridgehead at Konstantinovskaya	HD	.	2.0	8.0	.
23	Sal River-Orlovka	8	Div establishes bridgehead over Sal R. at Orlovka; 23d Don crossing continues	HD	.	.	28.0	.
24	Morozov	8	Russian counterattack between Sal & Don repulsed; Don crossing continues	A-HD	.	5.0	.	.
25	.	.	Bridgehead consolidation	HD	.	.	.	P
26	.	.	Bridgehead expanded, attack preparation	HD	.	.	.	P
27	Dolgyi	8	Russian counterattack repulsed, pursuit to Dolgyi-Krepyarka	A-HD	.	2.0	10.0	.
28	.	.	Adv to Budennovskaya	Del	.	.	.	40.0
29	Proletarskaya	8	Adv continues; Proletarskaya captured	Del	.	5.0	.	25.0
30	Manych River	.	Manych R reached, patrols to S bank	Del	.	.	10.0	.
31	Manych River	8	Assault crossing at Manych R	HD	.	4.0	.	.
Aug 1	Adv to Kuban River	.	Pursuit to Sandata	W/d	.	5.0	.	40.0
2	Adv to Kuban River	.	Pursuit to Bezopasnoye	W/d	.	.	.	90.0
3	Adv to Kuban River	.	Pursuit to Voroshilovsk	W/d	.	.	.	70.0
4	Adv to Kuban River	.	Rest, consolidation & reconnaissance	W/d	.	.	.	P
5	Kuban R-Nevinnomyssk	9	Pursuit to Nevinnomyssk	W/d	.	.	.	60.0
6	.	.	Consolidation & patrolling	W/d	.	.	12.0	.
7	.	.	Consolidation & reconnaissance	W/d	.	.	.	P
8	Adv to Kuma River	9	Pursuit toward Mineralnyye Vody-Pyatigorsk	W/d	.	.	.	110.0
9	Pyatigorsk	9	Capture of Pyatigorsk	Del	.	6.0	.	30.0
10	Pyatigorsk	8	Consolidation against stiff resistance	HD	4.0	.	.	.
11	Pyatigorsk	.	Mopping up & pursuit	W/d	.	6.0	.	.
12	.	.	Mopping up & reconnaissance	W/d	.	.	6.0	.
13	Malka	5	Pursuit held up by intense resistance on Malka R.	Del-HD	1.0	.	13.0	.
14	Malka	.	Lead units wait for remainder of Div to catch up	HD	.	.	.	.
15	Malka	6	Malka occupied, bridge construction begun	W/d	.	.	6	.
16	Baksan	5	Adv held up by resistance at Baksan P	Del	.	2.0	.	20.0
17	.	.	Pause and reconnaissance	Del	.	.	.	P
18	.	.	Pause & recon due to fuel shortage	Del	.	.	.	P
19	.	.	Main body probes unsuccessfully at Baksan; 2 task forces prepare to adv SE toward Mozdok	.	.	.	.	P
20	.	8	Baksan area quiet; task force reaches Kurskaya, short of fuel	W/d	.	.	.	70.0
21	.	.	Held up by lack of fuel	.	.	.	.	F
22	.	.	Held up by lack of fuel	.	.	.	.	P
23	Mozdok-Terek River	8	Task force reaches outskirts of Mozdok	W/d	.	5.0	.	55.0
Total Distance Advanced:					5.0	42.0	91.0	633.0
Average Advance per Day:					3.3(1.5 days)	6.5(6.5 days)	14.3(6.5 days)	66.6(9.5 days)
Days Not Advancing:								

Analysis of Advance Rate of the XL Panzer Corps

The matrix analysis sheet presents in tabular form on a daily basis the data assembled for this study from World War II records which appear to have a relation to the rate of advance of the XL Panzer Corps during the period 21 July-23 August 1942. No research has been done in Russian sources, and consequently it is not possible to include much information about the Russian strength and performance. Information on close air support on both sides appears to be incomplete. Additional search of German records might add to this, particularly for the Germans.

Other comments on this matrix are:

1. Rates of advance were lowest during the periods of river crossings and movements in mountainous terrain.
2. For much of this period German casualty data is available only for periods of five to ten days. The daily casualty figures used in the table, except where specific figures are available from other sources, are averages for these periods. This makes it somewhat more difficult to relate rate of advance and casualty rate; nevertheless it is possible to discern that low casualty rates seem to correspond to high advance rates.
3. Since Russian statistics were not available the force ratio has been estimated, with no attempt to do so on a daily basis. Although no firm conclusions can therefore be drawn from the comparison, the fluctuating rates of advance seem to be more directly related to the intensity of opposition and to natural obstacles than to the comparative size and strength of opposing forces.

Additional Comments on Analysis of Advance Rate of 3d Panzer Division

1. Since during most of the advance the active elements of the corps were two armored divisions, there is no significant difference in corps rates and division rates, save those caused by averaging of the rates of two different units.

KEY TO ABBREVIATIONS AND VALUES ANALYSIS MATRICES

General

Pause . . . P Yes Y
 Unknown . . U Not Applicable . NA

Roadnet Mobility Factors

		<u>Normal Values</u>
Unlimited cross-country movement	1.0	. . .
Good road net	0.7-0.9	. . . 0.8
Fair road net	0.4-0.6	. . . 0.5
Poor road net	0.1-0.3	. . . 0.2
Impassable terrain	0.0	

Mission Variables

Unlimited	1
Related to specific objectives or contingencies	2
Related to adjacent units advance	3
Limited by higher authority control	4
Other	5

Exceptional Obstacles to Advance

R = River Fl = Flooded area FZ = Fortified Zone
 Dn = Exceptionally effective demolitions Ur = Urban area
 Sa = Sabotage by local populace Ds = Desert

Intensity of Opposition to Advance

I = Intense M = Moderate S = Slight N = Negligible

Situation on Flanks

L = Left flank units C = Comparable advance F = Faster advance
 R = Right flank units S = Slower advance T = Flank threatened

Readiness Condition

Fr = Fresh W = Weary
 T = Tired E = Exhausted

Posture - Mission

W/d = Withdrawal HD = Hasty Defense FD = Fortified Defense
 Del = Delay PD = Position Defense

Number of Days	Dates																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	July 21	22	23	24	25	26	27	28	29	30	31	Aug 1	2	3	4	5	6
General Factors																	
Weather (armor mobility)	1.0	1.0	0.9	1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Season (air mobility)	1.0	(no change)															
Terrain (mobility)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0
Roadnet (mobility)	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Exceptional Obstacles	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Comparative Factors-Force Ratio (raw)	0.5	(estimate; no change)															
Force Ratio (variables considered)	1.1	(estimate)		1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Relative Combat Effectiveness	2.0	(estimate; no change)															
Relative Mobility Characteristics	1.4	(estimate; no change)															
Intensity of Combat: Attacker	U	(no change)															
Defender	U	(no change)															
Intensity of Opposition to Advance	M	M-S	S	P	P	S	M	S	M-S	S	S	S-N	N	N	P	N	M
Daily Distance	40																
Distance Advanced	30																
in Kms.	20																
10																	
0																	
Daily Rate (F = Pause)	2	8	14	P	P	7	14	20	15	20	8	45	65	65	P	30	6
Cumulative Distance Advanced	2	10	24	24	31	38	52	72	87	107	100	153	218	283	283	313	319
Cumulative Daily Rate	2.0	5.0	6.0	6.0	4.6	5.2	6.4	9.1	8.9	10.0	9.8	12.8	16.8	20.2	18.9	19.6	18.8
Comparative Rate:																	
Intense Opp.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Moderate Opp.	2.0	..	..	..	..	..	8.0	..	..	..	..	..	..	..	..	..	7.7
Slight Opp.	..	8.0	11.0	..	..	9.7	..	12.3	13.1	14.4	13.4	13.1	..	..	..	..	..
Negligible Opp.	..	..	..	..	..	..	..	..	..	..	..	80.0	79.0	68.0	..	57.1	..
Defending Forces: Readiness Condition	U	(no change)		A-HD	HD	HD	Del	Del	Del	Del	Del	W/d	w/d	W/d	P	w/d	Del
Posture-Mission	HD	HD	HD	A-HD	HD	HD	Del	Del	Del	Del	Del	W/d	w/d	W/d	P	w/d	Del
Casualties	U	(no change)															
Air Support Present	U	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Logistics-General	U	(no change)															
Logistics-Specific	U	(no change)															
Days Without Pause	1	2	3	F	P	1	2	3	4	5	6	7	8	9	P	1	2
Casualties Since Pause	U	(no change)															
Advancing Forces: Readiness Condition	Fr	Fr	Fr	P	P	F	F	F	T	T	T	T	T	T	F	T	T
Mission	2	2	2	..	..	2	2	2	2	2	2	2	1	1	1	1	1
Casualties	110	110	110	25	25	110	110	110	110	110	110	56	53	56	56	56	56
Comparative Rate:																	
Intense Opp.	0.3	0.3	0.3	0.1	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2
Moderate Opp.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Slight Opp.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Negligible Opp.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Defending Forces: Readiness Condition	U	(no change)		A-HD	HD	HD	Del	Del	Del	Del	Del	W/d	w/d	W/d	P	w/d	Del
Posture-Mission	HD	HD	HD	A-HD	HD	HD	Del	Del	Del	Del	Del	W/d	w/d	W/d	P	w/d	Del
Casualties	U	(no change)															
Air Support Present	U	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Logistics-General	U	(no change)															
Logistics-Specific	U	(no change)															
Days Without Pause	1	2	3	F	P	1	2	3	4	5	6	7	8	9	P	1	2
Casualties Since Pause	U	(no change)															
Advancing Forces: Readiness Condition	Fr	Fr	Fr	P	P	F	F	F	T	T	T	T	T	T	F	T	T
Mission	2	2	2	..	..	2	2	2	2	2	2	2	1	1	1	1	1
Casualties	60	60	60	10	10	60	60	60	60	60	60	60	10	7	4	10	10
Comparative Rate:																	
Intense Opp.	0.4	0.4	0.4	0.4	0.1	0.1	0.4	0.4	0.4	0.4	0.4	0.1	..	0.1	..	0.1	0.1
Moderate Opp.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Slight Opp.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Negligible Opp.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Defending Forces: Readiness Condition	U	(no change)		A-HD	HD	HD	Del	Del	Del	Del	Del	W/d	w/d	W/d	P	w/d	Del
Posture-Mission	HD	HD	HD	A-HD	HD	HD	Del	Del	Del	Del	Del	W/d	w/d	W/d	P	w/d	Del
Casualties	U	(no change)															
Air Support Present	U	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Logistics-General	U	(no change)															
Logistics-Specific	U	(no change)															
Days Without Pause	1	2	3	F	P	1	2	3	4	5	6	7	8	9	P	1	2
Casualties Since Pause	U	(no change)															
Advancing Forces: Readiness Condition	Fr	Fr	Fr	P	P	F	F	F	T	T	T	T	T	T	F	T	T
Mission	2	2	2	..	..	2	2	2	2	2	2	2	1	1	1	1	1
Casualties	60	60	60	10	10	60	60	60	60	60	60	60	10	7	4	10	10
Comparative Rate:																	
Intense Opp.	0.4	0.4	0.4	0.4	0.1	0.1	0.4	0.4	0.4	0.4	0.4	0.1	..	0.1	..	0.1	0.1
Moderate Opp.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Slight Opp.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Negligible Opp.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Defending Forces: Readiness Condition	U	(no change)		A-HD	HD	HD	Del	Del	Del	Del	Del	W/d	w/d	W/d	P	w/d	Del
Posture-Mission	HD	HD	HD	A-HD	HD	HD	Del	Del	Del	Del	Del	W/d	w/d	W/d	P	w/d	Del
Casualties	U	(no change)															
Air Support Present	U	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Logistics-General	U	(no change)															
Logistics-Specific	U	(no change)															
Days Without Pause	1	2	3	F	P	1	2	3	4	5	6	7	8	9	P	1	2
Casualties Since Pause	U	(no change)															
Advancing Forces: Readiness Condition	Fr	Fr	Fr	P	P	F	F	F	T	T	T	T	T	T	F	T	T
Mission	2	2	2	..	..	2	2	2	2	2	2	2	1	1	1	1	1
Casualties	60	60	60	10	10	60	60	60	60	60	60	60	10	7	4	10	10
Comparative Rate:																	
Intense Opp.	0.4	0.4	0.4	0.4	0.1	0.1	0.4	0.4	0.4	0.4	0.4	0.1	..	0.1	..	0.1	0.1
Moderate Opp.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Slight Opp.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Negligible Opp.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Defending Forces: Readiness Condition	U	(no change)		A-HD	HD	HD	Del	Del	Del	Del	Del	W/d	w/d	W/d	P	w/d	Del
Posture-Mission	HD	HD	HD	A-HD	HD	HD	Del	Del	Del	Del	Del	W/d	w/d	W/d	P	w/d	Del
Casualties	U	(no change)															
Air Support Present	U	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Logistics-General	U	(no change)															
Logistics-Specific	U	(no change)															
Days Without Pause	1	2	3	F	P	1	2	3	4	5	6	7	8	9	P	1	2
Casualties Since Pause	U	(no change)															
Advancing Forces: Readiness Condition	Fr	Fr	Fr	P	P	F	F	F	T	T	T	T	T	T	F	T	T
Mission	2	2	2	..	..	2	2	2	2	2	2	2	1	1	1	1	1
Casualties	60	60	60	10	10	60	60	60	60	60	60	60	10	7	4	10	10
Comparative Rate:																	
Intense Opp.	0.4	0.4	0.4	0.4	0.1	0.1	0.4	0.4	0.4	0.4	0.4	0.1	..	0.1	..	0.1	0.1
Moderate Opp.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Slight Opp.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Negligible Opp.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Defending Forces: Readiness Condition	U	(no change)		A-HD	HD	HD	Del	Del	Del	Del	Del	W/d	w/d	W/d	P	w/d	Del
Posture-Mission	HD	HD	HD	A-HD	HD	HD	Del	Del	Del	Del	Del	W/d	w/d	W/d	P	w/d	Del
Casualties	U	(no change)															
Air Support Present	U	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Logistics-General	U	(no change)															
Logistics-Specific	U	(no change)															
Days Without Pause	1	2	3	F	P	1	2	3	4	5	6	7	8	9	P	1	2
Casualties Since Pause	U	(no change)															
Advancing Forces: Readiness Condition	Fr	Fr	Fr	P	P	F	F	F	T	T	T	T	T	T	F	T	T
Mission	2	2	2	..	..	2	2	2	2	2	2	2	1	1	1	1	1
Casualties	60	60	60	10	10	60	60	60	60	60	60	60	10	7	4	10	10
Comparative Rate:																	
Intense Opp.	0.4	0.4	0.4	0.4	0.1	0.1	0.4	0.4	0.4	0.4	0.4	0.1	..	0.1	..	0.1	0.1
Moderate Opp.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Slight Opp.	..	..	..	..	..							

Argentan to Liege, 13 August-12 September 1944
VII Corps

US Situation as of 13 August

By 12 August, the German counterattack against the right wing of the First US Army at Mortain had been stopped. VII Corps, First Army, commanded by Major General J. Lawton Collins, was prepared to make a ninety degree turn toward the northeast, to continue the original movement, and to strike at the German flank and rear. This movement was to be a left wheel toward the inter-army boundary between the 12th and 21st Army Groups, and was designed, in conjunction with converging drives by British and Canadian units from the north, and the XIX Corps, Third US Army, from the south and southeast (on the right flank of VII Corps), and V Corps, First Army, from the west (left flank of VII Corps), to trap and destroy German units in the Flers-Falaise-Argentan area. Four divisions were currently assigned to VII Corps: the 3d Armored Division, under Major General Maurice Rose, was in the vicinity of Mayenne, assembling for the new mission; the 1st Infantry Division, commanded by Major General Clarence Huebner, was consolidating and vigorously patrolling the area just east of the Mayenne River; the 9th Infantry Division, under Major General Manton S. Eddy, and the 4th Infantry Division, commanded by Major General Raymond O. Barton, were northwest of Mayenne, assembling and organizing for the new operation.

German Situation as of 13 August

The converging Allied drives, especially the breakthrough of the Third US Army across the Belleme-Fresne line, threatened the encirclement of the Fifth Panzer and Seventh Armies of Army Group B. On 11 August Field Marshal Gunther von Kluge, Commander in Chief of the Western Front, made the decision to begin an orderly withdrawal to the east. The first step was to be to use all available mobile units to clear and secure the threatened south flank.

Hitler, however, refused to give up the idea of a counterattack to the Atlantic at Avranches, in order to cut the lines of communications of First and Third Armies south of Avranches. Although he approved Kluge's plan to clear the south flank, he insisted that the Eberbach Group (a hastily-created composite panzer army) be kept concentrated as far west as possible so that when the south flank was cleared, the counterattack toward Avranches could be renewed. After the withdrawal of panzer units from the front to form the Eberbach

Group, and under pressure from further Allied penetrations, the Seventh Army front contracted during the nights of 11/12 and 12/13 August to Coquard-St. Sauveur de Chaulieu-Placitre-ridge south of Lonlay l'Abbaye-Domfront.

13 August

VII Corps Situation

VII Corps attacked on the morning of the 13th with the 3d Armored Division on the right, the 1st Infantry Division on the left, and the 9th and 4th Infantry Divisions in reserve. The attacking US units moved forward quickly against light German delaying forces. The lead elements of the 3d Armored Division advanced over twenty miles to Ranès.

3d Armored Division. The division struck at 0630, with twin columns of Combat Command A spearheading the attack. Task Force X attacked on the main axis of advance (Mayenne-Pre en Pail-Carrouges-Ranès-Fromental), while Task Force Y moved out on a more northerly route through Couptrain. Both task forces were covered by aircraft of the XIX Tactical Air Command.

Task Force X encountered only light resistance from units of the German 703th Infantry Division during most of the day. Shortly after noon, about 1,000 yards north of Ciral, the lead tanks of the task force ran into elements of the French 2d Armored Division, which was attacking Carrouges. Task Force X continued its advance on Ranès, against stiffening resistance. The advance halted just after midnight, with forward units just 500 yards southeast of the town.

On parallel roads, Task Force Y bypassed resistance near Belleville and Couptrain, and moved north to secure and clean out the Forêt de Monaye and seize the plateau south of Joue du Bois.

In the late afternoon, Combat Command B advanced in two task forces toward Joue du Bois. Task Force 1 followed Task Force Y to Couptrain, where it engaged a bypassed German pocket of resistance. Task Force 2 advanced on a more southerly route to the vicinity of St. Cyr en Pail.

The 60th Infantry Regiment (-3d Battalion), 9th Infantry Division, was attached to the division before nightfall, to protect the southern approaches to Pre en Pail.

1st Infantry Division. With the 18th and 26th Infantry Regiments abreast, the division attacked northeast and made good progress against small German delaying detachments.

On the left, the 18th Regimental Combat Team reached the Domfront-Alencon Road near La Chapelle Moche. On the right the 26th Infantry Regiment made excellent progress against little opposition, driving elements of the 728th Infantry Regiment, 708th Infantry Division out of Couterne and reaching the vicinity of Mehoudin.

4th and 9th Infantry Divisions. Both divisions were inactive.

German Situation

The US VII Corps advance hit the boundary between the German Seventh Army and the Eberbach Group, along the line La Ferte Mace-Lassay. The left wing of the Seventh Army was held by the LVIII Panzer Corps with units of the relatively immobile 708th Infantry Division and the Reconnaissance Battalion of the 9th Panzer Division in front of the VII Corps, along the Domfront-Alencon Road. During the day the LVIII Panzer Corps lost contact with the 708th Infantry Division, whose elements were scattered in the attempt to delay the US 1st Infantry and 3d Armored Divisions. The protection of the southeastern flank of the German Seventh Army rested almost completely on the 9th Panzer Reconnaissance Battalion, in the widening gap in the La Ferte Mace area between the LVIII Panzer Corps and the Eberbach Group.

The I SS Panzer Division was on the extreme right wing of the Eberbach Group. Delayed by fuel shortages and an inexperienced commander, the division was moving into the Ranès area, where it came under the control of the XLVII Panzer Corps. The division began an attempt to establish contact with the left wing of the Seventh Army and to form a front against the penetrations of the US 3d Armored Division.

14 August

VII Corps Situation

3d Armored Division. Throughout the day Task Force X of Combat Command A held its Ranès position despite intense pressure from

elements of the I SS Panzer Division. German shelling was heavy during the afternoon, and communications to the rear were cut during the day. Task Force Y, attempting to reestablish communications with Task Force X, fought determined German resistance in moving to a point midway between Ranès and Joue du Bois. The 3d Battalion, 33d Armored Regiment, also moving to the assistance of Task Force X, smashed a German roadblock northwest of Carrouges and reached Ranès in the early evening.

Elsewhere the Division Reserve overwhelmed the bypassed Germans at Joue du Bois. Combat Command B reached La Motte Fouquet by late afternoon against moderate but scattered German resistance. By evening the 60th Infantry Regiment (-3d Battalion) began relieving both Combat Command B and the Division Reserve.

1st Infantry Division. Organized resistance to the division's advance was limited to a resolute delaying action by the 9th Panzer Reconnaissance Battalion, which fought the 1st Battalion, 18th Infantry, all day, first in La Chapelle Moche and then in Juvigny. Elsewhere along the division front, movement was contested generally by stragglers and remnants of other units that were moving across the division axis of advance as they fled eastward out of the contracting pocket. The 16th Infantry occupied La Sauvagère and approached La Ferte Mace, which was taken during the day by the 26th Infantry.

9th Infantry Division. The 9th Infantry Division, less the 60th Infantry, advanced north in the center of the corps zone to support the 3d Armored Division's advance. At 1600 the 39th Infantry motored from its assembly area near Javron to Couptrain, where it dismounted and began advancing, without opposition, with two battalions abreast, to seize the ridge line south of St. Patrice du Desert. Late in the afternoon the 47th RCT moved in on the right of the 39th to the commanding ground south of the stream in the vicinity of Orgères la Roche.

4th Infantry Division. The division remained in corps reserve.

German Situation

It had become apparent by this time that Hitler's proposed offensive could not possibly be undertaken. A general withdrawal eastward was begun.

As the LVIII Panzer Corps withdrew across the Egrenne River, the 2d SS Panzer Division was pulled out of the line and sent to the Ranès-Fromental sector to help fill the gap between the Eberbach Group and the Seventh Army. The remnants of the 9th Panzer Reconnaissance Battalion and the 708th Infantry Division (only about 100 riflemen) were ordered to move back and set up a new outpost line in the area

Champsecret-la Coulonche-Lonlat le Tesson. The Seventh Army asked the Eberbach Group to establish contact with this line, but the armored reconnaissance unit sent by the 1st SS Panzer Division for this purpose was able to advance only to the area north of La Ferte Mace. The gap was still open.

The Eberbach Group succeeded in establishing its own connected front during the day, held, right to left, by: 1st SS Panzer Division, 2d Panzer Division, 116th Panzer Division, and the Panzer Lehr Division. These units were spread too thinly and were too hard pressed to be able to mount the planned counterattack to clear the Army Group's southern flank. Without reinforcements, in fact, it was doubtful that these units could prevent penetrations by the advancing Americans. The 1st SS Panzer Division held in Ranés against the 3d Armored Division, but was forced to commit strong forces to protect its right flank.

15 August

VII Corps Situation

The planned advance of the corps' right flank was thwarted during the day by determined panzer units desperately trying to protect the escape route to the east. On the left, however, the advance continued against unorganized opposition from small groups of German infantry and armor.

3d Armored Division. At 0730 Task Force X of CCA, followed by Task Force Y, attacked northward on the Ranés-Fromental leg of the almost equilateral triangle made by the roads connecting Fromental, Ranés, and Ecouche. These roads cut through a wooded area which afforded excellent cover for German ambushes. Almost immediately all attacking units were stopped by heavy fire from over 30 tanks of the 9th and 1st SS Panzer Divisions. However, by evening, CCA and the Division Reserve had consolidated and organized Ranés and were prepared to resume the fight the following morning. Combat Command B was also unsuccessful in its efforts to advance through Pringault.

1st Infantry Division. The division advance continued against scattered resistance from pockets of German troops. On the left the 13th Infantry managed to advance approximately six miles. On the right the 26th Infantry reached the high ground north of La Ferte Mace, an advance of about two miles.

9th Infantry Division. The division continued to progress north. Late in the day the 39th RCT encountered its first opposition as it closed on the La Ferte Mace-Beauvain-Ranés highway. To the right, the 47th RCT approached Beauvain.

4th Infantry Division. The division remained in corps reserve.

German Situation

During the night 14/15 August, the Seventh Army withdrew to the line running south of Cone-Larchamp-St. Bomer-Les Forges-northeast of Domfront-Champsecret-La Coulonche-Lonlay le Tesson. In the course of the withdrawal, the 9th SS Panzer Division was pulled out and ordered to the area north of Argentan to join the Eberbach Group.

The 9th Panzer Reconnaissance Battalion was in the Coulonche area, covering the road to Bellou en Houlme. The remnants of the 708th Infantry Division were in the vicinity of Lonlay le Tesson, covering the road from La Ferte Mace to Briouze.

The 1st SS Panzer Division withdrew from Ranés during the day, still unable to plug the hole between its right and the left wing of the Seventh Army.

The Seventh Army continued its withdrawal during the night 15/16 August. Its new position was north of Aubusson-east of Flers-west fringes of Bois de Messei-northeast of Forêt d'Andaine. Two more panzer divisions, the 10th and 21st, were pulled out of the line. The 21st was to move to Falaise to reinforce the Eberbach Group, while the 10th was ordered to assemble in the Saires la Verrerie area.

16 August

VII Corps Situation

On the left the 1st Division reached its objectives on the 12th Army Group-21st Army Group boundary. On the right, however, the 3d Armored Division was unable to crack German delaying positions, and remained about three miles short of the assigned boundary line objectives.

3d Armored Division. Both combat commands were ordered to renew the attack in the morning to seize Putanges, Trez Saints and the high ground south of the Orne River. The Division Reserve was to prepare to follow either of the attacking forces on division order. The Ranés force was to continue to protect the road net in the area.

Despite a strong German counterattack at La Masure, CCA advanced astride the Ranés-Fromental highway to the outskirts of Fromental. CCB advanced against stubborn resistance through St. Georges d'Annebecq, assisted by close air support, which knocked out four tanks. By evening the advance had reached the vicinity of La Hourdouillere and Les Yveteaux.

Contact with the French Armored Force on the right was maintained by elements of the 83d Reconnaissance Battalion.

1st Infantry Division. At 0700, the 16th RCT again began moving, meeting little resistance. A company of the 1st Battalion surprised two companies of the 9th Panzer Reconnaissance Battalion in their bivouac area, capturing 70 men, 30 machine guns, two 75mm guns, one 81mm mortar, and three tanks (two Mark V and one Mark IV). By evening the regiment was on its objective in the vicinity of Les Roussieres, Morlieres, and Le Chenet.

The 26th Infantry advanced to the road junction of Lomey le Tesson, three and a half miles south of Briouze. In the early afternoon the regiment was ordered into reserve behind the 16th Infantry.

On the left the 18th RCT had more action, as German units, attempting to escape from the trap, struck units near La Ferriere aux Etanges. The counterattacks were driven off with the assistance of massed artillery fire.

The 4th and 24th Cavalry Reconnaissance Squadrons established and maintained contact with the 18th Infantry and the 30th Infantry Division. Both squadrons reconnoitered and patrolled all roads and trails of the Forêt d'Andaine with negative results.

9th Infantry Division. The 39th Infantry Regiment, continuing its advance north, did not meet opposition until late in the day, near Le Bois Jean.

The 47th RCT occupied Brauvain, which had been evacuated by the Germans during the night. By evening the regiment was approaching its objective of La Hourdouillere, against stiffening resistance.

The 60th Infantry advanced against light resistance north of Beauvain to the vicinity of La Chaux and Annebecq. The 3d Battalion remained attached to the 3d Armored Division and was in the area south of Le Bissin.

4th Infantry Division. The division remained in corps reserve. Late in the afternoon selected units were alerted for movement to the Forêt de Monaye.

German Situation

Allied penetration through the La Ferte Mace gap to Le Mesnil de Briouze and Lignou seriously menaced the Seventh Army withdrawal. After La Ferriere aux Etanges had been captured by units of the US V Corps, the Seventh Army bent its left wing from Mesney St. Gervais-Saires le Verrerie to Belou en Houlme.

Briouze was covered by elements of the 9th Panzer Reconnaissance Battalion, while the 708th Infantry Division transferred its remaining

infantry elements to the 10th SS Panzer Division. The staff of the 708th took over regulation of traffic at the road crossing of Fromental and at the Orne River bridges near St. Croix, Putanges, and Mesnil Hermei.

During the night of 16/17 August, the Seventh Army withdrew to the line Breel-west of St. Opportune-hills northwest of Briouze-Briouze. The 10th SS Panzer Division was ordered from its assembly area west-southwest of Bellou et Houlme to cover this withdrawal.

The Eberbach Group was ordered by Army Group B to cover the retirement across the Orne River in the Argentan area. In front of the right wing of the VII Corps, the XLVII Panzer Corps withdrew behind the railroad line paralleling the Briouze-Ecouche road.

17 August

VII Corps Situation

All final objectives of the corps were taken during the day except at Fromental, where the 3d Armored Division was intensely engaged throughout the day. During the afternoon contact was made with British units advancing south to the Army Group boundary.

3d Armored Division. A planned coordinated attack on Fromental by both combat commands of the division was delayed by German resistance in front of CCB. During the early afternoon CCA unilaterally launched an attack from the east, and against stiff German resistance, Fromental was occupied by late afternoon, except for scattered strongholds in the western section. At this time friendly P-47s of the 360th Group, which were providing close air support, bombed the town. In the resulting confusion, German troops reentered and occupied the center and western sections of the town. At 1900 a company of the 33d Armored Regiment attacked again and, despite an air attack by the supposedly friendly 370th Group, gained a foothold in the eastern fringe of the town. The 2d Battalion, 60th Infantry, and a medium tank company from the Division Reserve were attached to CCA to aid the task force in recapturing the rest of Fromental.

Meanwhile, CCB was held up by strong resistance along the railroad north of Las Yveteaux. The tenacious Germans skillfully delaying along this improvised defensive position were not ejected until after 1600. The two task forces then fought their way to positions north and west of Fromental, near Putanges and Mesnil Jean. They blocked the main roads leading into Fromental from the north and west.

During the day, Task Force Hogan, part of the Raney Force, attacked northeast in conjunction with elements of the 83d Armored Reconnaissance Battalion, to secure the road junction at Ecouche against light opposition.

1st Infantry Division. The German withdrawal and the southward advance of British units eliminated the division's contact with the enemy, and there followed a period of maintaining and refitting equipment. The division did continue, however, to maintain local security of the front for which it was responsible by sending extensive patrols to the front and flanks of the 16th Infantry.

9th Infantry Division. During the day the division advance continued against light and scattered resistance from German delaying forces. By the end of the day the division had moved approximately 3,000 yards to occupy positions along the Briouze-Fromentel road, the division's assigned objective.

4th Infantry Division. The division remained in corps reserve and moved to an assembly area south of Carrouges.

German Situation

Pressure from US forces in the south along the Seventh Army front diminished during the day. Although the Germans did not realize why they were not being relentlessly pursued, this was the result of orders requiring American forces to stop along the previously-designated boundary between the 12th and 21st Army Groups. Taking grateful advantage of this relaxation of pressure, the Seventh Army prepared during the day for a withdrawal after dark to the line Val-d'Orne-St. Aubert sur Orne-Launay-Mesnil Goudouir-La Fresnay au Sauvage. This retirement was accomplished during the night of 17/18 August. The boundary between the Seventh Army and the Eberbach Group was subsequently redrawn, to run La Fresnay au Sauvage-Giel (Seventh Army)-Occagnes (Eberbach)-Bailleul (Seventh Army).

The Eberbach Group, after having held up the 3d Armored Division, also began retiring across the Orne during the night. The 2d Panzer Division covered this withdrawal.

18 August

VII Corps Situation

During the day Corps units rounded up or eliminated the remaining pockets of resistance in the northeastern corner of the corps sector and awaited further instructions. Throughout the period enemy contact was limited to periodic clashes with delaying forces between Putanges and Ecouche.

3d Armored Division. The elements of CCA in the eastern section of Fromentel held their positions during the night and began mopping

up the town at first light. By the middle of the morning, Fromental was cleared, and CCA moved into assembly positions, where it remained through the remainder of the day.

Both task forces of UCB continued their attack for the high ground south of Putanges. About noon, contact was established with British forces near Putanges, and CCB was relieved of the responsibility of defending the east-west Putanges Highway. The German roadblocks, however, continued until the following morning.

The 83d Reconnaissance Battalion held its position at Ecouche with Task Force Hogan until the middle of the morning, when it moved into an assembly position in the vicinity of St. Quen sur Maie-St. Brice.

1st Infantry Division. The division was not in contact with the enemy during the period. Units were refitting and maintaining vehicles and equipment.

9th Infantry Division. During the day, the division linked up with elements of the British Second Army, and contact with the Germans was severed.

4th Infantry Division. The division continued in assembly areas, the 8th Infantry near Carrouges, the 22d in L'Oisonniere, and the 12th in the vicinity of Les Villettes.

19 August

VII Corps Situation

By the end of the day all of the units assigned to VII Corps were out of contact with the enemy. The divisions were rehabilitating, refurbishing and resting in assembly areas, awaiting further orders.

20 August

VII Corps Situation

VII Corps units remained in assembly areas, awaiting new orders for a march to the east. All units were out of contact with the enemy and were regrouping and preparing for further development of the campaign.

The 4th Cavalry Group, with the 759th Tank Battalion and 9th Reconnaissance Troop attached, established a 30-mile screen between the towns of Sees and Verneuil.

21 August

VII Corps Situation

Except for patrol skirmishes, the corps continued out of contact with the Germans. During the day corps units were alerted for a march east to the area approximately ten miles west of Chartres in the vicinity of the villages of Chateauneuf en Thymerais and Courville sur Eure. Part of the 9th Division moved to Mortagne, with the mission of protecting the left flank of the First Army.

22 August

VII Corps Situation

The corps began to move east to the area near Chateauneuf en Thymerais-Courville sur Eure. The first major unit to move--the 3d Armored Division--completed the move. The remainder of the 9th Division closed in the Mortagne area. The 4th Division was transferred to the V Corps.

23 August

VII Corps Situation

VII Corps troops continued the move east toward the Seine River. The 9th Division began to move from the vicinity of Mortagne to the vicinity of Verneuil.

24 August

VII Corps Situation

Corps units were enroute to new assembly areas west of the Seine River between Corbeil and Melun. The 3d Armored Division began to move to the vicinity of Chevannes. The 1st Infantry Division moved to Courville sur Eure. The 9th Division moved to the Vedame area. The 4th Cavalry Group advanced as far east as Breugny sur Orne, Ballancourt, and Corbeil before it halted for the night. The reconnaissance group had intermittent contact with the enemy during the day. At Corbeil, a German outpost was driven across to the east bank of the Seine River, but the German detachment succeeded in blowing the bridge after crossing.

25 August

VII Corps Situation

Most elements of the VII Corps reached their assembly areas, preparatory to crossing the Seine River. After crossing the river, the Corps axis of advance was to be northeast between the V Corps on its left and the Third Army on its right.

The 4th Cavalry Group reached the west bank of the Seine River in the morning and established a reconnaissance screen along the west bank of the river between Corbeil and Melun. In the middle of the morning, the 24th Cavalry Squadron crossed the Seine in the vicinity of Tilly (where a crossing had earlier been forced by units of the 7th Armored Division of the XX Corps) and reconnoitered to a line approximately ten miles northeast of the crossing point. The 3d Armored Division began its crossing in the early evening. The 1st and 9th Divisions completed their moves to their assembly areas west of the river.

26 August

VII Corps Situation

The corps drive east of the Seine River gained approximately 35 kilometers against scattered resistance. The 1st and 2d Battalions, 128th Infantry Regiment, of the German 48th Infantry Division were encountered by the 4th Cavalry Group and the 3d Armored Division at the main crossroads and avenues of approach, as the Germans attempted to stall the northeastward advance of the American armor and cavalry.

The 4th Cavalry Group completed crossing the Seine during the early morning hours and, in coordination with the 3d Armored Division, moved northeast to reconnoiter to the Marne River between Meaux and La Ferte sous Jouarre, while maintaining contact with the XX and V Corps, on the right and left flanks respectively. By 1900 the group had pushed to a general line across the corps front extending from a position on the left in the Parc de Ladmiraault, 1500 yards southeast of Ferrieres, southeast to a point just east of the Forêt d'Armainvilliers and two miles north of Tournan en Brie, then east of Les Chapelles Bourbon to the vicinity of Les Bordes.

3d Armored Division. The division spearheaded the corps drive, with three columns about equally spread across the corps sector of action. The main body of the division began its crossing before dawn. The divisional crossings were completed by 1900. By dark CCA, on the right, had reached the vicinity of Ormeaux. CCB, on the left,

did not begin its advance until early afternoon. Some resistance was encountered, but by dark CCB had advanced about 20 kilometers to the Pontault-Combault-Lesigny area.

Elements of the 83d Reconnaissance Battalion advanced in the center of the corps zone, and by evening were in the Forêt de la Léchelle, about 2,000 yards west of Presles en Brie.

1st and 9th Infantry Divisions. Preparations for crossing the Seine River continued.

German Situation

Southeast of Paris, the right flank of the extended 48th Infantry Division, deployed in small combat groups, was hit by the VII Corps. Bypassed by armored spearheads, these weak forces, although cut off from any higher command, continued resistance and attempted to breakthrough to the northeast. The bulk of the 48th Division's artillery and antitank weapons was destroyed and its staff and signal battalion were dispersed. The German First Army command, unable to communicate with the division was, at most, only marginally aware of the situation in the division's sector, now desperately engaged against the VII Corps advance on its right, and the XX Corps advance against its center and left.

27 August

VII Corps Situation

The VII Corps continued its drive for 25 kilometers to the northeast against rather light resistance consisting mainly of small German strongpoints along the commanding terrain offering concealment and across the main avenues of advance. These points were manned by elements of the 48th Infantry Division and supported by a few tanks of the Panzer Lehr Reconnaissance Battalion. The strongest opposition was met at Evry les Chateau, Grisy Suisnes, and Lagny.

3d Armored Division. The Marne River was crossed at 1700. CCA crossed at La Ferte sous Jouarre, and CCB, north of Charmentray. At 1735, CCB had passed through Meaux and was on the main road west of the town. At the same time, CCA was nearing the road junction on the Meaux-La Ferte sous Jouarre road, while the Reserve had halted at the phase line through Langy-Pezarches. CCA went into bivouac for the night in the vicinity of Chainoust. CCB's two columns bivouaced for the night in the vicinity of Meaux.

1st and 9th Infantry Divisions. While the cavalry units were out in front of the Corps advance, the 1st and 9th Divisions, with the latter on the right, progressed to their

march objective: the line north of and generally parallel to the main road running southeast from Nogent sur Marne to Les Friches, through the Forêt d'Armainvilliers, to Gretz, and thence continuing southeastward to Granville. No opposition was met.

The 1st Division was deployed as follows: the 16th Infantry Regiment was north of Combault, the 26th Infantry Regiment was at Les Friches, and the 18th Infantry Regiment was on the edge of the Forêt d'Armainvilliers.

In the 9th Division zone, the 47th Infantry Regiment was bivouaced in the vicinity of Bois Villegenard, the 39th Infantry Regiment was near Bussy St. Georges, and the 60th Infantry Regiment was southeast of Livery en Brie.

4th Cavalry Group. The 4th Cavalry, screening the corps advance, took over 100 prisoners early in the day, near the locality of Grisy Suisnes, when a group of Germans attempted to make a break to the east.

German Situation

By the morning of the 27th, the right flank of the German First Army had succeeded in falling back behind the Grand Morin River. The army, now reinforced by the LXXX Corps (composed mainly of stragglers and service unit personnel) reestablished itself along the line Soissons-Epernay-Chalons sur Marne.

The VII Corps thrust from Melun to La Ferte sous Jouarre, forced the LVIII Panzer Corps, on the extreme right wing of the First Army, to bend its left wing back to Meaux, and begin withdrawing its forces (47th Infantry Division, Aulock Group, and remnants of the 9th and Panzer Lehr Divisions) northeastward to the line Beaumont sur Oise-Survilliers-Dammartin en Goelle-Meaux. The reconnaissance battalion of the Panzer Lehr Division, which had been taken from the front northeast of Paris, attempted to establish a thin security line just southwest of Meaux. At the same time, a regiment of the 9th SS Panzer Division, moving into the First Army sector from the northwest, reinforced small groups of the 48th Infantry Division, which were trying to stem the thrust of the 3d Armored Division at La Ferte sous Jouarre. During the day, a battalion of the 902d Panzer Grenadier Regiment motored to blocking positions at Chateau Thierry.

28 August

VII Corps Situation

The VII Corps continued driving northeast, making an advance of 45 kilometers. Armored units spearheaded the drive, with the 9th and 1st Infantry Divisions continuing to follow abreast.

3d Armored Division. The 3d Armored Division's combat command continued their rapid advance to the northeast, each with two columns abreast. Throughout the day, small pockets of resistance were encountered, usually of company strength or less, which were able merely to harass the advancing units. The bulk of the enemy continued to withdraw northeast and north, and in several instances the advance cut into the rear of the retreating enemy columns, knocking out many German vehicles.

By 1300, the columns of CCA were passing through Bois de Belleau and Chateau Thierry. By the end of the period, CCA was just short of its Pontarcy objective, with elements southeast of Braisne and southwest of Vauxtin. By evening, both of CCB's task forces were at the command's Soissons objective.

1st and 9th Infantry Divisions. The advance of the 1st Infantry Division to the vicinity of Meaux was made without opposition. The 9th Infantry Division moved, without incident, to the area north of the Grand Morin River. The day's march objective was a line from Villeroy through Meaux across the 1st Infantry Division zone to the Foret du Mans, and thence across the 9th Infantry Division zone southeastward to the vicinity of La Couture, approximately six kilometers southeast of Coulommiers.

4th Cavalry Group. The 4th Cavalry Group had another busy day, screening the front of the corps sector and reconnoitering bridges and roads, in addition to mopping up resistance and taking over 400 prisoners.

German Situation

The German First Army's general retreat continued northeast towards Reims. In front of the VII Corps, remnants of the 9th Panzer and Panzer Lehr Divisions fought delaying actions along the Villers Cotterets-Soissons road. The 902d Grenadier Regiment was encircled by a 3d Armored Division column during the day at Chateau Thierry, but fought its way free northeast, across the Aisne River.

The LVIII Panzer Corps withdrew along a generally northward axis, its left under severe pressure from the VII Corps thrust to Soissons. As a result, it became separated from the rest of the First Army. Therefore, Army Group B assigned the corps to the Fifth Panzer Army. However, communications were completely disrupted during the day and the corps, lacking knowledge of where even the army command post was located, continued withdrawing toward Compiègne, falling back to the line Verberie-Morierval-Pierrefonds les Bains-Vic sur Aisne. This movement, made to protect the corps' tenuous link with the Fifth Panzer Army on its right, removed the corps from the front of the VII Corps' northeastward advance on Laon.

29 August

VII Corps Situation

The VII Corps continued to advance to the northeast. Only scattered rear guards were left by the enemy as he continued his withdrawal north and northeast of Soissons. Small pockets of German troops in the wooded areas throughout the corps area were mopped up during the day.

3d Armored Division. Because of poor atmospheric conditions affecting radio reception, new objectives were not assigned to the combat commands in time for a morning advance. In the late afternoon both combat commands resumed the advance, and by nightfall were on the high ground, north of the Aisne River, at Pommiers-Terny Sorny-northwest of Allemont-east of Chavignon-southeastern edge of Forêt de Vauclere-north of Pontavert. During the day, two battalions of the 18th Infantry Regiment were attached to the division to help secure Soissons and Villiers Cotterets.

1st and 9th Infantry Divisions. The 1st Division advanced rapidly, without opposition, to its day's march objective, the line Autheuil-St. Quentin-St. Gengoulph. The 9th Division was also unopposed in advancing to its objectives, just east of St. Gengoulph-Licy Clignon-Chateau Thierry.

4th Cavalry Group. The group continued to advance ahead of the corps, reconnoitering roads and bridges. Patrols reached a point four kilometers south of Laon by the close of the period.

German Situation

Except for a scattered rearguard cover by a miscellaneous hodge-podge of units, there was no contact with VII Corps units because the German First Army's northeast axis of withdrawal was changed to a more easterly one, out of the VII Corps zone of action, and the LVIII Panzer Corps on the left flank of the Fifth Panzer Army had fallen back behind the Oise River from Compeigne to La Fere, leaving a relatively undefended gap between the two armies in front of VII Corps.

Fifth Panzer Army, whose left boundary was redrawn through Reims, was given responsibility for this gap. The Army ordered the II SS Panzer Corps, with remnants of the 2d SS, 9th, and 116th Panzer Divisions, to assume control of the area facing VII Corps from Soissons to Reims. The corps (also referred to in German records as the British Group) was to disengage from its positions between Les Thilliers and Pontoise, east of the Seine, just north of Paris and

to move northeastward behind the Fifth Panzer Army front to the Oise River just south of Noyon, and then wheel southeast, east of the Oise River and the LVIII Panzer Corps, to take over the extreme left of the Fifth Panzer Army zone east of Noyon, toward Laon and Reims.

30 August

VII Corps Situation

The VII Corps continued the advance to the northeast. Enemy rear guard action continued, with advance units of the 4th Cavalry Group meeting small arms fire south of Rozoy, and artillery and mortar fire south of Montcornet.

3d Armored Division. CCB advanced in the morning, and by midafternoon, against moderate resistance, its two task forces had advanced approximately ten kilometers and secured Laon and the ridge line overlooking the city to the southeast.

In the middle of the afternoon, CCA attacked in the area southwest of Laon. By early evening both of the command's task forces had moved forward about eight kilometers. Task Force X was outposting the ridge north of St. Thomas, and Task Force Y was just southeast of Amifontaine.

The Reserve followed CCB's advance and at the end of the period was at Bruyeres et Montherault.

1st and 9th Infantry Divisions. The 1st Infantry Division advanced to positions along the Aisne River, generally without opposition.

The 9th Infantry Division also advanced to the Aisne River. Additionally the division was ordered to move one regimental combat command (less one battalion), by motor, to the area south of Laon, to reinforce the 3d Armored Division if necessary.

4th Cavalry Group. The cavalry continued its reconnaissance during the day and pushed patrols as far as St. Pierremont, Montcornet, and Rozoy sur Serre. Patrolling was limited because of the failure of gasoline trains to arrive during the night of 29/30 August.

German Situation

On the left flank of the Fifth Panzer Army, the II SS Panzer Corps could not execute its orders, since the 3d Armored Division

was already advancing on Laon, by the time the II SS Panzer Corps was in a position to turn into its assigned sector. The 116th Panzer Division attacked the flank of the 3d Armored Division column just southeast of Laon, but was stopped cold. Thereafter the II SS Panzer Corps began moving northeast, just east of Laon, to positions along the Serre River. The gap between the Fifth Panzer Army and the First Army was thus left unclosed.

During the day the staff of the I SS Panzer Corps northeast of Paris, was relieved by the staff of the LXXIV Corps and ordered to assume command of the 2d SS Division, remnants of the 1st SS, and 12 SS Panzer Divisions and the 347th Infantry Division to close the gap on the army's left. This corps would establish a defensive front southeast of Avesnes, to the left of the II SS Panzer Corps, and facing the right flank of VII Corps.

31 August

VII Corps Situation

On the US First Army right, VII Corps received orders to change the direction of its attack. Instead of continuing the drive north-eastward through Montcornet and Rethel to Namur and Liege, General Collins was ordered to swing VII Corps northward, and drive through the towns of Avesnes, Maubeuge, and Mons. This wheel was part of an overall US First Army move north across the Franco-Belgium border to sever the escape route of German units, west of a north-south line from Laon to Mons.

3d Armored Division. At 1315, the division's northeastward advance toward the German border was halted, and a northward drive to the division's new objective at Mons was initiated, with Vervins, Hirson, and Landouzy as intermediate objectives.

At the end of the period, both task forces of CCB were in Vervins--Task Force 1, attacking north from Chivres via Tavaux, and Task Force 2 advancing from Pierrepont via Marle. CCA, short of its Landouzy intermediate objective at the end of the day, bivouaced near Rozoy, approximately 20 kilometers southeast of Vervins.

1st Infantry Division. The division was given the responsibility of protecting the left flank of the corps, from Soissons to Laon, northeast of the leading elements of US V Corps. Advancing across the Aisne without opposition, by evening, the regiments of the division were deployed as follows: the 26th Infantry was northeast of the Soissons-Laon road from Le Ville and Pasly to Laffaux and Allemont; the 16th Infantry was along the road from Allemont to Laon; and the 18th Infantry was in and around Laon.

9th Infantry Division. The division was charged with the protection of the corps right flank. During the day, its advance was still on a generally northeastward axis. At the end of the period, the 39th Infantry Regiment had moved without resistance to La Radois and Seraincourt. The 47th Infantry Regiment made a motor march to an assembly position in the vicinity of Dizy le Gros, and the 60th Infantry Regiment, after overcoming minor delaying resistance, occupied Rozoy.

4th Cavalry Group. General Collins, not willing to lose an opportunity to move to the West Wall while advancing north to entrap Germans, ordered the group not only to patrol the gap that was developing on the right between VII Corps and the US Third Army (as the corps moved north and Third Army continued northeast) but also to seize a bridgehead over the Meuse River at Mezieres. During the 31st, the group screened along the Serre River between Marle and Rozoy.

German Situation

During the day, the tenuous link between the I SS Panzer Corps and the II SS Panzer Corps was severed by the northward advance of the 3d Armored Division. The right wing of the I SS Panzer Corps began bending back toward Beaumont and Chimay, leaving uncovered the right flank of the 116th Panzer Division, which was providing a covering force for the Bittrich Group along the Serre River from La Fere through Crecy to Marle. Because of the danger of being outflanked from the direction of Vervins and Hirson, the 116th slipped northeast during the night of 31 August/1 September to blocking positions on the roads leading north from these locations.

Thus the gap on the left of the Fifth Panzer Army, so briefly closed by the I SS Panzer Corps, was now a gap in the interior of the Army, between the I SS Panzer and II SS Panzer Corps.

1 September

VII Corps Situation

3d Armored Division. The division continued advancing toward Mons, as all combat commands advanced in multiple columns with CCB, CCA, and the Reserve in that order from left to right.

CCB advanced from Vervins, with Task Force 2 moving through Le Nouvion and Prisches to Maroilles. On parallel roads, Task Force 1 advanced to a blocking position on the Maroilles-Avesnes road, three kilometers west of Avesnes. CCA continued moving north from Rozoy through Landouzy to the Raimsars vicinity, about seven kilometers

southeast of Avesnes. Both commands met only sporadic antitank and small arms fire. Resistance was greater on the right, as the Reserve's advance was delayed northwest of Aubenton by stubborn opposition. By late evening a bridge had been built and a bridgehead secured over the Thoa River at Bucilly. At the end of the day elements had moved three kilometers north and were bivouaced in Hirson.

1st Infantry Division. The division continued to advance north to Marle and Bosmont, protecting the west flank of the corps, north of the leading elements of the US V Corps. Except for a few German stragglers, the division encountered no opposition.

9th Infantry Division. The 39th and 47th Infantry Regiments followed behind the 3d Armored Division's right flank, and consolidated the area between Hirson and Vervins. The 47th, with one of its battalions delayed by a blown bridge over the Brune River at Braye, was virtually unopposed, as it moved north to positions along a line from one kilometer north of Vervins to northeast of La Haute Bonde. At the end of the day, to the northeast of the 47th, the 39th Infantry Regiment had advanced to the line extending from southwest of Origny to Eparcy.

On the division right, the 60th Infantry Regiment secured Brunehamel les Antels and Aubenton, the latter in the early evening, after overcoming some small arms and tank fire.

4th Cavalry Group. The group protected the right flank of the corps between Aubenton and Rethel. At Rethel contact was established with the 90th Infantry Division, XX Corps.

German Situation

Because of the converging drives of the British across the Seine River toward the north and northeast, and the US First Army toward Mons, the LVIII, LXXIV, and II SS Panzer Corps, although they had little contact to their immediate front, were threatened by a double envelopment. These corps had fallen back to the general Laon-St. Quentin area. During the day the commanding general of the LVIII Panzer Corps suggested a meeting with the commanders of the other two corps staffs in order to form a uniform command for a coordinated withdrawal. At this meeting General Straube, the LXXIV Corps commander, assumed command of the provisional army--referred to hereafter as Straube Group. He decided to withdraw as quickly as possible from the area just north of Laon to the vicinity of Mons-Conde.

With elements of the 3d and 6th Parachute Divisions, and the 18th Luftwaffe Division, the LVIII Panzer Corps was to assume

responsibility for the right side of the line in the sector Ham-La Fere, while the II Panzer Corps, now commanding only the 47th Infantry and remnants of the 9th Panzer Divisions (the 116th Panzer Division having been pushed northeast and separated from the group by the advance of the 3d Armored Division) had responsibility for the left, on the north bank of the Serre River as far east as Marle. The LXXIV Corps, in reserve, was to lead the northward withdrawal of the three corps.

The gap between these units and the I SS Panzer Corps to the east--manning a weak security line extending from Beaumont to Froidechappelle, thence south to Chimay, on the extreme left flank of the Fifth Panzer Army--was enlarged during the period, as the VII Corps continued its northward drive toward Mons. The 116th Panzer Division, after periodic clashes with the armor of the 3d Division, north of Vervins and Hirson, continued its withdrawal to the northeast and came under the control of the I SS Panzer Corps, which ordered the division to occupy Charleroi to protect the corps' right flank.

2 September

VII Corps Situation

3d Armored Division. The division advanced northward with its three combat commands abreast, each employing two columns, and making a rapid advance throughout the day toward Mons.

CCA encountered some resistance about ten kilometers south of the city. Brushing this aside, elements of the command entered Mons at 1900. CCB's supply trains had been delayed during the night when cut off by bypassed German units. After their arrival, CCB moved out about noon and after brief encounters with retreating Germans reached the Mons vicinity shortly after dark. The Reserve met more opposition than the other two commands. In the early evening resistance in the Beaurieux area was bypassed and the Reserve sideslipped west into CCA's zone of action and continued moving north to positions east of Mons.

1st Infantry Division. The First Infantry Division continued to advance toward Mons, protecting the uncovered west flank of the corps, because the leading units of the US V Corps, advancing north on the left, had not as yet pulled abreast of the rapid VII Corps advance.

The 19th Infantry Regiment met and cleared resistance at Leme in the morning and was moving again before noon. At the end of the day, the regiment was north of the Forêt du Nouvain, deployed along

the high ground southeast of Barzy. The 16th Infantry Regiment moved north through Urce1, and at the close of the period was south of the Forêt du Nouvain along the line Sains Richaumont-southwest of Proisy-along the main road running northeast to La Chapelle. The 26th Infantry Regiment moved north to the vicinity of Avesnes during the day. By evening the battalions of the regiment were outpostting positions on the high ground north of the city at Flaumont, east of the city, and at Avesnelles to the southeast.

9th Infantry Division. The 9th Division wiped out several pockets of German resistance and provided protection for the corps' right flank, north of Any Martin Rieux.

The 47th Infantry Regiment advanced on the left of the division zone and encountered only isolated small arms resistance in the Fourmies area during its advance to the vicinity of Solre le Chateau. The 39th Infantry Regiment swept away harassing resistance southeast of Anor and continued its advance to positions along the southern edge of the Bois l'Abb, east to Eppe Sauvage, thence south along the eastern edge of the Forêt de Trelon. On the right of the division sector, the 60th Infantry Regiment encountered a German column moving east through Macon. Artillery scattered the column, and the regiment proceeded to advance across the Franco-Belgian border to the line from Wallers Trelon through Baives to Chimay.

4th Cavalry Group. In addition to protecting the eastern flank of the corps between Any Martin Rieux and Amagne, the group established roadblocks to the northeast and maintained contact with XX Corps in the vicinity of Rethel.

German Situation

By this time the LXXIV Panzer Corps was north of Conde and Mons, and was no longer in danger of being cut off. But, as British spearheads advanced to Tournai, the remainder of the Straube Group (LVIII Panzer Corps and most of the II SS Panzer Corps) was in a desperate situation. Continued withdrawal to the north was threatened by the advancing British units. Movement to the northeast was blocked by 3d Armored Division roadblocks along the Avesnes-Mons road, to the southeast by the 1st Infantry Division, to the west by XIX Corps near Valenciennes, and to the south by V Corps.

During the day the II SS Panzer Corps tried withdrawing north-eastward toward Beaumont, to reach the weak security line of the I SS Panzer Corps. However, only elements of the 9th Panzer Division were successful, leaving the remaining units, and the almost completely immobile 47th Infantry Division in the contracting pocket together with the divisions of the LVIII Panzer Corps. The I SS Panzer Corps, under pressure from the 9th Infantry Division, shifted its line north of Beaumont and Froidechappelle and prepared to withdraw across the Meuse River to positions extending from Namur to Charleville.

3 September

VII Corps Situation

VII Corps turned to the east to secure crossings over the Meuse River between Namur and Givet.

3d Armored Division. The division was unable to move because of a shortage of gasoline. CCA established and secured roadblocks in and around Mons, while CCB performed a similar mission to the north and west.

1st Infantry Division. Advancing to cover the left and rear of the 3d Armored Division, the 1st Division found itself heavily engaged in the Maubeuge-Bavai area by large German forces from the west--the Straube Group--attempting to escape eastward through the VII Corps zone. Units of the division were generally extended in a north-south arc from Mons through Frameries to Bavai, thence along the eastern fringe of the Forêt de Mormal.

The 16th Infantry Regiment moved north to Mons from its positions south of the Forêt du Nouvain. Just south of Mons, at Maubeuge, the regiment was heavily engaged most of the day, with retreating enemy columns. Elements of the regiment, fighting along the road from Maubeuge to Mons, entered the city in the early evening.

The 26th Infantry Regiment, advancing to the west of Maubeuge, met resistance between that city and Bavai, when a German column of the Straube Group ran into their left flank. In the late afternoon elements of the regiment continued the advance to Frameries, approximately five kilometers southeast of Mons on the Mons-Bavai highway.

On the left, the 18th Infantry Regiment attacked toward Bavai and entered the town in the morning, where it was engaged with elements of the Straube Group using the road through Bavai on the way east. At the end of the day, the regiment was organizing Bavai for defense and was deployed along the eastern edge of Forêt de Mormal.

9th Infantry Division. The 9th Division advanced northeast into Belgium toward Namur and Givet.

The 60th Infantry Regiment, on the right flank, advanced through the Bois de Chimay and Bois du Seigneur against sporadic German delaying activity, and advanced almost 35 kilometers to the area south of Samart. To the left, the 39th Infantry Regiment advanced about the same distance against similar resistance, and at the end of the day was deployed on a line from Florennes south to positions east and north of Philippeville. The 47th Infantry Regiment moved from Solre le Chateau to Barbencon, about two kilometers southeast of Beaumont, while protecting the left flank and the rear of the division.

4th Cavalry Group. South of the 3th Infantry Division, the unit advanced east, occupied Charleville, Rocroi, and Mezieres and reconnoitered the area along the Meuse River from Fumay to Concherry.

German Situation

The last possibility of escape for the Straube Group was lost during the day, as British units drove beyond Tounai. The LVIII Panzer Corps and most of the II SS Panzer Corps were smashed as their columns desperately tried to break northeast against the 3d Armored and 1st Infantry Division's north-south line. Although scattered groups escaped, most of these units were captured.

On the flight of the US VII Corps zone the I SS Panzer Corps withdrew east of the Meuse River and consolidated its positions on the east bank. The corps' line ran south from Lustin, nine kilometers south of Namur, to Charleville. During the day, the 347th Infantry and 116th Panzer Divisions were detached and subordinated to LXXIV Corps, which had escaped the Mons pocket the previous day, and now took responsibility for the Namur sector of the new defensive line.

At 1400, Army Group B commander Field Marshal Walter Model arrived at the command post of the German Seventh Army at Wavre. At that time he gave instructions to pull out the Fifth Panzer Army and ordered the Seventh Army to take over the former's sector (the center and left, to face the eastward attack of VII Corps), effective the afternoon of the 4th.

4 September

VII Corps Situation

With the Mons-Bavai area practically cleared, the corps directed its main effort to the east. Advance units were in Namur and along the west bank of the Meuse River between that city and Givet.

3d Armored Division. At 1400 the 3d Armored Division turned east and began moving toward Namur.

CCB, on the division right, made rapid progress and entered Namur. CCA advanced to Charleroi and after a fight occupied the city by the end of the day. The Reserve followed the two commands in multiple columns.

1st Infantry Division. The division continued to protect the west flank of the VII Corps and dispersed its forces over a large

area to prevent infiltration to the east and to eliminate remaining pockets of German resistance.

The 16th Infantry Regiment cleared the area from Maubeuge to Mons and consolidated its positions in the Mons vicinity. The 18th Infantry Regiment engaged German units still trying to escape toward the German border in the area around Bavai, and the 26th Infantry Regiment was similarly engaged in the Frameries area.

9th Infantry Division. The division continued to gain ground on the right of the corps, while progressing eastward toward its objective of seizing Meuse River crossings south of Namur.

On the division right, the 60th Infantry Regiment advanced to within two kilometers of the Meuse River at Maurenne and Aigmont, between Dinant and Givet. North of the 60th, the 39th Infantry Regiment approached the west bank of the Meuse River north and west of Dinant, where, at the end of the day, it began encountering small arms, mortar, and artillery fire. The 47th Infantry Regiment was in reserve and protected the division rear. During the day, the regiment moved from Barbencon to Flavion, 14 kilometers west of Dinant.

4th Cavalry Group. The group continued reconnaissance along the Meuse River. Elements south of Givet were relieved during the day by units of the US V Corps and assembled near Rcsee, two kilometers southwest of Flavion.

German Situation

At 1800 hours, the German Seventh Army took over the sector of the Fifth Panzer Army, with its right boundary running through Loewen-Hasselt-Maastricht, and its left through Charleville-Libramont-Andernach. There was a thinly manned front from Loewen to Wavre, south to Namur, thence to Charleville.

LXXIV Corps. In the center of the Seventh Army line, facing the left flank of the VII Corps, LXXIV Corps was in task force formation with the 116th Panzer Division, northeast of Charleroi, in the area from Fleurus northeast 13 kilometers to Gembloux. To the south, the 347th Infantry Division was blocking the crossings over the Sambre River between Chatelet and Namur. However, heavy pressure from the 3d Armored Division moving out of Charleroi, and the dispositions of the 116th Panzer Division which left the 347th's right flank unprotected, forced the 347th to fall back to positions just east of Namur, thence south along the east bank of the Meuse River to Lustin.

I SS Panzer Corps. On the left of the Seventh Army line, the I SS Panzer Corps, with remnants of the 2d, 2d SS, 1st SS, and 12th SS Panzer Divisions, was defending the Meuse River line from Lustin,

south to Charleville. The 3d Armored Division's assault on Namur threatened to envelop the corps' north flank. Since the reserves were not available for a counterattack to recapture Namur, the corps bent back its right wing and committed its last weak reserve, the reconnaissance battalion of the 12th SS Panzer Division near Ohey to establish a security screen along the south bank of the Meuse River. This, however, left a gap between the I SS Panzer Corps and the LXXIV Corps to its right. To the left of the I SS Panzer was another gap, approximately 20 kilometers, to the right flank of LXXX Corps, German First Army, in the Sedan area. At the time, the entire battle strength of the I SS Panzer Corps was only three or four tanks and a few scattered groups of riflemen.

5 September

VII Corps Situation

The VII Corps advanced east, occupied Namur, and initiated crossings over the Meuse River between Namur and Givet.

3d Armored Division. CCB spent the day consolidating its positions in the southern section of Namur and south three kilometers along the Meuse River to Wepion. CCA advanced from Charleroi and, by midafternoon, was in Namur. In the evening the command was ordered to occupy the northeast section of the city and secure crossing sites over the Sambre River.

1st Infantry Division. Mopping up continued as German units desperately continued to try to escape to the east. Near Bavai, elements of the 13th Infantry Regiment were heavily attacked and had to be reinforced by a strong combat patrol from the 26th Infantry Regiment before the Germans, after suffering heavy casualties, surrendered. Except for this action, the division completed the mopping up operation against only scattered resistance.

9th Infantry Division. The division began crossing the Meuse River at midnight.

The 60th Infantry Regiment crossed in assault boats between a point north of Heer and Blaimont. Enemy resistance was heavy and scattered one of the assault battalions, which later reorganized on the east bank, near Blaimont. By the end of the day, a bridgehead one kilometer deep had been established.

The 39th Infantry Regiment's crossing north of Dinant met equal German tenacity. One battalion crossed unopposed at Yoir but was heavily opposed by German machine gun, mortar, and artillery fire when it began advancing south along the east bank of the river toward Dinant. The other battalion in the midnight assault was repulsed north

of Godinne, and forced to withdraw to the west bank in the area around Rivere, about ten kilometers north of Dinant. In the late afternoon, the reserve battalion crossed at Yoir and turned south toward Dinant. At the end of the day the bridgehead north of Dinant was two kilometers deep.

The 47th Infantry Regiment was in reserve near Flavion.

4th Cavalry Group. The group assembled west of the Meuse River in the area of Miavoys.

German Situation

LXXIV Corps. The 116th Panzer Division withdrew during the day to the line Jauche-Ramillies-Offus, just north of the VII Corps area. This move broke contact with the 347th Infantry Division on its left. That division, under heavy pressure from the 3d Armored Division, fell back to positions extending from Hemptienne, south to Hanret, thence 11 kilometers to Marche les Dames, on the Meuse River, seven kilometers east of Namur.

I SS Panzer Corps. Both wings of the corps continued to be threatened with envelopment as a result of the continued pressure of the 3d Armored Division on the north and the US V Corps on the south at Godinne. During the day the defense line of the 2d SS Panzer Division, commanding remnants of the 12th SS and 1st SS Panzer Divisions, was penetrated by the 9th Infantry Division between Givet and Houx. In the course of heavy fighting, these latter penetrations were confined to small bridgeheads.

6 September

VII Corps Situation

The corps advanced east, occupied Huy and strengthened its bridgeheads across the Meuse River between Houx and Givet.

3d Armored Division. Lack of fuel and lubricants prevented the division from attacking as planned in the morning.

With gas supplies replenished shortly after noon, CCB, less an armored task force attached to the 9th Infantry Division, began moving to Huy. The command encountered only light resistance and, by dark, had moved over 25 kilometers to the outskirts of the city. After clearing Namur of the remaining snipers and stragglers, CCA began advancing toward Huy in the left of the division zone, north of the Meuse River. Opposition from small arms and antitank guns near Pontvillas was overcome, and the command was outposting Wanze and Wanzoul, just northwest of Huy, by nightfall.

1st Infantry Division. The 1st Infantry Division initiated movement east to Charleroi in the zone of the 3d Armored Division.

The 12th Infantry Regiment moved from an assembly area in the vicinity of Mons to Fosse, and the 26th Infantry Regiment advanced from Frameries to Charleroi. The 16th Infantry Regiment remained near Mons, completing mopping up operations.

9th Infantry Division. The division continued to expand and strengthen its bridgeheads across the Meuse River.

The 60th Infantry Regiment pushed its reserve battalions across the river at Hermeton sur Meuse and the unit, moving against tank and infantry opposition, captured Blaimont in the early evening.

The 39th Infantry Regiment, with a detachment of armor from the 3d Armored Division attached, organized its area and prepared for an assault on Dinant. The 47th Infantry Regiment crossed the river into the 60th Infantry's bridgehead and took up positions, from two kilometers south of Blaimont to Heer. In the afternoon, a small German counterattack south of Blaimont was repulsed with the aid of division artillery.

4th Cavalry Group. The group remained in assembly areas near Miavoys and prepared to cross the Meuse River in the 9th Infantry Division zone.

German Situation

The German Seventh Army continued to fall back under heavy pressure. A withdrawal was ordered for the night 6/7 September to the line Hasselt-east of Huy-Marche-Bouillon. The army now comprised only badly depleted divisions, and its commander asked OB West for at least five new divisions. OB West alerted its only available reserve, the 9th Panzer Division, which was being reorganized, and ordered it to Aachen.

LXXIV Corps. The 347th Infantry Division's right wing withdrew northeast to the Waremme area, while the left was caught and mangled by the 3d Armored Division's attack from Namur.

I SS Panzer Corps. The 3d Armored Division's attack along the Meuse forced the 2d SS Panzer Division to abandon its tenacious defense against the 9th Infantry Division. The corps prepared to retreat to the line east of Huy-Marche-St. Hubert-Bouillon.

7 September

VII Corps Situation

VII Corps troops advanced east along the Meuse River to Liege. At the same time the 9th Infantry Division's bridgehead between Houx and Givet was expanded to the northeast. Mopping up activity of stragglers in the Mons-Bavai area and in the wooded sectors along the Sambre River were brought to a close with approximately 30,000 prisoners of war taken during the entire period.

3d Armored Division. Advancing on Liege, CCB made rapid progress and was in the western section of the city by early evening. However, CCB encountered antitank fire as it advanced and did not arrive northwest of the city until late in the evening. The task force of armor which had been attached to the 9th Infantry Division was released during the day and moved to rejoin CCB at Liege. It bivouaced for the night southwest of the city.

1st Infantry Division. The division moved east behind the 3d Armored Division. The 13th Infantry Regiment encountered little opposition and took up positions northwest of Namur at the end of the day. The 26th Infantry was at l'Angel, and the 16th Infantry Regiment moved to Huy, where it relieved elements of CCB.

9th Infantry Division. The division consolidated its positions across the Meuse River, while advancing its front to the northeast.

The 60th Infantry Regiment, delayed by resistance in the wooded area south of Celles, moved to positions south of Buissonville, 28 kilometers northeast of Givet. The 47th Infantry, in the left of the division zone, began advancing northeast against scattered resistance, reaching Ciney, where defensive positions were organized for the night. The 39th Infantry Regiment, reinforced by a task force of armor from the 3d Armored Division, captured Dinant in the morning, and moved northeast to assembly areas three kilometers south of Leignon.

4th Cavalry Group. The 4th Cavalry Group crossed the Meuse River and screened the south flank of the corps, maintaining contact with the US V Corps.

German Situation

The German Seventh Army's command post at Chaudfontaine, just southeast of Liege, was forced to move to Limbourg because of the approach of the 3d Armored Division.

LXXIV Corps. The LXXIV Corps was ordered to secure the gap that had developed south of the Meuse River between it and the I SS

Panzer Corps. To accomplish this, the corps ordered the remnants of the 347th Infantry Division to disengage, pull back via Tongres to assembly areas east of Maastricht, and prepare to move and organize a defense on the east bank of the Ourthe River from Esneux, south of Liege, to the junction of the Ourthe and Ambleve Rivers.

I SS Panzer Corps. The 12th SS Panzer Division's reconnaissance battalion was swept aside just south of the Meuse River by elements of the 3d Armored Division advancing on Liege. Further south, the corps, under the combined attacks of the 9th Infantry Division and units of the US V Corps, continued to shorten its line which now extended from northwest of Durbuy through Marche and Jamelle, southeast to St. Hubert. The corps overall combat strength was 800 riflemen and one tank.

8 September

VII Corps Situation

The corps completed the occupation of Liege and prepared to continue its advance to the east. Resistance north of the Meuse River between Namur and Liege ceased except for a few remaining stragglers.

3d Armored Division. CCA cleared Liege, north of the river, while CCB mopped up to the south. Both commands met little resistance. The 33d Armored Reconnaissance Battalion moved east late in the afternoon to reconnoiter Verviers.

1st Infantry Division. Still following the 3d Armored Division, the 26th Infantry Regiment moved on the north flank of the advance, and by late afternoon had elements in the northwestern fringes of Liege and at Noville, 12 kilometers northwest of the city. The 18th Infantry Regiment advanced to a line extending from Horion to west of Gleixhe, and the 16th Infantry Regiment remained at Huy to protect the town and hold the bridges.

9th Infantry Division. The division advanced approximately 35 kilometers to the northeast against scattered enemy resistance.

The 60th Infantry Regiment attacked in the morning, brushed aside opposition at Verlee and Borsu, and was in the area southeast of Ouffet by early evening. The 39th Infantry Regiment, advancing to the left of the 47th, encountered intermittent resistance during the day and, at the end of the period, was southwest of Villers le Temple. The 47th Infantry Regiment shuttled by truck to an assembly area south of Liege.

4th Cavalry Group. The cavalry moved east against some German resistance centered around roadblocks, and reached the line extending from a point south of Bonsin, south to the Hotten vicinity.

German Situation

The German Seventh Army reorganized its forces in an attempt to blunt the VII Corps' eastward advance. The Army withdrew the 105th Panzer Brigade from the northern section of the front and assigned it and the staff of the 89th Infantry Division to the LXXIV Corps, while the 116th Panzer Division was transferred to the LXXXI Corps. Boundaries were redrawn, with the Vesdre River the new boundary between the LXXXI and LXXIV Corps and an eastward line from the junction of the Ourthe and Ambleve Rivers the boundary between the LXXIV and I SS Panzer Corps.

LXXXI Corps. The corps ordered the tank combat team of the 116th Panzer Division to Liege to relieve the defenders of the citadel and prevent further 3d Armored Division advance. The division reached the Liege area at dusk, but turned back to Fleron when it learned that the citadel, within the city, had apparently fallen.

The 49th Infantry Division was ordered to defend the east bank of the Meuse River, north of Liege, from a point south of Vise to and including Jupille, one kilometer northeast of Liege.

LXXIV Corps. Difficulties in the command of the 105th Panzer Brigade, and lack of fuel, prevented the corps from bringing up the brigade. The unit, which was to advance via Verviers, was immobilized with its main body south of the city.

The 89th Infantry Division, reinforced by two independent battalions, was ordered into defensive positions along a line from south of Pepinster, southwest to the ridgeline west of Theux. The corps also brought forward, in trucks, the remnants of the 347th Infantry Division, via Verviers, to the line Esneux south to the mouth of the Ourthe and Ambleve Rivers.

I SS Panzer Corps. Continued attacks by the 9th Infantry Division and the US V Corps forced the corps to continue withdrawing toward the Ourthe River. At the end of the period, the right wing of the corps was anchored at the junction of the Ourthe and Ambleve Rivers, and the left was at Houffalize.

9 September

VII Corps Situation

The corps advanced east to the vicinity of Verviers against stiffening opposition.

3d Armored Division. Shortly before noon, CCB attacked south of the Vesdre River, to secure the high ground south of Verviers. Determined German resistance from tanks, antitank guns, and some artillery was encountered and the command was held short of its objective and forced to bivouac for the night in the area south of Pepinster, southwest of Verviers.

CCA, on the left, moved east at noon north of the Vesdre River, and met moderate resistance. By the end of the day, the command had closed on the high ground north and northwest of Verviers in the vicinity of the town of Petit Recham.

The Reserve was ordered to follow CCB, but with that unit slowed by German opposition the Reserve was still in the process of crossing the Meuse River at the close of the day.

1st Infantry Division. The division concentrated in the area between Liege and Huy, where elements of the 3d Armored Division were relieved. The division prepared for an advance against the German frontier.

9th Infantry Division. The 60th Infantry Regiment, on the right, moved in a motorized column from Ouffet to Polseur, where it crossed the Ourthe River. The regiment continued advancing east to Sprimont, reduced a German strongpoint there, and then turned south three kilometers to secure the bridges over the Ambleve River at Aywaille. At the end of the day the regiment was bivouaced in the Aywaille area.

The 39th Infantry Regiment moved out from Villers le Temple in trucks, and advanced to the vicinity of Gomze Andaumont, where it attacked against tank, infantry, and mortar fire. Joined by a task force from the 3d Armored Division, the regiment quickly eliminated the opposition, but because the armor had priority on the road the advance was delayed, and defensive positions were taken up for the night in the Louveigne area, just southwest of Gomze Andaumont.

The 47th Infantry Regiment was attached to the 3d Armored Division and manned defensive points in Liege.

4th Cavalry Group. The group advanced east on the right of the corps zone, maintaining contact with the US V Corps and reaching the general line running south from Hamoir to Manpeau.

German Situation

The German Seventh Army command post was moved to Monschau.

LXXXI Corps. The left flank of the 49th Infantry Division fell back from Jupille after the loss of Liege to the 3d Armored Division,

and the division secured the line Argenteau-Richelle-Herve, connecting with the 275th Infantry Division to the right, and the 116th Panzer Division on the left. The 116th Panzer Division, under attack east of Liege at Fleron by CCA, 3d Armored Division, retreated northeast to the vicinity of Herve.

LXXIV Corps. The weak units of the 89th Infantry Division just south of Pepinster were pushed back after hard fighting, by CCB, 3d Armored Division. The southernmost elements of the division were not attacked and remained on the heights west of Theux. To the southeast of the 89th Division, security elements of the 347th Infantry Division were overrun by the 60th Infantry Regiment. 9th Infantry Division, in the Esneux-Ambleve sector, Most of the team withdrew under corps order, to the heights on both sides of La Reid, during the night 9/10 September.

I SS Panzer Corps. The corps held the Ourthe sector, both flanks open, its right wing in front of the right flank of the 9th Infantry Division and the 4th Cavalry Group, and its left facing the US V Corps. During the night 9/10 September, the corps withdrew to the line extending from just southwest of Jahoster through Stoumont and Lerneux, to Trois Vierges.

10 September

VII Corps Situation

Positions in the Verviers vicinity were consolidated as the corps continued its eastward advance in preparation for a drive into Germany. The Germans continued a stubborn delaying action throughout the period.

3d Armored Division. On the right, south of the Vesdre River, CCB secured the area south and southeast of Verviers, and conducted vigorous patrolling eastward to a line extending south from Limbourg. Operating north of the Vesdre and east of Verviers, CCA consolidated and improved defensive positions during the day. A tank battalion with infantry elements moved north to secure the road junctions of Herve and Micheroux.

1st Infantry Division. The division crossed the Meuse River at Liege and moved to positions in the vicinity of Herve, within 20 kilometers of the German border, and prepared to continue the advance to the West Wall and Aachen.

9th Infantry Division. The 60th Infantry Regiment attacked south from the vicinity of Aywaille to destroy German troops retreating northeast, east of the Ourthe River, in front of the extreme left flank of the 4th Cavalry Group. Because of a lack of fuel, the infantry jumped off without armor support. Overcoming a series of roadblocks,

the regiment established contact with the 4th Cavalry and, by the end of the day, the regiment was outposting a line from Awan south-east to Werbomont. The 39th Infantry Regiment remained near Louveigne, sending one of its battalions to the Hoigne River at Theux to assist elements of the 3d Armored Division. The battalion crossed over the river and occupied the high ground north of Oneux, two kilometers northeast of Theux. The 47th Infantry Regiment assembled near Beaufays, nine kilometers southeast of Liege.

4th Cavalry Group. The 4th Cavalry Group advanced toward Stavelot, maintaining contact with the 4th Infantry Division to the right and the 9th Infantry Division to the left.

German Situation

LXXXI Corps. The 275th Infantry Division, on the northern edge of the VII Corps zone, occupied the positions Vise-Argenteau-Richelle-Neufchateau. To its left were the remnants of the 49th Infantry Division (generally northeast of Liege on the line Argenteau-Herve), and the 116th Panzer Division. When the US 1st Infantry Division attacked the 116th Panzer Division, it was forced to withdraw to blocking positions on both sides of the Liege-Aachen road, southwest of Henri Chapelle, with its right flank echelloned toward Aubel. With its left flank thus threatened, the 49th Infantry Division withdrew to positions on the heights south of the Berwinne stream, with its right wing connecting with the 275th Infantry Division at Neufchateau and its left with the 116th Panzer Division south of Aubel.

LXXIV Corps. The 105th Panzer Brigade was committed in the Limbourg area and engaged elements of the 3d Armored Division. The 347th and 89th Infantry Divisions, threatened with envelopment from the north by the 3d Armored Division, retreated toward the woody, swampy terrain of the Hohe Venn. At the end of the day, the 89th Division was in the area south of Jalhay, while the 347th Division, to the south, was along a line extending from Xhoffraix, four kilometers northeast of Malmedy, to Waimes.

I SS Panzer Corps. The corps' withdrawal during the night of 9/10 September was followed up by the 60th Infantry Regiment, 9th Division, which applied pressure from the Polseur-Aywaille area toward Werbomont and the 4th Cavalry Group from Hamoir and Hampeau toward Stavelot. The exhausted units of the corps were unable to organize an effective defense; so the corps continued withdrawing during the night 10/11 September to the line Francorchamps, seven kilometers northeast of Stavelot-Trois Ponts-Vielsam-Trois Vierges.

11 September

VII Corps Situation

Continuing the advance northeastward, VII Corps occupied Eupen and concentrated troops near the frontier in preparation for an attack across the German border.

3d Armored Division. The division attacked toward Eupen with combat commands abreast, CCA on the left and CCB on the right.

By 1700, both task forces of CCA, advancing against opposition from infantry, tanks and artillery, were outposting the commanding terrain five kilometers north of Eupen, near the villages of Lontzen and Walhorn. CCB moved northeast to take Eupen with Task Force King on the left, and Task Force Lovelady on the right. Task Force Lovelady swung southeast, then north and approached Eupen from the south. Task Force King successfully bypassed resistance in the Limbourg vicinity and reached the objective at 1600. The Reserve followed CCB and, at the end of the day, was securing Eupen, while the task forces continued moving to assembly areas four kilometers northeast of the city.

1st Infantry Division. On the left of the corps zone, the division continued to maneuver its regiments for an assault on the West Wall and Aachen.

During the day, against scattered German rearguard action, the 18th Infantry Regiment took Charneux, three kilometers northeast of Herve; the 26th Infantry Regiment secured limited objectives east of Herve; and the 16th Infantry Regiment pushed one of its battalions northeast to Henri Chapelle, seven kilometers north of Limbourg.

9th Infantry Division. Shortly after noon, the two battalions of the 39th Infantry Regiment west of the Hoigne began moving across the river at Theux. The regiment then continued advancing northeast, south of Verviers, and at the end of the day was deployed along a line extending from Sohan, one-and-a-half kilometers southeast of Pepinster, thence southeast to Neufmarteau. The 47th Infantry Regiment moved from Beaufays to an assembly area just northeast of Verviers, and the 60th Infantry Regiment assembled in positions northeast of Sprimont.

4th Cavalry Group. The group secured Malmedy and had reconnaissance elements along the general line running from Liege through Malmedy southwest to Vielsalm.

German Situation

Only elements of the LXXXI Corps were actively engaged with VII Corps, as the remainder of the German forces began retiring behind the West Wall.

LXXXI Corps. On the southern flank of the corps the 49th Infantry and 116th Panzer Divisions fell back in front of the 1st Infantry Division attack. The 116th Panzer Division retreated to the line approximately seven kilometers northeast of Henri Chapelle, extending from Hombourg southeast to Moresnet, thence to Hergenrath. The 49th Infantry Division, on the right of the 116th, fell back to positions running from Fouron St. Martin to Hombourg.

During the day elements of the 9th Panzer Division, finally becoming available to Seventh Army, and the 105th Panzer Brigade were attached to LXXXI Corps to attempt to establish a defensive front around Eupen. However, the 3d Armored Division broke through this defense and penetrated into the city. The remnants of the defenders assembled at Eynatten, eight kilometers northeast of Eupen.

12 September

VII Corps Situation

By the close of the day the four major components of the corps were roughly abreast, with the 4th Cavalry Group on the southern flank, the 9th Infantry Division in the right center, the 3d Armored Division in the left center, and the 1st Infantry Division on the left (northern) flank.

3d Armored Division. Elements of CCA moved northeast and advanced to the dragon tooth obstacles in front of the West Wall, just west of Walheim, while units of CCB penetrated the German border north of Rotgen.

1st Infantry Division. The 18th Infantry Regiment, involved in periodic firefights all day, advanced northeast almost 15 kilometers to a line running southwest from the high ground near Gemmenich to Hombourg. The 16th Infantry Regiment moved from Henri Chapelle northeast to Moresnet, where a fierce firefight developed. This opposition was reduced by midafternoon, and elements of the regiment pushed to the German border and entered the Aachen Stadt Forest, southeast of Gemmenich. The 26th Infantry was in reserve and advanced northeast from Herve, nine kilometers, to the vicinity of Aubel.

9th Infantry Division. The division remained in place, sending out reconnaissance parties to the east, in preparation for movement the following day.

4th Cavalry Group. The 4th Cavalry Group advanced east against sporadic small arms and artillery fire to the general line extending from Weverce, south, through Waimes and Born to St. Vith.

German Situation

The only unit actively engaged with VII Corps was the 116th Panzer Division which contested the 1st Infantry Division advance on Aachen. The 116th withdrew after hard fighting and took up positions in the southern section of the city.

German Situation

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VII Corps Order of Battle
14 August 1944

Headquarters Units

1st Infantry Division

16th Infantry Regiment
18th Infantry Regiment
26th Infantry Regiment
1st Reconnaissance Troop (Mecz)
1st Engineer Combat Battalion
1st Medical Battalion
Division Artillery
7th Field Artillery Battalion (105mm how)
32d Field Artillery Battalion (105mm how)
33d Field Artillery Battalion (105mm how)
5th Field Artillery Battalion (155mm how)

Attachments

103d AAA AW Battalion (Mobile)
18th Field Artillery Group (1-31 Aug)(Hq & Hq Btry 1 Sept)
188th Field Artillery Battalion (155mm how)
957th Field Artillery Battalion (155mm how)
Battery "A" 980th Field Artillery Battalion (155mm gun)
Battery "A" 13th Field Artillery Observation Battalion
745th Tank Battalion
635th Tank Destroyer Battalion (Towed)
634th Tank Destroyer Battalion (SP) (-Company "C")

3d Armored Division

36th Armored Infantry Regiment
32d Armored Regiment
33d Armored Regiment
23d Armored Engineer Battalion
83d Armored Reconnaissance Battalion
143d Armored Signal Company
Division Artillery

391st Armored Field Artillery Battalion (105mm how SP)
67th Armored Field Artillery Battalion (105mm how SP)
54th Armored Field Artillery Battalion (105mm how SP)

Attachments

486th AAA AW Battalion (SP)
87th Armored Field Artillery Battalion (105mm how SP)(to 28 Aug)
991st Field Artillery Battalion (155mm gun SP)
60th Field Artillery Battalion (9th Infantry Division)(105mm how)
(14-15 Aug)
703d Tank Destroyer Battalion

Detachments

Task Force King CCB (5-6 Sep)(to 9th Infantry Division)

Comlat Command Organization:

Combat Command A

32d Armored Regiment (-2d Battalion)
1st Battalion, 36th Armored Infantry Regiment
one company, 23d Armored Engineer Battalion
one company, 703d Tank Destroyer Battalion
one company, 45th Medical Battalion
67th Armored Field Artillery Battalion
54th Armored Field Artillery Battalion
detachment of maintenance battalion

Combat Command B

33d Armored Regiment (-3d Battalion)
2d Battalion, 36th Armored Infantry Regiment
one company, 23d Armored Engineer Battalion
one company, 703d Tank Destroyer Battalion
one company, 45th Medical Battalion
391st Armored Field Artillery Battalion
87th Armored Field Artillery Battalion
detachment of maintenance battalion

Division Reserve

2d Battalion, 32d Armored Regiment
3d Battalion, 33d Armored Regiment
3d Battalion, 36th Armored Infantry Regiment
one company, 23d Armored Engineer Battalion
one company, 45th Medical Battalion
one company, 703d Tank Destroyer Battalion
991st Armored Field Artillery Battalion
183d Armored Field Artillery Battalion
detachment of maintenance battalion

4th Infantry Division (to 22 August)

8th Infantry Regiment
12th Infantry Regiment
22d Infantry Regiment
4th Reconnaissance Troop (Mecz)
4th Engineer Combat Battalion
4th Medical Battalion
Division Artillery
29th Field Artillery Battalion (105mm how)
42d Field Artillery Battalion (105mm how)
44th Field Artillery Battalion (105mm how)
20th Field Artillery Battalion (155mm how)

Attachments

377th LP AW Battalion (Mobile)
183d Field Artillery Battalion (155mm how) (to 17 Aug)
70th Tank Battalion
759th Tank Battalion

9th Infantry Division

39th Infantry Regiment
47th Infantry Regiment
60th Infantry Regiment
9th Reconnaissance Troop (Mecz)
15th Engineer Combat Battalion
9th Medical Battalion
Division Artillery
26th Field Artillery Battalion (105mm how)
60th Field Artillery Battalion (105mm how)
34th Field Artillery Battalion (105mm how)
34th Field Artillery Battalion (155mm how)

Attachments

376th PVA AW Battalion (Mobile)
951st Field Artillery Battalion (155mm how)
690th Field Artillery Battalion (105mm how)
Battery "A" 981st Field Artillery Battalion (155mm gun)
Battery "B" 13th Field Artillery Observation Battalion
746th Tank Battalion
Task Force King CCB 3d Armored Division (5-6 Sep)
Hq and Hq Battery 188 Field Artillery Group (5 Sep)
981st Field Artillery Battalion (155mm gun)(5-17 Sep)
629th Tank Destroyer Battalion (SP)(16-25 Aug)

VII Corps Artillery

13th Field Artillery Observation Battalion (-Batteries "A" & "B")
Battery "A", 17th Field Artillery Observation Battalion
142d Field Artillery Group
980th Field Artillery Battalion (-Battery "A")(155mm gun)
981st Field Artillery Battalion (-Battery "A")(155mm gun (to 5 Sep))
195th Field Artillery Battalion (8" how)
188th Field Artillery Group
172d Field Artillery Battalion (4.5" gun)
183d Field Artillery Battalion (155mm how)(17 Aug)
18th Field Artillery Battalion (105mm how)
987th Field Artillery Battalion (155mm gun SP)
58th Armored Field Artillery Battalion (105mm how SP)

German Order of Battle
(units facing US VII Corps)

13 August

Seventh German Army

LVIII Panzer Corps

708th Infantry Division

Reconnaissance Battalion 9th Panzer Division

Eberbach Panzer Group

1st SS Panzer Division

27 August

First German Army

43th Infantry Division

elements of 9th SS Panzer Division

LVIII Panzer Corps

remnants of 9th Panzer Division

remnants of Panzer Lehr Division

8 September

Seventh German Army

LXXXI Corps

116th Panzer Division

49th Infantry Division

LXXIV Corps

105th Panzer Brigade

remnants of 347th Infantry Division

elements of 89th Infantry Division

I SS Panzer Corps

2d SS Panzer Division

remnants of 12th SS, 1st SS Panzer Divisions

elements of 2d Panzer Division

WEATHER, 13 AUGUST-12 SEPTEMBER 1944

Date	Weather
August 13	Clear, visibility unlimited
14	Clear, visibility unlimited
15	Warm, clear, visibility excellent
16	Warm slightly cloudy, visibility good
17	Clear, visibility fair, improving during the afternoon
18	Warm, clear to slightly cloudy, visibility excellent
19	Warm and raining during the latter part of the period, visibility good to fair
20	Fair until evening, then unsettled with rain
21	Rain throughout the period, visibility poor
22	Fair, occasional showers, visibility poor
23	Clear first part of the period, light rain after 1800 visibility good to poor
24	Warm and cloudy with rain, cleared about 1630, visibility fair to good
25	Clear, visibility unlimited
26	Clear, Visibility good
27	Clear, visibility good
28	Clear, visibility good
29	Moderate rain, visibility poor (Germans say very cloudy, dry)
30	Cloudy, visibility poor
31	Clear in morning, intermittent showers during afternoon
September	
1	Clear, Visibility good
2	Generally clear, cloudy in late afternoon, visibility good
3	Cool and cloudy, visibility good
4	Clear, visibility good
5	Generally clear, visibility good
6	Clear early part of the period, rain late evening, visibility good to poor
7	Cloudy and rain, clearing later afternoon, visibility poor to fair
8	Clear in morning, light scattered showers in afternoon, visibility poor to fair
9	Clear and cold, visibility good
10	Clear, visibility good
11	Clear, visibility good
12	Clear, visibility good

US VII CORPS OPERATIONAL SUMMARY
13 August - 12 September 1944

Date	Engagement Designation	Mission Factor	Remarks	Defenders Posture	Distance Advanced			
					Intense Opposition	Moderate Opposition	Slight Opposition	Negligible Opposition
Aug 13	Falaise-Argentan	8	Attack from Mayenne R line, 3AD on right, IID on left	W/d	..	..	26.0	..
14	Falaise-Argentan	7	Adv toward Briouze-Fromental-Econche continues, varying resistance	Del	..	4.0	..	..
15	Falaise-Argentan	7	Adv continues; 9ID committed in center	Del	..	4.0	..	..
16	Falaise-Argentan	7	1st Div halts on Corps objective line at Briouze; IID & 3AD continue adv	Del	..	6.0	..	..
17	Falaise-Argentan	7	Corps halts on objective line; 3AD continues to be engaged in Fromental area	Del	..	3.0	..	..
18	..	..	Consolidation, reorganization, minor activity in 3AD area	..	..	..	..	P
19-20	..	..	Assembly areas	..	..	..	..	P
21-25	..	..	Adv moves to Seine R, S of Paris, in Corchil-Melan area	..	..	..	..	P(240)
26	Saone-Marne	9	Adv from Seine R, after adm crossing; 4 Cav Gp & 3AD in lead	W/d	..	..	..	35.0
27	Marne A	9	3AD crosses Marne in Meaux-La Ferte area; IID & 9ID cross S. in.	W/d	..	..	..	25.0
28	..	..	3AD passes Chateau Thierry & approaches Soissons; others follow, not engaged except against stragglers	W/d	..	..	..	63.0
29	Aisne R	9	3AD crosses Aisne R; mostly consolidation & mopping up; IID & 9ID continue to follow	W/d	..	..	..	19.0
30	Laon	9	3AD encounters more resistance, takes Laon; IID and 9ID follow	Del	..	..	16.0	..
31	..	..	3AD adv. continues, followed by IID & 9ID; elements 9ID make contact with enemy in center of Corps zone	..	..	..	..	28.0
Sep 1	..	..	Axis of Corps adv shifted from N to N. 3AD reaches La Neuville & Hirson in adv toward Mons; 4 Cav Gp seized Mazières; 9ID advances in center of Corps zone	Del	..	..	26.0	..
2	Mons-Mauberge	8	3AD spearheads reach Mons; 9ID crosses into Belgium to Charleroi; IID follows to Mons (encountering forces bypassed by 3AD)	W/d	..	..	35.0	..
3	Mons-Mauberge	8	Corps axis shifts E to secure Meuse R crossings; 3AD consolidates Mons; IID encounters severe resistance in Mons-Savaux-Mauberge area; 9ID adv rapidly against scattered resistance	W/d	..	..	16.0	..
4	Mons-Mauberge-Meuse R	7	3AD reaches Meuse at Namur; 9ID at Meuse near Dinant; IID cleans up Mons-Mauberge	W/d	..	..	35.0	..
5	Mons-Mauberge	7	3AD & 9ID secure Meuse R crossings in Namur-Dinant area; IID still cleaning up Mons-Mauberge area	Del	..	..	..	..
6	Meuse R	7	3AD adv S of Meuse to Hily, 9ID held up near Dinant; IID follows to Charleroi	Del	..	14.0	..	..
7	Dinant-Liège	7	3AD reaches Liège; 9ID secures Dinant continues E; IID reaches Namur	Del	..	..	20.0	..
8	Dinant-Liège	7	3AD consolidates, reconstitutes E of Ourthe; 9ID approaches Ourthe farther S; IID approaches Liège	Del	..	..	22.0	..
9	Dinant-Liège	7	3AD reaches Verwiers; 9ID crosses Ourthe; IID at Liège prepares to attack toward Aachen	Del	..	7.0	..	..
10	..	..	Most of Corps consolidated; patrolling by 3AD; 9ID elements attack; 4 Cav Gp reaches Malmedy	Del	..	..	..	..
11	..	..	Corps approaches German border; IID & 3AD attack in 4; 3AD takes Eupen; 9ID consolidates; 4 Cav Gp secures Malmedy	Del	..	8.0	..	..
12	..	..	Corps reaches German border & Siegfried Line against increasing resistance	Del	..	5.0	..	..
Total Distance Advanced: 645.0 km					..	59.0	266.0	410.0
Average Distance per Day: 21.8 km (31 days)					..	6.6(9 days)	27.3(7 days)	41.0(11 days)
Days Not Advancing: 3 (10%)					..	..	..	..

91% admin. strat. mvms are excluded, total advance was 170 km in 5 days or 34.0/day.

US 1ST INFANTRY DIVISION OPERATIONAL SUMMARY
13 August - 8 September 1944

Date	Engagement Designation	Mission Factor	Remarks	Defenders Posture	Distance Advanced			
					Intense Opposition	Moderate Opposition	Slight Opposition	Negligible Opposition
Aug 13	Falaise-Argentan	8	Attack from Mayenne R. line	W/d	..	..	10.0	10.0
14	Falaise-Argentan	3	Advance continue, on Briouze-Falaise axis against spotty resistance	W/d	..	6.0	..	..
15	Falaise-Argentan	8	Div elements reach objective line & await British arrival from N	W/d	..	6.0	..	..
16	Falaise-Argentan	8	Remainder of Div reaches Briouze-Fromental Road, objective line	W/d	..	4.0	..	..
17-23	...	..	Consolidation & reorganization in assembly area	..	..	..	..	P
24	...	..	Adm move to Courville sur Eure	..	..	..	..	P(150)
25	...	..	Adm move to vicinity of La Ferte starts	..	..	..	..	P(90)
26	...	..	Inactive, move completed, prepare to cross Seine R.	..	..	..	..	P
27	...	..	Crosses Seine; follows 3AD in left of Corps zone	..	..	..	..	P(50)
28	...	..	Adm move continues to Meaux area	..	..	..	..	P(30)
29	...	..	Adm move continues to vicinity of Villers Cotterets	..	..	..	..	P(40)
30	...	..	Adm move continues to vicinity Soissons; some enemy artillery fire encountered	..	..	..	..	P(30)
31	...	..	Div protects Corps left from Soissons to Laon; adm adv to NE continues to vicinity Laon	..	..	..	..	P(20)
Sep 1	...	..	Adm adv behind 3AD continues to vicinity Marie; flank protection mission unchanged;	..	..	..	..	P(33)
2	...	..	Some resistance met as Div appr Fvesnes	W/d	..	..	..	40.0
3	Mons-Maubeuge	7	Considerable resistance at Eava and Maubeuge as cut-off German forces try to fight way to east	Del	..	..	22.0	..
4	Mons-Maubeuge	7	Hard fighting as Mons is cleared	Del	..	15.0	..	..
5	Mons-Maubeuge	8	Div in essentially defensive posture against A repeated attacks by retreating Germans					(No advance attempted)
6	...	..	Adm adv to Charleroi in left of Corps zone; W/d continued mopping-up in Mons area	..	..	..	10.0	28.0
7	...	..	Move continues to Namur area; little resistance	W/d	..	..	10.0	20.0
8	...	..	Adv continues to vicinity Liege while protecting Corps left	W/d	..	..	..	55.0
Total Distance Advanced: 679.0 km					..	31.0	52.0	596.0
Average Distance per Day: 25.1 km (27 days)						7.8(4 days)	20.8(25 days)	51.3(11.5 days)*
Days Not Advancing: 9 (33.3%)								

*If administrative moves are excluded, total advance was 153 km in 3.5 days, or 43.7/day.

US 3D ARMORED DIVISION OPERATIONAL SUMMARY
13 August - 12 September 1944

Date	Engagement Designation	Mission Factor	Remarks	Defenders Posture	Distance Advanced			
					Intense Opposition	Moderate Opposition	Slight Opposition	Negligible Opposition
Aug 13	Falaise-Argentan	9	Attack from Mayenne R bridgehead at Mayenne; adv to Ranès	W/d	..	..	35.0	..
14	...	6	Intense resistance at Ranès	Del	2.0	..	..	..
15	...	6	Intense resistance at Ranès continues	Del	2.0	..	..	..
16	...	6	Adv continues toward Fromental	Del	..	6.0	..	..
17	...	7	Resistance stiffens in Fromental-Ecouche area; objective line reached	Del	3.0	..	..	..
18	...	..	Div consolidates on objective line	..	..	..	..	P
19-21	...	..	Consolidation & reorganization in assembly area	..	..	..	..	P
22	..	..	Adm move to Crazeaucuf	..	..	..	..	P(110)
23	...	..	Inactive; move completed	..	..	..	..	P
24	...	..	Adm move to Chevannes-Tilly area	..	..	..	..	P(130)
25	...	..	Inactive; move completed	..	..	..	..	P
26	Seine-Marne	9	Adm crossing of Seine; adv NE toward Chateau Thierry-Soissons	W/d	..	..	..	35.0
27	Marne R	9	Adv continues on broad front across Marne through Meaux	W/d	..	..	..	35.0
28	...	..	Right passes through Chateau Thierry; left reaches Soissons	W/d	..	..	..	63.0
29	Aisne R	9	Aisne R crossed; mostly consolidation	W/d	..	..	..	19.0
30	Aisne R-Laon	9	Adv continues to Laon, resistance slight but increasing	Del	..	..	16.0	..
31	...	..	Adv continues to Vervins-Rethel line	W/d	..	..	..	28.0
Sep 1	...	..	Axis shifted to N; adv toward Mons, new objective	Del	..	..	22.0	..
2	Mons-Maubeuge	6	Drive reaches Mons	W/d	..	..	..	40.0
3	...	..	Delay due to lack of fuel; consolidation	..	..	..	..	P
4	Meuse R	6	CCA, on left, held up by resistance near Charleroi; CCB, on right, reaches Meuse at Namur	Del	..	..	..	45.0
5	Meuse R	7	Consolidation in Namur	W/d	..	..	10.0	..
6	Meuse R	7	After fuel delay, adv continues E	W/d	..	..	28.0	..
7	Liege	7	Div reaches Liege	W/d	..	..	20.0	..
8	...	..	Consolidation, reconnaissance to E	..	..	..	..	P-3
9	Verviers	7	Adv appr Verviers	Del	..	..	17.0	..
10	...	..	Consolidation of Verviers; recon to E	Del	..	3.0	..	..
11	Eupen	8	Eupen seized against increasing resistance	Del	..	11.0	..	..
12	...	..	Vigorous patrolling to frontier and Siegfried Line	Del	..	..	6.0	..
Total Distance Advanced: 687.0 km					9.0	20.7	162.0	498.0
Average Distance per Day: 27.2 km (31 days)					2.3(3 days)	6.7(3 days)	20.3(9 days)	55.0(9 days)*
Days Not Advancing: 7 (22.6%)								

*If administrative moves are excluded, total advance was 163 km in 4 days, or 40.8/day.

US 9TH INFANTRY DIVISION OPERATIONAL SUMMARY
15 August - 10 September 1944

Date	Engagement Designation	Mission Factor	Remarks	Defenders Posture	Distance Advanced			
					Intense Oppositn	Moderate Oppositn	Slight Oppos'tn	Negligible Opposition
Aug 15	Falaise-Argentan	7	Div enters line between 3AD and IID	Del	..	..	6.0	..
16	Falaise-Argentan	7	Adv continues toward objective line	Del	..	8.0	..	..
17	Falaise-Argentan	7	Div reaches objective line	W/d	..	3.0	..	..
18-20	...	..	Consolidation & reorganization in assembly area	..	..	..	..	P
21	...	..	Adm move to Mortagne	..	..	..	..	P(60)
22	...	..	Inactive; move completed	..	..	..	..	P
23	...	..	Adm move to Verneuil	..	..	..	..	P(50)
24	...	..	Inactive; move completed	..	..	..	..	P
25	...	..	Adm move to vicinity of Corbeil	..	..	..	..	P(130)
26	...	..	Inactive; move completed	..	..	..	..	F
27	...	..	Cross Seine; follow 3AD in right of Corps zone	..	..	..	..	P(40)
28	...	..	Adm move continues	..	..	..	..	P(35)
29	...	..	Adm move continues to Chateau Thierry	..	..	..	..	P(40)
30	...	..	Adm move continues to Aisne R.	..	..	..	..	P(35)
31	...	..	Resistance encountered near Rozoy; Div becomes center unit in Corps zone	W/d	..	..	..	48.0
Sep 1	...	..	Adv continues to vicinity of Ver vins	W/d	..	..	25.0	..
2	...	..	Adv into Belgium to Chenay	W/d	..	..	24.0	..
3	...	..	Adv eastward through Florennes & Philippeville	W/d	..	..	..	32.0
4	...	..	Div reaches Meuse near Dinant	W/d	..	22.0	..	..
5	Meuse R	7	Crossing against substantial resistance	Del	1.0	..	..	..
6	Meuse R	7	Resistance continues intense; Dinant encircled	Del	2.0	..	..	..
7	Meuse R	8	Bridgehead consolidated; Dinant secured; advance continues	W/d	..	3.0	..	..
8	...	..	Adv eastward; negligible resistance	W/d	..	..	37.0	..
9	Ourthe R	8	River crossed near Aywaille	Del	..	..	11.0	..
10	...	..	Adv E slowed by lack of fuel for supporting tanks	..	..	..	9.0	..
Total Distance Advanced: 626.0 km					3.0	41.0	112.0	470.0
Average Distance per Day: 23.2 km (27 days)					1.5(2 days)	10.3(4 days)	18.7(6 days)	52.2(9 days)*
Days Not Advancing: 5 (10.5%)								

*If administrative moves are excluded, total advance was 80 km in 2 days or 40.0/day.

Analysis of Advance Rates of the VII Corps,
3d Armored Division, 1st Infantry Division,
and 9th Infantry Division

The matrix analysis sheets present in tabular form on a daily basis all data assembled for this study from World War II records that appear to have a relation to the rates of advance of the US VII Corps and its three component divisions during the period 14 August-12 September 1944. The effect of Allied air power, with aircraft almost constantly overhead in daylight hours almost every day, was probably greater than suggested by the indicated specific instances of close support in the corps zone of advance.

From this matrix the following comments are made:

1. The effect on rates of advance of major obstacles, even when not seriously defended, is clearly demonstrated on the matrix analysis charts.
2. Fluctuations in rates of advance appear to be more significantly affected by obstacles and by intensity of hostile opposition than by force ratios.
3. Weather appears to have little effect upon rates of advance where resistance is scattered and the road net is good.
4. It seems possible to sustain tactical administrative march rates of 55-60 kilometers per day, despite necessary security measures to meet possible, though unexpected, opposition on the march and in bivouac.
5. Major obstacles do not appear to affect tactical administrative march rates.

KEY TO ABBREVIATIONS AND VALUES ANALYSIS MATRICES

General

Pause . . . P Yes Y
 Unknown . . U Not Applicable . NA

Roadnet Mobility Factors

		<u>Normal Values</u>
Unlimited cross-country movement	1.0	. .
Good road net	0.7-0.9	. . 0.8
Fair road net	0.4-0.6	. . 0.5
Poor road net	0.1-0.3	. . 0.2
Impassable terrain	0.0	

Mission Variables

Unlimited	1
Related to specific objectives or contingencies	2
Related to adjacent units advance	3
Limited by higher authority control	4
Other	5

Exceptional Obstacles to Advance

R = River Fl = Flooded area FZ = Fortified Zone
 Dn = Exceptionally effective demolitions Ur = Urban area
 Sa = Sabotage by local populace Ds = Desert

Intensity of Opposition to Advance

I = Intense M = Moderate S = Slight N = Negligible

Situation on Flanks

L = Left flank units C = Comparable advance F = Faster advance
 R = Right flank units S = Slower advance T = Flank threatened

Readiness Condition

Fr = Fresh W = Weary
 T = Tired E = Exhausted

Posture - Mission

W/d = Withdrawal HD = Hasty Defense FD = Fortified Defense
 Del = Delay PD = Position Defense

E. Le Mans to Metz, 14 August-14 September 1944
XX Corps

U.S. Situation as of 14 August

In the confusion that prevailed as the Falaise pocket narrowed in early August, XX Corps, Third U.S. Army, was ordered by General George Patton on 13 August to advance from the general area of Le Mans northeast to Dreux, to cut the German escape route to the Seine. There were at the time three divisions assigned to the XX Corps: the 5th Infantry Division, under Major General S. LeRoy Irwin, which was in the vicinity of Angers, the 80th Infantry Division, west of Alencon, commanded by Major General Horace McBride, and the 7th Armored Division, under Major General Lindsay Silvester, arriving on the afternoon of 13 August about 25 miles east of Le Mans, at La Ferte Bernard. The 80th was transferred to V Corps on 17 August and did not participate in the XX Corps advance. Its operations consequently are not included. At noon on 14 August, Major General Walton Walker, commanding the XX Corps, ordered the 7th Armored Division to advance to Dreux and Mantes-Gassicourt.*

German Situation as of 14 August

By this time it was evident that the German front in Normandy had virtually collapsed. The Seventh and Fifth Panzer Armies of Army Group B were threatened with encirclement west of the Seine in the Flers-Falaise-Argentan area, with little possibility of halting the converging drives of the British from the north, the American First Army from the west and southwest, and elements of the American Third Army sweeping around to the south of the First Army and threatening to encircle the remnants of the two German armies. The question now was whether enough of these two German armies could break away from the threatened encirclement to establish a new line along the lower Seine River.

The eastward swing of the American Third Army, and its rapid advance through Le Mans, also was threatening Paris, Orleans, and the Seine-Loire or Paris-Orleans Gap between those two cities. This advance, if it continued, could cut off all German forces in southern

*The main supply roads and installations supporting the Third Army are shown on the maps, pages E33 and E34.

France, and most seriously would isolate the Nineteenth Army, which was attempting to cope with an Allied amphibious landing on the Riviera coast. Although there were painfully few units available to try to halt this Third Army thrust, a few were scraped together, and placed under the command of the German First Army (which had been in command of the German forces in southwestern France) with the mission of holding Orleans, Chartres, and the Paris-Orleans Gap. Meanwhile orders were issued to German units in southwestern France to begin a withdrawal northward.

The original mission of the First Army was to form a defensive front roughly from Mencon (left flank of the Seventh Army) to the Loire River west of Orleans, to prevent an American advance toward the upper Seine and Loire Rivers.

14 August

XX Corps Situation

7th Armored Division. The attack was launched at 141500, with CCA on the north, CCR in the center, and CCB on the right. They had advanced against slight resistance over 15 miles, and had passed Nogent le Rotrou, already taken by the Free French, when, just before 2200, word came from General Walker to change the direction of advance to due east, in order to avoid collision with the XV Corps on the left, and head for Chartres, en route to the Seine south of Paris.

5th Infantry Division. The division was not engaged.

German Situation

Seventh Army Area. Scattered elements of the Seventh Army in the Mencon-Mortagne-Nogent le Rotrou sector were incapable of offering any cohesive resistance to the XX Corps advance toward Dreux. However, a number of vicious, uncoordinated defensive struggles did serve to slow down the American advance.

First Army Area. First Army headquarters designated Chartres as an "absorption point," where scattered garrison troops and stragglers from the Normandy battle were to be collected and reorganized. Similar collection points were established at Chateaudun and Orleans. First Army headquarters was set up in Chartres.

15 August

XX Corps Situation

7th Armored Division. With CCA behind CCR on the left, and CCB on the right, the division proceeded east; elements were at La Coupe

at 151035 and Courville at 151115. CCA and CCR were to advance eastward north of Chartres in a single column. CCB approached Chartres in the evening in two task forces, with balanced elements of the 23d Armored Infantry and 31st Tank Battalions. One task force attacked from the northwest, the other from the southwest. At 152000 the forces entered the town but were met with stiff infantry resistance and artillery fire. Under cover of darkness the U.S. forces withdrew. The division was ordered at 151745 to halt, strengthen its position, and await further orders.

5th Infantry Division. The division was ordered to advance by motor transport to the area near Illers, south of Chartres, and prepare to move into the 7th Armored Division bridgehead over the Eure River. Two regiments reached a point just southwest of Chartres by dark.

German Situation

At Chartres, reorganization of shattered remnants of the 17th SS Panzer Division and 352d Infantry Division had begun. The commanding General, Kurt von der Chevallerie, was holding a conference at his headquarters in Chartres, planning for the anticipated early arrival there of the 48th Division from the Fifteenth Army in northern France, and the 338th Division from the south, when armored spearheads of the U.S. 7th Armored Division approached the town. Prompt and effective counterattacks drove out the American tanks that penetrated slightly into the northwest portion of the town, and prevented any further advance by American armored units approaching from the southwest.

16 August

XX Corps Situation

7th Armored Division. The north column of CCA was at Mittainville at 0930 and ordered to assemble south of Epernon. CCB attacked Chartres again in the morning, the 24th and 25th Armored Infantry Battalions of CCR entered the city from the north, and by 161200 reports indicated that much of the town was in American hands. CCA was at Maintenon, and CCR four miles east, on the Chartres-Paris highway.

5th Infantry Division. The division was assembled southwest of Chartres.

German Situation

During hard fighting in Chartres, American troops that penetrated into the town were driven out. A coherent defensive front extending

south of the town was established as additional units were collected, including advance elements of the 48th and 338th Divisions. However, American tank units were working their way eastward, north of Chartres, cutting the road to Paris and threatening to encircle the city. The threat of encirclement became more serious as the American 5th Infantry Division was identified approaching from the southwest. The recently-arrived commanding general of the 48th Division was placed in command of the defense of Chartres. Farther south American troops seized Orleans, threatening the First Army line.

17 August

XX Corps Situation

7th Armored Division. Corps artillery, most of it having moved 72 miles in one day, arrived to support the final attack on Chartres. The 193d FA Group and the 4th TD Group were attached to the 7th Armored Division. The 195th and 5th FA Groups were supporting the corps in the Chartres area.

CCA, which had encircled the city, engaged 10-12 enemy tanks south of Chartres during the night and some German infantry east and northeast of the city. CCA and CCB were ordered to move north and take over Dreux, which had been captured by the 5th Armored Division, XV Corps. The 7th Armored Division was to patrol vigorously throughout the zone, mop up, and maintain contact with the 5th Armored Division. CCA advanced across the Voise River to the vicinity of Ecrosne.

5th Infantry Division. The division was ordered to relieve the 7th Armored Division at Chartres, occupy the bridgehead there, mop up, and maintain contact with the 7th and with the XII Corps on the right. RCT 2, minus one battalion, was closing in the vicinity of Meslay le Vidame at 172115. RCT 10 was closing in the vicinity of Villeneuve at 171950. RCT 11, minus the 3d Battalion, was closing in the vicinity of Prunay at 172000. Elements were at Vove, prepared to move on Etampes.

New Army Group Orders. Lt. General Omar Bradley, commander of the 12th Army Group, decided on 17 August to order an advance to the Seine River. Accordingly, late in the day Patton ordered the XII Corps to remain at Orleans, the XX to complete the cleanup at Chartres, and assume responsibility for Dreux, and the XV to proceed to Mantes-Gassicourt and the Seine River.

German Situation

Efforts to stop the slow American encirclement of Chartres were unsuccessful. There were not enough forces available to establish

a front between Paris and Orleans, and the few available units were dispersed to control and block roads and to delay at major communications centers south of Paris and west of the Seine.

18 August

XX Corps Situation

7th Armored Division. CCB, with assistance from the 5th Infantry Division, mopped up in Chartres and then proceeded with the rest of the 7th Armored. With CCA on the west, CCB on the east, and CCR on the south, and the 814th TD Battalion (SP) and 204th AAA AW Battalion (SP) attached, the division moved up to occupy the Dreux bridgehead, which had been established by the 5th Armored Division on 16 August.

5th Infantry Division. At midnight the 3d Battalion, 11th Infantry, attacking toward Chartres, encountered stubborn enemy resistance, including tanks and artillery, southwest of the city. The division spent the day organizing defensive positions east of Chartres and mopping up the last resistance within the city. The 1st Battalion, 11th Infantry, prepared to move to the vicinity of Le Tremblay as part of corps reserve. The division line ran Houx-Voise River-Auneau-Voves.

German Situation

A counterattack to break the encirclement of Chartres was mounted from the southeast. The First Army Assault Battalion and elements of one of the regiments of the 48th Division made up the attacking force, but they were unsuccessful. Orders were issued to units in Chartres to fight their way out to the southeast.

The virtual collapse and disappearance of the Seventh Army caused OB West to place the Military District of Paris, remnants of the 352d Division west of Paris, and remnants of the Panzer Lehr Division under First Army.

19 August

XX Corps Situation

7th Armored Division. The division completed the move into the Dreux bridgehead.

5th Infantry Division. The division consolidated its positions in and around Chartres, where organized resistance had ceased by 1300.

German Situation

There was no serious pressure from the American forces. This provided General von der Chevallerie opportunity to continue his efforts to establish a defensive front along the Seine, south of Paris, and thence through Nemours-Montargis-Gien-Orleans. At this time the First Army consisted of three divisions, the Military District of Paris, and a conglomeration of other small units (mostly service organizations) of regimental or battalion size. The 48th Division was newly organized, lacked combat experience, and was short of equipment and weapons. The 348th Infantry, relatively immobile and organized for coastal defense, was arriving from the north. It was short of training and equipment. About one third of the 338th Division, its condition comparable to that of the 348th, was available, but it had suffered severely in the defense of Chartres and Orleans. The 17th SS Panzer Grenadier Division was in the process of being reorganized from the remnants of the 17th, 26th, and 27th SS Panzer Grenadier divisions, all having been virtually destroyed in Normandy. (One other division, the 18th Luftwaffe Division, was en route, but was diverted before it could join the First Army.) All in all, First Army infantry strength, to cover a front of more than 120 kilometers, threatened by two American corps, was not more than the equivalent of two full-strength divisions; artillery strength was probably about the equivalent of one division.

20 August

XX Corps Situation

The XX Corps was alerted to move east on the line Chartres-Etampes-Fontainebleau-Montereau. The 1st Battalion, 11th Infantry, was relieved from corps reserve and closed in the 11th Infantry area at 202030.

German Situation

There was little change. All commanders were taking advantage of relaxed American pressure to improve the defenses of scattered strongpoints west of the Seine. The 348th Division was diverted to the area north of Paris, out of Army control.

21 August

XX Corps Situation

7th Armored Division. With CCA on the north and CCR on the south, the division started off at 0700 in a light, but steady, rain, with

the objective Melun, about ten miles north of Fontainebleau. CCB was to move to the vicinity of Rambouillet in corps reserve. The terrain was hilly and wooded, until it dipped to the valley of the Seine between Corbeil and Melun. Steep hills confined the roads to narrow valleys, with heavy forest on both sides, providing cover for German ambushes. At Limours the tanks were halted by a determined rear guard, assisted by minefields and roadblocks. Despite the obstacles, however, the division advanced about 30 miles.

5th Infantry Division. The division moved out at about 0700 in three columns, with the 2d Infantry on the north, the 10th on the south, and corps and division artillery between for support. At 0905 RCT 2 was held up in the vicinity of Coale St. Mere by small arms and artillery fire. A half hour later RCT 10 had reached a point west of Malesherbes, where it encountered heavy opposition. Overcoming the resistance, the regiment crossed the Essonne River and advanced three miles farther. The 2d Infantry, meeting strong resistance at Etampes, delayed to encircle the town and capture it. The division commander promptly sent the 11th Infantry south of the town and on across the Essonne River. The division advanced about 40 miles.

German Situation

The incomplete 48th Division, which was opposite the advancing American 7th Armored and 5th Infantry Divisions of the XX Corps, was forced to give up most of its advanced strongpoints, falling back some 50 kilometers east of the forward positions held at the beginning of the day. By evening the division line stretched generally from Limours southward to Etampes.

22 August

XX Corps Situation

The advance slowed, as all units encountered stiffer resistance.

7th Armored Division. CCB was ordered to move east from the vicinity of Rambouillet, via Limours, Corbeil, to Melun, bypassing enemy resistance. CCA, approaching Arpajon, encountered heavy fire from German artillery. CCB reached the rail line on the outskirts of Melun but was unable to take the city in two attacks supported by air and artillery. CCA advanced to Dannemois. CCR occupied St. Cheron.

5th Infantry Division. At 1030 RCT 11 was in the vicinity of Prunay sur Essonne. RCT 10, after a trestle bridge across the Essonne was completed, reached the area 4,000 yards west of La Chappelle la Reine at 1130 and proceeded to the high ground west of Montereau. RCT 2 encountered enemy resistance east of Etampes, after taking the town. RCT 11 took Milly in spite of German artillery fire and advanced to the Essonne River.

German Situation

In the northern part of its 80 kilometer front, the 48th Division was unable to stop a determined American tank drive almost to Melun, on the Seine River. However, effective defense halted the American drive at that point. Farther south German units were forced back to the Essonne River, midway between Etampes and Fontainebleau. The Army command post was displaced from Fontainebleau to east of the Seine.

23 August

XX Corps Situation

7th Armored Division. CCA, having moved to Auxonnettes, was ordered to attack at 1500 to seize a bridgehead over the Seine north of Ponthierry. The bridge at Ponthierry had been destroyed, and armored infantrymen crossed the river by boat at the village of Tilly. CCR, on the west bank of the Seine at Melun, was ordered by General Walker to attack at 1500. The city is built on both sides of the river and on an island in between, with a bridge linking the three portions. The Germans demolished the bridge after the American units arrived, but enough of the structure remained to permit the armored infantry to cross and take the island. They could proceed no further, however, and the major part of the city, on the east bank, remained in German hands. CCB remained at Mennecy.

5th Infantry Division. The 11th RCT advanced from Milly without opposition and sent its 2d Battalion on a forced march along the road through the Forest of Fontainebleau and into the town with no resistance. A platoon of tanks following the advance guard encountered artillery fire at Arbonne. The bridge over the Seine at Fontainebleau was blown just as the I and R Platoon approached it. By 1930 two companies had crossed the river by swimming or in captured boats, forming a bridgehead 700 yards deep and 500 yards wide, despite fire from German 88mm, 105mm, and tank guns. At 2300 40-50 German infantrymen, with a Mark VI tank, counterattacked down the road leading to the blown bridge and were driven off. A double counterattack struck at 2345, two tanks and 100 infantry approaching down the road and another 100 hitting the flank of F Company on the north. The two tanks were knocked out by bazookas. Supporting artillery (19th FA Battalion, 50th FA Battalion (light), 284th FA Battalion (light), and a medium artillery battalion of XX Corps Artillery) wiped out the flank attack.

The troops of the 10th RCT crossed the Loing River at a ford near its junction with the Seine, while the regiment's vehicles crossed a bridge at Nemours which had been taken by the Free French.

German Situation

American efforts to seize Melun were again repulsed by elements of the 48th Division. However, seven miles downstream near Ponthierry a small bridgehead over the Seine was established by American armored infantry. Farther south American infantry had also reached the Seine at Fontainebleau and established a bridgehead there. A hastily-mounted German counterattack, less than a company in strength, failed to eject the American infantrymen from their foothold on the right bank. In the extreme south of the 48th Division sector, the Americans captured intact the bridge over the Loing River at Nemours. Counterattacks to eliminate the bridgehead were unsuccessful. The 997th Heavy Artillery Battalion (12 122mm guns) was placed under Army command to help support the Seine River defensive battle near Fontainebleau.

24 August

XX Corps Situation

7th Armored Division. A cloudburst shortly after midnight that lasted almost 40 minutes turned the ground into a quagmire that German tanks could not cross, and precluded effective counterattacks on the bridgeheads.

Four ponton-treadway bridges, including one at Tilly, were constructed across the Seine. The armor and artillery of CCA crossed at Tilly, followed by CCB. CCR was ordered to follow.

5th Infantry Division. Elements of the 11th Infantry continued to cross the river, and enlarged the bridgehead. By 1530 engineers had completed a treadway bridge 300 yards south of the demolished bridge at Fontainebleau, despite enemy small arms and artillery fire. Elements of the 1st Battalion attacked north toward the town of Pericy, which they occupied at 2000. The rest of the 11th RCT, including tanks, tank destroyers, and a cannon company, crossed as soon as the bridge was completed. A battalion of RCT 10 entered Montereau, while two battalions held high ground northwest and northeast of the city.

German Situation

Counterattacks by the 48th Division against the American 5th and 7th Armored Division bridgeheads over the Seine at Fontainebleau and Ponthierry were unsuccessful. So, too, were efforts to impede the prompt American action to expand these bridgeheads. Melun was abandoned as American tanks approached from the north, east of the Seine. The American column advancing through Nemours reached the Seine at Montereau. It was clear that available German forces were totally inadequate to halt the American advance, or even to impose any effective delay upon it.

25 August

XX Corps Situation

Ahead of the Third Army, German defenses were reportedly weak, and the Rhine, 250 miles beyond, was assigned to General Patton as the next objective. The roads between the upper Seine and the upper Rhine were excellent, but a series of rivers flowing generally north presented potential hindrances to advancing military forces. The chief hindrance to the Third Army advance, however, would be supplies, for already rations, clothing, signal equipment, medical supplies, and especially gasoline were running low. Air transports had started delivering supplies at Orleans, and considerable amounts of some vital items, including gasoline, were captured from the retreating Germans. But neither of these sources could be counted on to maintain the necessary levels, and gasoline would soon prove to be the limiting factor in the advance to the Rhine.

The 90th Infantry Division had moved up from Argentan to join the XX Corps. General Patton, relieving the corps of responsibility for Melun, ordered it to advance from Fontainebleau and Montereau to Nogent-sur-Seine and Reims. The XII Corps on the right would proceed from Troyes to Chalons-sur-Marne.

7th Armored Division

Delayed by minefields and roadblocks, CCB had driven south and entered Melun from the northeast in the early morning, driving out the defenders. CCR was on the west side of the city. CCA and CCB attacked Provins at 1800.

5th Infantry Division

RCT 2, which had assembled in the vicinity of Vioux, moved out to the east. RCT 10 completed the crossing of the Seine at Montereau and took position protecting the bridgeheads.

German Situation

With Paris falling to the Allies on the north wing of the German First Army, its left wing collapsing north and east of Orleans, and American spearheads striking eastward into its center from the Seine, in the vicinity of Army headquarters, the First Army's situation appeared to be hardly less desperate than that of the Seventh and Fifth Panzer Armies to its north. The 48th Division, falling back eastward from Melun and Montereau, was opposed by the 7th Armored Division and driven back to Provins by nightfall, with heavy losses and much disruption. The 17th SS Panzer Division, composed of two new, inexperienced panzer grenadier regiments (or the equivalent), with some small attached units which had been sent in to hold near Montereau,

fell back eastward astride the Seine, under less pressure than the 48th, since the U.S. 5th Infantry Division was still completing its crossing at Montereau. The German First Army, deciding that the greatest threat was to its center, ordered the recently arrived, seriously under-strength (one battalion of armored infantry, four or five tanks and assault guns, and a battery of artillery) 9th Panzer Division to shift from its left flank (near the Loire) to the center to bolster the 48th Division and 17th SS Panzer Grenadier Division. American reconnaissance units were encountered at Mouy, Nogent, Romilly, and Troyes.

26 August

XX Corps Situation

In midafternoon XX Corps received orders from Third Army to advance north and capture Reims.

7th Armored Division. The division, regrouping west of Provins, had encountered elements of the 48th and 338th Divisions, horsedrawn artillery of the 708th Division, and tanks of the 17th SS Panzer Grenadier Division.

5th Infantry Division. RCTs 2 and 10 advanced eastward and took Nogent sur Seine from the 49th SS Panzer Grenadier Regiment. RCT 2 arrived at Nogent sur Seine at 261545. Resistance was slight. Patrols reached Sezanne.

90th Infantry Division. Attached were the 712th Tank Battalion, 607th Tank Destroyer Battalion, 537th AAA Battalion, and 284th FA Battalion. RCT 378 crossed the Seine by 2200 to relieve elements of the 7th Armored Division east of Fontainebleau and the 5th Infantry Division at Montereau.

German Situation

Pressure of the American 7th Armored Division against the 48th Division was not so intense as on the previous day. However, armored spearheads reached Pezarches and Coulommiers, passing within one kilometer of the First Army headquarters. Farther south the 17th SS Panzer Grenadier Division was severely mauled by advancing American light tanks and armored cars, in front of the infantry, which reached Nogent sur Seine. By the end of the day American spearheads had reached Sezanne, much of the artillery of both divisions had been overrun, and their communications hopelessly disrupted. That night the army headquarters displaced to Montmirail, bypassing Coulommiers, where a night battle was raging, due to stubborn resistance of the 48th Division.

27 August

XX Corps Situation

The plan of advance was for the cavalry, out in front, to dash to seize the Marne bridges. The armor was to follow, with all its elements committed in multiple columns. The 5th Infantry Division, on the right behind the armor, would advance by motor, dismounting when forced to fight. The 90th Infantry Division would follow as close as possible behind the armor, on the left.

The 3d Cavalry Group advanced rapidly, encountering numerous concentrations of antitank guns and 88mm artillery, including a strong pocket at La Ferte Gaucher.

7th Armored Division. CCA broke through the strong resistance at La Ferte Gaucher and reached Chateau Thierry at dusk. One company of the 40th Tank Battalion and a platoon of the 49th Armored Infantry seized a bridge across the Marne and crossed before the Germans blew it up. Leaving the artillery battalion to cover the elements on the opposite bank against a fierce attack by a battle group of the 9th Panzer Grenadier Division, the rest of CCA moved to the left and crossed on another bridge. Entering Chateau Thierry from the west, it attacked during the night and destroyed the German battle group.

5th Infantry Division. RCT 11 took Provins. RCT 2 occupied Nogent sur Seine. RCT 10 reached the area east of Provins.

90th Infantry Division. The division started moving northeast behind the 7th Armored Division.

German Situation

The general withdrawal continued, under severe pressure from American tanks and armored car columns. First Army Headquarters was caught in the middle of a tank battle at Montmirail, as American spearheads reached the Marne at Chateau Thierry. Behind the crumbling front the LXXX Corps was hastily establishing a new defense line running from Soissons through Epernay to Chalons sur Marne, manned mostly by collected stragglers and a miscellany of small service units. However, units of the 3d Panzer Grenadier Division were also arriving to bolster the left of this line, and remnants of the Panzer Lehr Division were active on the right of the line.

28 August

XX Corps Situation

7th Armored Division. The division advanced to the northeast in seven columns, each with a company of tanks, a company of armor:

infantry, a squad of combat engineers, and a section of tank destroyers. Three armored field artillery battalions were in the center. The 5th Field Artillery Group followed closely, prepared to give rapid support. Having secured Chateau Thierry in the early morning, at 2200 elements of CCA were at Roucy and north of Basmeux. CCR was north of the Marne, moving northeast in the rear of CCA. With the 357th Infantry (motorized), CCR occupied La Ferte Gaucher. CCB was in the vicinity of Epernay. Two platoons of armored infantry had crossed the Marne on a bridge at Dormans before it was demolished by the Germans. The rest of the division crossed on bridges built by the engineers near Damery.

5th Infantry Division. At 0800 RCT 10 attacked from the assembly area east of Provins to the northeast behind elements of the 7th Armored Division. RCT 11 was mopping up Provins. RCT 2 ran into the tail of elements of the 7th Armored Division at Sezanne in the morning, went around and pushed on forward. Elements occupied Vertus. Rear guard defense groups forced the Americans to dismount on the line Montmirail-Champaubert. Advance elements took Epernay and crossed the Marne. By midnight RCT 10 was assembled in the vicinity of Vinay. RCT 11 was in the vicinity of Morangis.

30th Infantry Division. RCT 357 was advancing by motor transport behind elements of the 7th Armored Division. RCT 358 was advancing to Choisy on foot. RCT 359 was shuttling forward, reaching Vassieux. One battalion of RCT 357 was in Chateau Thierry at 2300, while the rest of the RCT was assembled south of the city. The 358th Infantry, less one battalion, was assembled in the vicinity of Viels Maisons.

German Situation

First Army headquarters displaced rearward again through Courtisot to Valmy. The American advance continued, slowed to some extent by scattered German resistance, but no coordinated defensive effort was possible. American armored spearheads reached Epernay and Chalons sur Marne, and effected a crossing over the Marne southeast of Chalons. Total First Army strength was now nine understrength infantry battalions, two batteries of field artillery (presumably about eight 105mm gun-howitzers), 10 tanks, three flak batteries (presumably about 12 88mm guns), ten 75mm antitank guns, and a miscellany of service units probably about the numerical equivalent of 10 to 15 infantry battalions. The most generous strength estimate would be the equivalent of two full strength infantry divisions, with artillery for less than one.

29 August

XX Corps Situation

7th Armored Division. As the XX Corps advanced toward Reims, in front of it the German 49th SS Panzer Grenadier Brigade, the 48th

Infantry Division, the 9th Panzer Division, and the 26th SS Brigade were retreating to the north and east. The 7th Armored Division advanced northeast and took Fismes. Swinging west of Reims in order to cut off reinforcements for the city, the division overran artillery positions of the German 49th Artillery Brigade, 997th Artillery Battalion, and 102d Panzer Artillery Regiment. Crossing the Vesle the 7th continued on to the Aisne.

5th Infantry Division. The motorized RCT 2 entered Reims from the southeast at 2130, encountering only scattered sniper fire. Both RCT 2 and RCT 11 had crossed the Marne by the end of the day. The 359th Infantry was at Dommans and the 357th at Chateau Thierry.

90th Infantry Division. The enemy attacked the division by air at 0130. One aircraft was shot down. No damage was reported.

German Situation

The Marne River line was abandoned. American tanks overran or bypassed scattered German strongpoints as they continued northward and eastward through Fismes and past Reims. Obviously their next objective was Verdun. By this time the 17th SS Panzer Grenadier Division had again been almost destroyed, and the 48th could barely muster the equivalent of a regiment.

On this day the First Army received orders shifting the axis of withdrawal from northeasterly to easterly, and was given the greatly expanded mission of covering the approaches to Germany between Luxembourg and Nancy and preventing a penetration by the rapidly advancing Americans between the army's left wing and the Nineteenth Army--now approaching Dijon in its retreat from southern France. The left wing would be strengthened by the newly arriving XLVII Panzer Corps, with the veteran 3d and 15th Panzer Grenadier Divisions from Italy. Somewhat unrealistically this corps was expected to launch a counterattack from Bar le Duc and St. Dizier toward Reims. (American XII Corps spearheads were already near Bar le Duc.) Four newly organized Volksgrenadier divisions were also to be assigned to the First Army to permit it to carry out its new and greatly expanded mission.

30 August

XX Corps Situation

7th Armored Division. By midmorning CCA and CCR had advanced to a line along the Aisne in the vicinity of Neufchatel and continued to the east, toward Verdun and the Meuse, following the 3d Cavalry Group. CCA was halted at Vouziers by stiff opposition. CCB reached the Aisne.

5th Infantry Division. RCT 10 started crossing the Marne at 0845 and assembled at Epoye, northeast of Reims. All but one battalion of RCT 2 was in Reims. The rest, and RCT 11, were northeast of the city, out of contact with the enemy.

90th Infantry Division. At 1140 the division was ordered to protect the Reims bridgehead and maintain contact with elements of the First Army, to the north.

3d Cavalry Group. The 43d Cavalry Squadron on the north and the 3d Cavalry Squadron on the south moved out at 1500 in platoon-sized groups, each with a section of assault guns or a platoon of organic light tanks. Little resistance was met until the 43d reached the Aisne, where dug-in infantry halted the advance. The 3d advanced along the west side of the river around the Argonne Forest and reached Ste. Menehould.

German Situation

Although the American pressure was perceptibly lessening, confusion was great, and the forces available to First Army could not stop the American drive toward the Meuse at Verdun. Behind the armored spearheads Reims fell to the American infantry. Meanwhile the American tanks drove eastward in a few hours through Rethel, Attigny, and Perth, and into the Argonne Forest. Just beyond the forest, however, elements of the Panzer Lehr and 17th SS Panzer Grenadier Divisions halted the advance along the upper Aisne River. The American XII Corps was making a comparable drive through St. Dizier toward the Meuse at Commercy, further south.

31 August

XX Corps Situation

7th Armored Division. Passing through Ste. Menehould and cutting through the Argonne Forest, elements of the division reached Verdun by noon. Free French patriots cut the demolition wires on the one bridge remaining across the Meuse. CCB's tank guns knocked out two Panthers guarding the approaches, and the combat command crossed the river. German planes attempted to destroy the bridge without success. CCB advanced to Cernay. Sharp fighting continued during the day, particularly north of Verdun, as German counterattacks struck toward Ste. Menehould.

5th Infantry Division. RCTs 10 and 11 jumped off from east of Reims at 1430, RCT 2 at 1750, following the 7th Armored Division. One battalion of RCT 11 was in the vicinity of Ste. Menehould at 1500.

90th Infantry Division. One battalion was sent to Rethal to secure bridges for the First Army, but arrived after the bridges had been blown. The remainder of the division stayed in the Reims bridgehead.

German Situation

Save for the successful American drives on Verdun and Commercy, the First Army front was quiet. Although the Germans did not realize it, this was the result of the American Third Army's fuel shortage. Verdun was lost shortly after noon. A counterattack, spearheaded by the 15th Panzer Division, was started in the afternoon, but communications failures precluded coordinated action by other First Army units and the attack was called off. First Army headquarters, west of the Meuse, crossed the river to Longwy, forced to take a detour because of the American capture of Verdun.

1-5 September

XX Corps Situation

The gasoline shortage in the XX Corps had become increasingly acute as it moved farther from its supply bases. The decision had been made by General Eisenhower to make the main U.S. effort toward the northeast with the First Army, moreover, and to give that army the bulk of the available supply of gasoline. The Third Army managed to establish solid bridgeheads across the Meuse, but there it was forced to halt.

7th Armored Division. The division was northwest and northeast of the Meuse at Verdun. At 030645 a task force from CCR, advancing north on the west side of the river, had reached Mantillois. On the east side of the Meuse, a task force from CCB had advanced to the north to Brabend. These were only demonstrations, however, and at 031640 both were discontinued for lack of gas, the task forces returning to the assembly areas.

5th Infantry Division. RCT 11, less one battalion which was farther behind, was in the vicinity of Verdun at 010600, moving northeast to high ground. RCT 10, less one battalion, was west of Varennes at 011000. The other battalion was moving south to Clermont. RCT 2 at 011000 was west of St. Juvin, except for one battalion, which was in the vicinity of Vouziers. The division continued to mop up and to move east to occupy the Verdun bridgehead. Leading elements of RCT 10 crossed the treadway bridge at Charby at 021145. RCT 11 by 021200 was disposed with the 1st Battalion northeast of Verdun, the 2d Battalion southeast of Bennancourt, the 3d Battalion in reserve. RCT 2 moved into the bridgehead on 3 September,

crossing the bridge at Charny at 1100. On 5 September the division advanced to the line Jeandelize-St. Maurice with no opposition.

90th Infantry Division. One battalion of the 359th Infantry moved to Rethel at 011620 and secured a river crossing. The 357th Infantry was between Cirnay and Reims. The 358th Infantry was in the vicinity of Warnerville. The 359th Infantry was along a line Brienne-Pyillecourt, south of Lecaille. Two RCTs were ordered at 040800 to move east, cross the Meuse at Charny, and occupy a portion of the bridgehead east of Verdun. At 051045 RCT 357 was in the vicinity of Guippes. An advance group had reached Ste. Menehould at 051135. The RCT, less one battalion, was in the bridgehead area at 051620. One battalion had been sent to the woods in the vicinity of Courrupt. RCT 358 had one battalion motorized; the rest was advancing on foot. RCT 259 was still in the Reims area, moving east by foot and motor.

3 Cavalry Group. The group continued to operate on limited reconnaissance raids that took small units into Thionville on the Moselle on 2 September, only to be thrown out. Others were at Beaumont, Benoitville, Contz, and one mile south of Stenay. The 43d Cavalry Squadron was assembling as a mobile reserve in the vicinity of Abbeville on 5 September. The 3d was continuing reconnaissance to the east in the vicinity of Landres and Audonleroman.

German Situation

During this six-day period most of the promised reinforcements arrived in the First Army area. The lull in operations permitted these reinforcements to be allocated according to the newly developing Army defense plan, rather than in the piecemeal and haphazard fashion that had been necessary during the two previous weeks of retreat and disaster.

On 1 September OB West estimated that the combat strength of First Army was about three and one-half divisions, including elements of the 3d and 15th Panzer Grenadier Divisions, which had begun arriving about 28 August. Between 1 and 5 September the remainder of both the 3d and the 15th Panzer Grenadier Divisions arrived in the First Army area (the 15th at less than half strength), as did the newly organized 559th and 553d Volks Grenadier Divisions (the 559th at about half strength), part of the 19th Volks Grenadier Division, and the 106th Panzer Brigade. The 17th SS Panzer Grenadier Division was reorganizing and was perhaps at 75-85% of full strength, but with green personnel. Also incorporated into the First Army was the garrison of Metz, most of which had been gathered into an organization called Division No. 462, which had practically no artillery or service units, but which did include high caliber troops: student classes and school troops of an officers candidate school and a signal school. By 6 September the total strength of First Army could be estimated at close to six full-strength infantry divisions, plus a little armor, but very little artillery.

Opposite the XX Corps, west of Metz, about half of the First Army strength was incorporated into LXXXII Corps, which included the 17th SS Panzer Grenadier Division, Division No. 462, the remaining elements of the 48th Division (reinforced to close to half its authorized strength), the half strength 559th Volks Grenadier Division, some elements of the arriving 19th Volks Grenadier Division, and the 106th Panzer Brigade. As noted, there was an acute shortage of artillery and antitank guns, and the 17th SS Panzer Grenadier Division had few of its authorized tanks and assault guns. South of the LXXXII Corps, and generally opposite the U.S. XII Corps, was the XLVII Corps, with the remainder of the First Army units. About one-fourth to one-third of the 3d Panzer Grenadier Division was opposite the extreme right flank of the U.S. XX Corps. The total force opposite XX Corps was estimated by Corps G-2 as about 33,500 men, with about 160 tanks and assault guns; the personnel strength estimate was probably quite accurate; the tanks and assault guns were probably overestimated.

During this period the First Army headquarters had been moved back from Montmedy (after a brief stop in Longwy) to Luxembourg. (Hitler's personal orders precluded the placing of any Army headquarters on German soil; thus the geographically-logical location of Saarbrücken could not be used.)

6 September

XX Corps Situation

Deliveries of gasoline, which had been below the daily consumption rate for several days, began to increase on 4 September. On that day General Patton issued orders to the army to proceed to the east as rapidly as possible. The army, with the XX Corps on the left, would advance in two phases, across the Moselle River, and then to the Rhine. Field Order No. 10, on 6 September, ordered the XX Corps to cross the Sarre River about 30 miles east of the Moselle. The 7th Armored Division was to lead across the Moselle on a wide front, and in multiple columns. The division would bypass Metz, leaving it to the 5th and 90th Infantry Divisions.

3d Cavalry Group. Five task forces of cavalry stuck out for the river line from Thionville to Pont-a-Mousson. By 1100 one task force was fighting for a ford at Arnaville. Others reached points near Ars sur Moselle and Mœris. The main effort was made from Mars la Tour toward Gravelotte, where a road crater in the draw halted the vehicles in range of German artillery in and around Fort Jeanne d'Arc. A second attempt failed to make more progress.

7th Armored Division. Elements of the division moved east at 060300; CCB was crossing the Meuse at 061000. At 1400 the main attack

took off, with two columns of CCA on the left, two of CCB on the right, and CCR behind CCB. Most of the 23d Armored Infantry Battalion, a company of light tanks, and a company of armored engineers remained behind because of a shortage of gas. At 1800 CCA encountered Germans near Ste. Marie aux Chenes and became involved in a stubborn battle with infantry supported by artillery which lasted all night. CCB, meanwhile, had met up with part of the cavalry reconnaissance force, engaged with the enemy guns west of Gravelotte. Ordered to bypass this area, the north column of CCB proceeded to Rezonville, where it encountered a number of infantry and machine gunners in the ravine to the east on the edge of the Bois des Ognons. Part of the 23d Armored Infantry Battalion arrived at dusk and was ordered to advance to the Moselle. The right column of CCB went around other elements of the reconnaissance force at Buxieres and proceeded to Gorze, where a company of medium tanks of the 31st Tank Battalion was stopped by mines and antitank fire. A company of the 23d Armored Infantry reached the canal between Arnville and Noveant, but was driven out with heavy casualties the following morning.

5th Infantry Division. The division was preparing to follow the 7th Armored in the attack to the east.

90th Infantry Division. By midnight all units had closed in a concentration area in the vicinity of Etain.

German Situation

Covering forces of the LXXXII Corps were pushed back toward Thionville and Metz by the American advance, the line being roughly from Aumetz southeast to Mondelange, thence south through Gravelotte and Gorze. American armored spearheads reached the Moselle near Mondelange, north of Metz, and near Arnville south of the city.

7 September

XX Corps Situation

7th Armored Division. During the night the 23d Armored Infantry Battalion, minus B Company, fought its way through the woods southeast of Rezonville, reaching the Moselle River just north of Dornot at 0400. The area on both sides of the river was held by the German 203th and 282d Replacement Battalions, and from all sides fire and bullets struck the American battalion. The guns from Fort Driant up the river joined the attack. An assault force of about 70 men crossed the river, but received such heavy artillery fire as well as infantry attacks that they withdrew.

Earlier, small patrols of CCB had crossed the river in the area of Corny. A series of counterattacks, some of them launched from Ars sur Moselle, caused the commander of CCB to request that CCR be sent to assist. As CCR was advancing toward the area, however, it

was halted beyond Mars la Tour and sent back to reserve, to permit the 5th Infantry Division, which had been ordered to advance, to pass through.

The left column of CCA pushed ahead and reached Mondelange, north of Metz, before noon, then turned south in search of a suitable place to cross the river. The right column of CCA was halted by German infantry resistance, aided by four 105mm howitzers at St. Privat. The column succeeded in advancing to Talange by early afternoon, where it joined the left column. A suitable site for crossing the Moselle was found near Hauconcourt, and CCA halted to await bridging materials and orders.

5th Infantry Division. The division attacked to the east at 0800. Battalions 1 and 2, 2d Infantry, (3d was in Corps reserve until 1545) on the left moved ahead until just before noon, when it hit the German defense line on the spur between Amanvillers and Verneville, occupied by the Fahnenjunkerschule regiment. Machine gun fire and artillery raked the advancing American units and halted them with heavy losses.

RCT 11, meanwhile, accompanied by trucks carrying assault boats, was sent toward Dornot. Progress was slow as it encountered roadblocks and minefields.

90th Infantry Division. With the 43d Cavalry Reconnaissance Squadron scouting on the north and west, the division advanced slowly toward the Moselle, with the interim objective the high ground west of Thionville and the final objective the capture of the town and a crossing of the river. Two regiments of the 559th Volks Grenadier Division opposed the advance. The 357th Infantry left Etain in the morning and reached Briey, on the wooded plateau west of the river, where the 2d Battalion became involved in a rugged fight with troops of the German 559th Volks Grenadier Division. The other two battalions, however, surrounded the town and the German defenders, who surrendered the following day. On the left, the 358th Infantry advanced to the high ground west of Trieux, where they were halted by a German rear guard detachment. About four miles southwest of the town the division command post was set up near the town of Mairy. The 329th Infantry Regiment had moved up to Landres, about four miles northwest of Mairy.

German Situation

The American drive toward Metz continued. The 559th Volks Grenadier Division was driven back toward the river in the Briey-Thionville area, and was unable to dislodge the American armor on the river near Mondelange. Division No. 462 firmly held the western defenses of Metz. South of the Metz fortifications American tanks drove the 17th SS Panzer Grenadier Division, and the extreme right flank of the 3d Panzer Grenadier Division, back across the river.

Scattered strong points near Gorze, Arnaville and Noveant were able to hold out with the support of artillery fire from the Metz forts to the north and east. The situation north of the city was considered to be potentially more serious than to the south, and during the day First Army headquarters organized a counterattack to disrupt, and possibly force the withdrawal of the American forces approaching Briey and Thionville. The attacking force was the 106th Panzer Grenadier Brigade, reinforced with one regiment (understrength) of the 15th Panzer Grenadier Division and elements of the 19th Volks Grenadier Division (probably about one understrength regiment). In the late evening the Germans advanced southwest on side roads, past Aumetz, toward Landres and Briey.

8 September

XX Corps Situation

5th Infantry Division. (CCB, 7th Armored Division, attached). In the cold and rain, troops of the 2d Battalion, 11th Infantry, prepared to cross the Moselle River in assault boats brought down by the 7th Engineer Combat Battalion at about 0600. Surprise was impossible, and the troops clustered between Le Chene and Dornot were under continuous fire from German units on both sides of the river. Artillery from Fort Driant 3000 yards to the northwest and Fort Verdun 2000 yards east fired on the crossing. The 23d Armored Infantry Battalion had been reduced to half strength by its earlier action, and one company was assigned to hold the left bank as the rest crossed; the remainder joined the 2d Battalion, 11th Infantry, in the crossing.

After three battalions of 105mm howitzers arrived to support the assault, the boats began crossing the river at about 1045. By 1320 two companies and a few armored infantrymen were across the river, with 81mm mortars and heavy machine guns. Ammunition for the U.S. artillery was rationed, and requests for air support were denied, since most of the XIX TAC was engaged in hitting Brest. After remaining under cover of the trees near the river until late afternoon, while more boatloads of men and equipment were ferried across under enemy gunfire, two assault companies advanced toward Forts Sommy and Blaise, part of the fortifications of Metz, a couple of thousand yards to the east. Although the forts themselves were only lightly manned, they were protected by barbed wire and by a moat and causeway and a high iron fence. As the Americans awaited artillery fire to assist an advance, they were suddenly attacked on both flanks by the 2d Battalion, 37th SS Panzer Grenadier Regiment. Under heavy fire the Americans slowly withdrew to the bridgehead, where the remains of four infantry companies and 48 men of the 23d Armored Infantry Battalion dug in in an area 200 yards wide and 300 yards deep.

To the north the 2d Infantry had been halted by the rugged German defenses on the line Amanvillers-Verneville-Gravelotte. In the early morning the 1st Battalion sustained a strong German attack that resulted in the death or capture of two officers and 66 men. All three U.S. battalions attacked later in the day. The 2d fought its way into Verneville, while the 1st reached Amanvillers, suffering very heavy casualties from German artillery fire. The area being attacked was part of the outer line of fixed fortifications of Metz, defended by some of the toughest of the German troops.

7th Armored Division (-). CCA, 7th Armored Division, had spread out along the west bank south of Talange as a task force composed of the 49th Armored Infantry Battalion, 40th Tank Battalion (-), 695th Armored Field Artillery Battalion, engineers and tank destroyers. There it remained, conducting a continuous artillery duel with the German batteries on all sides. On 8 September alone the 48th Armored Infantry Battalion suffered 63 casualties.

90th Infantry Division. The 90th Division had halted at the point where General der Panzertruppen Otto von Knobelsdorff, new commander of the German First Army, had planned to strike the flank of the U.S. Third Army and drive it south toward the mines around Briey. Having received permission from Hitler to use the 106th Panzer Brigade for two days, von Knobelsdorff sent the brigade south through Aumetz during the night. The Germans moved down side roads between the 358th and 359th Infantry, and hit the command post of the 90th Division near Mairy at 0200. The Americans were completely surprised, and fought back fiercely with an assortment of weapons. By daylight other elements of the division were involved in a rugged fight. The Germans, however, had also become confused, and not anticipating the situation into which they had moved, were neither strong enough nor well enough organized either to carry out their mission or to fight their way out effectively. As a result, only scattered elements of the counterattacking force escaped the trap they had run into. The 1st Battalion of the 357th Infantry, meanwhile, having driven off another counterattack with artillery fire, mowed down a German infantry battalion on a hill west of Neufchef.

German Situation

Shortly after midnight the 106th Battle Group unexpectedly ran into the American 90th Division command post southeast of Landres. The inexperience of the newly-organized German units now proved critical. The operation degenerated into a series of scattered, uncoordinated engagements with the surprised Americans. As a result, by dawn the Germans found themselves surrounded by the entire 90th Division, and so scattered that centralized control and maneuver were impossible. During the day the individual German units fought their way out of the unexpected trap, but with heavy losses. Captured or destroyed were 30 tanks, 60 half-tracks, and nearly 100 other vehicles. Only nine tanks and assault guns returned across the Moselle; the 106th Panzer Brigade was reduced to about 25% authorized strength. While delaying the advance of the 90th for perhaps a day, the counterattack

had utterly failed to accomplish its mission, and must be considered a disastrous failure.

Elsewhere the situation was not greatly changed. The strongpoints west of the Moselle south of Metz were overrun by the Americans, who also succeeded in establishing a small bridgehead at Dornot.

9 September

XX Corps Situation

7th Armored Division. Task Force McConnell of CCA was ordered to make a sweep out of St. Privat to the east of Amanvillers and back toward Montigny. After artillery, tanks, and tank destroyers had pounded German fortifications and strong points during the morning, the task force moved out down the road to the east. Almost at once it came under fire from Fort Kellermann and guns in the Bois de Jaumont. After seven tanks and two self-propelled guns were knocked out the column withdrew. On the other side of the town the column turned to attack toward Amanvillers, already under attack from the 1st Battalion, 2d Infantry. Counterattacks from the right and fire from the Lorraine Forts, however, had prevented the battalion from entering the town. Seven battalions of field artillery attacked these emplacements with little effect. On the right of the 2d Infantry Regiment the 3d Battalion, attacking east of Malmaison toward Moscou Farm, encountered a nest of pillboxes and bunkers as well as cross-fire from the draw southeast of Gravelotte. The 2d Battalion, east of Verneville, had a weak section of the German line, and advanced several hundred yards. But by nightfall it too was checked by fire from a sunken road west of Fort de Guise.

5th Infantry Division. During the night of 8/9 September the Germans counterattacked the bridgehead repeatedly, and each time were driven off, with numerous casualties on both sides. During the day counterattacks and enemy shelling continued to hit the defenders. At 2245 two companies of the 37th SS Panzer Grenadier Regiment with covering fire from a third company counterattacked, but were finally driven off.

The remainder of the 11th Infantry moved to high ground northwest of Dornot. The 10th Infantry sent out a reconnaissance party, which located a suitable site near Arnaville to attempt a crossing of the river.

90th Infantry Division. In the late morning the 90th resumed its advance to the northeast, the 559th Volks Grenadier Division withdrawing before it. German rear guards were captured or destroyed as the Americans proceeded. By nightfall the leading battalions were in the vicinity of Fontoy and Neufchef, eight miles from Thionville.

German Situation

The elements of the 15th Panzer Grenadier Division that had been with the First Army were withdrawn, but the remainder of the understrength 19th Volks Grenadier Division arrived in the Army area. There was little change in the situation along the LXXXII Corps front. The 559th Volks Grenadier Division held its positions west of Thionville, as the American 90th Division reorganized after the battle with the 106th Panzer Brigade. American efforts to expand the Dornot bridgehead were smashed by alert ground action and effective artillery fire from the Metz fortifications.

The approach of American V Corps units (north of XX Corps) to Luxembourg forced the withdrawal of First Army headquarters to Schuttrange, 8 kilometers to the southeast of Luxembourg.

10 September

XX Corps Situation

7th Armored Division. CCA was covering the flanks of the 90th Division and the 2d Infantry, 5th Division, and also keeping a corridor to the Moselle open between Metz and Thionville. Task Force McConnell was supporting the 2d Infantry. Despite attacks by three squadrons of F-47s on the strongholds around Amanvillers, the attack by the 2d Infantry at 1800 found resistance still heavy there. Each pillbox and strongpoint had to be reduced individually, and progress was slow. The 1st Battalion, with Task Force McConnell on its right, in three hours reached a point about 100 yards from Amanvillers. The 2d reached high ground east of Verneville. The 3d Battalion, on the right, had been unable to cross the heavily wooded Mance ravine east of Gravelotte, so well was it protected by German gun positions. An attempt to go around the draw by attacking through the Bois des Genivaux made little progress, as German detachments repeatedly appeared and took back whatever ground was gained.

90th Infantry Division. The division continued its advance across the plateau cut by gorges and defiles west of Thionville. The 357th Infantry moved from Neufchef through Hayange, where a German counter-attack halted the advance. In the center of the division front the 358th took Algrange and then attacked up a steep hill beyond. German defenders on the top held the Americans back until darkness put an end to the fight. The 359th found the Germans facing them had withdrawn. The infantry moved ahead rapidly, with the reconnaissance cavalry far in front.

5th Infantry Division. Uneasy about the slight bridgehead held by the 2d Battalion, 11 Infantry, at Dornot, General Irwin, commanding the 5th Infantry Division, had ordered the 10th Infantry to make a

crossing about 2½ miles south of the bridgehead and directed the troops already east of the river to link up with it. Starting at 0200 the troops of the 10th Infantry, under a smoke screen, began crossing the river in boats at a point between Noveant and Arnaville. The objective on the east bank was a ridge about a thousand yards from the river, running north from Hill 386 in the Bois des Anneaux. Encountering little resistance, the 1st Battalion took Hill 386, while the 2d took Hill 370 and the Bois de Gaumont to the north. Before the 1st Battalion could dig in it was hit from the south by tanks and infantry of the 17th SS Panzer Grenadier Division. After a tense fight the Americans drove off the Germans with bazookas. A second attack at midday, however, by a battalion of infantry and about twenty tanks or assault guns, forced the Americans to pull back. American artillery and tank destroyers on the other side of the river finally broke up the attack and disrupted several other German counterattacks during the afternoon. Some P-47s also attacked German positions in the late afternoon. Late in the evening two companies of the 3d Battalion, which had recently arrived in the bridgehead, attacked the town of Arry, south of Hill 386. Although they occupied it, however, they were not strong enough to hold it and withdrew just before midnight.

The 11th Infantry, since their establishment of the Dornot bridgehead, had been under repeated attacks from portions of at least four German battalions. A total of 36 counterattacks had been repulsed by nightfall of the 10th, when the weary survivors were evacuated through enemy fire. (German units were: 203th Replacement Battalion; 2d Battalion, 8th Panzer Grenadier Regiment (3d Panzer Grenadier Division); 2d Battalion, 51st SS Panzer Grenadier Brigade (17th SS Panzer Grenadier Division); and the 4th SS Signal Battalion of the Waffen-SS Nachrichtenschule.) The Americans had killed about 600 Germans and wounded many more, but US losses had been high. Few of the officers had survived unscathed. One company of the 3d Battalion had only 50 men left, no officers. In the 2d Battalion, three rifle companies had suffered over 300 casualties.

German Situation

First Army headquarters was moved again, this time to St. Avold, east of Metz. North of Metz the 559th Volks Grenadier Division was forced back part way to Thionville. American efforts to advance west of Metz continued to be blocked completely by Division No. 462. Southwest of the city the 17th SS Panzer Grenadier Division and 3d Panzer Grenadier Division continued to block American efforts to expand the bridgehead at Dornot. While the Germans' attention was focussed on the Dornot bridgehead, however, the Americans were establishing a new one opposite Arnaville and Noveant. By evening this was secured, and during the night the handful of American survivors opposite Dornot was withdrawn.

11 September

XX Corps Situation

7th Armored Division. CCR of the 7th Armored Division had been assembling at Ste. Marie, behind the left flank of the 2d Infantry, 5th Division. At 0630 it moved out northeast on the road to Pierrevillers, in an attempt to get behind the enemy that had halted the 1st and 2d Battalions. Encountering roadblocks and antitank guns near Pierrevillers and occasional artillery and antitank fire, the column turned toward Semecourt. There, however, it came under heavy fire from the guns of the Canrobert Forts. Advance was impossible and the column was turned back to the west. The dismounted armored infantry fought its way up the rugged hills behind Bronvaux.

5th Infantry Division. The 10th Infantry in the bridgehead near Arnaville was attacked by infantry and tanks on both flanks in the early morning. The 1st Battalion drove the Germans back to Arry, but the 2d Battalion became involved in a bitter fight, in which 102 men were lost before the Germans were finally driven off by rifle and machine gun fire. They withdrew under artillery fire from American batteries on the west bank.

Elements of the 11th Infantry began crossing the river to reinforce the 10th Infantry in the early morning. Two companies made an abortive attempt to cross the river north of Noveant. A second attempt landed the 3d Battalion and two companies of the 1st in the 10th Infantry Regiment's bridgehead, where they managed to push slowly ahead to the outskirts of Corny despite constant fire from Fort Driant. Air support assisted the troops in the bridgehead, and by the end of the day six tank destroyers and ten tanks had been taken across to the east bank of the river.

At 0400 German infantry in a surprise attack hit the 2d Battalion, 2d Infantry's, right flank and drove the Americans back southwest of Montigny. Later in the day the battalion regained most of the ground, only to lose it again in a second counterattack. Still another counterattack at about midnight was driven off. The battalion lost half of its men during the day. The 1st Battalion, near Amanvillers, was driven back by German artillery and small arms fire. The 3d Battalion moved north from the area of Malmaison to assist the 1st, but the Americans were held off by the German artillery.

90th Infantry Division. With the 5th Armored Division of the First Army abreast of the 90th Division on the left, Major General Raymond McLain, commanding the 90th, decided to drive to the Moselle. The 3d Battalion, 358th Infantry, found that the Germans east of Algrange had withdrawn during the night, and they advanced to a scarp southwest of Volkrange, where the Germans put up a defense. The

1st Battalion, on the left, had slower going against stubborn resistance but gained the heights southwest of Entringe. The 2d Battalion then, in the evening, advanced slowly between the 1st and 3d, encountering considerable resistance. On the right the 327th Infantry advanced to the river south of Thionville and took the town of Florange.

German Situation

There was little change. In the north the 559th Volks Grenadier Division was forced to give up some ground to the American 90th Division. The Americans succeeded in slightly expanding their Arnaville bridgehead.

12 September

XX Corps Situation

7th Armored Division. At noon a bridge was completed, and the 31st Tank Battalion of CCB crossed to the bridgehead at Arnaville.

5th Infantry Division. Elements of the 17th SS Panzer, 3d Infantry, and 15th Panzer Grenadier Divisions attacked the 5th Division's bridgehead at 0330 on 12 September in a coordinated attack preceded by heavy artillery fire. A battalion of German infantry and a company of tanks attacked the right of the 10th Infantry. Although American artillery fire broke up the first probes, two companies broke through the lines of the 1st Battalion. Most of the German grenadiers were killed in hand-to-hand fighting. On the left four German tanks attacked the 11th Infantry, which had elements in the village of Corny. Two of the tanks were knocked out and the others driven off. But other units attacked fiercely, causing many casualties until killed, captured, or driven off by fire from American artillery and tank destroyers.

90th Infantry Division. German resistance west of the river in the 90th Division sector was virtually ended, for the German commander had ordered a withdrawal across the river north of Metz. While the 357th Infantry occupied Uckange the 358th moved into Thionville, delayed by mines and a few small German attacks. By nightfall all but a small sector of the city was in American hands.

German Situation

North of Metz the 559th Volks Grenadier Division counterattacked vigorously, but was driven back to the Moselle in the vicinity of Thionville. It was decided to withdraw completely across the river during the night. In the center, Division No. 462 still held the western defenses of Metz. South of the city American efforts to expand the Arnaville bridgehead were contained.

13 September

XX Corps Situation

7th Armored Division. Rain began during the night and continued all day. Adding to the limitations this imposed on operations was a critical shortage of ammunition throughout the XX Corps. CCB, attached to the 5th Infantry Division, was in reserve in the bridgehead. Patrols to the south reported that the enemy appeared to have left Arry. Orders from the 5th Division commander to CCB to attack were cancelled because of heavy German shelling, deep mud, and a lack of time for adequate reconnaissance. CCA was concentrated south of Talange.

5th Infantry Division. RCT 2, attached to the 7th Armored Division west of Metz, attacked at 1300, but was unable to make progress in the face of enemy artillery and mortar fire.

90th Infantry Division. The division was along the Moselle, with the 3d Battalion, 359th Infantry, from Thionville north to Malling and RCT 358 between Malling and Haboudange.

German Situation

North of Metz the 559th Volks Grenadier Division was organizing a new defensive line behind the Moselle River, north and south of Thionville. The situation west and south of Metz remained unchanged.

14 September

XX Corps Situation

Continuing rain made it impossible for tanks to maneuver in the clay soil east of the river, and the attempt to expand the bridgehead south and southeast was postponed. A new XX Corps order was issued, outlining an operation designed to capture the stronghold of Metz. The 90th Division was to relieve CCA, which would move south and cross into the bridgehead. The armored units were to swing south and east and attack Metz from the southeast, while the 5th Infantry Division struck almost directly north toward the city. Regardless of weather (and the rain had stopped by afternoon), the operation was to be launched the following morning.

German Situation

The situation remained essentially unchanged.

XX Corps Order of Battle
14 August 1944

Headquarters Units

5th Infantry Division

2d Infantry Regiment
10th Infantry Regiment
11th Infantry Regiment
5th Reconnaissance Troop (Mechanized)
7th Engineer Combat Battalion
Division Artillery
 19th Field Artillery Battalion (105mm how.)
 46th Field Artillery Battalion (105mm how.)
 50th Field Artillery Battalion (105mm how.)
 21st Field Artillery Battalion (155mm how.)
Attachments:
 449th AAA AW Battalion (Mobile)
 735th Tank Battalion
 818th Tank Destroyer Battalion (SP)

80th Infantry Division

317th Infantry Regiment
313th Infantry Regiment
319th Infantry Regiment
80th Reconnaissance Troop (Mechanized)
305th Engineer Combat Battalion
Division Artillery
 313th Field Artillery Battalion (105mm how.)
 314th Field Artillery Battalion (105mm how.)
 905th Field Artillery Battalion (105mm how.)
 315th Field Artillery Battalion (155 how.)
Attachments:
 633d AAA AW Battalion (Mobile)
 702d Tank Battalion
 610th Tank Destroyer Battalion

90th Infantry Division

357th Infantry Regiment
358th Infantry Regiment
359th Infantry Regiment
90th Reconnaissance Troop (Mechanized)
315th Engineer Combat Battalion
Division Artillery
 343d Field Artillery Battalion (105mm how.)
 344th Field Artillery Battalion (105mm how.)
 915th Field Artillery Battalion (105mm how.)
 345th Field Artillery Battalion (155mm how.)

Attachments:

537th AAA AW Battalion (Mobile)
712th Tank Battalion
607th Tank Destroyer Battalion

7th Armored Division

Combat Command A

40th Tank Battalion
48th Armored Infantry Battalion
489th Armored Field Artillery Battalion
One company, 814th Tank Destroyer Battalion
One company 33d Armored Engineer Battalion

Combat Command B

31st Tank Battalion
23d Armored Infantry Battalion
434th Armored Field Artillery Battalion
One company 814th Tank Destroyer Battalion
One company 33d Armored Engineer Battalion

Combat Command R

38th Armored Infantry Battalion
17th Tank Battalion
440th Armored Field Artillery Battalion
One company 814th Tank Destroyer Battalion
One company 33d Armored Engineer Battalion

87th Cavalry Reconnaissance Squadron (Mechanized)

Attachments:

203d AAA AW Battalion (SP)
814th Tank Destroyer Battalion (SP)

XX Corps Artillery

193d Field Artillery Group

177th Field Artillery Battalion
949th Field Artillery Battalion (25 Aug. only)
284th Field Artillery Battalion (22 Aug.)
241st Field Artillery Battalion (23 Aug.)

195th Field Artillery Group

204th Field Artillery Battalion
733d Field Artillery Battalion
736th Field Artillery Battalion
558th Field Artillery Battalion (23 Aug.)
689th Field Artillery Battalion (29 Aug.)
282d Field Artillery Battalion
943d Field Artillery Battalion

5th Field Artillery Group
695⁺ Armored Field Artillery Battalion
E Battery, 706th Field Artillery Battalion (25 Aug. only)
204th Field Artillery Group (29 Aug.)
773d Field Artillery Battalion
999th Field Artillery Battalion (5-10 Sept.)
270th Field Artillery Battalion (5 Sept.)
989th Field Artillery Battalion (5 Sept.)
739th Field Artillery Battalion (8-10 Sept.)
277th Field Artillery Battalion (8-10 Sept.)
274th Field Artillery Battalion (8 Sept.)
189th Field Artillery Battalion
4th Tank Destroyer Group
774th Tank Destroyer Battalion
33d Field Artillery Brigade (8 Sept.)
203d Field Artillery Group (10 Sept.)

German Order of Battle
1 September 1944

First Army

LXXX Corps

Panzer Lehr Division
One-third of 15th Panzer Grenadier Division
48th Infantry Division

LXXXII Corps

559th Infantry Division
462d Reserve Division
17th SS Panzer Grenadier Division
26th SS Panzer Division

XXXXVII Panzer Corps

3d Panzer Grenadier Division
Two-thirds of 15th Panzer Grenadier Division
Parts of 353d Infantry Division

106th Panzer Brigade

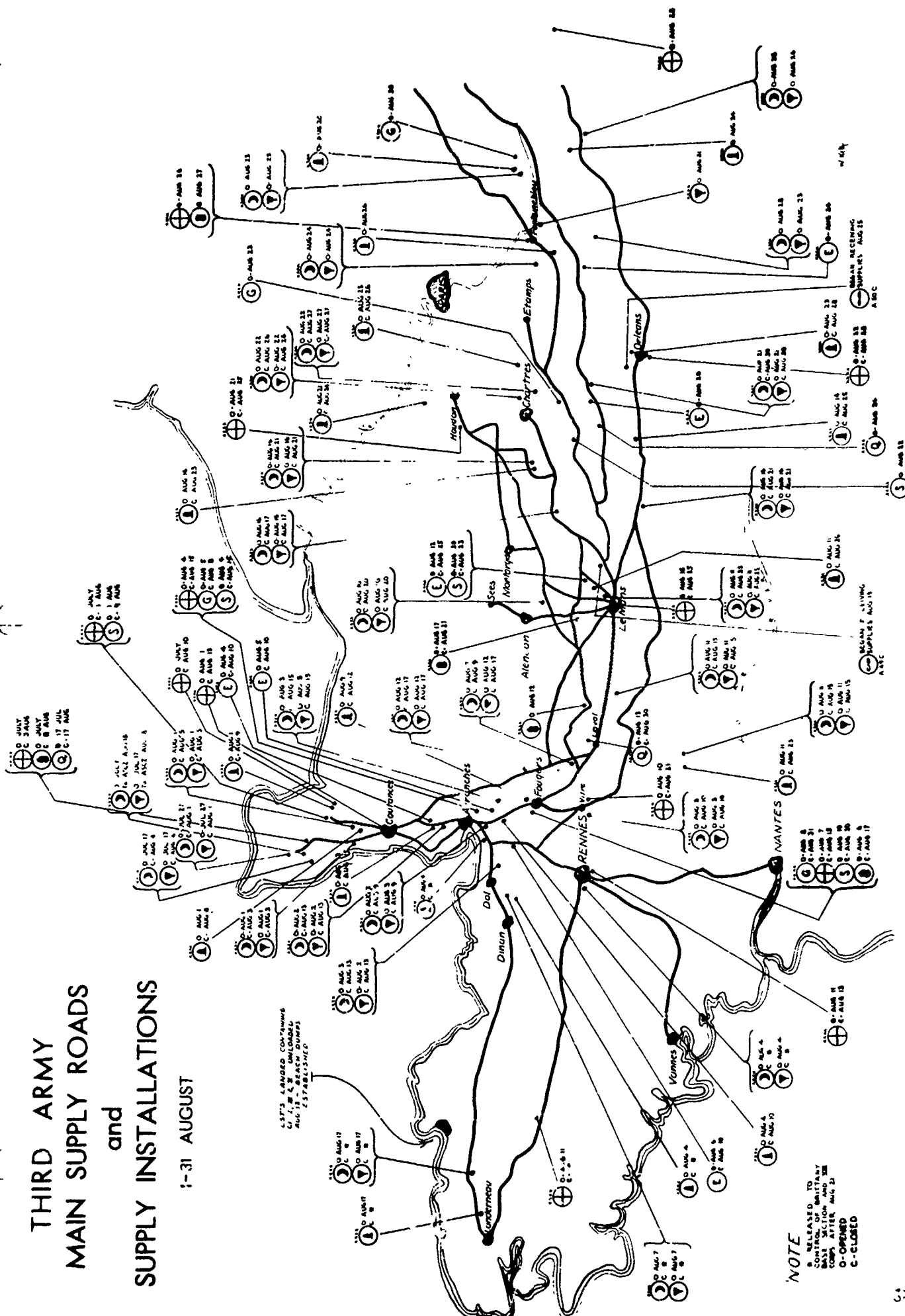
WEATHER, 14 AUGUST-14 SEPTEMBER 1944

Date	Weather
August 14	Scattered clouds becoming broken; visibility 2 miles in morning, becoming 6
15	Overcast, intermittent rain during night; morning cloudy; visibility 3 miles
16	Intermittent rain during night; broken clouds until 162000; clear until 170300, overcast until 171100, breaking at 171200
17	Broken clouds until 172200, then clouds reformed
18	Broken clouds until 181800, then scattered until 190400, then clear until 190800, becoming overcast
19	Scattered clouds until 192300, clear until 200200, overcast until 200700, scattered & broken clouds, $\frac{1}{2}$ " rain
20	Cloudy throughout with drizzle after midnight, rain from 210400 until 210830
21	Overcast during day until 210200, broken clouds, trace of rain.
22	No report
23	Continuous overcast, showers from 231600 intermittent; visibility reduced from 5 to 1 mile
24	Broken clouds until 241900, clear for rest of period
25	Scattered clouds, overcast from 260600-261000
26	Cloudy until 261800, clear until 270500, overcast until 270930; scattered clouds until 271200
27	Broken clouds until 272400, scattered until 280200, clear until 280600, then broken
28	Fair, warm, intermittent rain beginning morning of 29
29	Overcast until 292300, clouds broken until 300200, overcast rest of period
30	Overcast until 310100; scattered clouds until 310500; overcast, light drizzle, moderate rain until 311000; broken clouds
31	Cloudy, overcast most of period; drizzle during night; visibility fair to poor
September 1	Scattered clouds, overcast, rain latter part of period; visibility fair to poor at end of period
2	Overcast, broken clouds, intermittent rain through period
3	Broken clouds until 040200; scattered until 040700; then low broken clouds
4	Scattered clouds, overcast, trace of rain at end of period
5	Overcast throughout, broken clouds 051200-052400, intermittent rain
6	Cloudy through period, intermittent rain, windy morning of 7
7	Intermittent rain; visibility fair to poor
8	Intermittent rain and drizzle until 082200; overcast and broken clouds during most of period; visibility 4-6 miles during rain, 6-10 miles rest of period
9-11	Unknown
12	Mostly fair greater part of period; scattered clouds
13	Broken clouds to overcast at 131900; light rain began at 132000, continuing until 140800

THIRD ARMY MAIN SUPPLY ROADS and SUPPLY INSTALLATIONS

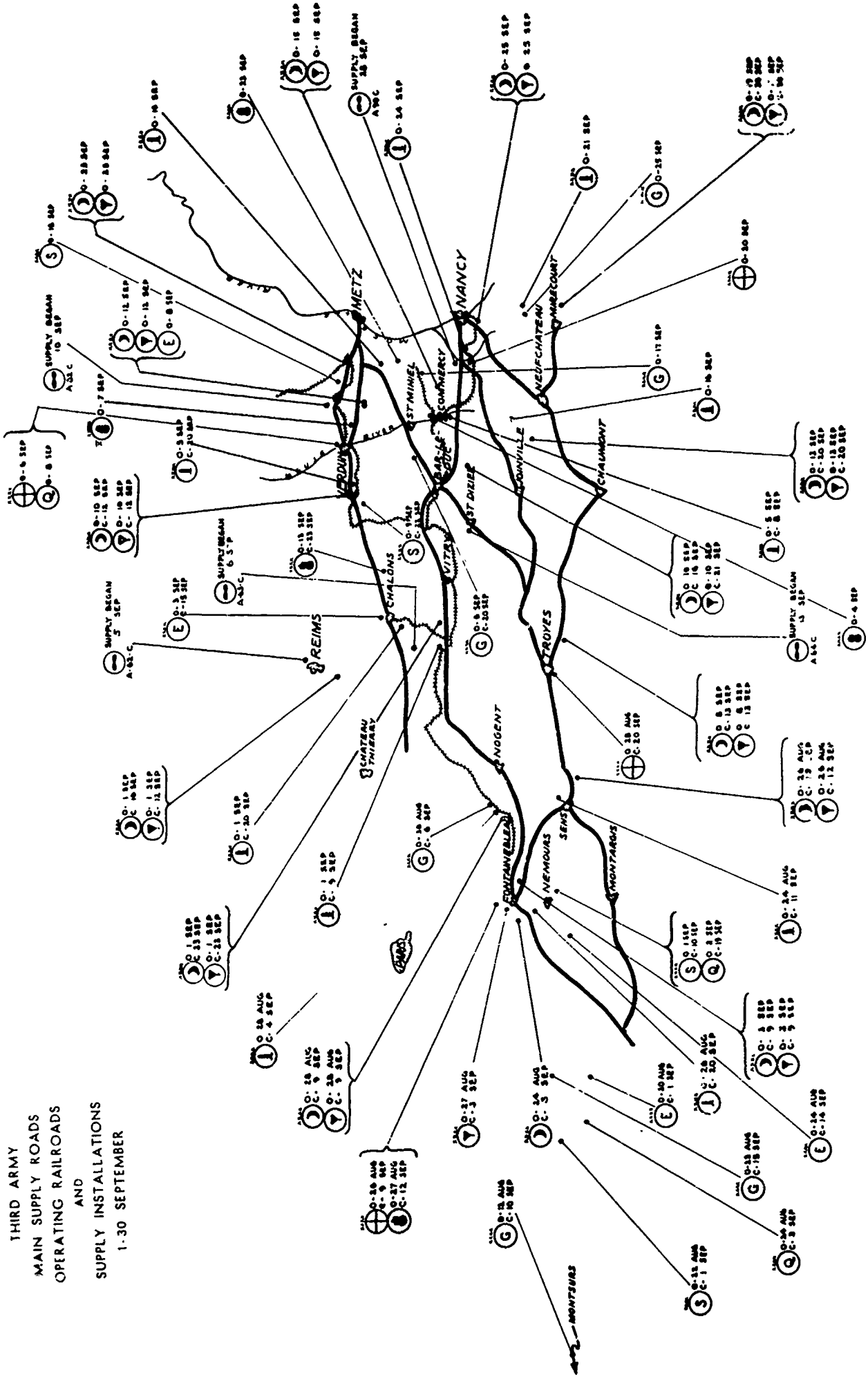
1-31 AUGUST

LST'S LAUNCHED CONTAINING
SUPPLIES TO BE UNLOADED
AT THE FOLLOWING LOCATIONS
ESTABLISHED



NOTE
 O-RELEASED TO
 CONTROL OF MILITARY
 SCOPES AFTER
 AUG 15
 O-OPENED
 C-CLOSED

THIRD ARMY
MAIN SUPPLY ROADS
OPERATING RAILROADS
AND
SUPPLY INSTALLATIONS
1-30 SEPTEMBER



LEGEND:
O-OPENED
C-CLOSED

XX CORPS OPERATIONAL SUMMARY
14 August - 13 September 1944

Date	Engagement Designation	Mission Factor	Remarks	Enemy Posture	Distance Advanced			
					Serious Opposition	Moderate Opposition	Slight Opposition	Negligible Opposition
Aug 14			7 AD to Mantes & Dreux; 5 ID near Angers not engaged	..	..	..	..	24.0
15	Chartres	7	7 AD shifted toward Chartres; 5 ID follows by truck	HD	..	..	30.0	..
16	Chartres		7 AD attacks Chartres; 5 ID assembles SW Chartres	HD	..	1.0	..	30.0
17	Chartres		5 ID relieves 7 AD at Chartres; 7 AD to Dreux	HD	..	1.0	..	5.0
18	Chartres		5 ID takes Chartres; 7 AD reaches Dreux	HD	..	6.0	..	5.0
19	Chartres		Consolidation at Chartres & Dreux	HD	..	..	..	..
20			No change	..	..	..	..	..
21			Adv E toward Seine; 7 AD near Rambouillet, 5 ID crosses Essonne E of Etamps	..	..	..	..	55.0
22			7 AD at Seine near Melun; 5 ID nears Seine near Montereau	..	..	..	40.0	..
23	Seine	9	7 AD crosses Seine at Ponthierry, 5 ID crosses at Fontainebleau	FD	..	..	5.0	..
24	Seine		Both Divs develop bridgeheads, continue crossing	FD	..	..	..	..
25	Seine		7 AD takes Melun, pursues to Provins; 5 ID completes crossing at Montereau	PD	..	..	..	25.0
26			7 AD regroups near Provins; 5 ID reaches Nogent & Sezanne	..	..	..	..	20.0
27			7 AD crosses Marne at Chateau Thierry; 5 ID advances E of Provins	..	..	..	25.0	..
28			7 AD adv NE toward Reims, reaches Epernay, 5 ID reaches Montmirail, Champault, Epernay	..	..	..	..	40.0
29			7 AD takes Fismes, passes Reims, reaches Aisne; 5 ID occupies Reims	..	..	..	30.0	..
30			7 AD adv F to Vouziers; 5 ID out of contact near Reims	..	..	..	..	35.0
31	Verdun	10	7 AD crosses Meuse at Verdun; 5 ID reaches St. Menenould	..	..	..	..	55.0
Sep 1-5			Corps along Meuse N & S of Verdun; 5 ID consolidates Verdun bridgehead	..	..	..	..	40.0
6	Moselle-Metz	8	Adv to Moselle, 3 Cav Gp & 7 AD in adv, followed by 90 & 5 IDs abreast	Del	..	14.0	..	..
7	Moselle-Metz	8	7 AD along Moselle, 5 ID close behind; 90 AD reaches Briey	Del	..	7.0	..	..
8	Dornot, Landres-Briey	6 8	5 ID bridgehead over Moselle at Dornot; 90 ID repulses German night counterattack	Del	2.0	..	..	..
9	Dornot	3	7 AD & 5 ID no progress; 90 AD adv slowly toward Thionville	Del	2.0	..	..	..
10	Arnaville, Thionville	7 6	5 ID establishes new bridgehead at Arnaville, withdraws from Dornot; 90 ID approaches Thionville	Del	3.0	..	..	..
11	Arnaville, Thionville	7 6	5 ID consolidates Arnaville bridgehead; 90 ID to Moselle near Thionville	Del	4.0	..	..	..
12			5 ID & 7 AD consolidate Arnaville bridgehead; 90 ID consolidates Thionville & Moselle line	Del	2.0	..	..	..
13	Metz	3	5 ID and 7 AD repulsed W of Metz; otherwise little action	FD	0	..	..	..
Total Distance Advanced: 514.0 km					13.0	29.0	138.0	334.0
Average Advance per Day: 16.6 km (31 days)					2.2(6 days)	8.3(3.5 days)	23.0(6 days)	26.7(12.5 days)
Days Not Advancing: 3 (10%)								

7TH ARMORED DIVISION OPERATIONAL SUMMARY
14 August - 13 September 1944

Date	Engagement Designation	Mission Factor	Remarks	Enemy Posture	Distance Advanced			
					Serious Oppositn	Moderate Oppositn	Slight Oppositn	Negligible Opposition
Aug 14	. . .	. .	Adv toward Dreux & Mantes-Gassicourt (half day only)	W/d	. .	. .	. .	24.0
15	Chartres	7	Adv toward Chartres	HD	-2.0	. .	. .	40.0
16	Chartres	5	CCB attacks Chartres; CCA & CCR encircle town	HD	1.0	. .	10.0	. .
17	Chartres	5	Combat at Chartres; CCA adv toward Dreux	HD	1.0	. .	. .	20.0
18	. . .	. .	Move to Dreux	. .	. .	. .	. .	20.0
19	. . .	. .	Consolidation in Dreux bridgehead	. .	. .	. .	. .	. .
20	. . .	. .	No action	. .	. .	. .	. .	. .
21	. . .	. .	Advance toward Melun	. .	. .	. .	. .	55.0
22	. . .	. .	Advance toward Melun	PD	0	. .	34.0	. .
23	Melun	6	Attack on Melun repulsed; crossing at Ponthierry	PI	2.0	. .	10.0	. .
24	Melun	6	Division completes crossing at Ponthierry	PD	0	. .	10.0	. .
25	Melun	9	Melun captured by CCR; CCA and CCB reach Provins	W/d	. .	. .	. .	45.0
25	. . .	. .	Div regroups; slight contact	. .	. .	. .	. .	. .
27	. . .	. .	Adv to Chateau Thierry; Marne R. crossed	. .	. .	. .	. .	55.0
28	. . .	. .	Broad front adv N toward Reims between Chateau Thierry & Epernay	. .	. .	. .	. .	40.0
29	. . .	. .	Adv NE through Fismes, then bypassing Reims to Aisne near Neufchatel	. .	. .	. .	35.0	. .
30	. . .	. .	Adv E, south of Aisne toward Verdun; halted by resistance along Aisne at Vouziers & south	. .	. .	. .	10.0	45.0
31	Verdun	10	Drive eastward across Aisne & through Argonne; Verdun & Meuse crossings seized	Del	. .	. .	10.0	50.0
Sep 1-5	. . .	. .	Consolidation and rest near Verdun	. .	. .	. .	. .	. .
6	Moselle-Metz	8	Adv from Verdun to Moselle	Del	. .	6.0	. .	40.0
7	Moselle-Metz	8	Probe for Moselle crossing N & S of Metz	Del	. .	12.0	. .	. .
8	Moselle-Metz	7	Div holding active defense role along Moselle N of Metz	FD	2.0	. .	. .	. .
9	Moselle-Metz	6	Consolidation W of Moselle	FD	2.0	. .	. .	. .
10	Moselle-Metz	5	Support of 5th & 90th Divs	FD	0	. .	. .	. .
11	Moselle-Metz	5	Support of 5th & 90th Divs	FD	0	. .	. .	. .
12	Moselle-Metz	6	Support of 5th & 90th Divs; crossing into Arnaville bridgehead	FD	2.0	. .	. .	. .
13	Moselle-Metz	. .	Support of 5th & 90th Divs; no real action	FD	. .	. .	0	. .
Total Distance Advanced:					8.0	18.0	119.0	434.0
Average Advance per Day:					1.0(8 days)	12.0(1.5 days)	23.8(5 days)	51.6(7.5 days)
Days not Engaged:								

Engagement Calculation Sheet (Series E)

Engagement No: 501

Dates: 23-25 August 1944

Days' Duration: 3

Friendly Force: XX Corps

Enemy: First Army (-)

Terrain (r): rolling, mixed

Weather (h): overcast, intermittent showers

Posture (u): f: A

Season (z): summer, temperate

e: PD

		Friendly		Enemy	
		Number	OLI	Number	OLI
N	Personnel strength	40,619	-	15,000	-
Cas	Casualties, total	234	-	906	-
	Casualties/day	78	-	302	-
W_s	Small arms	40,619	8,124	15,000	3,000
W_{mg}	Machine guns	2,804	5,060	745	859
W_{rw}	Total heavy weapons	3,071	75,404	271	17,460
	Mortars	607	44,930	90	15,505
	Infantry cannon	-	-	3	501
	AT guns, towed	123	7,245	-	-
	Light AA guns	144	3,600	12	144
	Rocket launchers/flamethrowers	2,197	19,629	166	1,310
W_g	Total artillery	296	77,740	78	18,376
	Field artillery, light	188	43,924	26	6,826
	Field artillery, med & hvy	108	33,816	13	3,900
	Naval gunfire support	-	-	-	-
	AA artillery (50mm & over)	-	-	38	7,650
W_i	Total armor	637	144,756	38	13,472
	Tanks, light	137	33,291	-	-
	Tanks, medium	255	85,170	28	10,822
	Tanks, heavy	-	-	-	-
	Armored cars	165	7,095	-	-
	Tank destroyer/assault guns	80	19,200	10	2,650
W_y	Total air close support sorties	73	8,833	0	-
	Sorties/day	73	8,833	0	-
J	Trucks & double armored vehicles	7,717	-	2,300	-
Q	Distance opposed advance	38km		-38km	
	Distance/day	12.7km		-12.7km	

Engagement Calculation Sheet (Series E)

Engagement No: 502

Dates: 6-11 September 1944

Days' Duration: 6

Friendly Force: XX Corps

Enemy: First Army (-)

Terrain (r): rolling, mixed

Weather (h): cloudy, intermittent rain

Posture (u): f: A

Season (z): summer, temperate

c: Del

		Friendly		Enemy	
		Number	OLI	Number	OLI
N	Personnel strength	59,631	-	41,500	-
Cas	Casualties, total	1,647	-	1,700	-
	Casualties/day	275	-	283	-
W _s	Small arms	59,631	11,926	41,500	8,300
W _{mg}	Machine guns	3,890	5,240	2,840	3,128
W _{hw}	Total heavy weapons	4,227	105,152	952	44,354
	Mortars	757	63,830	220	36,050
	Infantry cannon	-	-	12	2,004
	AT guns, towed	180	8,784	20	500
	Light AA guns	192	4,800	100	1,200
	Rocket launchers/flamethrowers	3,098	27,738	600	4,600
W _g	Total artillery	520	110,962	236	56,272
	Field artillery, light . . .	364	59,830	88	21,712
	Field artillery, med & hvy .	156	51,132	40	12,780
	Naval gunfire support . . .	-	-	-	-
	AA artillery (50mm & over) .	-	-	108	21,780
W _i	Total armor	330	179,621	160	56,980
	Tanks, light	154	30,036	-	-
	Tanks, medium	315	105,210	120	46,380
	Tanks, heavy	-	-	-	-
	Armored cars	245	10,535	-	-
	Tank destroyer/assault guns	116	27,840	40	10,600
W _y	Total air close support sorties	29	3,509	0	-
	Sorties/day	29	3,509	0	-
J	Trucks & double armored vehicles	9,325	-	7,000	-
Q	Distance opposed advance . .	32km		-32km	
	Distance/day	5.3km		-5.3km	

Engagement Calculation Sheet (Series E)

Engagement No: 503

Dates: 13 September 1944 Days' Duration: 1
 Friendly Force: XX Corps
 Enemy: First Army (-)
 Terrain (r): rolling, mixed Weather (h): overcast, light rain
 Posture (u): f: A Season (z): summer, temperate
 e: FD

		<u>Friendly</u>		<u>Enemy</u>	
		<u>Number</u>	<u>OLI</u>	<u>Number</u>	<u>O/I</u>
N	Personnel strength	60,794	-	39,580	-
Cas	Casualties, total	359	-	210	-
	Casualties/day	359	-	210	-
W _s	Small arms	60,794	12,158	39,580	7,916
W _{mg}	Machine guns	3,890	6,748	2,840	3,128
W _{hw}	Total heavy weapons	4,227	105,152	952	44,354
	Mortars	757	63,830	220	36,050
	Infantry cannon	-	-	12	2,004
	AT guns, towed	180	8,784	20	500
	Light AA guns	192	4,800	100	1,200
	Rocket launchers/flamethrowers	3,098	27,738	600	4,610
W _g	Total artillery	296	7,740	236	56,272
	Field artillery, light	188	43,924	88	21,712
	Field artillery, med & hvy	108	33,816	40	12,780
	Naval gunfire support	-	-	-	-
	AA artillery (50mm & over)	-	-	108	21,780
W _i	Total armor	637	144,756	88	32,068
	Tanks, light	137	33,291	-	-
	Tanks, medium	255	85,170	72	27,828
	Tanks, heavy	-	-	-	-
	Armored cars	165	7,095	-	-
	Tank destroyer/assault guns	80	19,200	16	4,240
W _y	Total air close support sorties	30	3,630	0	-
	Sorties/day	30	3,630	0	-
J	Trucks & double armored vehicles	7,717	-	7,000	-
Q	Distance opposed advance	0	-	0	-
	Distance/day	0	-	0	-

Engagement Calculation Sheet (Series E)

Engagement No: 504

Dates: 16 August 1944

Days' Duration: 1

Friendly Force: 7th Armored Division

Enemy: First Army (-)

Terrain (r): rolling, mixed

Weather (h): clear, overcast

Posture (u): f: A

Season (z): summer, temperate

e: HD

	Friendly		Enemy	
	Number	OLI	Number	OLI
N Personnel strength	15,646	-	8,325	-
Cas Casualties, total	113	-	579	-
Casualties/day	113	-	579	-
W _s Small arms	15,646	3,129	8,325	1,665
W _{mg} Machine guns	992	2,082	460	532
W _{hw} Total heavy weapons	1,394	28,983	157	10,381
Mortars	385	16,958	52	8,932
Infantry cannon	-	-	4	668
AT guns, towed	42	2,442	-	-
Light AA guns	64	1,601	8	48
Rocket launchers/flamethrowers	973	7,983	93	733
W _g Total artillery	146	37,902	70	16,860
Field artillery, light	98	22,414	15	3,585
Field artillery, med & hvy . .	48	15,488	15	5,250
Naval gunfire support	-	-	-	-
AA artillery (50mm & over) . .	-	-	40	8,025
W _i Total armor	378	97,267	15	5,190
Tanks, light	78	18,954	-	-
Tanks, medium	195	65,130	10	3,865
Tanks, heavy	-	-	-	-
Armored cars	61	2,623	-	-
Tank destroyer/assault guns	44	10,560	5	1,325
W _y Total air close support sorties	0	-	0	-
Sorties/day	0	-	0	-
J Trucks & double armored vehicles	3,068	-	1,532	-
Q Distance opposed advance . . .	6km	-	-6km	-
Distance/day	6km	-	-6km	-

Engagement Calculation Sheet (Series E)

Engagement No: 505

Dates: 23-25 August 1944

Days' Duration: 3

Friendly Force: 7th Armored Division

Enemy: 48th Infantry Division (+)

Terrain (r): rolling, mixed

Weather (h): overcast, intermittent showers on the 23d

Posture (u): f: A

Season (z): summer, temperate

ε: PD-W

		Friendly		Enemy	
		Number	OLI	Number	OLI
N	Personnel strength	17,232	-	6,000	-
Cas	Casualties, total	99	-	362	-
	Casualties/day	33	-	121	-
W _s	Small arms	17,232	3,446	6,000	1,200
W _{mg}	Machine guns	1,110	2,321	298	744
W _{hw}	Total heavy weapons	1,434	30,477	108	6,951
	Mortars	387	17,210	36	6,202
	Infantry cannon	-	-	1	167
	AT guns, towed	42	3,342	-	-
	Light AA guns	64	1,600	5	60
	Rocket launchers/flamethrowers	941	8,325	66	522
W _g	Total artillery	146	38,104	31	7,399
	Field artillery, light . . .	98	22,414	11	2,884
	Field artillery, med & hvy .	48	15,690	5	1,500
	Naval gunfire support . . .	-	-	-	-
	AA artillery (50mm & over) .	-	-	15	3,015
W _i	Total armor	379	97,510	16	5,698
	Tanks, light	79	19,197	-	-
	Tanks, medium	195	65,130	12	4,638
	Tanks, heavy	-	-	-	-
	Armored cars	61	2,623	-	-
	Tank destroyer/assault guns	44	10,560	4	1,060
W _y	Total air close support sorties	46	5,566	0	-
	Sorties/day	15	1,815	0	-
J	Trucks & double armored vehicles	3,336	-	920	-
Q	Distance opposed advance . .	22km		-22km	
	Distance/day	7.33km		-7.33km	

Analysis of Advance Rate of the XX Corps
and 7th Armored Division

The matrix analysis sheets present in tabular form on a daily basis all data assembled for this study from World War II records that appears to have a relation to the rate of advance of the US XX Corps and the 7th Armored Division during the period 14 August-15 September 1944. German records have been used for calculating force ratios and the other comparative figures shown.

From this matrix the following initial comments are made:

1. This operation covers a period of rapid advance against opposition that for the most part was weak and poorly organized, followed by a period of only slight advance because part of the corps was out of gasoline, and a period of encounter with strong fortifications, heavily defended, against which the advance was slight.
2. The highest daily rate of advance was achieved during the period of consistently light opposition.
3. For the most part, low casualty rates and high advance rates are generally associated.
4. Except possibly during the final week, fluctuating rates of advance seem to bear no relation to the opposing force ratios.
5. In each of the three separate series of movements (between pauses) included in this operational period, rates of advance generally declined, following an initial surge.
6. Although one major obstacle did not appear to affect the advance rate adversely (due principally to an exceptional effort which surprised the bridge defenders at Verdun), in general obstacles tended to reduce advance rates; more data and further analysis is desirable to ascertain the effect of obstacles on rates of advance.

Additional Comments on Analysis of Advance
Rate of the 7th Armored Division

The armored division has generally higher rates of advance than the corps in each of the categories of the extent of intensity of opposition. This probably reflects the tactical employment of the armor with infantry as well as the ability to overcome opposition in moving situations.

KEY TO ABBREVIATIONS AND VALUES ANALYSIS MATRICES

General

Pause . . . P Yes Y
Unknown . . U Not Applicable . NA

Roadnet Mobility Factors

		<u>Normal Values</u>
Unlimited cross-country movement	1.0	. . .
Good road net	0.7-0.9	. . . 0.8
Fair road net	0.4-0.6	. . . 0.5
Poor road net	0.1-0.3	. . . 0.2
Impassable terrain	0.0	

Mission Variables

Unlimited	1
Related to specific objectives or contingencies	2
Related to adjacent units advance	3
Limited by higher authority control	4
Other	5

Exceptional Obstacles to Advance

R = River Fl = Flooded area FZ = Fortified Zone
Dn = Exceptionally effective demolitions Ur = Urban area
Sa = Sabotage by local populace Ds = Desert

Intensity of Opposition to Advance

I = Intense M = Moderate S = Slight N = Negligible

Situation on Flanks

L = Left flank units C = Comparable advance F = Faster advance
R = Right flank units S = Slower advance T = Flank threatened

Readiness Condition

Fr = Fresh W = Weary
T = Tired E = Exhausted

Posture - Mission

W/d = Withdrawal HD = Hasty Defense FD = Fortified Defense
Del = Delay PD = Position Defense

General Factor	Number of Days																
	Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Weather (Army Estimate)	1.0	0.9	1.0	1.0	1.1	0.9	0.8	0.9	0.9	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Weather (Air Support)	1.1	(no change)															
Terrain (Army Estimate)	0.9	0.9	0.9	0.9	0.9												
Terrain (Air Support)	0.9	(no change)															
Operational Characteristics																	
Comparative Factors-Force Ratio (raw)			5.76	(6.0)	(6.0)					(6.0)	5.47	(5.9)	(6.7)	(6.7)	(6.0)	(7.0)	(7.0)
Force Ratio (variables considered)*			7.16	(7.0)	(7.0)					(7.0)	3.98	(4.0)	(7.0)	(7.0)	(7.0)	(7.0)	(7.0)
Relative Combat Effectiveness			7.8								7.4						
Relative Mobility Characteristics			1.47								1.19						
Intensity of Opposition to Advance	N	S	N-M	N-M	N-M	F	F	F	F	F	F	F	N	N	N	N	N
Distance	47																
Distance	37																
Distance	27																
Distance	19																
Distance	10																
Distance	0																
Daily Rate (Average)	24	30	31	6	11	F	F	55	47	197	210	25	20	25	4	5	35
Cumulative Distance Advance	24	54	85	91	102	102	112	157	197	210	210	235	255	280	310	315	350
Cumulative Daily Rate	24.0	27.0	28.3	22.4	21.4	17.0	14.6	19.6	21.9	20.7	19.1	19.6	19.0	20.0	21.3	21.0	24.4
Intensity Opp.			0.5	5	5.3												
Moderate Opp.																	
Slight Opp.			39.0														
Negligible Opp.	24.0		36.7	25.5	25.0			74.0		35.0	25.0	20.8					
Defending Forces																	
Readiness Condition	W	W	W	W	W	F	F	F	F	F	F	F	F	F	F	F	F
Position-Mission	HD	HD	HD	HD	HD	F	F	F	F	F	F	F	F	F	F	F	F
Casualties	664	670	317	530	322	144	339			232	243	430	434	427	447	455	448
%	6.1	5.5	7	2.5	4.2	2.5	1.1	2.1	1.5	1.6	2.0	2.4	2.9	2.4	2.7	2.5	2.4
Air Support Present																	
Logistics-General	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Logistics-Specific																	
Days Without Fuel	800	11	12	10	17	F	F	1	2	3	4	5	5	5	7	7	7
Casualties Since Fause	1,444	2,351	2,448	3,194	3,194			730	71	314	1,077	1,477	1,946	2,324	2,741	3,134	3,134
%	0.4	11.9	16.4	21.3	25.0			2.1	3.6	5.4	6.3	6.0	7.2	17.1	17.1	22.0	22.0
Advanced Forces																	
Readiness Condition	Fr	Fr	Fr	Fr	Fr	F	F	F	F	F	F	F	F	F	F	F	F
Mission	3	3	3	3	3			1	1	1	1	1	1	1	1	1	1
Casualties	10	96	96	146	146	1.4	2	46	37	53	55	49	49	45	72	150	70
%	0	0.1	0.5	0.5	0.4	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Air Support Present	Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Logistics-General	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Logistics-Specific																	
Days Without Fuel	0	2	3	4	5	F	F	1	2	3	3	5	5	7	7	7	7
Casualties Since Fause	0	10	106	294	350			40	5	174	229	274	327	374	424	474	474
%	0	0.1	0.5	1.02	0.9			0.1	0.2	0.4	0.6	0.7	0.7	0.7	0.7	0.7	0.7
Distance Since Fause	4	54	85	91	102			55	107	159	197	235	280	310	315	350	350
Situation on Fronts	C	(no change)															

*Figures in parentheses are interpolated estimates.

General Factor	Number of Days																
	Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Weather (Army Estimate)	1.0	0.9	1.0	1.0	1.1	0.9	0.8	0.9	0.9	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Weather (Air Support)	1.1	(no change)															
Terrain (Army Estimate)	0.9	0.9	0.9	0.9	0.9												
Terrain (Air Support)	0.9	(no change)															
Operational Characteristics																	
Comparative Factors-Force Ratio (raw)			5.76	(5.3)	(5.3)							7.57	7.53	(7.4)	(7.3)	(7.1)	(7.1)
Force Ratio (variables considered)*			7.16	(7.2)	(7.2)							7.75	7.70	(8.1)	(8.1)	(8.1)	(8.1)
Relative Combat Effectiveness			7.8									7.4					
Relative Mobility Characteristics			1.47									1.35					
Intensity of Opposition to Advance	N	N-M	N-M	N-M	N-M	F	F	F	F	F	F	F	F	F	F	F	F
Distance	47																
Distance	37																
Distance	27																
Distance	19																
Distance	10																
Distance	0																
Daily Rate (Average)	24	30	31	6	11	F	F	55	47	197	210	25	20	25	4	5	35
Cumulative Distance Advance	24	54	85	91	102	102	112	157	197	210	210	235	255	280	310	315	350
Cumulative Daily Rate	24.0	27.0	28.3	22.4	21.4	17.0	14.6	19.6	21.9	20.7	19.1	19.6	19.0	20.0	21.3	21.0	24.4
Intensity Opp.			0.5	5	5.3												
Moderate Opp.																	
Slight Opp.			39.0														
Negligible Opp.	24.0		36.7	25.5	25.0			74.0		35.0	25.0	20.8					
Defending Forces																	
Readiness Condition	W	W	W	W	W	F	F	F	F	F	F	F	F	F	F	F	F
Position-Mission	HD	HD	HD	HD	HD	F	F	F	F	F	F	F	F	F	F	F	F
Casualties	664	670	317	530	322	144	339			232	243	430	434	427	447	455	448
%	6.1	5.5	7	2.5	4.2	2.5	1.1	2.1	1.5	1.6	2.0	2.4	2.9	2.4	2.7	2.5	2.4
Air Support Present																	
Logistics-General	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Logistics-Specific																	
Days Without Fuel	800	11	12	10	17	F	F	1	2	3	4	5	5	7	7	7	7
Casualties Since Fause	1,444	2,351	2,448	3,194	3,194			730	71	314	1,077	1,477	1,946	2,324	2,741	3,134	3,134
%	0.4	11.9	16.4	21.3	25.0			2.1	3.6	5.4	6.3	6.0	7.2	17.1	17.1	22.0	22.0
Advanced Forces																	
Readiness Condition	Fr	Fr	Fr	Fr	Fr	F	F	F	F	F	F	F	F	F	F	F	F
Mission	3	3	3	3	3			1	1	1	1	1	1	1	1	1	1
Casualties	10	96	96	146	146	1.4	2	46	37	53	55	49	49	45	72	150	70
%	0	0.1	0.5	0.5	0.4	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Air Support Present	Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Logistics-General	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Logistics-Specific																	
Days Without Fuel	0	2	3	4	5	F	F	1	2	3	3	5	5	7	7	7	7
Casualties Since Fause	0	10	106	294	350			40</									

F. Saar (Lorraine) Campaign, 8 November-7 December 1944¹
XII Corps

XII Corps Situation

The XII Corps, U.S. Third Army, commanded by Major General Manton Eddy, at the beginning of November was ready to start a new offensive, with full supplies of gasoline and most major items of equipment.² On 3 November, Third Army Field Order No. 10 ordered the corps to capture Faulquemont, on the railroad line between Metz and Saarbrücken, and then advance to the northeast to establish a bridgehead across the Rhine River between Oppenheim and Mannheim, and to capture Darmstadt.

The XII Corps front extended from the XX Corps line on the north in the vicinity of Cheminot to contact with the XV Corps, Seventh Army, at the Canal la Marne au Rhin, one kilometer west of Xures (see map). On the north of the corps front was the 80th Infantry Division; the 35th Infantry Division was in the center; and the 26th Infantry Division, with the 2d Cavalry Group attached, was on the right. In corps reserve were the 6th Armored Division in the north and the 4th Armored Division to the south.

Ahead of the XII Corps lay the area known as the Lorraine Gateway, which leads to the Rhine Valley between the West German Hunsrueck mountains and the Vosges. Some 30 miles ahead of the XII Corps front the Sarre River flows north, protected at the southern end of the front by a maze of forest, swamps and lakes that extend roughly through the area between Dieuze, Mittersheim, and Gondrexange. North of this area, two long, narrow plateaus, the Morhange Plateau and the Dieuze Plateau, lie perpendicular to the right of the corps front line, separated by the Petite Seille River. Farther west, the Dolme Ridge rises steeply to dominate the Seille Valley, parallel to the left of the corps front line (see map).

The XII Corps plan was for a coordinated attack by the three infantry divisions along the entire corps front, beginning on 3 November. As soon as the German front had been penetrated, the 6th Armored Division on the left and the 4th on the right would push through and lead the offensive toward the Sarre.

¹The sources for the narratives of US units are XII Corps G-3 and After Action Reports, and H.M. Cole's The Lorraine Campaign, in the series US Army in World War II. Time restrictions have prevented a complete search of smaller unit reports. Sources for information on German units are German records in the National Archives and the manuscripts of Generals von Mellenthin and Simon listed in the Bibliography. More operational details could be obtained if time permitted.

²Supply lines and installations serving the Third Army are shown on the maps, pages F54 and F55.

German Situation

Facing the US XII Corps in early November were elements of the German XIII SS Corps and the LXXXIX Corps, both part of First Army, under Army Group G. On the right the 43th Infantry Division of the XIII SS Corps was almost immediately opposite the 80th Division; to its right, the left flank elements of the 17th SS Panzer Division also overlapped the extreme left wing of the US 80th Division. The 559th Volks Grenadier Division, on the left of the XIII SS Corps, was directly opposed to the US 35th Infantry Division. Its right flank was in front of Delme, and its left flank units, holding Chateau Salins, were opposed by the extreme left flank of the US 6th Division. Opposite the bulk of the 26th Division and the 2d Cavalry Group was the 361st Volks Grenadier Division, holding the right of the LXXXIX Corps.

The US XII Corps G-2 estimated the total strength of the three German divisions at about 15,000 men and 20 tanks or assault guns. Although the German records for this period are extremely fragmentary, this estimate appears to be reasonably close for front-line units, with all three divisions at about half T/O&E strength. However, the total German personnel strength, including reserves (one battalion from each division in corps reserve) and with supporting corps and army artillery, was probably closer to 23,000. Defensive positions, about six kilometers in depth, had been thoroughly prepared. The most serious problem was a severe shortage in ammunition. Gasoline supplies were also very limited, and would restrict movements of reinforcements to the battle area.

There was a wide variety of opinion among senior German commanders and staff officers as to American intentions. Many hoped and expected that the onset of cold weather would cause the Americans to halt major offensive operations, and wait until spring for a renewed offensive. However, the majority seem to have expected an American drive south of Metz in early November. They had no inkling of the XII Corps plan for renewing the offensive on 3 November, and the three German divisions opposing the XII Corps seem to have been surprised tactically when the American offensive began.

Nevertheless the concept of defense in the event of an American offensive was well understood by commanders at all levels. It was to be an elastic defense, to conserve fighting potential, to preserve reserves, and to trade space for time in the face of overwhelming pressure. Traditional German defensive doctrine to counterattack at every opportunity was to be employed.

8 November

XII Corps Situation

Rain began on 5 November and continued throughout much of the following month, changing frequently to snow. Over seven inches of rain fell during the month of November, well above the normal for the period. At 0600 on 8 November (H-Hour) it had been pouring steadily for five hours. The terrain became a quagmire, bogging down tanks and rendering the infantryman wet and miserable during the entire campaign.

The XII Corps offensive began before dawn on 8 November with a concentrated artillery barrage. Nineteen and one-third battalions of corps artillery fired for three and one-third hours, joined for the last half hour by 18 battalions of division artillery, the guns of attached tanks and tank destroyers, and infantry heavy weapons. This heavy firing effectively neutralized most of the German guns and destroyed front line positions and communications.

26th Division Area. The division, with the 2d Cavalry Group on its right, had the 328th, the 101st, and the 104th Regiments from right to left. The units moved out in the morning, encountering little resistance. The 104th Infantry took Vic sur Seille, while the 2d Battalion of the 101st Infantry took the bridge across the Seille at Moyenvic. The 101st Field Artillery Battalion, which had fired on Hill 310 (a commanding position north of Moyenvic) before dawn, dropped its range to fire concentrations into Moyenvic as the battalion attacked. The town was taken, and the bridge beyond was seized before the Germans could blow it up. Ahead lay Hill 310, defended by troops of the German 953d Regiment and 361st Engineer Battalion of the 361st Volks Grenadier Division. Attempts to move quickly up the wooded slopes without assistance from heavy weapons failed, and at dark the attackers were pinned down near the base by heavy German fire. The Germans were reinforced during the night by the engineer battalion of the 559th Volks Grenadier Division. On the right the 328th Infantry, despite heavy casualties, had advanced past Bezange-la-Petite and Moncourt, tying down at least six companies of the German 952d Regiment.

35th Division Area. The division was deployed with the 134th Infantry on the right in the Foret de Gremercy area, and the 137th Infantry on the left. The 320th Infantry was to pass through the lines of the 134th (which would go into reserve) and make the attack on 8 November. CCB of the 4th Armored Division was to pass through the 36th as rapidly as possible and advance toward Morhange. The objective of the 35th was to move through Laneuveville en Saulnois, Fonteny, and the southwestern section of the Foret de Chateau Salins.

Despite mud and high water, the 137th Infantry crossed the flooded Osson Creek on a prefabricated bridge, installed in midmorning south

of Jallaucourt. Taking the villages of Jallaucourt and Malaucourt, the 137th occupied rising ground to the east by midnight. Opposing the advance was the 1125th Regiment of the 559th Volks Grenadier Division. Meanwhile the 320th Infantry, trying to secure a foothold on the Morhange plateau in the Foret de Chateau Salins, met heavy resistance at Fresnes, the key to the forest, where Company C, 737th Tank Battalion, supporting the infantry, lost six tanks. Even stiffer defense was encountered southeast of Fresnes, where the 2d Battalion was trying to reach the Bois d'Amelecourt against determined resistance from a battalion of the 1127th Regiment and a battalion of the 1125th. German guns sited in the woods prevented the battalion from gaining more than a tenuous position on the edge of the forest.

30th. Division Area. On the left of the XII Corps the 30th Division was to establish a bridgehead across the Seille River, through which the 6th Armored Division was to lead the way toward Faulquemont. Facing the 30th Division was most of the German 48th Division and the left flank of the 17th SS Panzer Grenadier Division.

XII Corps artillery commenced its preparation at 0500 (H-1 Hour), joined just before H Hour by division artillery, tanks, tank destroyers, and infantry cannon. On the right the 319th Infantry advanced through the area between Abaucourt and Letricourt and crossed the Seille at Aulnois sur Seille two hours after the attack began. The 318th Infantry, in the center of the line, after difficulty in crossing the swollen river, advanced to Nomeny. This German strongpoint held up the attacking infantry battalion in a heavy fight until a company of medium tanks came to its assistance the next morning. The 317th Infantry, on the corps left, put two battalions across the river, wading or using rubber assault boats or footbridges. Under heavy German artillery fire, they passed either side of Eply; the third battalion, following the other two, took the village.

German Situation

By nightfall the advance of the 30th Division had rolled back the south flank of the 30th SS Panzer Grenadier Regiment (17th SS Panzer Division) toward Metz and had cut through the forward lines of the 48th Division. The 1st Battalion of the German 125th Regiment was destroyed at Nomeny, and the 1431st Forest Battalion also was destroyed north of the village.

The tactical surprise of the American attack contributed to advances of two to three kilometers into the defensive positions of all three German divisions. Despite the losses suffered by the 48th Division, Army Group G considered the American advance in the vicinity of Chateau Salins, and along the boundary between the two corps, to be more dangerous. (The Germans assumed that this was a deliberate effort to exploit the corps boundary; it is doubtful, however, that this was an intentional part of the American plan.) Accordingly, the 11th Panzer

Division was ordered from Army Group reserve to counterattack along the corps boundary to restore the situation at Chateau Salins; the division would be under the LXXXIX Corps. Volks Artillery Korps (VAK) 401 was to be positioned on both sides of the forest.

9 November

XII Corps Situation

23th Division Area. The weather turned cold, and a mixture of snow and rain made the situation of the troops more miserable. The 101st Infantry, attacking at Hill 310, was short of food. Delivery of supplies through enemy crossfire was limited, and ammunition took priority in what could be carried. Mud and German fire prevented a direct attack, but the 3d Battalion advanced to the north and took the village of Salival. The 104th Infantry drove a detachment of the 559th Volks Grenadier Division from the town of Chateau Salins. Task Force A, including Company K, 101st Infantry, and a platoon of the 761st Tank Battalion, took Morville les Vic and despite heavy casualties continued toward Hampont, slowed by mud and antitank fire.

35th Division Area. CCB of the 4th Armored Division moved out through the 35th Division in two columns in the morning, Column Churchill on the left and Column Mayback on the right. Passing close to Delme Ridge, Churchill's column uncovered the southern flank of the 4th German Division, enabling the 137th Infantry to take the village of Delme, which had been defended by units of the 550th Infantry Division. Mayback's column took Oriocourt and Laneuveville and proceeded toward Fonteny. Close behind Mayback came the 1st Battalion, 137th Infantry, taking prisoners. At both Oriocourt and Laneuveville field guns were captured. The regiment's advance guard, approaching Fonteny, was struck on the flank by a detachment of German tanks. Reinforcements sent by Mayback lost three tanks and then bogged down in mud as they tried to deploy off the road. Unable to proceed, Mayback pulled back to a stronger position and awaited reinforcements.

East of Fresnes, the 2d Battalion, 320th Infantry, attacked the Germans in the Bois d'Amelecourt. Until the 1st Battalion and C Company, 737th Tank Battalion, arrived, the attackers were pinned down by heavy machine gun fire. But the tanks broke up the machine gun nests and drove the defenders far enough into the woods to permit the infantry to advance beyond the tree line. Thereupon began a stubborn defense as the Germans fought to hold every inch of ground. The 134th Infantry was sent in to cover the division's right flank and clear the eastern edge of the Foret de Chateau Salins.

80th Division Area. The intention of Major General Horace L. McBride, commander of the U.S. 80th Division, was to send his center

regiment, the 318th. to the north end of the Delme Ridge to drive along the crest and meet the 319th at the southern end. Mud as well as stubborn German defense retarded the advance of the 318th. McBride threw in his reserve battalion with the rest of the 319th, supported by tanks in a frontal attack. The 317th, on the left, meanwhile, was being hit hard by the 1st Battalion of the 37th SS Panzer Grenadier Regiment. The left flank of the 317th was exposed, because the 5th Division, XX Corps, had not yet come abreast. With the 1st Battalion well out in front--about 3,000 yards--the 317th took all but the northern tip of the ridge line in front of it. In the late afternoon aircraft of the 357th Squadron of the XIX TAC struck enemy positions on the reverse slopes and in the woods to the east, while three battalions of medium and heavy artillery that had been pounding the enemy on the ridge lifted their fire and hit the German rear areas. When the 137th Infantry took the village of Delme, and the 5th Infantry Division moved up on the left flank, the 80th controlled most of the Delme Ridge.

The 6th Armored Division was to cross the Nied River on a 10-mile front and advance to the high ground overlooking Faulouemont. At noon on 9 November, CCB, with Combat Team Prindle (86th Cavalry Reconnaissance Squadron Mechanized, plus D Company of the 15th Tank Battalion) crossed the Seille River at Port sur Seille. At a point west of Alemont German antitank guns halted the leading light tanks, and, unable to deploy off the road in the mud, the unit was forced to halt. Meanwhile, armored infantry of the 6th Armored Division and elements of the 318th Infantry were mopping up German rear guard detachments around Nomeny and Port sur Seille. By the end of the day CCA also had put advance guards across the Seille.

German Situation

XIII SS Panzer Corps Area. The reserve regiment of the 17th SS Panzer Division was committed between the rest of the 17th and the 48th Division, but its proposed counterattack was disrupted not only by the continuous presence of Allied fighter-bombers over the battlefield, but also by the necessity to bolster 48th Division units under severe pressure from the 50th and 6th Armored Divisions. The same thing happened to plans for a similar counterattack by the reserve battalion of the 559th Volks Grenadier Division, which had been ordered to restore the situation at Morville les Vic, but which was unable to seize the initiative from 4th Armored Division units farther west. The American tanks continued north of Viviers. By evening the XIII SS Corps had been driven back to the rear of its prepared defensive area, along the line: Sillegny-Vigny-Moncheux-Cote de Delme-Tincry-Faxe-Morville les Vic. The 48th Division situation was considered critical by the corps command.

LXXXIX Corps. Only the extreme right flank of the corps was seriously engaged, and had to fall back to conform to the withdrawal of the 559th Volks Grenadier Division. After dark the reserve regiment of the 553d Volks Grenadier Division was committed on the right of the

361st Volks Grenadier Division. To the rear, during the hours of darkness the 11th Panzer Division arrived in the Foret de Chateau Salins and prepared for a dawn counterattack.

10 November

III Corps Situation

26th Division Area. The 1st Battalion, 101st Infantry, worked its way around Hill 310. In the late afternoon Company C succeeded in pushing the enemy off the ridge northeast of the hill, fighting off a counterattack and digging in in the face of German artillery fire. The rest of the 1st Battalion was slugging its way through the Bois St. Martin. The 104th Infantry was fighting the rear guard of the German 559th Division near Morville.

CCA of the 4th Armored Division began moving out through the right wing of the 26th Division in two columns in midmorning, the north column taking the route Vic sur Seille-Morville les Vic Hampont, and the south headed from Movenvic to Salival to Chateau Voue. The left, Column Hunter, was held up by bad roads but encountered only limited resistance and reached Hampont by nightfall. The right, Column Oden, was unable to move because of traffic congestion on the road, and mud that made it impossible to travel off the highway.

35th Division Area. During the night of 9/10 November elements of the newly-arrived German 11th Panzer Division, including parts of the 43d Fortress Battalion and the 110th Panzer Grenadier Regiment with self-propelled guns, cut behind Churchill's column of CCB, 4th Armored Division, taking the village of Viviers and denying the only road by which Churchill might have gone to aid Mayback at Fonteny. Churchill attempted to approach Viviers, but his tanks became mired down when forced off the highway by antitank fire. After an artillery duel between the 22d Armored Field Artillery Battalion and batteries of the 401st VAK, the 2d Battalion, 137th Infantry, came from the west and, in a fight that took all afternoon, wrested control of Viviers from the Germans.

Other elements of the 137th Infantry, meanwhile, moved to the aid of Mayback, west of Fonteny. The 51st Armored Infantry Battalion was thrown out to screen the armor, while the infantry extended the battalion flanks. One small German tank attack was driven off by tank destroyers.

The 320th Infantry emerged from the Bois de'Amelecourt and moved into the Foret de Chateau Salins, where the Germans had sent in reinforcements from the 1126th Regiment and the 110th Panzer Grenadier Regiment. The 134th Infantry on the right advanced against stubborn resistance and was still short of Gerbecourt by nightfall.

80th Division Area. The division advanced rapidly, coordinating its movements with the 6th Armored Division. Before them the German 48th Division withdrew to the line of the Nied Francaise. The 318th Infantry encountered elements of the 951st Regiment, 361st Volks Grenadier Division, which were fighting a delaying action. Both CCA and CCB of the 6th Armored Division moved on the only road in the zone, which ran from Pont a Mousson to the crossing of the Nied at Han sur Nied. CCA approached the road at Luppy, where a detachment of the 11th Panzer Division attempted to defend the road. It took the remainder of the day to clear the village. CCB, meanwhile, had to fight for both Vigny and Buchy, but both villages were captured, with the assistance of the 2d Infantry of the 5th Division, XX Corps. Behind the advancing armor and infantry, corps and division artillery displaced forward as rapidly as possible over the crowded, muddy roads.

German Situation

XIII SS Corps. The 48th Division continued to give ground in the face of thrusts by the 80th and 6th Armored Divisions. The last positions on the strong Delme Ridge position were overrun, and the villages of Vigny, Buchy, and Solgne were lost. German accounts refer to the 48th Division as "defeated," and apparently it was close to collapse. The Germans were surprised that the Americans did not exploit this success more aggressively.

Further east, the 559th Volks Grenadier Division was able to hold its positions, thanks to the intervention of the 11th Panzer Division, which attacked generally westward from the southern portion of the Foret de Chateau Salins, cutting off the American armored spearheads of CCB, 4th Armored Division, north of Viviers. The Germans claimed to have knocked out about 30 American tanks during the day. However, the two columns of CCA had struck north from Vic sur Seille and Moyenvic, threatening the left rear of the 11th Panzer Division, which therefore withdrew to its starting position shortly after dark.

In the evening the 106th Panzer Brigade, which had only three tanks, arrived to plug a gap in the 48th Division line north of the Delme Ridge. The 401st VAK (five battalions) also was placed under the XIII SS Corps. One battalion had already been supporting the corps.

LXXXIX Corps. There was little activity except on the extreme right flank of the 361st Division, where some elements were engaged against units of the 26th Division and the 2d Cavalry Group. The 11th Panzer Division, part of this corps, was engaged in the XIII Corps zone (see above).

11 November

XIII Corps Situation

26th Division Area. The 3d Battalion, 101st Infantry, forced its way out of the woods and reached a road junction south of Harpont. The 1st Battalion meanwhile had driven the Germans off Hill 310. The 20th Division was secured in place on the Koecking Ridge, but casualties had been heavy. In the attack on Hill 310, 478 men had been killed or wounded. To increase the possibility for maneuver, the 328th Infantry was moved to the center of the division zone, the 104th was put on the left to drive toward Rodalbe, and the 101st was headed east along the southern slopes of the Koecking Ridge.

35th Division Area. Hunter's column of CCA, 4th Armored Division, proceeded toward Conthil. South of Houdange, German guns of the 361st Volks Grenadier Division and 111th Flak Battalion knocked out the leading tanks as they passed through a narrow defile, effectively blocking the road. Hunter turned back and proceeded on a side road to Conthil, which he occupied, and then advanced down the road toward Rodalbe, spending the night short of the town. Oden's column reached Harpont by late afternoon.

The German defenders of the Forêt de Château Salins (559th Volks Grenadier Division) began to withdraw in the afternoon, pursued by the 35th Division and CCB, 4th Armored. Resistance in front of CCB and the 137th Infantry increased as German artillery covered the withdrawal.

After a first attempt by Mayback failed, a second, with the assistance of the 1st Battalion of the 137th Infantry and a tank company, entered the town. Mopping up was not completed until the following day. Churchill's column, ordered to proceed toward Morhange, was counterattacked early in the day, but the attackers were driven off by armored artillery. Resistance continued heavy as the column tried to push through the Bois de Serres toward Oron.

The 320th and 134th Infantry Regiments pursued the 559th Volks Grenadier Division through the forest, hindered by the poor condition of the roads, the difficulty of getting ammunition and food over the muddy forest roads, and delaying actions by German rear guard detachments.

80th Division Area. The north column of CCA, 6th Armored Division, proceeding down the road toward Han sur Nied, encountered an extensive minefield near the town of Bechy, with elements of the left wing of the 17th SS Panzer Grenadier Division and the 43rd Division covering it. They fought an organized delaying action for more than two hours, during which the 1st Battalion, 137th Infantry, came up behind the armor. Two tanks were damaged by mines. With the fighting halted at Bechy,

the column of armor and infantry proceeded through heavy artillery fire toward Han sur Nied, a platoon of light tanks at the front, five half-tracks with troops of the 9th Armored Infantry Battalion next, the remainder of the infantry behind, and the medium tanks and tank destroyers on the flanks. After a desperate fight, the bridge leading to the town was taken, the town itself was occupied, and two battalions of the 317th Infantry were despatched to clear the hills behind the town.

The southern column of CCA, advancing with the 318th Infantry over muddy secondary roads, reached the Nied and threw a treadway bridge across during the night. Opposition was light, but the cumulative losses had reduced the 2d Battalion, 318th Infantry, to the strength of a rifle company.

CCB had proceeded in two combat teams toward the Nied to the north, approaching crossings at Ancerville and Remilly. When it was discovered that both bridges had been blown up by the Germans, part of the command swung north into the XX Corps zone and secured a causeway at Sanry sur Nied. Unfortunately, however, it was in range of the outer defense guns of Metz.

German Situation

XIII SS Corps. Continued pressure by the 80th and 6th Armored Divisions forced the 106th Panzer Brigade and remnants of the 43rd Division to give more ground south of the Nied River. American spearheads reached the Nied at Han sur Nied, Beaux Aube, and Sanry sur Nied. Elements of the 21st Panzer Division, which had finally arrived after being held up by a shortage of fuel for its tanks, were despatched to reinforce the 106th Brigade near Han.

The 11th Panzer Division, still operating in the XIII Corps zone, having secured its left flank with the assistance of units of the 559th Volks Grenadier Division, renewed its counterattack to the west, but without progress. The advance of American tanks in the Rodalbe sector had hit the boundary between the XIII SS Corps and the LXXXIX Corps, and the Germans were determined to restore their front. A battalion of the 110th Panzer Grenadier Regiment, ten Panther tanks, and a reconnaissance battalion were sent to assist elements of the 559th Volks Grenadier Division in the Rodalbe area.

In the evening there was a general withdrawal along the corps front. The 17th SS Panzer Division drew its left flank back behind Sorbey and Sanry, to conform with the situation on its left in the 43rd Division-106th Panzer Brigade zone. The 559th Volks Grenadier Division fell back to the general line Fremery-Dalhain.

LXXXIX Corps. In the evening the 11th Panzer Division was withdrawn from the line to prepare to counterattack the next day along the corps boundary to restore the situation south of Morhange.

12 November

XII Corps Situation

26th Division Area. Oden's column of CCA, 4th Armored Division, advanced from Hampont, with the 2d Battalion of the 104th Infantry following. Leaving the main road, the force took Hill 33, southeast of Lidrezing. Hunter's column passed through Rodalbe, which two companies of the 3d Battalion, 104th Infantry, had taken the night before, and headed north toward Bermering, in the hope of cutting off some of the withdrawing 559th Volks Grenadier Division. However, the road was thickly sown with mines, and these forced the tanks of the 37th Tank Battalion to maneuver off the road, where many were quickly stuck in the mud. German guns sited to the northeast and north struck them and forced the column to pull back about a thousand yards west of Rodalbe to the Bois de Conthil. A strong counterattack on the column was broken up by American artillery, but two companies of the 1st Battalion, 104th Infantry, barely escaped being surrounded near Conthil.

The 328th Infantry had been put in to clear the forest on the Koecking Ridge after the 101st had been badly cut up in its attempt to take Hill 310. The 328th started east through the forest, where the German 43d Machine Gun Battalion and 2d Battalion, 1119th Regiment, were waiting to meet it. At Berange Farm the advancing Americans were halted by small arms and artillery fire. The Germans were driven back, however, and the farm buildings were cleared. An attempt by the 1st Battalion, 101st Infantry, on the right of the 328th, to take St. Medard was driven off by artillery fire from guns in the forest and at Dieuze.

35th Division Area. The German 11th Panzer Division evacuated Fonteny in the early hours of the morning, abandoning three Panzer tanks. The 2d Battalion, 137th Infantry, took Faxe, and the Van Arnam column of CCB, 4th Armored Division, operating with the infantry, moved on to join the Churchill column. At Oron the armor took a bridge across the Nied. The two columns joined near Oron, and Van Arnam moved on to Chateau Brehain.

In the center of the 35th Division front the 320th Infantry completed the clearing of the Foret de Chateau Salins and was placed in reserve. The 134th Infantry, on the right, advanced with little opposition and halted after taking Bellange.

30th Division Area. At the Han sur Nied crossing, CCA, 6th Armored Division, with the 69th Tank Battalion attached and leading, headed

east down the road to Faulquemont. When they had gone about two miles, the column ran into a German battery of 88mm. antitank guns and a strong detachment of infantry. After a five-hour fight, heavily armored Sherman tanks attacked the guns from the front, while other tanks and tank destroyers attacked from the flanks, destroying the battery.

CCB attacked in three directions from the bridgehead at Sanry, using two companies of the 15th Tank Battalion and one of the 50th Armored Infantry Battalion. Opposition was heavy from antitank guns, and advance was made difficult by large craters and minefields. The bridgehead was extended about 1,500 yards to the south and east, and the 2d Battalion, 2d Infantry, 5th Division, assisted in clearing the area.

To the south the 318th and 319th Infantry had met stubborn German resistance, but a combat team of CCA outflanked the enemy and enabled the engineers to put three bridges across the Rotte Creek, over which the infantry commenced moving toward Faulquemont. XII Corps meanwhile had widened the zone of the 6th Armored Division, with the intention of pinching out the 35th Division. CCB, relieved by the 2d Battalion, 2d Infantry, was ordered to deploy to the south, to join CCA.

German Situation

XIII SS Corps. On the left of the 17th SS Panzer Division a pre-dawn American attack seized the bridge at Sanry and established a bridgehead north of the Nied two kilometers deep. A counterattack by the 17th SS Panzer Division succeeded in reducing, but not eliminating, this bridgehead.

The main effort of the American 80th and 6th Armored Divisions continued unabated, and established bridgeheads north of the Nied near Remilly, Han, and Vatimont, driving back the 106th Panzer Brigade and the remnants of the 48th Division.

The 559th Volks Grenadier Division held its ground, and did not come under severe pressure.

LXXXIX Corps. A counterattack by the 11th Panzer Division again halted the advance of CCB, 4th Armored Division. The counterattack drove back American tank spearheads from Haboudange and Conthil, which were reoccupied by the 11th Panzer Division and the 361st Volks Grenadier Division.

13 November

XII Corps Situation

26th Division Area. The 328th Infantry Regiment came within range of German batteries in Dieuze as the troops advanced along the east-west

road through the forest on the Koecking Ridge. From the woods along the roadsides the fire of German automatic weapons slowed the advance, and the German defenders had to be blasted out by tanks and tank destroyers. The 101st Infantry on the right had just received about 700 replacements, but the regiment was held up by enemy resistance at St. Medard and Hanoucourt. Thus the right flank of the 320th was exposed. Hunter's column of CCA, 4th Armored Division, was in reserve south of Lidrezing, awaiting replacements for the tanks lost by the 37th Tank Battalion. A task force from Ogen's column retook Conthil.

A German attack on Rodalbe was repulsed by troops of the 3d Battalion, 104th Infantry, with artillery support. A second attack in the afternoon was successful. Those Americans who could escape from Rodalbe, and the Germans barricaded the highway west toward Conthil. Over 200 Americans were lost in the action. The badly weakened 104th Infantry, its rifle companies down to an average of 50 men, took positions on the Conthil-Lidrezing road.

35th Division Area. Both columns of CCB, 4th Armored Division, started their drive for Morhange, moving in parallel in the general direction of Villers sur Nied-Marthille-Destry. Van Horn's column, advancing from Chateau Brehain, was held up at Brehain until a bridge was completed at 1130, and then proceeded to the vicinity of Achain, where it encamped on a ridge. Churchill's column proceeded by road from Oron to Villers sur Nied, where thick minefields forced it to leave the road. After tanks of the 8th Tank Battalion knocked out seven German 88 mm. and eleven 75 mm. pieces, the column moved on to bivouac on a ridge north of Marthille, not far from Van Horn.

The 134th Infantry, on the right of CCB, started in the morning to clear the ridgeline along which ran the road from Chateau Salins to Baronville. In a bloody battle the 3d Battalion finally occupied the Rougemont Ridge and moved on toward Morhange. The 2d Battalion meanwhile had advanced from Bellange to Achain, under heavy fire from the guns on Rougemont Ridge. Reaching Achain at about noon, the battalion attacked, and, after a bitter 10-hour fight, finally took the village. The 137th Infantry, on the left of the 134th, was following closely behind CCB.

30th Division Area. The 21st Panzer Division, with about 19 tanks, three assault guns, and four armored infantry battalions, approached the bridgehead across the Nied through the Forêt de Remilly during the night. Early in the morning the Germans suddenly attacked a detachment of CCB, 6th Armored Division, consisting of D Troop and three platoons of 75mm SP guns of E Troop of the 36th Cavalry Squadron, and part of the 603d Tank Destroyer Battalion, which had been posted to protect the Sanny bridgehead by blocking the main road junction between Bazoncourt and Berlize about 600 yards south of Berlize. In 30 minutes the Americans lost 13 vehicles and 29 casualties. With no artillery support available, the commander, Capt. James Bridges, withdrew about 1,000 yards

to a hill north of Bazoncourt. The main force of CCB, which was to drive south and east to expand the bridgehead, made little progress because of deep craters and roadblocks. In the late afternoon CCB was ordered to turn over the bridgehead to the 2d Division and move to the southeast, preparatory to attacking east of Herry.

CCA, 6th Armored Division, helped by the 317th Infantry, continued its attack toward Faulquemont, gaining about five miles and taking Arraincourt after stubborn fighting.

German Situation

XIII XX Corps. The situation on the left flank of the 17th SS Panzer Division was quiet. To its left the 21st Panzer Division, severely understrength and newly arrived in the area, had been sent to the Nied Area to wipe out the bridgehead of the 6th Armored Division. The 43rd Division and the 106th Panzer Brigade were concentrated on a narrow front in the Han-Vatimont area. Both of these towns were lost, but otherwise the American drive in this sector was substantially slowed down. Nevertheless, the American advance forced the 559th Volks Grenadier Division to pull its right flank back to the vicinity of Lesse; its left was still at Dalhain.

During the afternoon elements of the 36th Volks Grenadier Division arrived from Holland to relieve the badly battered 48th Division. The 36th was near full strength in men and guns as it assembled in the vicinity of Faulquemont and prepared for a counterattack toward Han.

By this time German reports refer to the 48th Division as 'almost annihilated.' The 559th Volks Grenadier Division had also suffered severe casualties. The remnants of the two divisions were now combined under the commander of the 559th, Major General Kurt von Muehlen, with the designation, Battle Group von Muehlen, in the zone which had been held by the 559th.

LXXXIX Corps. The 11th Panzer Division, forced on the defensive by the continuing pressure of the 4th Armored Division and the 35th and 26th Infantry Divisions, generally held its positions, but gave up the town of Haboudange to American tanks. However, a counterattack from the Bourgaltruff area captured 218 prisoners.

14
14 November

XII Corps Situation

26th Division Area. Coordinating its attack with the 104th Infantry, CCA, 4th Armored Division, pushed eastward to clear the Bois de Kerperche. At Kutzeling Farm at 0845 six Panther tanks were engaged, and three of

them were destroyed. Oden's column destroyed five more about a kilometer and a half west of Bourgaltroff and proceeded to the western edge of the town. Task Force West of Oden's column occupied Guebling. Hunter's column remained in the vicinity of Warbeling with a task force in Conthil. Most of the Germans withdrew from the area during the night.

35th Division Area. CCB, 4th Armored Division, advanced to the east with a battalion of the 137th Infantry, taking Destré at about noon and Baronville later in the day from the German 559th Volks Grenadier Division, newly reinforced with troops from Poland. The two columns of CCB consolidated in the area of Baronville. The 134th Infantry, supported by armor, approached Morhange; the town was under heavy fire from American 155mm howitzers, 8-inch howitzers, and 240mm howitzers.

30th Division Area. The XX Corps on the left still being involved in the battle for Metz, General Eddy limited the advance of the 30th and the 6th Armored Divisions. To the latter was given the job of seizing the high ground south of Faulquemont. CCB, 5th Armored, was to drive east from Herry, while TCA procured a favorable line of departure for the infantry, specifically a ridge running southeast from Thicourt to Landroff, known as the Cote de Suisse.

Combat Team Davall, composed of the 69th Tank Battalion (-), a company of the 9th Armored Infantry Battalion, and some tank destroyers, led the attack force, which by noon had taken Brulange and Suisse. As the tanks advanced down the road toward Landroff heavy artillery fire caused many casualties, but the town was taken by late afternoon. At dusk a German force consisting of the 1st Battalion, 87th Regiment, and four assault guns, under covering fire from the 268th Artillery Regiment, counterattacked unsuccessfully. Two other attacks during the night were also driven off.

German Situation

XIII SS Corps. Things were generally quiet in the zones of the 17th SS Panzer Grenadier and 21st Panzer Divisions. To the east, however, severe pressure continued against newly-formed Battle Group von Muehlen. West of Morhange the Americans seized the villages of Many, Arraincourt, Brulange, and Marthille.

In the evening the 36th Volks Grenadier was committed between the 21st Panzer Division and Battle Group von Muehlen, which was thus able to concentrate on a narrower front, commensurate with its sadly-reduced strength.

LXXXIX Corps. During the day the 11th Panzer Division was forced to abandon Morhange. By evening the 11th, and the 361st Volks Grenadier Division to its left, held a line extending southward from a point northwest of Morhange to the west of Benestroff and Dieuze, and thence to Ommeray.

15 November

XII Corps Situation

26th Division Area. Task Force West of Oden's column of CCA, 4th Armored Division, was in Guebling, hit hard by German artillery fire during the night. Several tanks and other vehicles were damaged, and gasoline trucks that had come to refuel them were destroyed. An attempt to take the high ground behind the village the next morning, with the assistance of the 10th Armored Infantry Battalion, was held off by strong artillery fire. Oden was ordered to withdraw to Hill 337, near the 26th Division. With enemy guns shelling the road, Oden's force moved back, covered by a smoke screen. The 35th Tank Battalion had only 15 tanks still fit for battle, and the rest of the force had taken heavy casualties. Because of this costly maneuver, General Wood put an end to independent armored attacks.

35th Division Area. The German 1127th Regiment withdrew from Morhange in the early morning, leaving blown bridges and minefields behind it. CCB, 4th Armored Division, with the 134th Infantry, entered the town just before noon, fought its way through it and reached the Metz-Sarrebourg railroad line east of Morhange before dark.

30th Division Area. Combat Team 44 of CCA, 6th Armored Division, followed by a battalion of the 319th Infantry, took the Cote de Suisse, almost entirely destroying the 2d Battalion of the German 87th Regiment.

German Situation

XIII SS Corps. The American drive northeastward toward Sarreguemines continued, but with less steam. The villages of Hery, Thicourt, and Thimonville were lost by Battle Group vor Muehlen. Landroff, which had also been lost, was partly recovered by the 36th Volks Grenadier Division. Otherwise the situation was unchanged.

LXXXIX Corps. The 11th Panzer Division repulsed a number of attacks, but fell back to Francaltroff; otherwise the situation was generally unchanged during the day.

16 November

XII Corps Situation,

4th Armored Division. The division made no advance, CCA holding the line Kutzeling Farm-Lidrezing-Zarbeling-Conthil, and CCB remaining west of Morhange, with some units in Baronville. Both were reorganizing.

26th Division Area. The 323th Infantry continued to push through the Koecking Woods, with little opposition, since most of the Germans had withdrawn. On the right the 101st Infantry and 2d Cavalry Group were pursuing the enemy toward Dieuze.

35th Division Area. Having advanced 12 miles in eight days of heavy fighting, the division halted near the Metz-Sarrebourg railway to await new orders.

30th Division Area. CCA, 6th Armored Division, with the 318th and 319th Infantry Regiments, attacked toward Faulquemont, massing tanks, artillery and tank destroyers on the Cote de Suisse. In a coordinated infantry-armor attack, the 87th and 118th German Regiments were overrun. Five towns were taken, and the 30th Division secured the high ground south of Faulquemont, where they could interdict the traffic into the city. There the two divisions were halted.

German Situation

There was little change in the fronts of the XIII SS and LXXXIX Corps, although American pressure against the 36th Volks Grenadier Div. and Battle Group von Muehlen was still severe, particularly in front of Faulquemont and Benestroff. The German high command was concerned, however, that the fighting qualities of both the 11th Panzer and the 36th Volks Grenadier Divisions had been seriously impaired in the recent fighting.

Farther north, the LXXXII Corps had also been under severe pressure, and the Metz garrison, between the LXXXII and XIII SS Corps, was close to being cut off. Army Group G decided, therefore, to abandon Metz. In the general reorganization of units that this involved, the 106th Panzer Brigade was withdrawn and sent south to the Nineteenth Army, and the 21st Panzer Division was withdrawn into Army Group reserve.

17 November

XII Corps Situation

The whole XII Corps front was quiet as the three infantry divisions regrouped, and the two armored divisions consolidated and made preparations for future operations. CCA, 4th Armored Division, closed in an assembly area in the vicinity of Gerbecourt, Lubecourt, and Puttigny. CCB commenced moving to an assembly area in the vicinity of Courbesseaux.

German Situation

XIII SS Corps. The 36th Volks Grenadier Division and Battle Group von Muehlen were slightly engaged. Otherwise the corps zone was quiet. The center and right of the corps zone was by this time almost completely opposed by the American XX Corps.

LXXXIX Corps. The American threat to the boundary between the corps was still a matter of grave concern. The 11th Panzer Division (less one armored group in corps reserve) still retained the mission of preventing a breakthrough along the boundary. Thanks largely to the weather and terrain, the division had been holding a zone that was nearly 20 kilometers wide. It was now generally opposed by the American 35th Division. Farther south the 361st Volks Grenadier Division was opposed by the American 26th Division and 2d Cavalry Group.

18 November

XII Corps Situation

The XII Corps struck out again on 18 November, with the intention of smashing through to the Sarre River with the infantry division and then proceeding to the Rhine. The 26th and 35th Divisions were to advance abreast, while the 30th contained Faulquemont and protected the exposed north flank, having been pinched out of the front by the 35th Division as the eastward advance progressed. The two armored divisions, temporarily in reserve, were to be used as opportunity offered.

26th Division. The 101st and 104th Regiments, with a nearly full complement of replacements, attacked after an hour of artillery preparation. The 101st moved toward Guebling, while the 104th proceeded in the direction of Marimont les Benestroff and Benestroff. The 101st encountered German units dug in along the railroad west of Guebling, with machine guns and artillery in supporting positions. Despite heavy fire, the town was reached and occupied and the 2d Battalion was at the edge of Bourgalstroff by early evening. The 104th was held up at the Bois de Benestroff, east of the railroad, but finally broke through in late afternoon.

4th Armored Division. The division continued its reorganization, with CCB assigned as corps reserve.

35th Division. The division, extending its front to the north to pinch out the 30th, was to make its main effort on its right toward Francaltroff, to take the high ground south of Sarreguemines. The Germans in the left wing of the XIII SS Corps had withdrawn from in front of the 35th Division during the night. The 320th and 137th Infantry moved out at marching speed in the morning, well ahead of their supporting heavy weapons. As the 3d Battalion, 137th Infantry, approached Bistroff, at the southern end of an impassable area of flooded streams and lakes, it came under artillery fire. But the infantry took the village and held it against several counterattacks. By the end of the day the right wing of the 320th Infantry was east of Vallerange, and the 137th was near Bistroff.

German Situation

XIII SS Corps. Renewed American pressure forced the 36th Volks Grenadier Division back to Faulquemont. Battle Group von Muehlen was driven back from the Bois de Freyhouse to the Fremestroff-Hellimer area. Corps headquarters requested permission to withdraw the exhausted Battle Group from the front. In the evening the corps boundary was extended to the left to include the 11th Panzer Division.

LXXXIX Corps. The 11th Panzer Division, delaying stubbornly, fell back to the general line Hellimer-Marimont. The 361st Volks Grenadier Division, under increasing pressure from the American 25th Division, held its positions in front of Dieuze.

During the night the newly-arrived 347th Infantry Division relieved the 17th SS Panzer Grenadier Division, which shifted southward to take over the positions of Battle Group von Muehlen, which was finally relieved after 11 days of most intensive combat. (Elements of divisions remained intermingled for a day or so, because of the obvious problems of carrying out these reliefs and movements in a period of severe combat.)

19 November

XII Corps Situation

26th Division Area. The 104th and 101st Infantry Regiments attempted to encircle the road center at Marimont and take Hill 334 just west of the village. The Germans, who had been ordered to withdraw that night, fought stubbornly, and the Americans suffered heavy casualties. Although part of the 2d Battalion of the 104th entered Marimont, it was driven out again by artillery and mortar fire. The 3d Battalion encountered comparable resistance in the outskirts of Benestroff.

The 353th Infantry attacked south toward Dieuze against a rear guard detachment of the 361st Volks Grenadier Division. Tanks of the 781st Tank Battalion of the 4th Armored Division supported the infantry.

The north column of CCA, 4th Armored Division (CCB was in reserve), on the left of the 26th Division, moved out past Rodalbe in the morning, its progress slow because of numerous road blocks and enemy mines. By 1300 it had taken Virming, assisting the 320th Infantry, 35th Division. The south column remained near Dieuze, held up by a blown bridge which the 26th Division had not yet secured from the enemy.

6th Armored and 35th Division Area. General Eddy ordered the entire 6th Armored Division to pass through the 35th, and the 6th moved up to the infantry lines. Ahead lay the main German defense position, held by Battle Group von Muehlen, which, in addition to the remains of

the 48th and 559th Volks Grenadier Divisions, had some fortress units, and some armored vehicles of the 1559th Tank Destroyer Battalion. Combat Team Lagrew of CCB, with the 1st Battalion, 137th Infantry, following, moved slowly against stiff resistance down the road Morhange-Gros Tencuin. Halted by an antitank ditch west of Bertring, the Americans found German infantry, tanks, and antitank guns beyond it and had to fight a stiff battle in order to proceed. Bertring was taken, and in a coordinated action of armor and infantry, with 19 battalions of field artillery, and with fighter bombers strafing and bombing, Gros Tencuin also was taken.

German Situation.

XIII SS Corps. Elements of the 21st Panzer Division which were still engaged were withdrawn to join the remainder of the division in Army reserve. The 17th SS Panzer Grenadier and 36th Volks Grenadier Divisions were withdrawn to the old Maginot Line positions, along the general line Bambiderstroff-Leiling. Battle Group von Muehlen, after intensive delaying actions, extended southeastward, partly in and partly in front of the Maginot Line, to St. Jean Rohrbach, and the 11th Panzer Division fell back to a line generally from St. Jean Rohrbach to a point between Virming and Benestroff.

LXXXIX Corps. Despite intense pressure from infantry and tanks, the 351st Volks Grenadier Division held its positions in front of Dieuze. During the night, however, Dieuze was abandoned, principally because of the need to withdraw the 361st to conform to the withdrawal of the 553d Division, on its left, which was under severe pressure from the American XV Corps.

20 November

XII Corps Situation

26th Division Area. During the night the German garrison of Dieuze had withdrawn toward Mittersheim, and the 2d Cavalry Group, 320th Infantry, and 51st Armored Infantry Battalion moved into the town. Although U.S. planes and German demolitions had destroyed most of the bridges, one remained intact, and the 26th and CCB, 4th Armored Division, were in position to drive ahead to the east.

Numerous mines and blown bridges held up the advance of CCA, but by 1400 the dismounted armored infantry occupied Francaltroff and turned it over to the 320th Infantry, and reached Obrick by nightfall.

35th Division Area. A combat team of the 6th Armored Division, built around the 69th Tank Battalion, led the advance of the 137th Infantry along the road to Hellimer, where a number of Panthers and

self-propelled tank destroyers of the 116th Panzer Division were deployed to halt them. At a cost of six light and four medium tanks the Americans broke through, destroying ten German tanks, three armored cars, and three antitank guns. The advance halted on the eastern end of the Bois de Freyhouse.

30th Division. In a move to take Faulquemont, two regiments of the 30th Division secured a bridgehead across the Nied Allemande.

German Situation

XIII SS Corps. There was little change in the situation. Covering forces of the withdrawing 11th Panzer Division were forced by American tanks to abandon Francaltroff.

LXXXIX Corps. The 361st Volks Grenadier Division withdrew eastward toward the Sarre River from Dieuze. While the effect on the 361st was indirect, the 553d Volks Grenadier Division sector in the center of the corps was penetrated by an armored attack of the American XV Corps, which was advancing toward the Saverne Gap in the Vosges Mountains.

21 November

XII Corps Situation

26th and 4th Armored Division Area. CCB's south column (Churchill's) moved out from Dieuze toward Mittersheim. Although held up by blown bridges at Lostroff, by nightfall the column had reached Loudrefing. The left column was sent into the 26th Division zone to take Munster, but it encountered the 328th Infantry on its way to help the 101st, and the division commander ordered the armor out of this area.

Task Force Abrams of CCA had reached a flooded area, and two companies of its tanks had to be winched out of the mire near Francaltroff. CCA was ordered back to Conthil to be shifted to the south to support CCB.

The 3d Battalion, 101st Infantry, made a forced march during the night 20/21 November to cut the road west of Munster, at Torcheville, which the Americans took. The 104th Infantry, on the left, took the village of Montdidier, and the 1st Battalion continued in the direction of Albestroff, where five roads met. The 101st could not move far from Torcheville, for the road to the east was heavily mined and blocked. The road to the southeast was flooded. The 328th was ordered to reinforce the weakened 101st. The 761st Tank Battalion lost four tanks in a minefield, and the infantry continued alone to the village. Three rifle companies entered but subsequently were cut off by a German counter-attack.

35th Division Area. Combat Team Wall of CCB, 6th Armored Division, and the 3d Battalion, 137th Infantry, turned north to take Fremestroff, moving slowly in the mud and confronted with mines and antitank fire. Deploying off the road just at the edge of the village because of a blown bridge, the armored vehicles bogged down. After heavy and accurate artillery fire, two infantry companies attacked, but were driven back by gunfire. Five German tanks then advanced, to be engaged by American tanks and tank destroyers. When one of the German tanks was disabled, the rest withdrew and the town was quickly taken. The German guns near Hellimer had been pinning down the 320th Infantry, on the right of the 35th Division, as it tried to advance toward Grening.

80th Division. The division widened its foothold across the Nied Allemande against slight resistance.

German Situation

XIII SS Corps. There was little change in the situation. Some elements of the 15th Panzer Grenadier division were committed to strengthen the 17th Panzer Grenadier Division in the hard fighting near Fremestroff.

LXXXIX Corps. The extreme right flank units of the 361st Volks Grenadier Division were forced out of Albestroff. The situation in the center and left of the corps remained serious, as the American XV Corps continued its advance toward Saverne.

22 November

XII Corps Situation

4th Armored Division.

While CCA assembled near Conthil, the two columns of CCB joined and advanced to Mittersheim, which was taken in the afternoon by the 8th Tank Battalion, which then crossed the Canal des Houilleres de la Sarre. Reconnaissance elements had reached the outskirts of Fenetrance.

26th Division. An attempt by the 1st Battalion, 104th Infantry, to enter Albestroff in the morning was repulsed. The 2d and 3d Battalions advanced north and south of the village, meeting heavy resistance. The 320th Infantry, having reached the area, took Munster.

35th Division. Artillery fire on the village of Grening, where the 320th Infantry was pinned down, had little effect on the German infantry battalion and handful of tanks that were holding it. Not until midafternoon did a patrol manage to seize a building in the town. Unable to dislodge the Americans, the Germans finally moved out of Grening.

6th Armored Division. In the north CCB, 6th Armored Division, and the 1st Battalion, 137th Infantry, took Leyviller and St. Jean Rohrbach beyond Hellimer.

New Corps Orders. Since the XII Corps zone narrowed as it approached the Sarre River, and with CCB, 4th Armored Division, making good progress on the right flank, the corps commander ordered the 6th Armored Division on the north with the 80th Infantry Division, and the 4th Armored Division on the south, to execute a new maneuver that would pinch out the 26th and 35th Divisions. The 4th Armored Division was to proceed north up the corridor between the Canal des Houilleres de la Sarre and the Sarre River, cutting off or mopping up the Germans facing the two infantry divisions.

German Situation

XIII SS Corps. There was little change in the situation.

LXXXIX Corps. The 361st Volks Grenadier Division retook Albestroff in a surprise pre-dawn attack, capturing a number of prisoners. In the center, however, the division lost Munster to American infantry and Mittersheim to American tanks. After dark, therefore, Albestroff was abandoned, and the division withdrew to defensive positions in the Bois de Bonnefontaine, south of Altwiller and in front of Fenetrance. The situation in the corps center remained grave, as the American XV Corps continued to push into the Vosges passes.

23 November

XII Corps Situation

4th Armored Division. The task assigned in the new orders did not take into account the fact that the corridor is only four miles wide at Mittersheim and narrows to less than a mile at Sarre-Union. Only muddy logging roads run north through it, totally inadequate to carry tanks. Because of the problems involved in trying to move north, CCB headed east from Mittersheim toward Fenetrance, on the west bank of the Sarre, and into the area of the 44th Infantry Division of the XV Corps, Sixth Army. (Whether the division commander ignored the corps order or had it modified has not been ascertained.) Encountering only weak defenses of the German 953d Regiment of the 361st Volks Grenadier Division, Task Force Ezell, with elements of the 2d Cavalry Group, captured the town. The 25th Cavalry Reconnaissance Squadron turned south, crossed the Sarre at Gosselming and proceeded toward Bettborn, where contact was made with patrols of the 44th Division.

26th Division. The division had not yet reached the canal. On its west bank were large field fortifications at Honskirch and Altwiller as well as the Bois de Bonnefontaine. The 328th Infantry, coming from the 10th's area, attacked northeastward against the Vatersheim-Altwiller line, a heavily fortified line with bunkers,

entrenchments, minefields, and an extensive antitank ditch. The 101st moved slowly through the Bois de Bonnefontaine, where the Germans had trenches, mines, wire barriers, and antiaircraft guns.

6th Armored and 35th Division. CCA, ordered to move south into the 35th Division zone, joined the 1st and 3d Battalions, 134th Infantry, in a drive to the Maderbach, about eight miles west of the Sarre. The 1st Battalion, 137th Infantry, advanced on Hilsprich, southeast of St. Jean Rohrbach, to widen the salient. Defending Hilsprich was the infantry of the 30th SS Panzer Grenadier Regiment, with a few tanks, but with its guns sited to cover the approach to the village with cross-fire. After heavy fighting two American companies entered the village but were unable to hold it. Only about 60 survivors, including a single officer, escaped and returned to St. Jean Rohrbach.

German Situation

XIII SS Corps. Elements of the 17th SS Panzer Grenadier Division counterattacked successfully at Hilsprich. The front of the 11th Panzer Division was now protected by a wide belt of water, the tributaries to the Sarre, flowing through Sarralbe and Altwiller, having overrun their banks after heavy rains.

LXXXIX Corps. American tanks and infantry continued to force back the 361st Volks Grenadier Division, which had been much weakened by prolonged, intensive combat. However, during the day the division received reinforcements to permit it to cover the right flank of a major counterattack intended to halt the attack of the American XV Corps.

The Panzer Lehr Division, under General Fritz Bayerlein, recently assigned to the corps for the counterattack, assembled during the day east of Sarre-Union, and at about 1600 began to attack southeastward, behind the left flank of the 361st Volks Grenadier Division. The objective was to break through the US 44th Division, on the left of the XV Corps, and to drive toward the center rear of the American corps. The Panzer Lehr attack was in two armored and infantry columns, with its main effort (Task Force I) on the left, heading toward Schalbach. By dark the left column, encountering spotty resistance from the surprised Americans, had reached Hirschland, and received orders from the Army Group commander to continue the attack during the night. By morning the German advance was past Rauwiller.

24 November

XII Corps Situation

4th Armored Division. Task Force Jaques of CCB crossed the Sarre River near Gosselming, and Task Force Churchill crossed at Romelfing

to the north, with no opposition. The plan was for both columns to drive northeast toward Bining, in order to cut off the Germans withdrawing from Sarre-Union and Sarreguemines. The Churchill column reached the high ground west of Postroff. The Jaques column advanced to Baerendorf. By that time both had encountered substantial resistance from elements of the right flank column (Task Force I) of the attacking Panzer Lehr Division and the 361st Volks Grenadier Division, which was screening the attack. The 53d Armored Infantry Battalion, supported by a few tanks and the 253d FA Battalion, drove the Germans from Baerendorf. CCA, meanwhile, was assembling near Bidestroff.

26th Division. While the 328th Infantry was driving toward the Vittersbourg-Honskirch-Altwiller line, the 101st was pushing against a stubborn German defense in the Bois de Bonnefontaine. During the night of 24 November an attempt to take a chateau in the middle of the woods, which the Germans had strongly fortified, failed. But the chateau was taken later with the assistance of tank destroyers.

6th Armored Division Area. CCB attacked Hilsprich, considered essential to cover the flank of a drive to Maderbach. Aided by the 1st Battalion, 134th Infantry, and pounding by artillery, the 737th Tank Battalion took the town in the afternoon. CCA, on the left, was advancing slowly to the northeast.

German Situation

XIII SS Corps. The 17th SS Panzer Grenadier Division was forced out of Hilsprich by American tanks and infantry. Since the weakened right flank elements of the extended 361st Volks Grenadier Division had been driven back, the 11th Panzer Division attacked southward near Sarre-Union to restore the situation on its left flank, and to secure the rear of the Panzer Lehr counterattack. The corps and division boundaries were shifted south to place Sarre Union in the 11th Panzer Division zone.

LXXXIX Corps. The 25th Panzer Grenadier Division began arriving to relieve the battered 361st Volks Grenadier Division. Units of the US 4th Armored Division overran infantry protecting the Sarre River crossings near Baerendorf and Postroff and attacked the exposed right flank of the Panzer Lehr Division's Task Force I. This resulted in heavy fighting, particularly in the Baerendorf area, where the 1st Battalion, 902d Regiment, of Panzer Lehr suffered very heavy losses. The left column, Task Force II, continued to advance toward Schalbach, but at a slower pace.

25 November

XII Corps Situation

4th Armored Division. Bayerlein, having been hard hit in the right flank, turned Panzer Lehr's Task Force I to the west to attack toward Fenetrange. In the darkness of early morning the Germans, with tanks and infantry, hit the 53d Armored Infantry Battalion, deployed around Baerendorf, and the 8th Tank Battalion, which was outposted to the east. Casualties on both sides were heavy, but the Germans were driven off. Later in the morning the 53d attacked toward the high ground northeast of Baerendorf, and the 8th Tank Battalion joined the 51st Armored Infantry Battalion (less one company) in an attack on Postroff. Artillery of the 4th Armored Division supported both. At the end of the day the division held a line Hirschland-Baerendorf-high ground west of Postroff-Niederstintel.

26th Division. The 328th Infantry broke through the north end of the German line and took Vittersbourg. The 101st Infantry continued the fight in the Bois de Bonnefontaine. An attack on Hill 262 south of Altviller was driven off by a German bayonet charge.

6th Armored Division. After the armored infantry and engineers bridged an antitank ditch west of Puttelange during the night, the 15th Tank Battalion of CCB crossed, only to stick in the mud when a large crater in the road made it necessary to leave the pavement. German antitank guns knocked out five tanks, and the battalion withdrew. To the south the 737th Tank Battalion also encountered mud, mines and artillery fire that halted their attempts to advance. Two accompanying rifle companies of the 134th Infantry, with some armored infantry, pushed through to the Maderbach at Remering. CCA, farther back on the left, was also making slow progress.

80th Division. All three regiments attacked east of Faulquemont, supported by the 712th Tank Battalion, 610th and 803rd Tank Destroyer Battalions, and 42d Cavalry Squadron. The German defenders were the understrength 36th Volks Grenadier Division plus an infantry battalion of the 374th Infantry Division. The American objective was a portion of the Maginot Line. In the face of the overwhelming strength of the American attack, German resistance collapsed, and the area was under control by midafternoon.

German Situation

XIII SS Corps. A renewed offensive by the American XII Corps brought pressure all along the left wing of the corps line. The 36th Volks Grenadier Division was forced back about three kilometers to positions just west of St. Avold, and the 17th SS Panzer Grenadier Division lost a little ground west of Puttelange.

LXXXIX Corps. The counterattack of the Panzer Lehr Division made some progress, although less than had been expected. Task Force I, on the right, retook the town of Postroff, which had been lost by the 351st the previous day. Efforts to retake Baerendorf were unsuccessful, but the American threat to Reuwiller was driven back. Farther left, Task Force II reached the vicinity of Schalbach, held by the 44th Division. Later in the day, however, Task Force I was again threatened by renewal of the American 4th Division counterattack.

26 November

XII Corps Situation

4th Armored Division. CCB had been reinforced by the 51st Armored Infantry Battalion from CCR, which was added to the Churchill column at Postroff. The Churchill and Jaques columns attacked in coordination, the former toward Wolfskirchen and the latter at Eywiller. Flooded streams and mud made tank maneuver impossible, pinning the armored vehicles to the roads. Artillery fire from the Panzer Lehr and the 401st Volks Artillery Corps helped to keep advances minimal. CCA crossed the Sarre River and moved behind CCB to take positions on the right. Enemy resistance was slight, the roads were good, and Task Force Oden reached Ottwiller, Task Force West Drulinge, and the rest of CCA Weyer.

26th Division. Two attacks on Honskirch by units of the 328th Infantry were driven off as the German defenders tried stubbornly to hold the position. The 101st moved up to the Canal des Houilleres de la Sarre.

6th Armored and 35th Divisions. The 69th Tank Battalion of CCA tried to bypass the area where the rest of the combat command was halted by attacking through the Foret de Püttelange. On the far side of the woods, however, mud made it impossible for the tanks to maneuver as they came within range of the defenses of the Maginot Line. The 134th Infantry advanced from Hilsprich to clear the west bank of the Maderbach.

30th Division. In front of the division the Germans were retreating, but rear guard detachments were covering the withdrawal. The German 2d Battalion, 165th Regiment, made six unsuccessful counterattacks on a battalion of the 318th Infantry, before being wiped out by the fire of nine field artillery battalions. The 319th and 317th Infantry advanced to the vicinity of St. Avold against stiff opposition.

German Situation

XIII SS Corps. American pressure continued against the 36th Volks Grenadier and 17th SS Panzer Divisions near St. Avold, and against the

347th Division to the north. St. Avold was lost, and the 17th SS Panzer Grenadier Division withdrew slightly toward Farebersviller.

LXXXIX Corps. During the night Army Group headquarters called off the Panzer Lehr counterattack. The weakened 361st Panzer Grenadier Division was shifted to its left, in a shortened line, with the Panzer Lehr Division taking over the right of its sector, on the line Sarre-Union-Winigen-Bischweder, and the understrength 25th Panzer Grenadier Division between Panzer Lehr and the new 361st Volks Grenadier sector. Panzer Lehr was authorized to withdraw its spearheads from their exposed positions southeast of Baerendorf, which was still held by the US 4th Armored Division.

27 November

XII Corps Situation

4th Armored Division. The 51st Armored Division with a company of light tanks, on the left of the 4th Armored Division, attacked and took Wolfskirchen from a detachment of the 25th Panzer Grenadier Division. The 53d Armored Infantry Battalion of Task Force Jacques was held up at Eywiller until late afternoon by a German force, including a number of Panthers. Task Force West of CCA took Gungwiller, northeast of Eywiller, at about noon, however, and the German position at Eywiller could no longer be held. The bulk of CCA had commenced an attack with Task Force Oden at Durstel. But the Germans had fortified the area strongly and fought so stubbornly that the task force withdrew to Asswiller.

26th Division. Little activity as the division reorganized and mopped up west of the canal.

6th Armored and 35th Divisions. The advance of the 80th Division (see below) released the pressure confronting the 6th Armored Division, which was then able to resume a slow advance.

80th Division. The 318th and 319th Infantry entered St. Avold, finding that the Germans had withdrawn, as part of a general retreat to the Maderbach. The division commander then turned the 317th to pursue the retreating enemy to the northeast. The deep mud made it impossible for trucks or half-tracks to get through, and the infantry proceeded on foot, making contact with the enemy near Seingbouse, about six miles from St. Avold. Since it was late in the day, the regiment deployed in anticipation or proceeding the following morning.

German Situation

XIII SS Corps. Pressure slackened against the units in the center of the corps sector, which had withdrawn somewhat during the night. Otherwise the situation was little changed.

LXXXIX Corps. The Panzer Lehr Division withdrew in delaying actions to a line extending generally from Wolfskirchen to Eywiller and Bettwiller. The US 4th Armored Division maintained considerable pressure against the withdrawing Germans.

28 November

XII Corps Situation

4th Armored Division. While the right column of CCA was held up by blown bridges, the left, Task Force West, took Bettwiller. Task Force Jaques of CCB, joined by CT 71, 44th Infantry Division, attacked north from Eywiller, encountering little resistance, and captured Berg. Task Force Churchill also advanced, against heavy enemy fire and road-blocks, reaching and capturing Burbach.

26th Division. The 328th Infantry was mopping up west of the Canal des Houilleres de la Sarre. General Eddy ordered the division to extend to the north to take over the area held by the 35th Division. The 101st Infantry was to go to Burbach to assist the 4th Armored Division in its move toward Sarre-Union.

80th Division. The 3d Battalion, 317th Infantry, attacked Farebersviller, which was held by about 200 troops of the German 17th SS Panzer Grenadier Division, while the 1st and 2d Battalions of the 317th tried to bypass the village. They were stopped, however, by units of the 38th SS Panzer Grenadier Regiment and some light flak tanks of the 17th SS Reconnaissance Battalion forming a tactical reserve supporting the defenders of Farebersviller. After a day-long house-to-house fight, by dark the 3d Battalion occupied only the west half of the village. A German infantry and tank counterattack at 2000 was unsuccessful.

German Situation

XIII SS Corps. There was little change in the situation, but some ground was lost in the sectors of the 36th Volks Grenadier and 17th SS Panzer Grenadier Divisions.

LXXXIX Corps. The Panzer Lehr Division continued to hold its new line against strong American attacks.

29 November

XII Corps Situation

4th Armored Division. Durstel finally fell to CCA, Task Force Oden, which then moved on, capturing Adamswiller. Task Force West

advanced from Bettwiller to Rezingen. Task Force Jacques of CCB advanced to the high ground between Thal Pres, Drulingen, and Mackwiller, while Task Force Churchill took the high ground between Burbach and Sarrewerden.

80th Division. The 3d Battalion, 317th Infantry, attacking Farebersviller, was reinforced with tanks and tank destroyers, but the Germans also had strengthened their forces, and the village remained in German hands, the Americans driven back to the west. Other German units launched two counterattacks on the 2d Battalion, north of the village, but were driven off by artillery fire.

German Situation

XIII SS Corps. American patrols which had entered Sarre-Union were driven out by the 11th Panzer Division. Elsewhere along the corps front the Americans made minor gains.

LXXXIX Corps. The Panzer Lehr Division prepared to be withdrawn from the line. Some of its covering forces were pushed back somewhat in the Wolfskirchen-Bettwiller area.

30 November

XII Corps Situation

4th Armored Division. There was little activity on the front as the division, with support from the 26th, prepared to attack Sarre-Union the following day. In the only gain, Task Force West took the high ground north of Mackwiller, with little opposition.

80th Division. The 317th Infantry moved in to relieve the 31st near Farebersviller.

German Situation

XIII SS Corps. Small withdrawals were made by the 36th Volks Grenadier and 17th SS Panzer Grenadier Divisions. The 11th Panzer Division was forced to extend its left east of Sarre-Union, to the vicinity of Rimsdorf, because of the withdrawal of the Panzer Lehr Division to its left.

LXXXIX Corps. The weak 25th Panzer Grenadier Division held the area generally from in front of Rimsdorf to in front of Tieffenbach. Some ground was lost to the US 4th Armored Division in the Mackwiller and Adamswiller areas. The Panzer Lehr Division had been put in Army reserve.

1 December

XII Corps Situation

The XII Corps front at the beginning of the month extended from the boundary with XX Corps in the vicinity of Bening les St. Avold - Foret de Farschviller - one kilometer west of Puttelange - Gueblange - one kilometer east of Honskirch - Harskirchen - contact on the southeast with the XV Corps of the Seventh Army in the vicinity of Mackwiller. The only action was in the area of the 4th Armored and 26th Divisions.

4th Armored and 26th Divisions. The 101st Infantry was to attack on the left flank of the 4th Armored Division, east of the Sarre, heading north to Sarre-Union. The armored units were to come in from the east.

Using the 8th Tank Battalion and 51st Armored Infantry Battalion, CCB attacked in two columns, the right toward Hill 313, north of Mackwiller, and the left east of Rimsdorf. On the left the 1st Battalion, 101st Infantry, advanced through the Bennholtz Woods, while the 3d attacked Sarre-Union.

Advancing slowly on muddy roads, against stubborn resistance, the 3th Tank Battalion finally wrested Hill 313 from some tanks of the Panzer Lehr Division. Units of the 3d Battalion, 101st, entered Sarre-Union, but German gunners on hills beyond the town halted the Americans, and the occupying units were withdrawn as darkness fell.

German Situation

XIII SS Corps. The corps boundary was shifted farther left to include the 25th Panzer Grenadier Division sector. The principal activity in the corps zone was at Sarre-Union, where a coordinated American infantry and tank attack was launched against the town and the area east of the Sarre River. The brunt of the American attack was taken by about one third of the 11th Panzer Division and the 25th Panzer Grenadier Division. During the day American infantry fought its way into Sarre-Union, but were ejected by a coordinated German counterattack after dark. Elements of the Panzer Lehr Division, in corps reserve, participated in the counterattack, characterized by the Germans as a complete defensive success.

LXXXIX Corps. This corps no longer figured in the operations of the American XII Corps or the 4th Armored Division.

2 December

XII Corps Situation

4th Armored and 26th Divisions. German forces had reoccupied Sarre-Union during the night. The 101st Infantry, with a platoon of

tank destroyers, fought its way into the town, and a company of the 104th Infantry arrived late in the day to help hold it. To the east the 4th Armored Division, meanwhile, cut two roads, leaving only one open to the Germans. Counterattacks by units of the Panzer Lehr Division were driven off with help from fighter-bombers, which destroyed several tanks near Domfessel.

Remainder of Corps. There was no action on the rest of the corps front.

German Situation

XIII SS Corps. At 0700 elements of the Panzer Lehr Division attacked at Rimsdorf, but were stopped by a counterattack. Another German attack at Mackwiller bogged down. A small Panzer Lehr Division force retook Weislingerhof.

The battle at Sarre-Union continued to rage. Again the Americans fought their way into the town by day, and again at dusk a counter-attack by elements of the 11th Panzer and Panzer Lehr Divisions attempted to throw them out, but failed. On the extreme left the 25th Panzer Grenadier Division was forced back to the vicinity of Dermingen and Waldhambach.

3 December

XII Corps Situation

4th Armored and 26th Divisions. Early in the morning German tanks and infantry attacked toward Sarre-Union from the direction of Oermingen, overrunning five 57mm antitank guns. Fire (380 rounds) from the 105mm howitzers of the 101st Field Artillery Battalion and the 104th Infantry regimental cannon company destroyed two tanks and drove the rest of them out. The remaining infantrymen fought it out into the next day, when the last of the Germans were killed or captured. The 1st Battalion, 104th Infantry, moved north on the west side of Sarre-Union.

Major General Hugh Gaffey relieved Major General John S. Wood as commander of the 4th Armored Division, which was temporarily halted around Domfessel.

Remainder of Corps. The 35th Division relieved CCB, 6th Armored Division, in the line near Puttelange during the night of 2/3 December. The plan was for the 80th Division on the left of the corps to occupy the high ground along the Sarre northeast of Farebersviller. The 6th Armored, pinching out the 80th on the front, was to drive toward the river northwest of Sarreguemines. The 35th was to attack toward the

city between the 6th Armored Division and the Sarre. The 4th Armored Division would continue its advance east of the river.

German Situation

XIII SS Corps. A final early morning counterattack by units of the 11th Panzer and Panzer Lehr Division failed to eject the Americans from Sarre-Union. The attacking force included 11th Panzer Division units and a battle group of Panzer Lehr, consisting of three companies with 15 tanks. American advances were also made to the north and west, forcing all units to fall back.

4 December

XII Corps Situation

The corps made a general coordinated attack forward at Sarreguemines and the Sarre River west of Sarreguemines, with the 4th Armored, 35th, 6th Armored, and 30th Divisions abreast, from right to left.

4th Armored Division. With a company of the 37th Tank Battalion, the 104th Infantry systematically cleared the Germans from Sarre-Union. The 6th Tank Battalion of CCB, east of the town, encountered ten enemy tanks, destroyed two and drove off the rest. Elements of the battalion took Voellerdingen and a bridge across the Eichel Creek, which they held against a counterattack.

Task Force Oden of CCA attacked and took Domfessel, after an advanced detachment had filled in craters in the road, bridged a creek, and cleared the way through the town.

35th Division. The division attacked in the early morning. With no artillery preparation the 134th Infantry crossed the Maderbach in boats and encircled Puttelange. The regiment took the city from units of the 17th SS Regiment, then advanced to the east. The advance guard of the 320th Infantry encountered German infantry on the east bank of the stream and made little progress. The 2d Battalion, having crossed the Maderbach and started east, encountered barbed wire, which halted them where they formed a target for effective enemy artillery fire.

6th Armored Division. Following an intensive artillery preparation, CCA, using dismounted infantry and supporting tank platoons, attacked toward Mont de Cadenbronn, supported by artillery and tank guns. Following an initial breakthrough, one column of tanks moved beyond artillery range in the late afternoon, however, and lost eight of its tanks to German fire.

80th Division. After 60 minutes of artillery preparation, the 80th Division attacked in the early morning. The 318th Infantry, with a company of the 702d Tank Battalion and one of the 610th Tank Destroyer Battalion, took Farebersviller and the hills to the northeast.

German Situation

XIII SS Corps. As reported later by the Corps Commander, the Americans were attacking on the entire length of the Corps front with increased ferocity and compelled the Corps to withdraw the front during the night . . . to the line Forst Karlsbrunn - Holfengraben - Vorbach - Saargemund - Wittringen - Rohrbach les Bitsch.

5 December

XII Corps Situation

4th Armored Division. The 35th Tank Battalion and 53d Armored Infantry Battalion of CCA crossed the Eichel, and the 37th Tank Battalion passed through along the highway toward Dehlingen on the way toward Bining. Encountering the massed artillery of the 11th Panzer and 25th Panzer Grenadier Divisions, the column turned off toward the town of Singling, west of Bining. This position too was within range of German artillery, and the US tanks withdrew out of range.

CCB had advanced as far as Schmittviller, where it too was within striking distance of Singling.

6th Armored and 35th Divisions. The divisions advanced against little opposition. Units of CCA reached the river north of Sarreguemines and were within artillery range of Grosbliederstroff. The 2d Cavalry Group on the north crossed the Rosselle River near Rosbruck. The 2d Battalion, 134th Infantry, was in the southeastern outskirts of Sarreguemines, while units of all battalions of the 134th and 320th Infantry were approaching the west bank of the Sarre.

German Situation

XIII SS Corps. The corps left boundary was shifted west from Rohrbach to Wittring, and this area, held by the 11th Panzer Division and the 25th Panzer Grenadier Division, was taken over by the XC Infantry Corps, committed between the XIII SS and the LXXXIX Corps. Strong American pressure continued against the corps lines south and west of Sarreguemines.

XC Corps. Intense pressure continued east of the Sarre against the withdrawing 11th Panzer Division and 25th Panzer Grenadier Division (Battle Group von Wiettersheim). Some American tanks reached the vicinity of Singling but were driven back by counterattacks and artillery fire.

6 December

XII Corps Situation

4th Armored Division. CCA, consisting of two medium tank companies of the 37th Tank Battalion, reinforced by the 51st Armored Infantry Battalion, a field artillery battalion, and some tank destroyers, attacked toward Singling, defended by the 1st Battalion, 11th Panzer Grenadier Regiment (with more rifles than the 51st Armored Infantry Battalion), which was supported by tanks, assault guns, artillery and the myriad emplacements of the Maginot Line of which Singling was a part. Although a company of armored infantry and one of the tanks managed to enter the village, they could not hold it and withdrew.

6th Armored and 35th Divisions. Initiating an attack on Sarreguemines, CCA and the 2d Battalion, 134th Infantry, occupied the western part of the city. The two divisions held the west bank of the Sarre in strength from Grosbliederstroff to Wittling. They were ordered to hold until the 26th Division came up from reserve into position to attack beside them, to try to crack the Maginot Line.

German Situation

XC Corps. A fierce fight took place in the Singling area, but by evening counterattacks by the 11th Panzer Division had again driven the Americans out. German estimates put the American tank strength at 300, opposed to 43 German tanks and assault guns.

7 December

XII Corps Situation

4th Armored Division. All action was on the extreme right. Elements of CCA attacked Bining and took the town in the afternoon, in the last operation before being relieved by the 12th Armored Division.

German Situation

XC Corps. The 11th Panzer Division continued to repulse American probes against Singling. The 25th Panzer Grenadier Division was forced out of Bining, but held at Rohrbach les Bitsche.

4th Armored Division Operations

As the XII Corps in early November 1944 prepared to launch an offensive, with the ultimate objective of crossing the Ruine and capturing Darmstadt, the 4th Armored Division was waiting behind the infantry on the right (south) flank of the corps area, ready to move out in advance to exploit a penetration of the German front. The division's initial objective was the Morhange area, with tentative plans to continue toward Sarre-Union and the crossing of the Sarre River. Combat Command A (CCA) was to advance on the right, pass through the 26th Infantry Division, advance northeast along the valley of the Petite Seille River, bypass Morhange, and drive along the Benestroff-Francaltroff road. Combat Command B (CCB) was to advance through the 35th Infantry Division, circle north of the Morhange plateau and capture the road center at Morhange.

Moving out in rain and cold, through mud and across flooded streams, both the 26th and the 35th Divisions advanced rapidly against an apparently surprised enemy. South of Jallaucourt engineers installed a prefabricated bridge across the Osson Creek in midmorning. The 137th Infantry, 35th Division, crossed to take the village, and then moved across a second bridge to enter Malaucourt-sur-Seille. By midnight the regiment was on rising ground east of the village. The 101st Infantry, 26th Division, took Moyenvic and some bridges across the Seille north of the town, but did not succeed in taking Hill 310 beyond. The 104th Infantry took Vic-sur-Seille and some bridges, while the 328th Infantry moved out beyond Bezange-la-Petite and Moncourt.

9 November

Rain and snow continued as CCB, 4th Armored Division, moved forward through the 35th Division in two columns, confined to the roads by the deep mud. Column Churchill, on the left, passing through Malaucourt and the 137th Infantry near the town, proceeded down the road to Viviers and Hannocourt, with little opposition, although German mines claimed five tanks. At Hannocourt the column was halted by antitank guns, but planes of the XIX TAC dropped fragmentation bombs and napalm in support of the armored units.

Column Mayback, on the right, took the road through Jallaucourt, encountering stiffer opposition, but moving steadily forward. The column took Oriocourt and Laneuveville, with a battalion of the 134th Infantry Regiment following closely to mop up. Proceeding to Fonteny, the column's advance guard ran into a strong prepared German position, defended by guns of the 9th Flak Division on the hills to the north-east and in the Forêt de Château-Salins. As the advance guard halted it was suddenly struck on the right flank by a detachment of German tanks. These were driven off by the armored infantry with bazookas, and Mayback sent up reinforcements in the form of C Company, 37th Tank Battalion. As soon as they appeared on the skyline, three of the tanks were knocked out; the remainder, attempting to deploy off the road, stuck in the soft mud in range of the German guns. The U.S. tanks continued their firing with some success (an estimated 30 German guns silenced) until their ammunition ran out. With darkness coming on, Mayback pulled his column back to a position behind rising ground southwest of Fonteny.

10 November

During the night, elements of the German 11th Panzer Division, including units of the 43d Fortress Battalion and the 110th Panzer Grenadier Regiment, with infantry, tanks, and self-propelled guns, retook the village of Viviers, behind Churchill's force at Hannocourt. This effectively cut the only road by which Churchill could have sent reinforcements to Mayback at Fonteny. He tried to attack Viviers, but German antitank guns forced his tanks off the highway, and they bogged down in the mud. The U.S. 22d Armored Field Artillery Battalion, located on a hill between Viviers and Hannocourt, engaged part of the German 401st Volks Artillery Corps, which was north of the area, in an artillery duel. U.S. artillery fire helped to soften up Viviers, and the 2d Battalion, 137th Infantry, 35th Division, finally took the village late in the day. Other elements of Churchill's column moved to Fremery.

Mayback's column made no advance, as it awaited the arrival of elements of the 137th Infantry, moving up from Laneuveville. The 51st Armored Infantry Battalion had been placed ahead as a screen for the armor, and the infantry was positioned on both flanks.

CCA had begun moving out in two columns at 1042, the north (Hunter) taking the route Vic sur Seille-Morville les Vic-Hampont, while the south (Oden) column headed from Moyenvic to Salival to Chateau Voue. Hunter's column passed through the 104th Infantry, 26th Division, near Morville, and proceeded down the road, restricted to the pavement by the mud. Roadblocks and some limited resistance slowed the advance. By late afternoon the column was at Hampont. Oden's column was unable to move because of the traffic congestion on the road and the mud that made it impossible to proceed off the firm surface.

11 November

Churchill's column of CCB was counterattacked early in the day, as it started toward Morhange through the Bois de Serres, but the enemy was dispersed by armored artillery. The Mayback column made an unsuccessful attempt to take Fonteny. But with the assistance of a tank company and the 1st Battalion, 137th Infantry, the town was entered and a house-to-house fight continued all day. The 559th VG Division commenced withdrawing from the Forêt de Château-Salins in the afternoon, with artillery fire pounding the 137th Division and CCB to cover the withdrawal. The Churchill column made slow progress toward Oron.

The Hunter column of CCA proceeded toward Corthil. South of the village of Haboudange, where the road passes through a narrow defile between the river and a railroad embankment, a battalion of the 361st VG Division and the 111th Flak Battalion opened fire with dual purpose guns. They knocked out the lead tanks, and the column halted. Hunter reversed the column and proceeded by a side road to Conthil, which was occupied at 1515. Hunter moved on part way to Rodalbe. The Oden column, coming behind, reached Hampont.

12 November

The 2d Battalion, 137th Infantry, occupied Faxe, thereby linking the two columns of CCB. Armor and infantry then moved ahead. At Oron, a bridge across the Nied Francaise was secured. The right column, commanded by Major Harry Van Arnam since Mayback was killed in the fight for Fonteny, turned off to Château Bréhain.

Oden's column of CCA moved out from Hampont at 0700 and took Château Voué at 0950. Proceeding to the northeast, the column encountered considerable resistance from enemy tanks of the 11th Panzer Division, but pushed on and took Hill 337, southeast of Lidrezing. Hunter's column passed through Rodalbe, which had been taken the previous evening by the 3d Battalion, 104th Infantry, and headed north toward Bermering to try to cut off the remaining troops of the 559th VG Division. But the road was heavily mined. The 37th Tank Battalion attempted to maneuver off the roads, only to bog down in the mud within range of German guns in the Pfaffenforst Woods. As Hunter withdrew, the Germans counterattacked with elements of a reconnaissance battalion, ten Panthers, and a battalion of the 110th Panzer Grenadier Regiment, supporting elements of the 559th VG Division. American artillery broke up the attack. Hunter withdrew to the Bois de Conthil, west of Rodalbe.

13 November

Van Arnam's column of CCB left Château Bréhain at 1000 and headed east to Bréhain, where it was held up until 1130 for completion of a

bridge. Other destroyed bridges and minefields slowed the advance, but by nightfall the column was within striking range of Baronville, encamped on a ridge north of Achain. Churchill's column left Oron at 1130 on the road north of the Nied Francaise, heading toward Villers sur Nied. The column was forced off the road by thick minefields as they approached the village. Fortunately the ground was firm enough to carry the armored vehicles, and they advanced beyond Marchville, where the column spent the night.

Hunter's column of CCA was halted and placed in reserve awaiting replacements for the tanks lost by the 37th Tank Battalion. Troops of the 104th Infantry were unable to hold Rodalbe against a German infantry attack despite assistance from elements of Oden's column.

14 November

Churchill's column of CCB, with a battalion of the 137th Infantry, 35th Division, moved east to attack and capture Destry, then turned south to assist the Van Arnam column in an attack on Baronville. Coordinating the attack with the 2d and 3d Battalions, 137th Infantry, CCB took the village and moved into positions northeast and south of Baronville. Fighting was rugged, against the 559th VG Division reinforced with fresh replacements from Poland.

Throughout the day CCA coordinated its efforts with the 104th Infantry of the 26th Division. Part of the Hunter column (now known as Task Force Hunter) remained near Zerbeling, while Task Force E was at Conthil. Oden's column, in two task forces, West and McKone, struck out toward Bourgaltroff and Guebling, about four miles north of Dieuze. Task Force McKone, attempting to move through the Bois de Kerperche, was forced to turn back when the road proved to be heavily mined. Proceeding outside the forest, Task Force West at 0845 encountered six Panther tanks of a detachment of ten of the 15th Panzer Regiment, among the buildings of Kutzeling Farm. The tanks had long range 75mm guns that kept the Americans out of range as the Germans fought a rear guard action on the road to Guebling. Finally the Americans managed to close in and destroyed three of the Panthers. The rest escaped behind a smoke screen. Five more Panthers were encountered just west of the railroad, where a road emerged from the forest. Again the Germans were able to remain out of range of the M-4 tanks and 105mm howitzers. Their own minefields limited their ability to maneuver, however. Although U.S. fighter-bombers were grounded by snow and rain, an artillery spotter plane managed to fly and adjust fire for the 155mm howitzers of the 191st Field Artillery Battalion. Their shells forced the German tanks to close their hatches, reducing their visibility. Tanks of A Company of the 35th Tank Battalion moved in on the flanks and destroyed them. Task Force West entered Guebling in the late afternoon, and halted west of Bourgaltroff.

15 November

Van Arnam's column of CCB advanced toward Morhange against increasing fire from German small arms and infantry. The city had been under fire from U.S. 155mm guns and 8-inch howitzers since 11 November, and 240mm howitzers joined in this shelling on the 14th. That night 105mm howitzers also commenced firing on Morhange. The defending 1127th Regiment withdrew during the morning. At 1140 Van Arnam's column, in cooperation with the 134th Infantry, entered Morhange. By nightfall the U.S. units had fought their way through the town and reached the Metz-Sarrebourg railroad east of Morhange.

Task Force West of CCA at Guebling was under almost constant fire from the Germans beyond the town, including a very heavy shelling which destroyed three gasoline trucks that had come to refuel the task force. Task Force McKone arrived to strengthen the detachment. The 10th Armored Infantry Battalion attacked toward Bourgaltroff at 0700 in snow and rain, but heavy fire from German artillery drove the infantry back. At noon the column was ordered to withdraw to Hill 337 near Kutzeling Farm. The road was covered by German guns, however, and the withdrawal proved costly. Only 15 tanks of the 35th Tank Battalion were operational by the time the task force reached its haven. So disastrous was this operation that General Wood issued orders the next day that there would be no more independent attacks by elements of the division.

16 November

The division remained in position, CCB west of Morhange, with elements in Baronville, and CCA holding the line Kutzeling Farm-Lidrezing-Zarbeling-Conthil. Both were reorganizing.

17 November

The whole XII Corps front was quiet, as the three infantry divisions regrouped, consolidated, and made preparations for future operations. CCA closed in an assembly area in the vicinity of Gerbecourt, Lubecourt, and Puttigny in midafternoon. At 1535 CCB commenced moving to an assembly area near Bourbesseaus.

18 November

The division was not engaged.

19 November

The 4th Armored Division was to move through the 26th, with Combat Command A in two columns, Task Force Abrams to advance on the

north flank, while the south column followed the infantry through Dieuze and headed for Mittersheim. CCB would remain in reserve, prepared to assist in the drive toward Mittersheim.

Task Force Abrams advanced past Rodalbe, where it encountered heavy fire from German artillery. Beyond the city progress was slowed by roadblocks and mines that had to be removed. In the late afternoon the column assisted the 3d Battalion, 320th Infantry, 35th Division, in an attack on Virming, which was defended by mortar and rocket fire. With the help of artillery the town was taken at 1800, and the column moved down the road to Francaltroff, where it halted for the night.

CCB prepared to advance toward Dieuze. However, lead elements were held up by a blown bridge. At the same time the 26th Division was held up by stubborn German defense west of Dieuze.

20 November

The south column of CCA moved toward Rodalbe, preparing to join the north column in its advance to the east. Abrams' advance was halted by mines and roadblocks as it proceeded with the 3d Battalion, 320th Infantry, toward Francaltroff, under attack by rocket and artillery fire. The dismounted armored infantry took the town in the early afternoon and moved on to Obrick.

Task Force Churchill of CCB was sent forward from the assembly area at Haraucourt sur Seille to participate in the 26th Division attack on Dieuze. The German garrison there had withdrawn toward Mittersheim during the night, and the 2d Cavalry Group, 328th Infantry, and 51st Armored Infantry Battalion moved into the town. Although U.S. planes and German demolitions had destroyed most of the bridges, one remained intact, and the 26th Division and CCB, 4th Armored, were in position to drive ahead to the east.

21 November

The north column of CCA, which had been ordered to return to Conthil, preparatory to moving south with the rest of CCA to support CCB, spent the day dragging two companies of medium tanks out of the mud near Francaltroff.

Churchill's column of CCB proceeded along the highway from Dieuze toward Mittersheim, halting temporarily while bridges at Lostroff, demolished by the Germans, were repaired. Without much interference from the enemy the head of the column reached Loudrefing by the end of the day. A second column (Jaques) of CCB was sent into the 26th Division zone to take Munster, but it encountered the 328th Infantry on its way to the east, and the commander of the 26th Division ordered the armor out of his area.

22 November

The two columns of CCB joined and advanced along the highway to Mittersheim, which the 8th Tank Battalion took from the German rear guard in the afternoon. The battalion then crossed the Canal des Houilleres de la Sarre and proceeded down the road toward Fénétrange. Reconnaissance elements reached the outskirts of the city by late afternoon. CCA meanwhile closed in an assembly area near Conthil.

Since the 4th Armored Division had made such progress and the XII Corps zone narrowed ahead as it reached the Sarre River, General Eddy ordered the 6th Armored and 80th Infantry Divisions on the north and the 4th Armored Division on the south to close in, pinching out the 26th and 35th Divisions and cutting behind the enemy opposing them. The 4th Armored was to advance to the north through the narrow corridor between the Canal des Houilleres de la Sarre and the Sarre River.

23 November

The corridor assigned to the 4th Armored Division is not only narrow but wooded, with only muddy logging roads running north, totally inadequate for moving tanks. Consequently (whether with or without General Eddy's permission has not been ascertained) the 4th Armored continued its advance to the east from Mittersheim. CCB advanced to Fénétrange, which was taken in the morning, after the defenses of the 953d Regiment of the 361st VG Division had been overrun. The 35th Cavalry Reconnaissance Squadron then turned south, secured the bridge across the Sarre at Gosselming, then proceeded to Bettborn. This was within the area of the XV Corps, Seventh Army, and permission was granted for the 4th Armored units to proceed. At Bettborn the lead elements made contact with elements of the 44th Division.

24 November

Following behind the reconnaissance elements, Task Force Churchill crossed the Sarre in strength at Romelfing, and Task Force Jaques crossed at Gosselming. The area ahead was weakly held by elements of the German 361st Division. But just beyond, the Panzer Lehr Division was attacking the U.S. Seventh Army, on the left of the XV Corps. Churchill's column proceeded against slight opposition to some high ground west of Postroff, where the resistance stiffened. Task Force Jaques, after a brief encounter at Kirrberg, reached Haerendorf, where it struck the flank of the Panzer Lehr Division. Supported by the 253d Field Artillery Battalion, the 53d Armored Infantry Battalion waded across a stream to take the high ground around the town. With a few tanks that had been taken across the stream, the armored infantry wrested the town from the 1st Battalion, 902d Panzer Grenadier Regiment, and some engineer and reconnaissance troops.

25 November

General Fritz Bayerlein, commanding the Panzer Lehr Division, while continuing the attack with his left, turned his right, the weaker of his two columns, to the west to attack toward Fénétrange. Attacking in strength in the early morning, German tanks and infantry struck the 53d Armored Infantry Battalion and a tank company of the 8th Tank Battalion. The Panthers who attacked the 8th Tank Battalion were destroyed or driven off, and heavy machine gun fire of the 53d finally stopped the attack after a bitter fight. At 1125 the 53d itself launched an attack toward the high ground northeast of Baerendorf, while the 8th Tank Battalion and the 51st Armored Infantry Battalion (less one company), which had been sent forward from CCR, attacked Postroff. Heavy resistance was encountered by both forces. Meanwhile elements of CCB had entered Niederstinzel. At the end of the day the 4th Armored held a line Hirschland-Baerendorf--high ground west of Postroff-Niederstinzel.

26 November

The Panzer Lehr Division, badly battered in its attack on the Seventh Army the day before, had withdrawn to the road Wolfskirchen-Eywiller-Durstel, and the 4th Armored Division attacked to try to penetrate the enemy line. Churchill's column moved out at 0330 and by 1045 had reached the woods immediately south of Wolfskirchen, where the U.S. force encountered enemy fire from small arms, mortars, and artillery. Task Force Jaques was held up by a blown bridge north of Baerendorf, but when that was repaired struck out for Eywiller. Flooded streams and mud made tank maneuver impossible, pinning the armored vehicles to the roads, and limiting the speed of advance to a walk. The Panzer Lehr Artillery, reinforced by the 401st Volk Artillery Corps, kept up a heavy fire on the attacking forces.

At 1400 elements of Task Force Oden of CCA, in an attempt to outflank the enemy in the area Wolfskirchen-Burbach-Berg, having passed behind CCB, reached Schalbach, which was held by the 44th Division, XV Corps. Against light enemy resistance, and over good roads, Task Force Oden moved to Lohr and then to Ottweiler. Task Force West, on the left, advanced to Drulinge through Weyer, which the remainder of CCA had reached by nightfall.

27 November

A detachment of the 25th Panzer Grenadier Division was holding Wolfskirchen as the 51st Armored Infantry Battalion of Task Force Churchill attempted to bypass the village. So much German fire came from the defenders that the 51st, with a company of light tanks, attacked and took the village. The 53d Armored Infantry Battalion

of Task Force Oden encountered stiff resistance at Eywiler, from a detachment of Panthers in the woods to the west. XII TAC, supporting the XV Corps, flew two missions in support of CCB, which finally took the village after CCA had taken Gungwiler on the Germans' flank.

Task Force West of CCA advanced toward Gungwiler, which the Germans were defending lightly, having moved most of their forces to Durstel. With the help of several hundred rounds of artillery fire, Gungwiler was taken at 1430, and the task force moved on to Bettwiler. Task Force Oden, with most of CCA, attacked Durstel, encountering stiff enemy resistance and numerous minefields. Three detachments of German tanks arrived to stiffen the defenses. Unable to penetrate, Task Force Oden withdrew in the late afternoon to a position near Asswiler.

28 November

Task Force Jaques of CCB, with CT 71 of the 44th Infantry Division attached, attacked north from Eywiler against slight opposition, captured Berg, and some bridges over a stream that had retarded the column's advance, and consolidated on the high ground north of the town. Task Force Churchill, attacking from Wolfskirchen, took Burbach and advanced beyond the town.

While the right (Oden's) column of CCA remained in place near Asswiler, Task Force West was at Bettwiler and had patrols at Harskirchen, Sarrewerden, Zollingen, and Pisdorf. Neither task force was in action.

29 November

CCB, advancing to the north, encountered heavy enemy fire and roadblocks. At the end of the day Task Force Churchill consolidated on the high ground between Burbach and Sarrewerden. Task Force Jaques occupied high ground to the right, less than a mile from Rimsdorf.

Both task forces of CCA advanced against heavy fire from enemy artillery and antitank guns. Task Force Oden, on the right, finally captured Durstel and moved on to take Adamsweiler. Task Force West moved from Bettwiler to Rezingen. Beyond Rezingen the task force was halted by enemy mines and by four bridges that had to be rebuilt. Three of them had been rebuilt by 1500, but the fourth was under heavy fire from medium artillery.

30 November

After a 30-minute preparation fired by the division artillery and the 945th, 253d, and 179th Field Artillery Battalions, Task Force

West attacked and seized the high ground north of Mackwiler, against scattered enemy opposition. The rest of the 4th Armored Division remained in position.

1 December

The U.S. 4th Armored Division had orders to attack Sarre-Union on 1 December, coordinating its action with the 101st Infantry, 26th Division, which was to attack on the left. Sarre-Union, an important communications center for the Germans, was the anchor for the western wing of the LXXXIX Corps. The Panzer Lehr Division had been relieved by the 25th Panzer Grenadier Division in the area, and the German defenses were mainly on the hills to the north and east of the town, with the 11th Panzer Division west of the town.

With the 101st Infantry attacking north on the left of the 4th Armored Division, CCB moved out in two columns. Task Force Churchill on the left attacked from south of Rimsdorf, found the town unoccupied, and moved toward the woods to the northeast to await Task Force Jaques. But Jaques encountered heavy fire from German artillery and mortars, and had to beat off a tank attack. Elements of CCA were sent in to help seize Hill 318, and they too encountered considerable resistance. One company of tanks was mired in below the crest of the hill. The hill was finally taken.

2 December

Two companies of the 101st had entered Sarre-Union the day before but been withdrawn when they were unable to hold it. The Germans reoccupied the town during the night, and the 101st, with help from the 104th, had to retake the town.

Task Force A of CCB advanced north of Rimsdorf, crossed the road running from Domfessel to Sarre-Union, and seized Hill 332 beyond, on the highway to Voellerdingen. Task Force J also advanced, taking Hill 309, between Domfessel and Sarre-Union. Both units encountered heavy fire from German artillery. They had succeeded, however, in reducing the Germans to a single exit road from Sarre-Union by which to withdraw northward, the road leading to Oermingen.

3 December

Most of the division was halted around Domfessel, where Major General Hugh Gaffey relieved its commander, Major General John Wood, who was worn out from the strain of the continuous action in which the division had been engaged. The division artillery and tanks fired in support of the 26th Division in its attack on Sarre-Union,

and elements of CCF assisted in the attack. CCI used a German counterattack from the woods one kilometer east of Domfessel in midafternoon.

4 December

During the night the 25th Panzer Grenadier Division and a tank detachment of the 11th Panzer Division started withdrawing northeast from Sarre-Union across the Eichel Creek. Task Force Oden of CCA, at 0930, attacked Domfessel, which was held by a small detachment of the Panzer Lehr Division. Roads in the town were torn up, and bridges and overpasses destroyed; they had to be repaired before the American units could move on. German heavy artillery struck the town and knocked out five of the American tanks. CCB, on the left of the division, took off in pursuit of the enemy, moving from positions east of Sarre-Union toward Voellerdingen. West of the town the 8th Tank Battalion encountered ten German tanks, of which it destroyed two and drove off the rest. Forward elements of CCB entered Voellerdingen at 1700 and captured a bridge across the Eichel Creek.

5 December

Encountering only light enemy resistance, the 4th Armored Division crossed the Eichel and advanced toward Bining. The 35th Tank Battalion and 53d Armored Infantry Battalion of CCA first gained a bridgehead near Domfessel, and the 37th Tank Battalion passed through to move out rapidly, using the highway because of soft ground on either side. The Germans had the road covered by artillery of the 11th Panzer and 25th Panzer Grenadier Divisions, and consequently the advancing column turned off on to a secondary road in the vicinity of Dohlingen, heading toward the town of Singling, west of Bining. After the 37th Tank Battalion lost five tanks at once to artillery fire, making 14 for the day, Colonel Abrams withdrew out of range.

CCB crossed the creek at Voellerdingen and struck out for Schmittviller, encamping west of CCA and also in position to attack Singling.

6 December

Two medium tank companies of the 37th Tank Battalion, reinforced by the 51st Armored Infantry Battalion (with fewer than 160 rifles), a field artillery battalion, and some tank destroyers, attacked toward Singling. Defending the village was the 1st Battalion of the 111th Panzer Grenadier Regiment, with tanks and assault guns in reserve and the defenses of the Maginot Line around it. A company of U.S. armored infantry and one of tanks managed to enter the village, but could not hold it, and was forced to withdraw.

7 December

Elements of CCA attacked Bining against heavy resistance with a company of light tanks, some cavalry, and a battalion of the 328th Infantry, 26th Division. The town was taken at 1500. The decision had been made to relieve the weary and battered 4th Armored Division. Most of the division was relieved by units of the 12th Armored Division during the day, and the remainder was relieved as the rest of the 12th moved up to take its place.

XII Corps Order of Battle
8 November 1944

4th Armored Division

8th Tank Battalion
35th Tank Battalion
37th Tank Battalion
10th Armored Infantry Battalion
51st Armored Infantry Battalion
53d Armored Infantry Battalion
25th Cavalry Reconnaissance Squadron (Mechanized)
24th Armored Engineer Battalion
144th Armored Signal Company
22d Armored Field Artillery Battalion
66th Armored Field Artillery Battalion
94th Armored Field Artillery Battalion

Attached:

489th AAA AW Battalion (SP)
995th Engineer Treadway Bridge Company
177th Field Artillery Group
253d Armored Field Artillery Battalion (9-17 Nov)
191st Field Artillery Battalion (9 Nov-21 Nov) (155mm how.)
253d Armored Field Artillery Battalion (19 Nov-7 Dec)
945th Field Artillery Battalion (24 Nov-5 Dec)

Combat Command Organization:

Combat Command A

37th Tank Battalion (- Company C)
35th Tank Battalion (- Companies B and D)
10th Armored Infantry Battalion
Company A, 53d Armored Infantry Battalion
Troop D, 25th Cavalry Reconnaissance Squadron
Division Artillery, Headquarters
94th Armored Field Artillery Battalion
66th Armored Field Artillery Battalion
191st Field Artillery Battalion
Company A, 24th Armored Engineer Battalion
Company C, 704th Tank Destroyer Battalion (SP)
Company D, 489th AAA AW Battalion (SP)
One section of 995th Engineer Treadway Bridge Company
One Company, 46th Armored Medical Battalion
Company A, 126th Ordnance Maintenance Battalion

Combat Command B

8th Tank Battalion
Company C, 37th Tank Battalion
51st Armored Infantry Battalion
Company D, 35th Tank Battalion

Company C, 53d Armored Infantry Battalion
Troop C, 25th Cavalry Reconnaissance Squadron
177th Field Artillery Group Headquarters
22d Armored Field Artillery Battalion
253d Armored Field Artillery Battalion
179th Field Artillery Battalion
24th Armored Engineer Battalion (- Company A)
Company A, 704th Tank Destroyer Battalion (SP)
Company C, 489th AAA AW Battalion (SP)
One section of 995th Engineer Treadway Bridge Company
One company, 46th Armored Medical Battalion
Company B, 126th Ordnance Maintenance Company

Reserve Command

53d Armored Infantry Battalion (- Companies A and C)
Company B, 35th Tank Battalion
704th Tank Destroyer Battalion (- Companies A and C)
B Company, 489th AAA AW Battalion (- 2d Platoon)
995th Engineer Treadway Bridge Company (-)

6th Armored Division

15th Tank Battalion
68th Tank Battalion
69th Tank Battalion
9th Armored Infantry Battalion
44th Armored Infantry Battalion
50th Armored Infantry Battalion
86th Cavalry Reconnaissance Squadron (Mechanized)
25th Armored Engineer Battalion
146th Armored Signal Company
128th Armored Field Artillery Battalion
212th Armored Field Artillery Battalion
231st Armored Field Artillery Battalion
Attached:
777th AAA AW Battalion (SP)
737th Tank Battalion (22 Nov-3 Dec)
161st Field Artillery Battalion (35th Div) (22 Nov-30 Nov)

26th Infantry Division

101st Infantry Regiment
104th Infantry Regiment
328th Infantry Regiment
26th Reconnaissance Troop (Mechanized)
101st Engineer Combat Battalion
114th Medical Battalion
101st Field Artillery Battalion (105mm how.)
102nd Field Artillery Battalion (105mm how.)
263d Field Artillery Battalion (105mm how.)
180th Field Artillery Battalion (155mm how.)

Attached:

390th AAA AW Battalion (SP)
761st Tank Battalion
2d Cavalry Group (det. 22 Nov)
691st Tank Destroyer Battalion (T)
602d Tank Destroyer Battalion (SP)
610th Tank Destroyer Battalion (SP) (12 Nov-12 Dec)

35th Infantry Division

134th Infantry Regiment
137th Infantry Regiment
320th Infantry Regiment
35th Reconnaissance Troop (Mechanized)
60th Engineer Combat Battalion
110th Medical Battalion
161st Field Artillery Battalion (105mm how.)
216th Field Artillery Battalion (105mm how.)
219th Field Artillery Battalion (105mm how.)
127th Field Artillery Battalion (155mm how.)
Attached: (8 November 1944)
448th AAA AW Battalion (Mobile)
737th Tank Battalion (27 Nov-22 Dec)
255th Field Artillery Battalion (105mm how.)

80th Infantry Division

317th Infantry Regiment
318th Infantry Regiment
31st Infantry Regiment
80th Reconnaissance Troop (Mechanized)
305th Engineer Combat Battalion
305th Medical Battalion
313th Field Artillery Battalion (105mm how.)
314th Field Artillery Battalion (105mm how.)
905th Field Artillery Battalion (105mm how.)
315th Field Artillery Battalion (155mm how.)
Attached: (8 November 1944)
633d AAA AW Battalion (Mobile)
702d Tank Battalion
42d Reconnaissance Squadron (2d Cavalry Group) (23 Nov-6 Dec)
2d Cavalry Reconnaissance Squadron (2d Cavalry Group) (1-6 Dec)
808th Tank Destroyer Battalion (SP)
610th Tank Destroyer Battalion (SP) (23 Nov-6 Dec)

33d Field Artillery Brigade

286th Field Artillery Observation Battalion
177th Field Artillery Group
179th Field Artillery Battalion (155mm how.)
191st Field Artillery Battalion (155mm how.)
253d Armored Field Artillery Battalion (105mm how.)

182d Field Artillery Group
 278th Field Artillery Battalion (240mm how.)
 Battery C, 243d Field Artillery Battalion (8-9inch gun)
 738th Field Artillery Battalion (8-inch how.)
 802d Field Artillery Battalion (105mm how.)
 183d Field Artillery Group
 276th Armored Field Artillery Battalion (105mm how.)
 752d Field Artillery Battalion (155mm how.)
 696th Armored Field Artillery Battalion (105mm how.)
 404th Field Artillery Group
 512th Field Artillery Battalion (105mm how.)
 775th Field Artillery Battalion (4.5-inch gun)
 974th Field Artillery Battalion (155mm how.)
 731st Field Artillery Battalion (155mm gun)
 410th Field Artillery Group
 176th Field Artillery Battalion (4.5-inch gun)
 255th Field Artillery Battalion (105mm how.)
 273d Field Artillery Battalion (155mm gun)
 945th Field Artillery Battalion (155mm how.)
 267th Field Artillery Battalion (240mm how.)
 741st Field Artillery Battalion (8-inch how.)
 1117 Combat Engineer Group
 72d Combat Engineer Ponton Company
 167th Combat Engineer Battalion
 248th Combat Engineer Battalion
 553d Engineer Heavy Ponton Battalion
 613th Engineer Light Equipment Company (- 1 platoon)
 1135 Combat Engineer Group
 133d Combat Engineer Battalion
 150th Combat Engineer Battalion
 166th Combat Engineer Battalion
 513th Engineer Light Ponton Company
 997th Engineer Treadway Bridge Company
 1st Platoon, 613th Engineer Light Equipment Company
 27th AAA Group
 452d AAA AW Battalion (Mobile)
 457th AAA AW Battalion (Mobile)
 9th Tank Destroyer Group
 610th Tank Destroyer Battalion (T)
 17th Armored Group

German Order of Battle
6 November 1944

First Army

Army Group Reserve

11th Panzer Army

- 111th Motorized Regiment
- 110th Motorized Regiment
- 15th Panzer Regiment
- 119th Armored Field Artillery Regiment

LXXXIX Corps

553d Volks Grenadier Division

- 1120th Infantry Regiment
- 1119th Infantry Regiment
- 1553d Field Artillery Regiment
- 1553d Engineer Battalion
- 1553d Signal Company

361st Volks Grenadier Division

- 952d Infantry Regiment
- 951st Infantry Regiment
- 953d Infantry Regiment
- 361st Field Artillery Regiment
- 361st Engineer Battalion
- 361st Signal Battalion

XIII SS Corps

CXIII SS Artillery Battalion (one battery of four 100mm guns)

559th Volks Grenadier Division

- 1126th Infantry Regiment
- 1125th Infantry Regiment
- 1127th Infantry Regiment
- 1159th Field Artillery Regiment
- 1159th Engineer Battalion

48th Infantry Division

- 127th Infantry Regiment
- 126th Infantry Regiment
- 128th Infantry Regiment
- 148th Field Artillery Regiment
- 116th Engineer Battalion
- 148th Signal Battalion

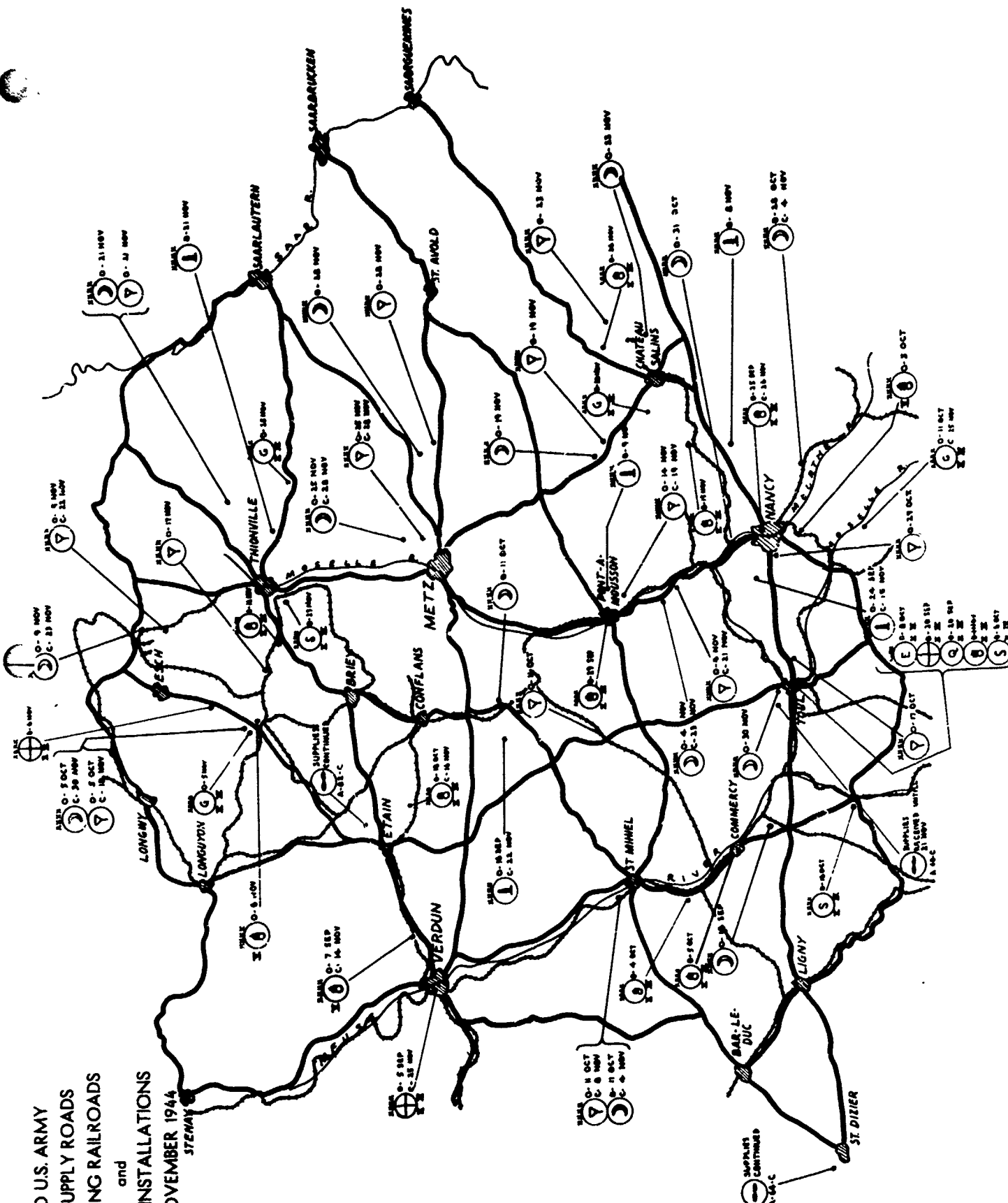
17th SS Panzer Grenadier Division

- 38th Panzer Grenadier Regiment
- 37th Panzer Grenadier Regiment
- 17th Motorized Field Artillery Regiment
- 17th Motorized Engineer Battalion
- 17th Armored Signal Battalion
- 17th SS Reconnaissance Battalion

WEATHER, 8 NOVEMBER-7 DECEMBER 1944

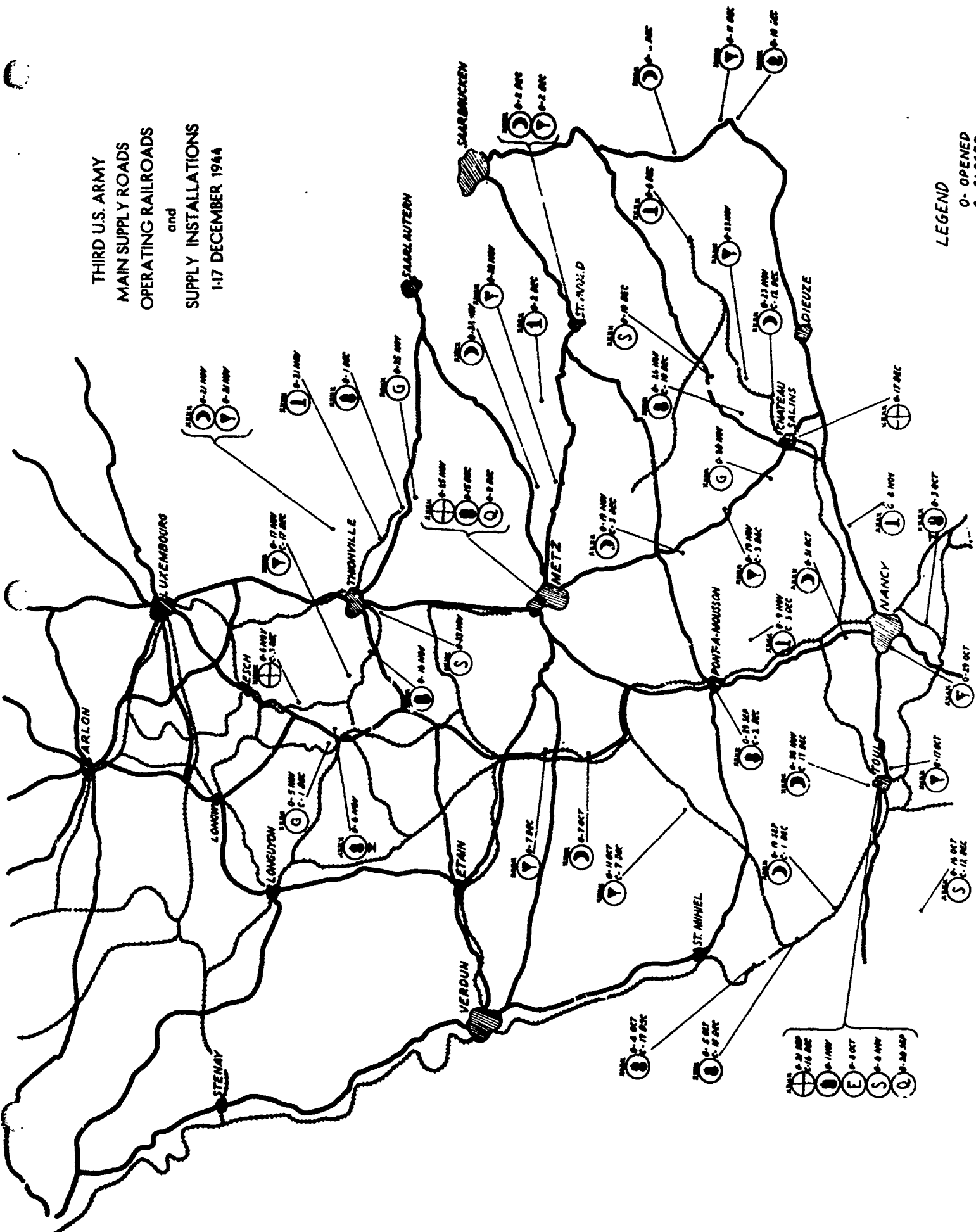
Date	Weather	Air Weather
November 8	Rain, cold	Bad
9	Snow, rain	Bad
10	Heavy rain	Bad
11	Snow	Bad
12	Snow ending	Fair
13	Cold	Bad, low ceiling
14	Snow, rain	Bad
15	Snow, rain	Bad
16		?
17	Cold, clear, visibility good	Good
18	Cold, cloudy, visibility good	Excellent
19	Cold, visibility good	Excellent
20	Poor	Poor
21		?
22	Cold, cloudy, visibility poor	Poor
23	Cold, cloudy, visibility good	Good
24	Cold, cloudy, visibility fair	Good
25	Cool, scattered clouds	Good
26		?
27	Cold, rain	Excellent
28		
29	Cold, rain, visibility poor	Poor
30	Cool, cloudy	Low clouds
December 1	Cool, cloudy	Poor
2	Cool with scattered clouds	Good
3	Cold, cloudy, rain	Poor
4	Cool, mist	Poor
5	Cool, cloudy	Fair
6	Cool, rain, visibility poor	Poor
7	Cool, cloudy	Fair

THIRD U.S. ARMY
 MAIN SUPPLY ROADS
 OPERATING RAILROADS
 and
 SUPPLY INSTALLATIONS
 1-30 NOVEMBER 1944



THIRD U.S. ARMY
 MAIN SUPPLY ROADS
 OPERATING RAILROADS
 and
 SUPPLY INSTALLATIONS
 1-17 DECEMBER 1944

LEGEND
 O - OPENED
 C - CLOSED



VII CORPS OPERATIONAL SUMMARY
8 November - 7 December 1944

Date	Engagement Designation	Mission Factor	Remarks	Enemy Posture	Distance Advanced		
					Serious Opposition	Moderate Opposition	Slight Opposition
Nov 8	Seille R.(Delme Ridge-Delme-Chateau Salins)	8	80,35,26 IDs (l.to r.) advance across Seille; 4 & 6 ADs in reserve ready to exploit	FD	2.8	..	..
9	Seille R.(Delme Ridge-Delme-Chateau Salins)	7	26,35,80 Divs take Chateau Salins, Delme, and Delme Ridge; CCA 4 D committed in 35 ID zone; 6 AD in 80 ID zone.	FD	2.2	..	..
10	Seille R.(Delme Ridge-Delme-Chateau Salins)	6	CCA, 4 AD, committed in 26 ID zone; 11 PzD counterattack slows right and center; 80 ID and 6AD advance rapidly on left	PD-A Del	..	3.5	..
11	Seille R.-Nied R.	8	11 PzD counterattack repulsed; consolidation on right; armored breakthrough to Conthil in center; rapid advance to Nied R. on left.	FD-A Del Del	..	3.5	..
12	Nied R.	7	26 ID inf catch up with 4 AD tanks; stubborn Delme and counterattacks limit progress on right and center; 80 ID & 6 AD expand behind N. of Nied R.	Del-A Del	..	2.0	..
13	Nied R -Morhange	6	Slow adv twd Morhange against stubborn resistance; little expansion of bridgeheads on left	Del	1.3	..	..
14	Morhange-Conthil-Bourgaltroff	7	Slow, steady adv right & center; left consolidates, awaits adv of XX Corp on left	Del	1.5	..	..
15	Morhange-Conthil-Bourgaltroff-Faulquemont	5	4 AD & 35 ID occupy Morhange; 4 AD repulsed from Bourgaltroff; minor adv on left as 80 ID & 6 AD prepare to adv to Faulquemont	Del-A	0.5	..	..
16	Faulquemont	3	Minor adv toward Dieuze on right; little action in center; 80 ID & 6 AD adv to outskirts of Faulquemont	Del	..	3.2	..
17	.	..	Little action; divs regroup and consolidate	..	..	..	..
18	Francaltroff-Benestroff-Dieuze	6	26 ID adv slowly twd Benestroff & Dieuze; 35 ID adv thru Bistrotff toward Francaltroff	Del	1.1	..	..
19	Francaltroff-Benestroff-Dieuze	6	CCA 4 AD joins 26 ID; 6 AD passes thru 35 ID; little progress	Del	1.3	..	..
20	Francaltroff-Benestroff-Dieuze	8	Germans leave Benestroff & Dieuze night 19/20; 26 ID pursued east twd Mittersheim; CCA 4 AD reaches Francaltroff; 6 AD approaches Hellimer	Del	..	..	5.0
21	Albestroff-Hellimer	5	CCA 4 AD pursues twd Mittersheim; 26 ID approaches Albestroff; 35 ID & 6 AD take Fremestroff, approach Hellimer; 80 ID expands Nied bridgehead	Del	..	2.4	..
22	Albestroff-Hellimer	6	4 AD takes Mittersheim, approaches Fenetrance; stiff resistance in Maginot Line slows adv center & left	Del PD	..	2.8	..
23	Fenetrance-Altwiller-Hilsprich	5	4 AD takes Fenetrance, crosses Sarre into XV Corps zone; contact with 44 ID; 26 ID slow progress; 35 ID repulsed at Hilsprich	Del PD	2.8	..	..
24	Baerendorf-Altwiller-Hilsprich	6	4 AD strikes flank of major German counter-attack by Pz Lehr Div on XV Corps; 26 ID little progress; 6 AD & 35 ID take Hilsprich, advance slowly	A PD PD	2.0	..	..
25	Baerendorf-Altwiller-Puttelange-St. Avold	6	4 AD fierce fighting with Pz Lehr Div; 26 ID partial breakthru N of Altwiller; 6 AD little progress toward Puttelange; 80 ID rapid adv toward St. Avold	A PD PD Del	..	2.6	..
26	Baerendorf-Altwiller-Puttelange-St. Avold	5	4 AD front stopped, seeks Pz Lehr left flank; 26 ID reaches canal W of Sarre; 6 AD stalled by stubborn defense; 80 ID adv slowly to St. Avold	A-HD PD Del	..	1.3	..

XII Corps Operational Summary
8 November - 7 December 1944 (cont.)

Date	Engagement Designation	Mission Factor	Remarks	Enemy Posture	Distance Advanced		
					Serious Opposition	Moderate Opposition	Slight Opposition
Nov 27	Durstel-Farebersviller	6	4 AD adv slowly against stubborn delay, 80 ID some progress i of St. Avold; ctr quiet	Del	..	2.3	..
28	Durstel-Farebersviller	..	4 AD adv slowly; 10 ID halted at Farebersviller; center quiet	Del	0.5	..	..
29	Durstel-Farebersviller	5	4 AD adv slowly, takes Durstel; 80 ID stalled at Farebersviller; center quiet	Del	0.5	..	..
30	..	6	CCA, 4 AD slight adv near Mackwiller; rest quiet	Del	..	..	0.1
Dec 1	Sarre Union	4	4 AD & 26 ID adv slightly, repulsed at Sarre Union; rest quiet	PD	0.4	..	..
2	Sarre Union	6	Elms of 4 AD & 26 ID penetrate Sarre Union, repulse German counterattacks; 4 AD slight gain E of town; rest quiet	PD-A	0.4	..	..
3	Sarre Union	7	Counterattacks at Sarre Union repulsed; no other action	PD-A	0.1	..	..
4	Sarre River	8	General offensive, 4 AD, 35 ID, 6 AD, 80 ID; 26 ID in reserve; slight adv; 6 AD gains most	PD	1.1	..	..
5	Sarre River	6	Pursuit of general German withdrawal halted at Sarre R. and Maginot Line W & E of Sarreguemes	Del	..	..	4.5
6	Sarre River-Singling	6	Corps left and center on Sarre R. W of Sarreguemes; 35 ID takes part of city; 4 AD repulsed at Singling	PD	..	2.4	..
7	Singling-Bining	5	4 AD takes Bining, repulsed at Singling; rest of corps consolidating & reorganizing	PD	1.4	..	..
Total Distance Advanced: 55.8 km					20.2	26.0	9.6
Average Advance per Day: 1.9 km (30 days)					1.3(10 days)	2.6(10 days)	3.2(3 days)
Days not Engaged: 1 (3%)							

4th ARMORED DIVISION OPERATIONAL SUMMARY
8 November - 7 December 1944

Date	Engagement Designation	Mission Factor	Remarks	Enemy Posture	Distance Advanced		
					Serious Opposition	Moderate Opposition	Slight Opposition
Nov 8	. . .	. .	In reserve	. .	. .	. .	. .
9	. . .	. .	CCB advances in 35th Div zone	FD	. .	8.0	. .
10	Chateau Salins	6	CCA advances in 26th Div zone; CCB counterattacked by 11 Pz Div	FD FD-A	0.7(1.4)	3.2(6.4)	. .
11	Chateau Salins	6	CCA advances to threaten 11 Pz Div left; CCB engaged w/11 Pz Div & 559 VG Div	FD FD-A	0.6(1.2)	4.0(8.0)	. .
12	Fremery-Conthil	5	Both CCs advance against effective delay	Del	1.0	. .	. .
13	Morhange-Conthil	7	CCB & 35th Div continue advance; CCA in reserve awaiting replacement tanks	Del . .	. . . .	3.0 . .	. . 0
14	Morhange-Conthil Bourgaltroff	6 5	CCB & 35th Div continue advance; CCA & 26th Div advance toward Bourgaltroff	Del PD	2.4(2.4) (2.4)	. . . .	. . . .
15	Morhange-Conthil Bourgaltroff	6 3	CCB & 35th Div take Morhange; CCA, without infantry support, repulsed	Del PD	0.9(1.2) (-2.4)	. . . .	. . . .
16	. . .	. .	Division reorganizing	. .	. .	. .	0
17	. . .	. .	Division reorganizing	. .	. .	. .	0
18	. . .	. .	No action; CCB in corps reserve	. .	. .	. .	0
19	Virming	6	CCA & 26th Div advance toward Francaltroff; CCB in corps reserve	Del . .	. . . .	5.7 . .	. . 0
20	Francaltroff Dieuze	6 7	CCA & 35th Div take Francaltroff; CCB & 26th Div take Dieuze	Del Del	. . . .	2.5(4.0) (1.6)	. . . .
21	Loudrefing	. .	CCB advance to Loudrefing-Munster; CCA bogged in mud near Francaltroff	Del . .	. . . .	. . . .	6.0(12.0) (0)
22	Mittersheim	7	CCA concentrates in reserve near Conthil; CCB advances toward Mittersheim	. . Del	. . . .	. . 5.4	0 . .
23	Fenetrange	8	CCB seizes Fenetrange and crosses Sarre; CCA shifts to follow CCB	Del . .	. . . .	5.6 . .	. . 0
24	Baerendorf	6	CCB meets flank of Pz Lehr Div; counterattack; CCA on road	HD-A . .	0.4 . .	4.5 . .	. . 0
25	Baerendorf	6	CCB engaged in Baerendorf-Postroff area; CCA prepares to enter action	HD-A . .	0.6 . .	. . . .	. . 0
26	Baerendorf	6	Div engaged Wolfskirchen-Ottwiller	PD	1.0	4.0	. .
27	Burbach-Durstel	6	Div engaged Wolfskirchen-Durstel	Del	1.0	. .	. .
28	Burbach-Durstel	6	CCB seriously engaged; CCA slightly	Del	2.2	. .	. .
29	Burbach-Durstel	6	Both CCs engaged, advance slowly	Del	0.8	. .	. .
30	Mackwiller	5	Only CCA engaged; remainder in position	Del	. .	1.0	. .
Dec 1	Sarre-Union	6	Attack with 1/3 26th Div, slow advance	PD	1.0	. .	. .
2	Sarre-Union	6	Slow advance east of town	PD	1.6	. .	. .
3	. . .	. .	Div rests, part of CCA helps 26th Div take Sarre-Union; new CG takes command	. .	. .	. .	0
4	Donfessel	7	Slow advance against effective delay	Del	. .	1.5	. .
5	Singling	7	Pursuit slowed, then halted at Singling, in Maginot Line	Wd-Del	. .	2.8	7.0
6	Singling-Bining	3	CCA repulsed at Singling	FD	0.3	. .	. .
7	Singling-Bining	6	CCA bypasses Singling, takes Bining	FD	0	2.4	. .
Total Distance Advanced: 81.4 km					14.5	53.9	13.0
Average Advance per Day: 2.8 km (29 days)					1.2(12.5 days)	4.9(11 days)	8.7(1.5 days)
Days not Engaged: 5.0 (17%)							

Engagement Calculation Sheet (Series E)

Engagement No: 601

Dates: 10-11 November 1944 Days' Duration: 2
 Friendly Force: US 4th Armored Division
 Enemy: Elements of German XIII SS Corps
 Terrain (r): rolling, mixed Weather (h): rain, snow
 Posture (u): f: A-HD Season (z): fall, temperate
 e: FD-A

		Friendly		Enemy	
		Number	OLI	Number	OLI
N	Personnel strength	43,587	-	11,185	-
Cas	Casualties, total	720		446	-
	Casualties/day	360	-	223	-
W _s	Small arms	43,587	8,717	11,185	2,237
W _{mg}	Machine guns	2,434	4,292	708	769
W _{hw}	Total heavy weapons	2,844	68,389	195	10,332
	Mortars	570	40,268	51	8,449
	Infantry cannon	-	-	3	501
	AT guns, towed	135	6,806	10	250
	Light AA guns	138	3,450	51	612
	Rocket launchers/flamethrowers	2,001	17,865	80	520
W _g	Total artillery	239	60,465	149	34,373
	Field artillery, light	173	40,449	55	13,693
	Field artillery, med & hvy	66	20,016	10	3,000
	Naval gunfire support	-	-	-	-
	AA artillery (50mm & over)	-	-	84	17,680
W _i	Total armor	386	100,418	20	7,295
	Tanks, light	78	18,954	-	-
	Tanks, medium	206	68,804	15	5,970
	Tanks, heavy	-	-	-	-
	Armored cars	60	2,580	-	-
	Tank destroyer/assault guns	42	10,080	5	1,325
W _y	Total air close support sorties	13	1,573	0	-
	Sorties/day	7	847	0	-
J	Trucks & double armored vehicles	5,009	-	1,250	-
Q	Distance opposed advance	4.25km		-4.25km	
	Distance/day	2.13km		-2.13km	

Engagement Calculation Sheet (Series E)

Engagement No: 602

Dates: 13-15 November 1944

Days' Duration: 3

Friendly Force: 4th Armored Division (CCB) & elements 35th Division

Enemy: 11 Panzer Division (-) & 361 Infantry Division (-)

Terrain (r): rolling, mixed,
deep mud

Weather (h): cold, snow-rain

Posture (u): f: A

Season (z): fall, temperate

e: 1st

	Friendly		Enemy	
	Number	OLI	Number	OLI
N Personnel strength	25,881	-	7,555	-
Cas Casualties, total	1,201	-	197	-
Casualties/day	399	-	66	-
W _s Small arms	25,881	5,176	7,555	1,511
W _{mg} Machine guns	1,543	2,532	561	605
W _{hw} Total heavy weapons	1,713	45,217	155	7,987
Mortars	333	26,182	40	6,587
Infantry cannon	-	-	2	334
AT guns, towed	89	6,416	6	150
Light AA guns	67	1,675	43	516
Rocket launchers/flamethrowers	1,224	10,944	64	400
W _g Total artillery	142	28,733	104	24,035
Field artillery, light	105	17,476	42	10,405
Field artillery, med & hvy	37	11,257	8	2,400
Naval gunfire support	-	-	-	-
AA artillery (50mm & over)	-	-	54	11,230
W _i Total armor	228	58,652	16	6,268
Tanks, light	43	10,449	-	-
Tanks, medium	118	39,412	13	5,473
Tanks, heavy	-	-	-	-
Armored cars	37	1,591	-	-
Tank destroyer/assault guns	30	7,200	3	795
W _y Total air close support sorties	0	-	0	-
Sorties/day	0	-	0	-
J Trucks & double armored vehicles	3,827	-	1,025	-
Q Distance opposed advance	6.60km	-	-6.60km	-
Distance/day	2.20km	-	-2.20km	-

Engagement Calculation Sheet (Series E)

Engagement No: 603

Dates: 14-15 November 1944

Days' Duration: 2

Friendly Force: 4th Armored Division (CCA) & elements 26th Division

Enemy: Elements 11th Pz Division, 361 Infantry Division (-)

Terrain (r): rolling, mixed

Weather (h): snow, rain

Posture (u): f: A

Season (z): fall, temperate

e: Del

		Friendly		Enemy	
		Number	OLI	Number	OLI
N	Personnel strength	21,860	-	6,519	-
Cas	Casualties, total	354	-	141	-
	Casualties/day	118	-	71	-
W _s	Small arms	21,860	4,372	6,519	1,309
W _{mg}	Machine guns	931	1,706	441	475
W _{hw}	Total heavy weapons	1,111	25,346	114	4,536
	Mortars	239	14,338	22	3,605
	Infantry cannon	-	-	-	-
	AT guns, towed	45	2,741	8	200
	Light AA guns	56	1,400	37	444
	Rocket launchers/flamethrowers	771	6,867	47	287
W _g	Total artillery	98	25,447	81	18,721
	Field artillery, light	69	16,042	28	7,141
	Field artillery, med & hvy	29	9,405	9	2,700
	Naval gunfire support	-	-	44	8,880
	AA artillery (50mm & over)	-	-	-	-
W _i	Total armor	161	41,986	16	5,992
	Tanks, light	34	8,262	-	-
	Tanks, medium	89	29,726	13	5,197
	Tanks, heavy	-	-	-	-
	Armored cars	26	1,118	-	-
	Tank destroyer/assault guns	12	2,880	3	795
W _y	Total air close support sorties	0	-	0	-
	Sorties/day	0	-	0	-
J	Trucks & double armored vehicles	2,478	-	863	-
Q	Distance opposed advance	0	-	0	-
	Distance/day	0	-	0	-

Engagement Calculation Sheet (Series E)

Engagement No: 604

Dates: 24-25 November 1944

Days' Duration: 2

Friendly Force: 4th Armored Division (-)

Enemy: Panzer Lehr Division (-) & 361st Infantry Division (-)

Terrain (r): rolling, mixed

Weather (h): cold, cloudy

Posture (u): f: A-HD

Season (z): fall, temperate

e: HD-A

		Friendly		Enemy	
		Number	OLI	Number	OLI
N	Personnel strength	7,935	-	5,366	-
Cas	Casualties, total	58	-	224	-
	Casualties/day	29	-	112	-
W _s	Small arms	7,935	1,587	5,366	1,073
W _{mg}	Machine guns	488	1,034	323	351
W _{hw}	Total heavy weapons	690	15,107	82	3,679
	Mortars	192	8,416	18	2,982
	Infantry cannon	-	-	-	-
	AT guns, towed	22	1,807	9	225
	Light AA guns	42	1,050	27	324
	Rocket launchers/flamethrowers	434	3,834	28	148
W _g	Total artillery	51	12,410	64	14,624
	Field artillery, light	40	9,078	14	3,609
	Field artillery, med & hvy	11	3,332	3	900
	Naval gunfire support	-	-	-	-
	AA artillery (50mm & over)	-	-	47	10,115
W _i	Total armor	128	33,338	30	10,935
	Tanks, light	30	7,290	-	-
	Tanks, medium	73	24,382	24	9,345
	Tanks, heavy	-	-	-	-
	Armored cars	22	946	-	-
	Tank destroyer/assault guns	3	720	6	1,590
W _y	Total air close support sorties	0	-	0	-
	Sorties/day	0	-	0	-
J	Trucks & double armored vehicles	1,526	-	1,033	-
Q	Distance opposed advance	1.0km		-1.0km	
	Distance/day . . . . .	.5km		-.5km	

Engagement Calculation Sheet (Series E)

Engagement No: 605

Dates: 26 November 1944

Days' Duration: 1

Friendly Force: 4th Armored Division

Enemy: Panzer Lehr Division (-)

Terrain (r): rolling, mixed

Weather (h): cool, scattered clouds

Posture (u): f: A

Season (z): fall, temperate

e: PD

		Friendly		Enemy	
		Number	OLI	Number	OLI
N	Personnel strength	15,871	-	6,999	-
Cas	Casualties, total	56	-	233	-
	Casualties/day	56	-	233	-
W _s	Small arms	15,871	3,174	6,999	1,400
W _{mg}	Machine guns	974	2,065	611	654
W _{hw}	Total heavy weapons	1,340	29,385	110	5,815
	Mortars	383	16,706	30	4,732
	Infantry cannon	-	-	-	-
	AT guns, towed	44	3,614	12	300
	Light AA guns	62	1,550	57	684
	Rocket launchers/flamethrowers	851	7,515	11	99
W _g	Total artillery	104	25,537	87	18,849
	Field artillery, light	79	17,928	14	3,609
	Field artillery, med & hvy	25	7,609	7	2,100
	Naval gunfire support	-	-	-	-
	AA artillery (50mm & over)	-	-	66	13,140
W _i	Total armor	253	66,347	36	13,370
	Tanks, light	59	14,337	-	-
	Tanks, medium	146	42,764	30	11,250
	Tanks, heavy	-	-	-	-
	Armored cars	42	1,806	-	-
	Tank destroyer/assault guns	6	1,440	6	2,120
W _y	Total air close support sorties	0	-	0	-
	Sorties/day	0	-	0	-
J	Trucks & double armored vehicles	3,049	-	1,003	-
Q	Distance opposed advance	5.0km	-	-5.0km	-
	Distance/day	5.0km	-	-5.0km	-

Engagement Calculation Sheet (Series E)

Engagement No: 606

Dates: 27-29 November 1944

Days' Duration: 3

Friendly Force: 4th Armored Division

Enemy: Panzer Lehr Division

Terrain (r): rolling, mixed

Weather (h): cold, rain

Posture (u): f: A

Season (z): fall, temperate

e: Del

		Friendly		Enemy	
		Number	OLI	Number	OLI
N	Personnel strength	16,232	-	6,713	-
Cas	Casualties, total	78	-	216	-
	Casualties/day	26	-	72	-
W _s	Small arms	16,232	3,246	6,713	1,343
W _{mg}	Machine guns	964	1,729	602	646
W _{hw}	Total heavy weapons	1,340	28,485	193	18,118
	Mortars	383	16,706	83	17,003
	Infantry cannon	-	-	-	-
	AT guns, towed	44	2,714	13	325
	Light AA guns	62	1,550	55	660
	Rocket launchers/flamethrowers	851	7,515	42	130
W _g	Total artillery	104	25,537	81	17,679
	Field artillery, light	79	17,928	14	3,609
	Field artillery, med & hvy	25	7,609	7	2,100
	Naval gunfire support	-	-	-	-
	AA artillery (50mm & over)	-	-	60	11,970
W _i	Total armor	253	66,347	43	15,442
	Tanks, light	59	14,337	-	-
	Tanks, medium	146	48,764	37	13,852
	Tanks, heavy	"	-	-	-
	Armored cars	42	1,806	"	-
	Tank destroyer/assault guns	6	1,440	6	1,590
W _y	Total air close support sorties	0	-	0	-
	Sorties/day	0	-	0	-
J	Trucks & double armored vehicles	3,049	-	1,363	-
Q	Distance opposed advance	3.10km		-3.10km	
	Distance/day	1.33km		-1.33km	

Engagement Calculation Sheet (Series E)

Engagement No: 607

Dates: 1-2 December 1944

Days' Duration: 2

Friendly Force: 4th Armored Division

Enemy: 11th Panzer Division (-), Panzer Lehr Division (-),
25th Panzer Grenadier Division (-)

Terrain (r): rolling, mixed

Weather (h): cool, cloudy

Posture (u): f: A

Season (z): fall, temperate

e: PD

		Friendly		Enemy	
		Number	OLI	Number	OLI
N	Personnel strength	19,773	-	6,044	-
Cas	Casualties, total	275	-	129	-
	Casualties/day	138	-	65	-
W _s	Small arms	19,773	3,955	6,044	1,029
W _{mg}	Machine guns	1,133	2,352	556	593
W _{hw}	Total heavy weapons	1,577	33,155	140	5,578
	Mortars	390	17,588	28	4,480
	Infantry cannon	-	-	-	-
	AT guns, towed	54	4,074	10	250
	Light AA guns	90	2,250	54	618
	Rocket launchers/flamethrowers	1,043	9,243	48	200
W _g	Total artillery	156	39,253	90	21,803
	Field artillery, light	111	25,609	27	8,108
	Field artillery, med & hvy	45	13,644	11	3,300
	Naval gunfire support	-	-	-	-
	AA artillery (50mm & over)	-	-	52	10,395
W _i	Total armor	281	74,101	23	8,126
	Tanks, light	65	15,795	-	-
	Tanks, medium	161	53,774	17	6,536
	Tanks, heavy	-	-	-	-
	Armored cars	44	1,892	-	-
	Tank destroyer/assault guns	11	2,640	6	1,590
W _y	Total air close support sorties	0	-	0	-
	Sorties/day	0	-	0	-
J	Trucks & double armored vehicles	3,625	-	1,293	-
Q	Distance opposed advance	2.6km	-	-2.6km	-
	Distance/day	1.3km	-	-1.3km	-

Engagement Calculation Sheet (Series E)

Engagement No: 608

Dates: 6-7 December 1944

Days' Duration: 2

Friendly Force: 4th Armored Division

Enemy: 25th Panzer Grenadier Division & 11th Panzer Division (-)

Terrain (r): rolling, mixed

Weather (h): cool, rainy

Posture (u): f: A

Season (z): fall, temperate

e: FD

		Friendly		Enemy	
		Number	OLI	Number	OLI
N	Personnel strength	15,224	-	5,044	-
Cas	Casualties, total	155	-	121	-
	Casualties/day	78	-	61	-
W _s	Small arms	15,224	3,045	5,044	1,009
W _{mg}	Machine guns	964	2,055	417	445
W _{hw}	Total heavy weapons	1,339	29,619	140	7,937
	Mortars	385	16,958	21	3,360
	Infantry cannon.	-	-	22	3,674
	AT guns, towed	43	3,614	8	200
	Light AA guns	62	1,550	42	504
	Rocket launchers/flamethrowers	849	7,497	47	199
W _g	Total artillery	104	25,537	17	17,879
	Field artillery, light	79	7,609	27	6,944
	Field artillery, med & hvy	25	17,928	9	2,700
	Naval gunfire support	-	-	-	-
	AA artillery (50mm & over)	-	-	41	8,235
W _i	Total armor	253	66,347	18	6,453
	Tanks, light	59	14,337	-	-
	Tanks, medium	146	48,764	13	5,128
	Tanks, heavy	-	-	-	-
	Armored cars	42	1,806	-	-
	Tank destroyer/assault guns	6	1,440	5	1,325
W _y	Total air close support sorties	0	-	0	-
	Sorties/day	0	-	0	-
J	Trucks & double armored vehicles	3,051	-	977	-
Q	Distance opposed advance	2.7km	-	-2.7km	-
	Distance/day . . . . .	.35km	-	-.35km	-

Engagement Calculation Sheet (Series E)

Engagement No: 609

Dates: 8-12 November 1944

Days' Duration: 5

Friendly Force: XII Corps

Enemy: XIII SS Corps (-) & LXXXIX Corps (-)

Terrain (r): rolling, mixed-mud

Weather (h): rain, cold

Posture (u): f: A

Season (z): fall, temperate

ε: FD

		Friendly		Enemy	
		Number	OLI	Number	OLI
N	Personnel strength	75,995	-	23,588	-
Cas	Casualties, total	4,265	-	4,880	-
	Casualties/day	853	-	976	-
W_s	Small arms	75,995	15,199	23,588	4,718
W_{mg}	Machine guns	3,872	5,950	1,148	1,267
W_{hw}	Total heavy weapons	4,769	116,307	397	34,864
	Mortars	492	61,992	179	30,884
	Infantry cannon	-	-	7	1,169
	AT guns, towed	243	14,409	26	650
	Light AA guns	225	5,625	12	840
	Rocket launchers/flamethrowers	3,809	34,281	173	1,325
W_g	Total artillery	429	112,945	308	66,752
	Field artillery, light	271	65,033	83	19,922
	Field artillery, med & hvy	158	47,912	16	4,800
	Naval gunfire support	-	-	-	-
	AA artillery (50mm & over)	-	-	209	42,030
W_i	Total armor	399	86,799	14	4,439
	Tanks, light	72	17,496	-	-
	Tanks, medium	135	45,090	6	2,519
	Tanks, heavy	-	-	-	-
	Armored cars	111	4,773	-	-
	Tank destroyer/assault guns	81	19,440	8	2,120
W_y	Total air close support sorties	12	1,452	0	-
	Sorties/day	12	1,452	0	-
J	Trucks & double armored vehicles	9,269	-	1,919	-
Q	Distance opposed advance	14km		-14km	
	Distance/day	2.8km		-2.8km	

Engagement Calculation Sheet (Series F)

Engagement No: 610

Dates: 13-16 November 1944

Days' Duration: 4

Friendly Force: XII Corps

Enemy: XIII SS Corps (-) and LXXXIX Corps (-)

Terrain (r): rolling, mixed
deep mud

Weather (h): cold

Posture (u): f: A

Season (z): fall, temperate

e: Del

		Friendly		Enemy	
		Number	OLI	Number	OLI
N	Personnel strength	92,393	-	28,382	-
Cas	Casualties, total	3,223	-	3,665	-
	Casualties/day	806	-	916	-
W _s	Small arms	92,393	18,479	28,382	5,676
W _{mg}	Machine guns	5,156	8,757	2,209	2,379
W _{hw}	Total heavy weapons	5,820	147,150	455	28,576
	Mortars	1,066	86,988	140	22,995
	Infantry cannon	-	-	5	835
	AT guns, towed	288	15,624	35	875
	Light AA guns	285	7,125	12	2,160
	Rocket launchers/flamethrowers	4,181	37,413	263	1,711
W _g	Total artillery	515	131,987	433	98,265
	Field artillery, light	357	84,075	112	28,125
	Field artillery, med & hvy	158	47,912	57	17,100
	Naval gunfire support	-	-	-	-
	AA artillery (50mm & over)	-	-	264	53,040
W _i	Total armor	778	186,398	63	22,473
	Tanks, light	161	39,123	-	-
	Tanks, medium	354	118,236	45	17,703
	Tanks, heavy	-	-	-	-
	Armored cars	173	7,439	-	-
	Tank destroyer/assault guns	90	21,600	18	4,770
W _y	Total air close support sorties	0	-	0	-
	Sorties/day	0	-	0	-
J	Trucks & double armored vehicles	12,891	-	4,469	-
Q	Distance opposed advance	6.8km	-	-6.8km	-
	Distance/day	1.7km	-	-1.7km	-

Engagement Calculation Sheet (Series E)

Engagement No: 611

Dates: 20-27 November 1944

Days' Duration: 8

Friendly Force: XII Corps

Enemy: XIII SS Corps (-) and LXXXIX Corps (-)

Terrain (r): rolling, mixed

Weather (h): cold, cloudy

Posture (u): f: A

Season (z): fall, temperate

e: Del

		Friendly		Enemy	
		Number	OLI	Number	OLI
N	Personnel strength	88,941	-	32,396	-
Cas	Casualties, total	3,279	-	4,942	-
	Casualties/day	410	-	618	-
W _s	Small arms	88,941	17,788	32,396	6,479
W _{mg}	Machine guns	5,156	8,757	2,454	2,676
W _{hw}	Total heavy weapons	5,717	134,837	946	27,279
	Mortars	968	74,640	206	19,278
	Infantry cannon	-	-	5	835
	AT guns, towed	288	15,624	39	975
	Light PA guns	285	7,125	205	2,460
	Rocket launchers/flamethrowers	4,176	37,448	491	3,731
W _g	Total artillery	519	132,943	435	100,308
	Field artillery, light	361	85,031	139	34,563
	Field artillery, med & hvy	158	47,912	63	19,900
	Naval gunfire support	-	-	-	-
	AA artillery (50mm & over)	-	-	233	46,845
W _i	Total armor	815	195,275	66	25,686
	Tanks, light	160	38,880	-	-
	Tanks, medium	354	118,236	54	22,506
	Tanks, heavy	-	-	-	-
	Armored cars	173	7,439	-	-
	Tank destroyer/assault guns	128	30,720	12	3,180
W _y	Total air close support sorties	0	-	0	-
	Sorties/day	0	-	0	-
J	Trucks & double armored vehicles	12,891	-	4,780	-
Q	Distance opposed advance	21.2km	-	-21.2km	-
	Distance/day	2.7km	-	-2.7km	-

Engagement Calculation Sheet (Series E)

Engagement No: 612

Dates: 28-29 November 1944

Days' Duration: 2

Friendly Force: XII Corps

Enemy: XIII SS Corps (-), & LXXXIX Corps (-)

Terrain (r): rolling, mixed

Weather (h): cold, rain

Posture (u): f: A

Season (z): fall, temperate

e: Del

		Friendly		Enemy	
		Number	OLI	Number	OLI
N	Personnel strength	90,078	-	30,712	-
Cas	Casualties, total	482	-	811	-
	Casualties/day	241	-	405	-
W _s	Small arms	90,078	18,016	30,712	6,142
W _{mg}	Machine guns	5,446	9,443	2,921	3,166
W _{hw}	Total heavy weapons	6,158	157,651	789	38,274
	Mortars	1,274	97,420	196	31,717
	Infantry cannon	-	-	6	1,002
	AT guns, towed	246	14,490	32	800
	Light AA guns	268	6,700	232	2,784
	Rocket launchers/flamethrowers	4,370	39,042	323	1,971
W _g	Total artillery	543	138,175	450	103,146
	Field artillery, light . . .	385	90,263	121	30,261
	Field artillery, med & hvy .	158	47,912	70	21,000
	Naval gunfire support . . .	-	-	-	-
	AA artillery (50mm & over) .	-	-	259	51,885
W _i	Total armor	812	194,280	75	27,426
	Tanks, light	176	42,768	-	-
	Tanks, medium	382	127,588	63	24,246
	Tanks, heavy	-	-	-	-
	Armored cars	188	8,084	-	-
	Tank destroyer/assault guns	66	15,840	12	3,190
W _y	Total air close support sorties	0	-	0	-
	Sorties/day	0	-	0	-
J	Trucks & double armored vehicles	13,654	-	5,857	-
Q	Distance opposed advance . .	1.0km	-	-1.0km	-
	Distance/day . . . . .	.5km	-	-.5km	-

Engagement Calculation Sheet (Series E)

Engagement No: 613

Dates: 5 -7 December 1944

Days' Duration: 3

Friendly Force: XII Corps

Enemy: XIII SS Panzer Corps (-) & XC Corps

Terrain (r): rolling, mixed

Weather (h): cool, cloudy

Posture (u): f: A

Season (z): fall, temperate

e: Del

		Friendly		Enemy	
		Number	OLI	Number	OLI
N	Personnel strength	77,628	-	31,501	-
Cas	Casualties, total	721	-	1,774	-
	Casualties/day	240	-	591	-
W _s	Small arms	77,628	15,526	31,501	6,300
W _{mg}	Machine guns	4,587	8,200	2,522	2,738
W _{hw}	Total heavy weapons	5,461	135,116	726	35,705
	Mortars	1,135	79,906	181	29,351
	Infantry cannon	-	-	7	1,169
	AT guns, towed	246	14,490	32	800
	Light AA guns	268	6,700	197	2,304
	Rocket launchers/flamethrowers	3,812	34,020	309	2,021
W _g	Total artillery	449	121,621	434	100,001
	Field artillery, light . . .	331	77,357	127	31,881
	Field artillery, med & hvy .	118	44,264	66	19,800
	Naval gunfire support . . .	-	-	-	-
	AA artillery (50mm & over) .	-	-	241	48,330
W _i	Total armor	802	193,850	42	15,225
	Tanks, light	176	42,768	-	-
	Tanks, medium	382	127,588	32	12,575
	Tanks, heavy	-	-	-	-
	Armored cars	178	7,654	-	-
	Tank destroyer/assault guns	66	15,840	10	2,650
W _v	Total air close support sorties	4	484	0	-
	Sorties/day	4	484	0	-
J	Trucks & double armored vehicles	12,195	-	5,052	-
Q	Distance opposed advance . .	8.3km		-8.3km	
	Distance/day	2.8km		-2.8km	

Analysis of Advance Rate of the XII Corps

The matrix analysis sheets present in tabular form on a daily basis the data assembled for this study from World War II records which appears to have a relation to the rate of advance of the US XII Corps and the 4th Armored Division during the period 8 November - 7 December 1944. German records have been used for calculating force ratios and the other comparative figures shown.

From this matrix the following initial comments are made:

1. The rates of advance were the slightest in this sixth of the operations against the heavily defended border area of Germany.
2. The cold, wet weather and resultant bad road conditions contributed to the corps' mobility and slowed the potential rate of advance.
3. Casualties were heaviest in this operation.
4. Fluctuating rates of advance seem to have been more closely related to intensity of opposition, casualties, and environmental conditions than to force ratios.

Additional Comments on Analysis of Advance Rate of the 4th Armored Division

Advance rates against intensive opposition are lower than those for the corps; otherwise rates are slightly higher than those for the corps. This differs from Operation E, in which the 7th Armored Division made greater progress against all categories of opposition. While variations are to be expected, this difference may also be attributable to lack of precision in identifying and evaluating the intensity of opposition to the advance.

KEY TO ABBREVIATIONS AND VALUES ANALYSIS MATRICES

General

Pause . . . P Yes Y
 Unknown . . U Not Applicable . NA

Roadnet Mobility Factors

		<u>Normal Values</u>
Unlimited cross-country movement	1.0	. . . . .
Good road net	0.7-0.9	. . . . . 0,8
Fair road net	0.4-0.6	. . . . . 0.5
Poor road net	0.1-0.3	. . . . . 0.2
Impassable terrain	0.0	

Mission Variables

Unlimited	1
Related to specific objectives or contingencies .	2
Related to adjacent units advance	3
Limited by higher authority control	4
Other	5

Exceptional Obstacles to Advance

R = River	F1 = Flooded area	FZ = Fortified Zone
Dn = Exceptionally effective demolitions		Ur = Urban area
Sa = Sabotage by local populace		Ds = Desert

Intensity of Opposition to Advance

I = Intense M = Moderate S = Slight N = Negligible

Situation on Flanks

L = Left flank units	C = Comparable advance	F = Faster advance
R = Right flank units	S = Slower advance	T = Flank threatened

Readiness Condition

Fr = Fresh	W = Weary
T = Tired	E = Exhausted

Posture - Mission

W/d = Withdrawal	HD = Hasty Defense	FD = Fortified Defense
Del = Delay	PD = Position Defense	

III. EVALUATION

A. Overall Matrix Comparison

The overall matrix comparison includes those elements of the several matrix analyses for the six operations which seem to be most significant for an understanding of the factors influencing rates of advance. The separate matrices in turn represent a distillation of the mass of material which was gathered for this study and portray those elements which appear to be of most significance. The matrices, and this summary matrix, contain an abundance of information that should be useful for a considerable amount of analysis beyond what can be done in this feasibility study.

The items included in the overall matrix comparison should be self-explanatory, when read in combination with the operational matrices which they summarize. It should be remembered that these are analytical tables, and that apparent relations or influences of any single factor on rates of advance should be considered in combination with the other factors that were operative. More importantly, in this feasibility study only six operations have been examined. These operations involved very different sorts of forces under widely varying conditions. Consequently, although they represent a sizable number of days and many miles of advance, for each set of conditions the sample is very small. In order to verify the apparent relations and influences that this study indicates, a much larger sample of operations must be analyzed.

In these matrix analyses HERO's Quantified Judgment Method has been used with original source data to determine values for the General Factors and the Comparative Factors. The statistics and data on logistics, air support, etc., come directly from the contemporary records.

It has seemed useful to make a comparison of advance rates in World War II with the rate at which another army of another period advanced under somewhat similar conditions. The overall matrix analysis includes such a comparison of the German advance into Russia from Poland to Moscow in 1941 and Napoleon's advance into Russia in 1812. Although there are dangers in attempting to draw too many conclusions from such a comparison, it is worth noting that although the first part of the movement, as far as Smolensk, was accomplished in less time in 1941, in the first ten weeks and in the whole advance

OVERALL MATRIX COMPARISON OF DATA AND OPERATIONAL IMPLICATIONS

Op. /	Operation F			Operation C			Operation D			Operation E			Operation F			German Invasion of Russia 1941			Napoleon's Invasion of Russia 1812		
	7th Div	1st Div	2nd Div	7th Div	1st Div	2nd Div	7th Div	1st Div	2nd Div	7th Div	1st Div	2nd Div	7th Div	1st Div	2nd Div	To Spanglers	To Moscow	To Spanglers	To Moscow		
Basic Data	322.0	2-4	144.1	12.5	0.59	73.5	75.1	16.7	22.2	514.0	579.0	0.30	0.90	0.90	510.0	1900.0	510.0	720.0	870.0		
Total Distance Advanced	15.0	14.0	11.7	11.1	64	35	31.1	27.1	31.0	31.0	31.0	0.80	0.80	0.80	28.0	64.0	28.0	56.0	70.0		
Total Days Elapsed	21.1	15.0	13.1	12.3	1	20.7	21.0	22.2	22.2	16.6	16.7	1.9	1.9	1.9	18.9	81.1	18.9	37.1	44.7		
Overall Rate of Advance (in P/day)																					
Environmental Data																					
Weather, Average Factor	0.94	0.73	0.77	0.74	0.74	0.74	0.74	0.74	0.74	0.94	0.90	0.90	0.90	0.90	0.94	0.94	0.94	0.94	0.94		
Terrain, Average Factor	2.1	0.46	1.7	1.7	1.7	1.7	1.7	1.7	1.7	0.87	0.90	0.90	0.90	0.90	0.87	0.87	0.87	0.87	0.87		
Roadnet, Average Factor	0.99	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.97	0.90	0.90	0.90	0.90	0.97	0.97	0.97	0.97	0.97		
Days with Exceptional Obstacles	5.0	6	1	1	1	1	1	1	1	13.0	12.1	2.0	2.0	2.0	13.0	12.1	2.0	2.0	2.0		
Days with Exceptional Logistic Problems	3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	4.0	4.0	0	0	0	4.0	4.0	0	0	0		
Factor for Obstacle and Logistic Delay	0.43	0.37	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.89	0.73	0.73	0.73	0.73	0.89	0.73	0.73	0.73	0.73		
Composite Environmental Factor	0.94	0.73	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Operational Data																					
Initial Force Ratio (refined)	(1.3)	(1.2)	(1.1)	(1.2)	(1.3)	(1.3)	(1.3)	(1.3)	(1.3)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)	(4.7)		
Average Force Ratio (refined)	(1.3)	(1.0)	(1.3)	(1.3)	(1.3)	(1.3)	(1.3)	(1.3)	(1.3)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)		
Attacker/Defender Combat Effectiveness	(1.5)	(2.0)	(2.0)	(2.0)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(0.8)	(0.8)	(0.8)	(0.8)	(0.8)	(0.8)	(0.8)	(0.8)	(0.8)	(0.8)		
Logistical Effectiveness Ratio	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(0.97)	(0.97)	(0.97)	(0.97)	(0.97)	(0.97)	(0.97)	(0.97)	(0.97)	(0.97)		
Opposition Intensity Estimate (average)	0.46	0.77	0.84	0.79	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84		
Combat Intensity (average)	11.7	2.69	3.3	5.4	7.20	4.1	3.10	2.74	5.29	7.13	10.79	16.19	16.19	16.19	7.13	10.79	16.19	16.19	16.19		
Advancing Force, % Casualties	0.79	0.15	0.50	0.49	0.21	0.20	0.10	0.10	0.22	0.23	0.33	0.54	0.54	0.54	0.23	0.33	0.54	0.54	0.54		
Advancing Force, % Casualties/Day	0.84	0.15	0.50	0.54	0.27	0.24	0.13	0.13	0.32	0.30	0.47	0.60	0.60	0.60	0.30	0.47	0.60	0.60	0.60		
Factor for Advancing Force Casualties	0.92	0.98	0.97	0.94	0.97	0.97	0.99	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97		
Composite Operational Factor	0.94	1.05	0.92	1.05	1.01	0.94	0.94	0.94	0.94	0.92	0.90	0.84	0.84	0.84	0.92	0.90	0.84	0.84	0.84		
Data on Advance Against Varying Opposition																					
Intense Opposition Rate	3.3	3.1	2.9	2.7	1.0	3.3	3.3	3.3	3.3	2.2	2.7	1.3	1.3	1.3	2.2	2.7	1.3	1.3	1.3		
Total Days	1.5	3.5	4.5	5.0	5.5	1.5	1.5	1.5	1.5	6.0	9.5	16.0	16.0	16.0	6.0	9.5	16.0	16.0	16.0		
Elapsed Days	12.6	0	1.0	5.0	33.0	24.0	24.0	24.0	24.0	31.0	30.0	30.0	30.0	30.0	31.0	30.0	30.0	30.0	30.0		
Moderate Opposition Rate	10.6	11.3	7.3	7.3	7.4	6.5	6.6	7.7	7.7	6.4	12.0	2.6	2.6	2.6	6.4	12.0	2.6	2.6	2.6		
Total Days	3.0	7.5	4.0	3.0	6.5	6.5	6.5	6.5	6.5	3.5	11.5	10.0	10.0	10.0	3.5	11.5	10.0	10.0	10.0		
Elapsed Days	15.0	11.0	11.0	11.0	14.0	14.0	14.0	14.0	14.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0		
Slight Opposition Rate	26.4	19.	5.0	5.0	12.0	1.5	1.5	1.5	1.5	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2		
Total Days	7.0	5.0	1.0	5.0	12.0	1.5	1.5	1.5	1.5	6.0	6.0	3.0	3.0	3.0	6.0	6.0	3.0	3.0	3.0		
Elapsed Days	14.5	14.7	2.0	10.0	24.0	26.0	26.0	26.0	26.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0		
Negligible Opposition Rate	42.3	47.5	51.5	36.0	58.6	66.6	66.6	66.6	66.6	26.7	26.7	26.7	26.7	26.7	26.7	26.7	26.7	26.7	26.7		
Total Days	2.5	2.0	1.5	0.5	7.0	9.5	9.5	9.5	9.5	12.5	12.5	8.5	8.5	8.5	12.5	12.5	8.5	8.5	8.5		
Elapsed Days	7.0	19.0	4.0	8.0	34.0	34.0	34.0	34.0	34.0	23.0	23.0	24.0	24.0	24.0	23.0	23.0	24.0	24.0	24.0		
Administrative March																					
Total Days																					
Elapsed																					

*Figures in parentheses are estimated.

to Moscow, Napoleon's army's rate of advance was higher, both in terms of overall distance covered and in the distance covered in twelve weeks (the time it took Napoleon to reach Moscow).

B. General Comparative Analysis

Force Ratios and Rates of Advance

Particular attention has been paid in this study to the effects, or possible effects, of force ratios upon rates of advance. Unfortunately, as pointed out earlier, detailed data for both sides, permitting historically and scientifically sound, reliable quantitative assessment of comparative force strengths as related to combat outcomes was possible in this study for only two operational periods: those of the US XX Corps and US XII Corps in 1944. With more time it would probably have been possible to make comparable assessments for the operations of the German 7th Panzer Division in 1940, and certainly possible for the US VII Corps in 1944. There is reason to believe that data in open Russian sources will permit comparable assessments for operations on the Eastern Front in 1941-1942, but this has not been definitely determined.

Nevertheless, the results for the two sets of operations for which force ratios were calculable are quite useful for the purposes of this study, and confirm both the feasibility and the potential value of continuing the effort further.

For the calculation of force ratios the Quantified Judgment Method was used. This involved calculation of two force ratios: (1) a "raw" force ratio, in which the total weapons firepower available to both sides was compared, and (2) a "refined" force ratio, in which all of the variables of combat were considered, with combat effectiveness, posture, vulnerability, weather, and terrain clearly the most important in terms of effects upon the "raw" force ratios.

In the movement of the XX Corps across northern France in August 1944, until the advancing force ran out of fuel, it had a raw force superiority in the range of five to one to seven to one, with comparable superiority in terms of refined force ratio, except where obstacles favoring the defense were encountered. But even at these obstacles, and considering all of the variables of combat, the refined force ratio was still two to one or more.

In the later movement of the XX Corps toward the Moselle River and the fortified defensive zone of Metz, the attacker's advantage in both raw and refined force ratios had declined substantially, and the rate of advance also declined, until the refined force ratio

advantage shifted to a nearly two-to-one superiority for the Germans in their fortified positions behind the Moselle River, at which time the American advance abruptly stopped.

The much slower, but nonetheless sustained, advance of the XII Corps in the Saar region in November-December 1944 was also accomplished with the benefit of American superiority over the defending Germans in both raw and refined force ratios. However, while both raw and refined force ratio advantages of the Americans during this month-long campaign remained relatively steady, with some fluctuations in the refined ratio resulting mainly from weather variations, and from tactical maneuver by one or both sides, the rates of advance fluctuated even more, within the limits of a relatively slow advance.

By themselves, both the XX Corps and XII Corps results could support either of two theses: (1) Rates of advance are directly related to force ratios; or (2) Sustained advances are possible only when force ratios exceed a certain threshold, with the actual rates of advance being dependent upon other circumstances and combat variables.

For several reasons, the second of these two theses appears much more logical. In the first place, comparable German advances were made in 1940, and in 1941-42, with force ratios that were undoubtedly favorable to the Germans, but not so overwhelming as the advantage which the Americans enjoyed in the summer of 1944 in northern France. It is also likely, although not considered in this study, that Russian advances against the Germans in 1943 and 1944 enjoyed overwhelming force ratio superiorities, but were much slower than advances by Americans and Germans under apparently comparable circumstances. American advances in Italy in 1944, with comparable force ratios, were also slower.

It will not be possible, however, to prove the validity of the "threshold" thesis, or to disprove conclusively the rate-ratio thesis, without considerably more data than was assembled or available for this study. What has been shown, however, is that the method employed in this study will permit proof, with adequate data.

General Observations

The following general observations are based upon the several operational matrices, the overall matrix comparison, the operational narratives and the operational summaries.

1. Rates of advance appear to be rather closely related to casualties sustained by the advancing force or to the intensity of combat as experienced by the attacker; the defender's casualties appear to have little or no close relation to the rate.

2. The following, in an approximate order of significance, appear from the operational summaries and the matrix analyses to be the operational considerations most affecting rates of advance:

- a. The mission of the advancing force (as related to terrain objectives and the status of adjacent forces);
- b. The missions and locations of adjacent forces;
- c. The mission of the defending force;
- d. The relative combat effectiveness of the opposing forces;
- e. The intensity of the defending opposition as perceived by attackers;

3. It has proven impossible, within the time available for this study, to undertake a systematic assessment of the effects of logistical constraints upon rates of advance. While the data to be found in the original records which would permit such an assessment of logistical constraints is spotty and uneven, it is probable that, given more time and a larger data base, useful conclusions could be reached. At present, however, the only firm conclusion possible from the data is the not surprising one that the advance rate falls rapidly down to zero when fuel supply is interrupted. It would be desirable, and probably possible, to evaluate the effect of limited (as opposed to interrupted) fuel supplies upon rates of advance, in comparison with the supply of other essential materials (to see if there is a supply pattern under such circumstances), and in comparison with the other factors which have been more thoroughly evaluated in this study.

4. The following, in approximate order of significance, appear to be the environmental considerations most affecting rates of advance:

- a. Terrain configuration in general;
- b. Weather;
- c. Exceptional obstacles, such as rivers and urban areas;
- d. Roadnet and road conditions (other than as affected by weather).

5. The quantitative effects of terrain and weather on advance rates have been assumed to be comparable to the effects of these variables on combat capabilities, which have been established with some confidence in the QJM. This assumption needs to be tested.

6. It is impossible with a limited data base to evaluate more precisely either the absolute or the relative effects of these operational and environmental considerations. The results achieved, however, suggest that this can be done with a larger data base and more research

time. In particular it is believed probable that quantified values-- or at least ranges of values--for the effects of obstacles could be established, as well as a means for evaluating the delaying effects of differing qualities in roadnets, and differing road conditions.

7. In general, overall rates of advance (as well as rates against varying intensities of resistance) tend to be greatest in the first few days and to decline gradually but steadily over the period of the advance.

8. The analytical results of this study appear to indicate three major categories of advance under combat circumstances:

a. Category I, against determined opposition, when the defending force has sufficient capability and determination to attempt to stop or to limit severely the attacker's advance; the attacker's force superiority in such a situation is probably in the range of 1.1 to 1.3.

b. Category II, against light opposition, when the defending force does not have the capability or the intent to interfere seriously with the advance, and limits its efforts to occasional delay and harassment; a force superiority of 1.3 or more is probably the threshold for this category.

c. Category III, an administrative move in which no substantial resistance is expected, but in which some opposition may be encountered from hostile air or ground forces.

9. The data suggests a further refinement of categories of combat advances, as follows:

a. Category I, an advance against determined opposition;
(1) Sub-Category I-A, against intense resistance;
(2) Sub-Category I-B, against moderate resistance.

b. Category II, an advance against light opposition;
(1) Sub-Category II-A, against slight resistance;
(2) Sub-Category II-B, against negligible resistance.

c. Category III, an unopposed combat area administrative advance.

10. The sample of operations studied herein is too small to permit firm conclusions as to the categories and sub-categories of advance. Other examples must be studied in order to confirm or reject them.

11. The simple comparison of long distance rates of advance of World War II armies and Napoleon's pre-20th Century armies provides a basis for determining trends, which in turn may help to forecast the effects of modern means of transportation upon future rates of

advance. Some preliminary comments, based upon the very limited data presented in the overall matrix analysis chart:

- a. Modern means of transportation do not appear to have affected Category I rates of advance of modern armies, as compared with pre-20th Century armies;
- b. Modern means of transportation in World War II, as compared with those of pre-20th Century armies, appear to have about doubled Category II rates of advance for periods of up to approximately one month; for longer periods the rates apparently decline rapidly to approach those of pre-20th Century armies.
- c. Modern means of transportation in World War II appear to have approximately tripled Category III rates of advance in comparison to those of pre-20th Century armies for short periods of time.

Normalizing the Variables

The variations in the operational and environmental circumstances to be found in the six operations analyzed in this study are such that direct comparisons are difficult, and average values have little meaning. What is required, then, is some means of "normalizing" the data in order to provide a common basis for comparisons and for determining average, mean, or normal rate of advance values. To do this, of course, it is necessary to know the relative importance of the several influencing variables, and to devise quantified factors that reflect this relationship.

This has not been possible with the small data base and limited time available for this study. A tentative start in this direction has been made, however, in order to indicate how such normalization might be accomplished, and what kind of results would be achievable. This has been done by arbitrarily combining into composite factors values and weights included in the several operational matrices, and shown in consolidated form under "Environmental Data" and "Operational Data" in the Overall Matrix Comparison. The results of this arbitrary combination are the values shown for "Composite Environmental Factor" and "Composite Operational Factor." These factors were derived as follows:

- a. Composite environmental factors; the mathematical average of:
 - (1) The square of the weather factor average for the period
 - (2) The terrain factor average for the period
 - (3) The roadnet factor average for the period
 - (4) A factor derived from combining the number of days in which obstacles and specific logistical problems inhibited advance, and dividing this total by twice the number of days in the advance period.

- b. Composite operational factors; the mathematical average of:
- (1) The square root of the attacker/defender combat effectiveness ratio;
 - (2) A composite opposition intensity value derived by assuming that intensity was at a minimum on days of pause or negligible opposition; that intensity was increased by .1 against slight opposition; that it was increased by .3 against moderate opposition, and by .5 against intense opposition;
 - (3) A casualty factor derived by subtracting the average daily casualty rate from unity.

It must be stressed that these composite factors are quite tentative and HERO at this time does not intend to present them or the method by which they were derived as definitive. What is suggested, however, is that some composite or normalizing factors of this general nature, and having effects of comparable magnitude, can be determined from the data and applied to the actual advance statistics of a military force to ascertain what the approximate rate of advance would have been in a comparable tactical situation under "normal" environmental and operational circumstances. The manner in which the normalizing factors would be applied, and the results of such application with these arbitrarily-determined factors, are discussed below, and shown on the chart of "Normalized Rates of Advance."

Normalized Rates of Advance

The actual rates of advance are normalized by assuming that the Composite Environmental Factors and the Composite Operational Factors reflect the effects of influences that varied from a normal tactical situation in each of the divisions and corps analyzed in the six operations considered in this study. Therefore, something closer to "normal" will result when the actual rates are divided by these composite factors.

This has been done on the accompanying chart, and provides us with ranges and averages of "normal" advance rates as follows:

Category I - Advance against determined opposition

- A. Against Intense Resistance:
Overall range: 1.32-4.04 km/day; average: 2.80 km/day
Corps range: 2.07-4.04 km/day; average: 2.76 km/day
Armd.Div.range: 1.32-3.88 km/day; average: 2.89 km/day
- B. Against Moderate Resistance:
Overall range: 4.18-15.87 km/day; average: 10.10 km/day
Corps range: 4.18-15.53 km/day; average: 9.48 km/day
Armd.Div.range: 7.63-15.87 km/day; average: 10.40 km/day

Category II - Advance against light opposition

- A. Against Slight Resistance:
Overall range: 5.15-36.72 km/day; average: 23.34 km/day
Corps range: 5.15-29.76 km/day; average: 20.75 km/day
Armd.Div.range: 13.67-36.72 km/day; average: 25.69 km/day
- B. Against Negligible Resistance:
Overall range: 34.55-78.22 km/day; average: 54.79 km/day
Corps range: 34.55-67.46 km/day; average: 48.66 km/day
Armd.Div.range: 44.50-78.22 km/day; average: 63.30 km/day

Category III - Unopposed administrative combat march:

- 69.78 km/day, average;
- 45.00 km/day, corps rate;
- 120.00 km/day, armored division rate;
- 55.50 km/day, infantry division rate.

Clearly there will always be wide variations within each of these categories, and those variations shown above do not appear to be excessive. It is likely, however, that the variations may be less when a more precise and more thoroughly considered normalization procedure is developed. In particular there is need for a more precise method of establishing the intensity of opposition to advance than the historian's estimate used in this study. This should be fairly easily done by relating casualties to distance advanced; the formula used for intensity of combat in the QJM (which is not directly applicable, because it deals only with movement during the course of an engagement limited in both time and space) suggests a possible approach.

Obviously reasonable confidence in both the values and the selected approach will depend upon a substantially larger data base.

There is another possible variant of this three-category thesis, which should be explored when more data is available to make it worthwhile.

The relatively slow advances of the German XL Corps in the Don-Manych River region, of the American XX Corps in the Metz-Moselle region, and of the American XII Corps in the Saar region, all suggest that there may be a category of advance against "determined, sustained opposition," which is quite different in its rates from the category of "serious, intermittent opposition." The alternative category breakdown is:

- I. Advance against determined sustained opposition:
 - A. Intense resistance;
 - B. Moderate resistance;
- II. Advance against serious, intermittent opposition:
 - A. Intense resistance;
 - B. Moderate resistance;
- III. Advance against light opposition:
 - A. Moderate resistance;
 - B. Slight resistance;
 - C. Negligible resistance; and
- IV. Administrative, unopposed combat advance.

NORMALIZED RATES OF ADVANCE

Category	Operation A		Operation B		Operation C		Operation D		Operation E		Operation F		Remarks
	Pz Div	Corps	Pz Div	Corps	Pz Div	Corps	Pz Div	Corps	Pz Div	Corps	Pz Div	Corps	
Category I - Seriously Opposed A. Against Intense Opposition	1. Total Distance Advanced	11.0	1.7	10.0	5.0	3.0	13.0	9.0	20.2	Overall Range: 1.32-4.04; av: 2.50 Corps Range: 2.07-4.94; av: 2.76 And Div Rangs: 1.32-3.82; av: 2.50
	2. Number of Days in Advance	3.1	3.5	5.5	1.5	..	..	..	2.0	6.0	9.0	16.0
	3. Rate of Advance, Actual	3.5	2.7	1.5	3.3	..	..	..	1.5	2.2	1.0	1.3
	4. Combined Environmental Factors Effect	2.87	2.74	2.74	2.74	2.35	2.35	2.35	0.84	0.84	0.84	0.74	
	5. Combined Operational Factors Effect	2.9	2.74	2.74	2.74	2.35	2.35	2.35	0.93	0.93	0.90	0.84	
	6. Potential Rate of Advance	3.7	3.61	3.47	3.44	..	..	..	1.81	2.85	1.32	2.09
B. Against Moderate Opposition	1. Total Distance Advanced	29.0	19.0	51.0	42.0	59.0	31.0	20.0	41.0	29.0	19.0	26.0	Overall Range: 4.18-15.87; av: 10.15 Corps Range: 4.18-15.83; av: 9.48 And Div Range: 7.63-15.87; av: 10.40
	2. Number of Days in Advance	7.1	4.0	3.0	6.5	9.0	4.0	3.0	4.0	3.5	1.5	10.0	
	3. Rate of Advance, Actual	10.6	11.3	7.7	7.4	6.6	7.8	6.7	10.3	8.3	12.0	2.6	
	4. Combined Environmental Factors Effect	0.87	0.73	..	0.86	..	..	..	..	0.84	0.84	0.74
	5. Combined Operational Factors Effect	0.98	1.03	..	1.01	..	..	..	..	0.92	0.90	0.84
	6. Potential Rate of Advance	12.43	15.53	10.70	4.98	7.98	9.22	12.46	10.74	15.97	4.18	4.18	
Category II - Lightly Opposed A. Against Slight Opposition	1. Total Distance Advanced	115.0	91.0	169.0	33.0	206.0	52.0	16.0	112.0	134.0	117.0	9.6	Overall Range: 5.15-36.72; av: 23.54 Corps Range: 5.15-29.76; av: 20.75 And Div Range: 13.97-36.72; av: 25.69
	2. Number of Days in Advance	7.7	4.0	12.0	6.5	9.0	2.5	5.0	6.0	6.0	5.0	3.0	
	3. Rate of Advance, Actual	26.4	25.0	14.0	14.3	22.9	..	20.3	18.7	23.0	23.8	3.2	
	4. Combined Environmental Factors Effect	0.77	..	0.96	..	0.84	..	..	..	0.84	0.84	0.74
	5. Combined Operational Factors Effect	0.94	..	1.01	..	0.94	..	..	..	0.92	0.90	0.84
	6. Potential Rate of Advance	30.96	25.95	50.72	16.12	11.89	21.64	24.53	22.59	29.76	31.48	5.15	
B. Against Negligible Opposition	1. Total Distance Advanced	107.0	79.0	410.0	633.0	170.0	153.0	258.0	334.0	434.0	Overall Range: 34.55-71.22; av: 54.79 Corps Range: 34.55-67.46; av: 48.66 And Div Range: 44.59-71.22; av: 53.32
	2. Number of Days in Advance	2.5	2.0	7.0	9.5	5.0	3.5	7.0	2.0	12.5	8.5	..	
	3. Rate of Advance, Actual	42.8	39.5	58.6	66.6	34.0	43.7	36.9	41.0	26.7	51.6	..	
	4. Combined Environmental Factors Effect	0.97	0.73	..	0.96	..	..	..	..	0.84	0.84	..
	5. Combined Operational Factors Effect	0.98	1.05	..	1.01	..	..	..	..	0.92	0.90	..
	6. Potential Rate of Advance	50.20	51.53	75.45	67.46	79.22	41.1	51.55	44.50	44.33	34.55	..	
Category III - Unopposed Advantative Advance	1. Total Distance Advanced	240.0	443.0	240.0	30.0	Average: 69.78
	2. Number of Days in Advance	5.0	1.0	2.0	7.0	Corps: 48.00
	3. Rate of Advance, Actual	48.0	55.4	120	55.7	And Div: 120.00 in entry Division: 55.60

IV. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

General Conclusions

1. It is feasible to determine historical rates of advance of large forces in combat and to identify the operational and environmental factors influencing those rates of advance; this has been done in this study on the basis of a small data base.

2. It is likely that force ratios, however they may be calculated, do not influence rates of advance, but that sustained advances are probably not possible unless a threshold force ratio superiority has been achieved; more research with a larger data base will be necessary to confirm this tentative conclusion.

3. The analysis initiated in this feasibility study cannot be completed without a larger data base.

Specific Conclusions

1. The following, in an approximate order of significance, appear from the data available for this study, to be the operational considerations most affecting rates of advance:

- a. The mission of the advancing force (as related to terrain objectives and the status of adjacent forces);
- b. The missions and locations of adjacent forces;
- c. The mission of the defending force;
- d. The relative combat effectiveness of the opposing forces;
- e. The intensity of the defending opposition as perceived by attackers.

2. On the basis of data analyzed in this study it is not possible to assess the significance of logistical constraints on the rate of advance.

3. The following, in approximate order of significance, appear now to be the environmental considerations most affecting rates of advance:

- a. Terrain configuration in general;
- b. Weather;
- c. Exceptional obstacles, such as rivers and urban areas;
- d. Roadnet and road conditions (other than as affected by weather).

4. On the basis of an arbitrarily-established basis for normalizing variable factors, the data available in this study suggest the following as tentative ranges, and averages, of rates of advance against varying intensities of opposition:

Category I - Advance against determined opposition

- A. Against Intense Resistance:
Overall range: 1.32-4.04 km/day; average: 2.80 km/day
Corps range: 2.07-4.04 km/day; average: 2.76 km/day
Armd. Div. range: 1.32-3.88 km/day; average: 2.89 km/day
- B. Against Moderate Resistance:
Overall range: 4.18-15.87 km/day; average: 10.10 km/day
Corps range: 4.18-15.53 km/day; average: 9.48 km/day
Armd.Div.range: 7.63-15.87 km/day; average: 10.40 km/day

Category II - Advance against light opposition

- A. Against Slight Resistance:
Overall range: 5.15-36.72 km/day; average: 23.34 km/day
Corps range: 5.15-29.76 km/day; average: 20.75 km/day
Armd.Div.range: 13.67-36.72 km/day; average: 25.69 km/day
- B. Against Negligible Resistance:
Overall range: 34.55-78.22 km/day; average: 54.79 km/day
Corps range: 34.55-67.46 km/day; average: 48.66 km/day
Armd.Div.range: 44.50-78.22 km/day; average: 63.30 km/day

Category III - Unopposed administrative combat march:

- 69.78 km/day, average;
- 45.00 km/day, corps rate;
- 120.00 km/day, armored division rate;
- 55.60 km/day, infantry division rate.

5. It is possible that a larger data base will suggest the need for a modification of the above categorization, as follows:

Category I - Advance against determined sustained opposition:

- A. Intense resistance;
- B. Moderate resistance;

Category II - Advance against serious, intermittent opposition:

- A. Intense resistance;
- B. Moderate resistance;

Category III - Advance against light opposition:

- A. Moderate resistance;
- B. Slight resistance;
- C. Negligible resistance; and

Category IV - Administrative, unopposed combat advance.

6. With a larger data base and more research time it should be possible to develop reliable rate of advance tables, and modifying factors; such research should include the following objectives:

- a. Ascertain the relative effects of operational and environmental influences, to include differing kinds of obstacles and roadnet characteristics;
- b. Develop a reliable basis for normalizing observed or assessed influences of variables on rates of advance;
- c. Develop a basis for evaluating the effects of logistical constraints on rates of advance;
- d. Establish an ideal categorization of advance rates in relation to varying intensities of hostile resistance, or with respect to other standards if so-suggested by analysis of a larger data base.

B. Recommendations

It is recommended that:

- 1. The above conclusions be accepted;
- 2. Preliminary changes in rate of advance procedures be initiated in currently-operational Army combat simulations;
- 3. The additional research required to develop reliable rates of advance tables, and modifying factors, particularly with respect to Conclusion 6, above, be initiated while the research and evaluation performed in this study are still fresh in the minds of the HERO research staff; a proposal to accomplish this will be submitted in the near future.

Bibliographical Note

In compiling the detailed information required for this study, HERO researchers have studied hundreds of World War II documents in dozens of file folders and rolls of microfilm. These primary sources are so numerous and so varied that it would be fruitless to attempt to list them. For US forces engaged in Operations 4, 5 and 6 they include:

Corps and division:

- G-1 Reports
- G-2 Reports
- G-3 Reports
- G-3 Journals
- G-4 Records
- After Action Reports

Regiment and combat command:

- After Action Reports
- G-3 Reports

Armored Units:

- Strength and loss records
- After Action Reports

Artillery Units:

- Strength and loss records
- Firing Reports

Army:

- After Action Reports

12th Army Group

- Personnel Strength Reports
- Ordnance Reports

Whereas the German records on microfilm in the U.S. National Archives are incomplete for Operations 4, 5 and 6, many of them having been lost or destroyed during the last year of World War II, those for Operations 1, 2 and 3 are abundant. In addition to the limiting factor imposed by the necessity for translation, use of these records is complicated by the fact that there is no adequate index to the microfilm rolls on which they are preserved and by the frequent

variation from orderly systems of filing or copying. The information for Operations 4, 5 and 6 was acquired from Army or Army Group records for the most part, since the records of smaller units have not survived. The information for Operations 2 and 3 is primarily from the Daily Journal of the two corps concerned, and in the case of Operation 2 from the Daily Journal of the division. The Daily Journal of the 3d Panzer Division, in Operation 3, is available, but time has prohibited its translation and use for this study. Statistical information for these operations was obtained for the most part from the records of the quartermasters of the respective units. The material for Operation 1 was taken from the Daily Journal of the division. Time and the complication resulting from the movement of the division from one corps to another prohibited the use of corps material. Additional information on German operations and some statistics on personnel and equipment strengths has been obtained from manuscripts prepared for the US Army Historical Division by German participants in these operations during the immediate postwar years.

The secondary sources which have been consulted for this study are listed below. Most useful has been the history by Hugh M. Cole of The Lorraine Campaign.

- Blumenson, Martin. Breakout and Pursuit. US Army in World War II. Washington: Department of the Army, 1961.
- Clark, Alan. Barbarossa. The Russian-German Conflict, 1941-45. New York: William Morrow, 1965.
- Cole, Hugh M. The Lorraine Campaign. US Army in World War II. Washington: Department of the Army, 1950.
- Dyer, Lt. Col. George. XII Corps, Spearhead of Patton's Third Army. XII Corps History Association, 1947.
- Guderian, General Heinz. Panzer Leader. New York: E.P. Dutton & Co., n.d.
- Koyen, Captain Kenneth. The Fourth Armored Division. Munich: Herder-Druck, 1946.
- Seaton, Albert. The Russo-German War 1941-45. New York: Praeger, 1970.
- Stamps, T. Dodson and Vincent J. Esposito. A Military History of World War II. West Point: US Military Academy, 1953.
- XX Corps Personnel. The XX Corps. Its History and Service in World War II. XX Corps Association, n.d.

The following books have proved particularly helpful for augmenting the official records of the 7th Panzer Division in Operation A:

Benoist-Méchin. Soixante Jours Qui Ébranlèrent L'Occident. Paris: Albin Michel, 1956. The translation and abridgement by Peter Wiles (New York: G.R. Putnam's Sons, 1963) was also consulted but was of limited value because of the abridgement.

Churchill, Winston S. Their Finest Hour. Boston: Houghton Mifflin, 1959.

Liddell Hart, ed. The Rommel Papers. New York: Harcourt, Brace and Company, 1949.

Appendix A

TERMS OF REFERENCE

Work Statement

1. TITLE: Opposed Rates of Advance of Large Forces in Europe.
2. SPONSORING COMMAND OR AGENCY: ODCSOPS.
3. PROJECT OFFICER: Maj. James B. Motley, DEMO-PLW, TS, 77232
4. STUDY OBJECTIVE: The objective of the research is to broaden the data base, improve the logical structure of current rates of advance tables and determine the influence of factors, in addition to force ratios, on the rates of advance.
5. SCOPE OF WORK: The contractor shall provide separate research and analysis efforts for each subtask listed below and shall assure that the findings are mutually consistent and of appropriate form for inclusion in typical methods or scenarios for European force planning.
 - a. Focus on the rates of advance of large forces (armor/divisions and corps) in combat situations during World War II in the Central Region of Europe to ascertain the factors which have influenced rates of advance and show the relative significance and the relationships of these factors with rates of advance.
 - b. Obtain data from combat encounters in or about Central Europe representing the following situations:
 - (1) Rates of advance against negligible opposition;
 - (2) Rates of advance against determined opposition;
 - (3) Varying types of European terrain;
 - (4) Considerable variety among the types of advancing forces;
 - (5) Obvious parallels to the situation now pertaining, or likely to pertain, should non-nuclear war break out in Europe.
 - c. Quantify rates of advance and those factors influencing rates of advance. At least some indication should be given of the relative importance of the various factors' influence on the rates of advance to include a statement on dominance of any factors. The following factors are suggested for inclusion in the analysis:

- (1) Force Ratio - Delineation of opposed force size and element mix (armor, infantry, artillery, air, etc.).
- (2) Missions of Opposed Forces.
- (3) Posture of Opposed Forces - Attack, fortified position, prepared or hasty defense, delay, withdrawal.
- (4) Rates of advance (or retreat) of adjacent or flanking formations.
- (5) Terrain and Weather.
- (6) Mobility - roadnet, transportation capability, cross country.
- (7) Duration and intensity of engagements.
- (8) Logistical factors constraining combat and movement including distance from base of operations, days of supply on hand and at the next higher echelons of organization.
- (9) Endurance of men and equipment - casualty rates and amount.
- (10) Casualty rate produced upon the enemy.

6. PERIOD OF PERFORMANCE: Begin 25 February 1971 and continue through 27 August 1972.

7. REPORTS AND DOCUMENTATION: The contractor shall provide draft final report in 10 copies not later than five months from date of contract. The Army will provide comments on the draft to the contractor within 15 days of receipt of draft. The contractor shall publish the final report in 30 copies not later than six months after date of contract.

Appendix B

OPERATIONS FOR RATES OF ADVANCE STUDY

Eng.	Dates	Operation	Army	Corps	Division	Approx. Miles
A.	1940 10-26 May	Ardennes-Flanders Offensive	German Fourth (Kluge)	XXXIX Pz (Hoth)	7th Panzer	150 mi.
B.	1941 13 Nov-3 Dec	Orel to Moscow	German Second Pz (Guderian)	XLVII Pz (Lemelson)	18th Panzer 29th Motorized	170 mi.
C.	1942 21 July-23 Aug	Don River to Caucasus	Ger First Pz Army (Kleist)	XL Pz Corps (Geyr von Schweppenburg)	3d Panzer	420 mi.
D.	1944 14 Aug-12 Sep	Argentan to Liège	US First (Hodges)	VII Corps (Collins)	3d Armored 1st Infantry 9th Infantry	350 mi.
E.	1944 14 Aug-14 Sep	Le Mans to Metz	US Third (Patton)	XX Corps (Cook, Eddy)	7th Armored	350 mi.
F.	1944 3 Nov-7 Dec	Saar (Lorraine) Campaign	US Third (Patton)	XII Corps (Eddy)	4th Armored	30 mi.

Appendix C

Quantitative Data

- a. Corps personnel strength, daily
- b. Corps vehicle strength (including tanks and self-propelled guns)
- c. Corps casualties and non-battle personnel losses, daily
- d. Corps weapon strength, by selected major categories, daily
- e. Losses in major weapons, daily
- f. Close air support sorties on corps front, daily
- g. Interdiction sorties relatable to corps operations, daily
- h. Division personnel strength, daily
- i. Division vehicle strength (including tanks and self-propelled guns)
- j. Division casualties and non-battle personnel losses, daily
- k. Division weapon strength, major categories, daily
- l. Losses in major weapons, daily
- m. Close air support sorties on division front, daily
- n. Air interdiction sorties relatable to division operations, daily
- o. Miles advanced or lost daily
- p. Duration each discrete divisional engagement
- q. Miles gained or lost during each discrete divisional engagement
- r. Duration of each lull period (non-engagement period) for division
- s. Miles gained or lost each non-engagement period
- t. Distance from division railhead, daily
- u. Percentage division supply requirements met daily
- v. Percentage corps supply requirements met, daily
- w. Division fuel consumption, daily
- x. Corps fuel consumption, daily
- y. Division ammunition consumption, major categories, daily
- z. Corps ammunition consumption, major items, daily

Qualitative Data

- a. Mission, and all changes during the course of the operation
- b. Posture, and all changes during the course of the operation
- c. Designation of units adjacent to corps, and changes
- d. Additional data for defensive posture
 - (1) Time available to prepare position
 - (2) Use of mines, to include minefield density
 - (3) Use of other tactical obstacles
- e. Designation of units adjacent to division, and changes
- f. Terrain, with notation of changes during operation; particular attention to terrain obstacles, and to cross-country traversability
- g. Weather, daily
- h. Evaluation of road net, for logistical and operational purposes, with note of changes during operation (A means of general, weighted evaluation will be sought.)
- i. Evaluation of railroad net for logistical purposes (A means of general and weighted evaluation will be sought.)
- j. General evaluation of supply situation, with any changes during the operation.

Appendix D

Preliminary List of Factors Potentially
Influencing Rates of Advance

1. Force ratio of opposing forces
2. Force mix of advancing force
3. Force mix of defender
4. Mission of advancing or attacking force
5. Mission of defending or withdrawing force
6. Posture of defending or withdrawing force
7. Terrain, as related to ruggedness and terrain obstacles
8. Weather
9. Season
10. Mobility considerations
 - a. Road net, general
 - b. Road net capacity
 - c. Cross-country traversibility
11. Intensity of engagements, in terms of casualties incurred and inflicted
12. Intensity of engagements, in terms of lull time and engagement time
13. Adequacy of supply, in terms of theoretical availability during operation
14. Adequacy of supply, in terms of distribution during engagement
15. Rates of advance of adjacent divisions within corps
16. Rates of advance of adjacent corps
17. Endurance of men, in terms of periodic casualty rates before and during operation
18. Endurance of men, in terms of distance travelled before and during operation
19. Endurance of men as related to other environmental factors, as weather, terrain, season, disease, etc.
20. Endurance of equipment, in terms of distance travelled before and during operation
21. Endurance of equipment in terms of replacements of damaged or wornout equipment
22. Air superiority status

Appendix E

THE QUANTIFIED JUDGMENT METHOD OF ANALYSIS OF HISTORICAL COMBAT DATA

Application of the Method and the Quantified Judgment Model to Historical Engagements

Introduction

The purpose of this Appendix is to permit the reader of this report to understand (and, if desired, to duplicate) the application of the Quantified Judgment Method of Analysis of Historical Combat Data (QJMA) to the data contained in this report, and particularly the application of the Quantified Judgment Model (QJM) to Operations D and E in the main body of this report. While a brief description of the method is presented below, for a detailed discussion of the QJMA and its rationale, and an explanation of the derivation of the various elements of the QJM, one must refer to the monograph, dated 3 May, 1972, by Col. T.N. Dupuy, USA, Ret., entitled: "The Quantified Judgment Method of Analysis of Historical Combat Data."

A Brief Descriptive Summary

The Quantified Judgment Method of Analysis of Historical Combat (QJMA) was developed by the Historical Evaluation and Research Organization, in collaboration with T.N. Dupuy Associates, Inc., for the purpose of providing scholars, military men, and research analysts with a precise means for assessing the relative combat power of two opposing military forces in modern historical combat, and for determining the influence of variable factors on the outcomes of engagements between such forces. While the historical importance of being able to make such assessments and determinations is obvious, equally obvious is the contribution which this makes to analyses for current military planning and for simulations and wargames used by planners and operations researchers.

The major feature of the QJMA--as a method--is the Quantified Judgment Model (QJM), which is a mathematical simulation of historical combat. The QJM is based upon systematically converting

recorded statistical data on ground combat engagements into quantified values (such as relative effects of differing numbers and types of weapons), and applying statistical and descriptive data to these values in the form of quantified factors expressing the influences under the circumstances of the engagement of such tangible variables as posture, weather, terrain, air superiority, mobility, logistical effectiveness and vulnerability, and such intangibles as leadership, morale, training, and experience--to the extent the record permits such expression. These various values and factors are combined to provide quantified assessments of force strength and combat potential for each side, and a ratio of relative combat power for the two opposing sides. To permit comparison of the relative combat power ratio of the QJM to actual historical engagement outcomes, an additional method within the QJMA has been derived for representing outcomes quantitatively in terms of mission accomplishment, relative spatial (ground gaining or ground holding) effectiveness, and relative casualty effectiveness.

In more than 90% of some 78 World War II engagements in Italy and northwest Europe to which the model has been applied, the calculated value of relative combat power was consistent with the actual quantified historical outcome. A unique aspect of the model is its ability to represent, with this kind of precision, the effects of close air support and of air interdiction on ground combat.

The Process

The QJMA is applied to historical combat in seven steps, listed below. Steps 2 through 6 are done by means of a comprehensive formula, or model of historical combat, the QJM. The first step is preparatory; the last step is analytical, generally the first step of an analytical process to determine the implications of the QJM to whatever special aspect of combat is of immediate concern.

Step 1 - Compiling and Organizing Data

The following is the data collected and organized for the QJM:

A. General Information:

1. Beginning and ending dates of engagement; its duration.
2. Forces involved: Friendly forces, to be identified as appropriate by the subscript "f"; Enemy forces, to be identified as appropriate by the subscript "e".

3. Postures of the opposing forces; one will be the Attacker, identified where appropriate by the subscript "a"; the other will be the Defender. in one of five defensive postures (hasty defense, prepared defense, fortified defense, delaying action, or withdrawal), identified where appropriate by the subscript "d".

4. Description of terrain.

5. Description of the weather

6. Assessment of mission accomplishment by each side.

7. Summary description, to the extent the data will permit, of supply status of each side, if this status appears to be other than "normal".

8. Summary description, to the extent the data permits, of the nature of the leadership, morale, training, and experience of the opposing forces.

B. Statistics for both sides, as follows:

Infantry weapons, numbers and types, to include:	
Small arms	(W _s)*
Machine guns	(W _{mg})
Heavy Weapons	(W _{hw})
Artillery weapons, number and types	(W _g)
Aircraft types and numbers of close support sorties per day	(W _y)
Armored combat vehicles, number and type	(W _i)
Trucks	(J)
Armored transport vehicles or mobile weapons platforms	(J _i)
Personnel strength	(N)
Depth of deployment area	(D), in kilometers
Casualties incurred per day	(Cas)
Ground gained or lost per day	(Q), in kilometers

Step 2 - Weapons Effectiveness Compilation

This is done by determining the total or composite Operational Lethality Index (or firepower) for each of the categories of weapons listed above. (See Table 1 for a list of weapons OLI's used in this study.) In practice the overall composite Weapons Effectiveness, or Firepower value (W) of a force is not calculated, since it is meaningless without the application of environmental variables (see next step).

*These are the symbols used to represent values assigned to these statistical variables; see also the List of Symbols.

Step 3 - Force Strength Calculation

The overall Force Strength (S) of each side is calculated as follows:

A. Application of environmental variables that relate only to weapons effectiveness. These are:

1. Terrain effects on infantry weapons (r_n), see Table 2.
2. Terrain effects on artillery (r_{wg}), see Table 2.
3. Weather effects on artillery (h_{wg}), see Table 3.
4. Seasonal effects on artillery (z_{wg}), see Table 4.
5. Air superiority effects on artillery (w_{yg}), see Table 5.
6. Terrain effects on armored vehicles (r_{wi}), see Table 2.
7. Weather effects on armored vehicles (h_{wi}), see Table 3.
8. Terrain effects on close air support (r_{wy}), see Table 2.
9. Weather effects on close air support (h_{wi}), see Table 3.
10. Seasonal effect on close air support (z_{wi}), see Table 4.
11. Air superiority effects on close air support (w_{yy}), see Table 5.

B. Consolidation of all environmentally-modified OLI's into a single Force Strength, or refined Firepower, value (S), for each side.

Step 4 - Determining Operational Variables

While all of the possible operational variables do not necessarily apply--and cannot in every instance always be determined from the records--consideration is given to each of the following:

A. Relative Mobility of the two forces is calculated, based upon the respective force characteristics and the environment, as follows:

1. The attacker's mobility characteristics (M_a) are determined by the following formula:

$$M_a = \sqrt{\frac{(N_a + 20J_a + W_i'a) \times m_{ya} / N_a}{(N_d + 20J_d + W_i'd) \times m_{yd} / N_d}}$$

N is personnel strength for each side.

J is the truck strength, plus twice the number of non-combat armored vehicles (J_i) for each side.

W_i' is the environmentally modified value of the consolidated combat armored vehicle OLI.

m_y is the effect of air superiority on mobility, see Table 5.

The value of M for the defender (M_d) is always 1.

2. The effects of environmental conditions is applied to the attacker's mobility characteristics, as calculated in the above formula, by the following formula, to get the mobility factor for the attacking force (m_a):

$$m_a = M_a - (1 - r_m \times h_m) (M_a - 1)$$

r_m is the effect of terrain on mobility, see Table 2.
 w_m is the effect of weather on mobility, see Table 3.

The value of m_d is always 1.

B. The Vulnerability of each side, under the existing circumstances, and in the light of the characteristics of the opposing forces, is calculated as follows:

1. The Vulnerability Characteristics (V) of each side are determined by the following formula:

$$V = N \times c \times \sqrt{S_e/S_f \times v_y \times v_r}$$

N is personnel strength
c is exposure, which in turn is expressed as a relationship between the vulnerability effects of posture (u_v ; see Table 6) and the terrain effects of posture (r_u ; see Table 2), as follows:

$$c = u_v/r_u$$

S is the Force Strength as calculated in Step 3
 v_y is the effect of air superiority on vulnerability, see Table 5
 v_r is the effect of shore line vulnerability in an amphibious or river-crossing operation, see Table 7.

2. The vulnerability factor (v) for each side is determined as follows:

$$v = 1 - V/S$$

V is the Vulnerability Characteristic, as calculated above
S is the Force Strength.

C. To the extent possible, depending upon the data in the records, values are assigned to the following Intangible Variables:

1. Leadership (le) is assumed to be 1 for each side, unless there is reason for assignment of a lesser factor on the basis of qualified professional judgment applied to the available historical data.

2. Training and/or experience (t) is also always represented as 1, unless another value can be assigned on the basis of qualified professional judgment and the record. If there is reason, on the basis of other calculations using an adequate data base, to assess combat effectiveness values for the opposing forces, the relative value is applied here.

3. Morale (c) is handled exactly like the factors for leadership and for training/experience.

4. Logistics (b) values may be assessed by professional judgment in the same manner as for the three previous intangibles, or may be calculated from analysis of the effects of air interdiction under certain circumstances. (So far that has been done with the QJMA only for Italy in 1944.)

D. Determination of the Quantifiable Operational Variables is accomplished from tables, as follows:

1. The effects of posture (u_s) see Table 6.
2. The effects of terrain on weapons employment within a given posture (r_u), see Table 2.
3. The effects of weather upon weapons employment within a given posture (h_u), see Table 3.
4. The effects of season upon weapons employment within a given posture (z_u), see Table 4.

Step 5 - Combat Potential Calculation

The Combat Power, or Combat Potential (P), of a force is calculated by applying each of the applicable operational variables as determined in Step 4, to the Force Strength (S) of each side, as calculated in Step 3. The resultant number is, in effect, a refined OLI, or firepower value, for the given force under the specific circumstances of combat of the engagement being analyzed.

Step 6 - Comparison of the Respective Combat Potentials

The relative combat potential of the two opposing sides in the engagement is determined by the simple ratio:

$$P_f/P_e$$

From this one can determine which side should theoretically have won the engagement, on the basis of the historical data available. A value greater than 1 indicates that the friendly force should have been successful; a value less than 1 indicates that the enemy force should have been successful. Ratios between 1.05 and 0.95 are considered to be indeterminate.

Step 7 - Comparison of Combat Power Ratio to Actual Engagement Outcome

This involves two major processes:

A. Quantifying the actual engagement outcome. This is done by applying quantified values to three critical measures of combat success for each side, as follows:

1. Mission Accomplishment is assessed judgmentally by the experienced military historian in terms of the success with which the force accomplished its assigned or perceived mission under the circumstances of the engagement. The values for Mission Factors (MF) are to be found in Table 8.

2. The measure of spatial effectiveness (E_{sp}), that is gaining or holding ground, of a force in an engagement, considers both the relative strengths of the two forces, and the relative depths of the areas occupied by each (D), in comparison to the distance of advance or withdrawal (Q), as ground changes hands during the course of the engagement. The empirically-derived formula is:

$$E_{fsp} = \sqrt{(S_e \times u_{se}) / (S_f \times u_{sf}) \times (4Q + D_e) / 3D_f}$$

3. Casualty Effectiveness (E_{cas}) is a calculation of the effectiveness of the force in inflicting and sustaining casualties, under the circumstances of the engagement, and in comparison with the casualty effectiveness of the opposing side. It is determined from the following empirically-derived formula (shown for the friendly side):

$$E_{fcas} = v_e^2 \left(\sqrt{VCas_e / Cas_f \times S_f / S_e \times u_{sf} / u_{se}} - \sqrt{100Cas_f / N_f} \right)$$

4. A Result value (R) for each side is obtained by algebraically adding each of the three critical measures of combat success, as follows:

$$R = MF + E_{sp} + E_{cas}$$

5. An Outcome value is obtained by subtracting the Result value of the enemy force (R_e) from the Result value of the friendly force (R_f). Thus

$$\text{Outcome} = R_f - R_e$$

If the Outcome value is positive, this reflects a friendly success; if it is negative, the engagement was an enemy success. Values in the range of +0.5 to -0.5 are considered to be inconclusive.

B. The Outcome value ($R_f - R_e$) is compared with the Combat Power Ratio (P_f / P_e). When P_f / P_e is greater than unity, the outcome ($R_f - R_e$) would be expected to be a positive value; when the ratio is less than unity, the outcome value would be expected to be negative. When these are not consistent with each other, there is an obvious need for further analysis to determine the reason for the inconsistency.

The Model Formula

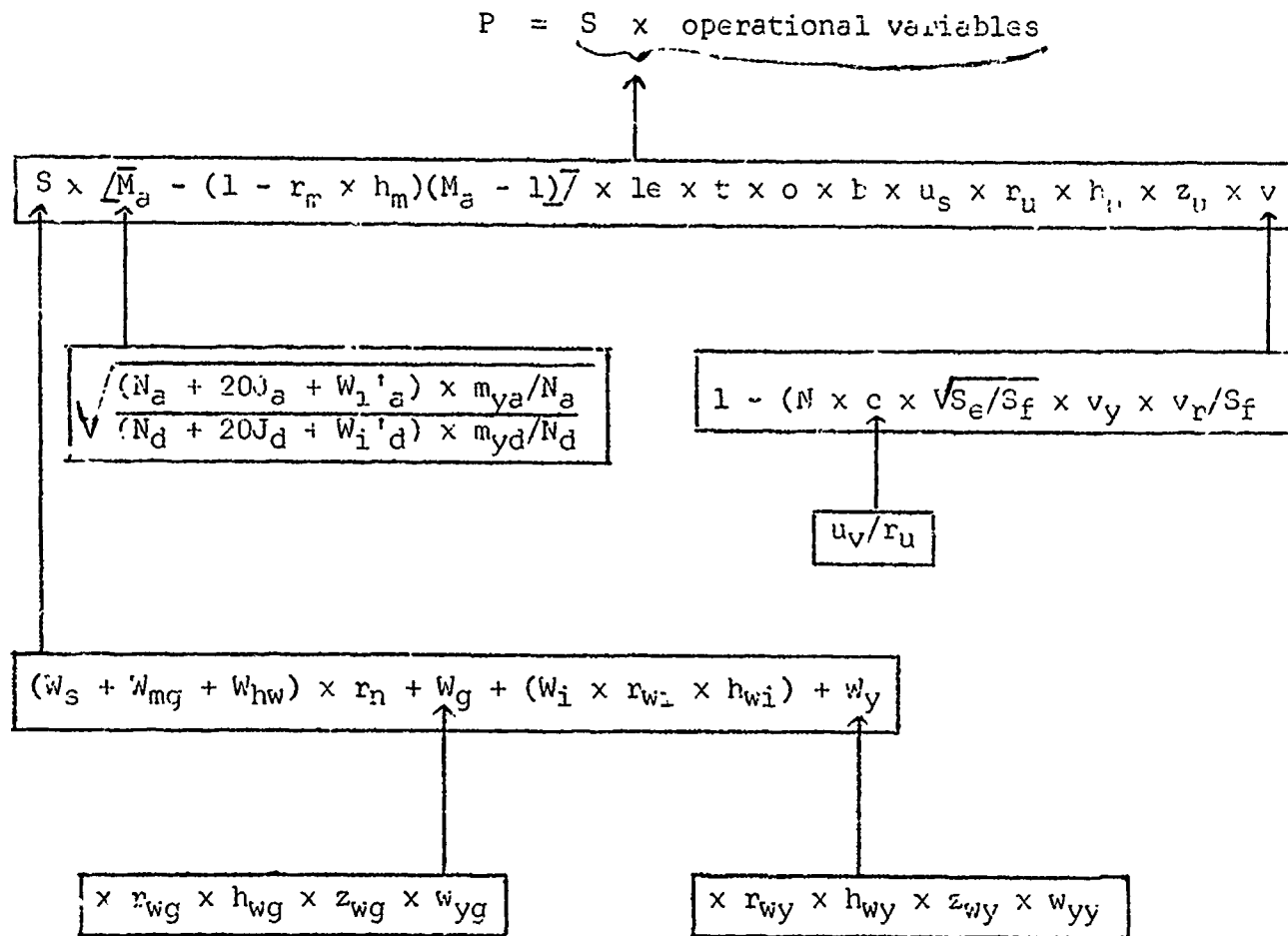
The mathematical formulæ which perform Steps 1 through 6 are shown below:

$$P = S \times m \times l \times t \times o \times b \times u_s \times r_u \times h_u \times z_u \times v$$

when

$$S = (w_s + w_{mg} + w_{hw} + w_g + w_i + w_y) \times \text{environmental weapons variables}$$

Or, in more complete, and diagrammatic form, this may be represented as follows:



The application of this formula to a typical compilation of combat data (Engagement 501, the Seine River crossing of the US XX Corps) is shown on page App-E8a.

Model Formula

$S_f = (W_s + W_{mg} + W_{hw}) \times r_n + (W_g \times r_{wg} \times h_{wg} \times z_{wy} \times u_{yg})$ $+ (W_i \times r_{wi} \times h_{wi}) + (W_y \times r_{wy} \times h_{wy} \times z_{wy} \times u_{yy})$	$(8124 + 5060 + 75,404) \times .9 + (77,740 \times .9 \times 1 \times .9 \times 1.1)$ $+ (144,756 \times .8 \times .7) + (8833 \times 1 \times .5 \times 1 \times 1.1)$ $= 79,729 + 59,266 + 81,063 + 4,858 = 234,916 (S_f)$
$M_a = \sqrt{(N_a + 20J_a + W_a) \times m_{ya} / N_a} / \sqrt{(N_d + 20J_d + W_d) \times m_{yd} / N_d}$	$\sqrt{(40,619 + 20 \times 7717 + 144,756) \times 1 / 40,619}$ $\sqrt{(15,000 + 20 \times 2300 + 13472) \times 1 / 15,000}$ $= \sqrt{1.6846} = 1.298$
$m_a = M_a - (1 - r_{in} \times h_m) (M_a - 1)$	$1.298 - (1 - .8 \times .8) (1.298) = 1.1907$
$v_f = 1 - (N \times u_v / r_u \times \sqrt{S_e / S_f} \times v_y \times v_r / S_f)$	$1 - (40,619 \times 1 / 1 \times \sqrt{1708 \times .9 \times 1.2^* / 234,916}) = .9229$
$P_f = S \times m \times e \times t \times o \times b \times u_s \times r_u \times h_u \times z_u \times v$	$234,916 \times 1.1907 \times 1 \times .8 \times 1 \times 1 \times 1 \times 1 \times .9 \times 1 \times 1 \times .9229$ $= 204,424 (P_f)$
$S_e = (W_s + W_{mg} + W_{hw}) \times r_n + (W_g \times r_{wg} \times h_{wg} \times z_{wy} \times u_{yg})$ $+ (W_i \times r_{wi} \times h_{wi}) + (W_y \times r_{wy} \times h_{wy} \times z_{wy} \times u_{yy})$	$(3000 + 859 + 17,460) \times .9 + (18,376 \times .9 \times 1 \times .9 \times .9)$ $+ (13,472 \times .8 \times .7) + 0 = 40,127 (S_e)$
$v_e = 1 - (N \times u_v / r_u \times \sqrt{S_f / S_e} \times v_y \times v_r / S_e)$	$1 - (15,000 \times 6 / 145 \times \sqrt{5.8543 \times 1} \times 1 \times 1 / 40,127) = .5884$
$P_e = S \times m \times e \times t \times o \times b \times u_s \times r_u \times h_u \times z_u \times v$	$40,127 \times 1 \times 1 \times 1 \times 1 \times 1 \times 1.5 \times 1.45 \times 1 \times 1 \times .5884$ $= 51,354 (P_e)$
	$P_f / P_e = 3.98$ <small>*value selected because of tactical situation</small>

Result Formula

MFF	9
$E_{fsp} = v (S_e \times u_{se}) / (S_f \times u_{sf}) \times (4Q + D_e) / 3D_f$	$\sqrt{1.1708 \times 1.5 \times 4 \times (.27 + 9.1)} / 3 \times 247 = 4.55$
$E_{fcas} = v_e^2 (\sqrt{C_{asf} / C_{ase} \times S_f / S_e \times u_{sf} / u_{se}} - \sqrt{100 C_{asf} / N_f})$	$.3461 (\sqrt{302178 \times 5.8543 \times 1 / 1.5} - \sqrt{7800 / 40,619}) = 1.19$
$R_f = MFF + E_{fsp} + E_{fcas}$	$9 + 4.55 + 1.19 = 10.65$
MFe	2
$E_{esp} = \sqrt{(S_f \times u_{sf}) / (S_e \times u_{se})} \times (4Q + D_f) / 3D_e$	$\sqrt{3.9032 \times (-4 \times 127 + 24.7)} / 3 \times 9.1 = -1.93$
$E_{fcas} = v_f^2 (\sqrt{C_{asf} / C_{ase} \times S_e / S_f \times u_{se} / u_{sf}} - \sqrt{100 C_{asf} / N_e})$	$.8516 (\sqrt{.2583 \times 1708 \times 1.5} - \sqrt{30200 / 15000}) = -.99$
$R_e = MFe + E_{esp} + E_{fcas}$	$2 - 1.93 - .99 = -.92$
	$R_f - R_e = 11.57$

Table 1

WEAPONS EFFECTIVENESS
(Operational Lethality Indices - OLI)

American Weapons, World War II		German Weapons, World War II	
Rifle, Pistol, Carbine	0.2	Rifle, Pistol, etc.	0.2
Light Machine Gun (LMG) including BAR	1.0	Light Machine Gun (LMG)	1.0
Heavy Machine Gun (HMG) including .50 cal.	2.2	Heavy Machine Gun (HMG)	2.2
Mortars: 60mm	126	Mortars: 60mm	126
81mm	126	81mm	126
4.2"	244	120mm	245
2"	10	AA/AT, 20mm	12
Rocket Launcher	9	PT, 20-50mm	25
Gun AT, 57mm	27	Flame Thrower	1.0
Gun AT, 3"	136	Panzerfaust	9
Gun, AAA, 40mm, or quaduple mount .50 cal.	25	Infantry Howitzer, 150mm	167
Gun, AAA, 90mm	130	AA/AT, 75mm	195
Howitzer, 75mm	113	AA/AT, 88mm	210
Howitzer, 105mm	239	100mm Gun	256
Gun, 4.5"	250	105mm Howitzer	239
Howitzer, 155mm	304	105mm Gun	270
Gun, 155mm	365	122mm Gun	290
Howitzer, 8"	264	150mm Howitzer	300
Gun, 8"	316	150mm Gun	350
Howitzer, 240mm	250	170mm Gun	315
Flame Thrower	1.0	150mm Nebelwerfer	426
Car, Armored	43	210mm Nebelwerfer	390
Tank Destroyer	240	Car, Armored	43
Tank, Light	243	TD/SP Guns, 88-100mm	265
Tank, Medium	334	Tank, Mk IV	352
		Tank, Mk V	421
		Tank, Mk VI	445
		Fighter-Bomber, M-109, FW-190	471
Fighter-Bomber, P-47, P-38	500		

Table 2. TERRAIN FACTORS (r)

Terrain Characteristics	Mobility r_m	Defense Position ¹ r_u	Infantry Weapons ² r_n	Arty r_{wg}	Air r_{wy}	Tanks r_{wi}
Rugged --						
Heavily wooded	0.4	1.5	0.6	0.7	0.8	0.2
Rugged --						
Mixed	0.5	1.55	0.7	0.8	1.0	0.3
Rugged --						
Bare	0.6	1.45	0.8	0.9	1.0	0.5
Rolling --						
Heavily Wooded	0.6	1.35	0.8	0.8	0.9	0.6
Rolling --						
Mixed	0.8	1.45	0.9	0.9	1.0	0.8
Rolling --						
Bare	1.0	1.3	1.0	1.0	1.0	1.0
Flat --						
Heavily Wooded	0.7	1.1	0.8	0.9	0.9	0.7
Flat --						
Mixed	0.9	1.2	0.9	1.0	1.0	0.9
Flat --						
Bare	1.0	1.05	1.0	1.0	1.0	1.0

¹For all defense postures. Attacker is always 1.0.

²Applied to small arms, machine guns and other infantry weapons.

Table 3. WEATHER FACTORS (h)

Weather Characteristics	Mobility h_m	Attack h_{ua}	Artillery h_{wg}	Air h_{wy}	Tanks h_{wi}
Dry - Sunshine -					
Extreme Heat	0.9	1.0	1.0	1.0	0.9
Dry - Sunshine -					
Temperate	1.0	1.0	1.0	1.0	1.0
Dry - Sunshine -					
Extreme Cold	0.9	0.9	0.9	1.0	0.9
Dry - Overcast -					
Extreme Heat	1.0	1.0	1.0	0.7	1.0
Dry - Overcast -					
Temperate	1.0	1.0	1.0	0.7	1.0
Dry - Overcast -					
Extreme Cold	0.9	0.9	0.9	0.7	0.8
Wet - Light -					
Extreme Heat	0.9	0.9	0.9	0.5	0.7
Wet - Light -					
Temperate	0.8	0.9	1.0	0.5	0.7
Wet - Light -					
Extreme Cold	0.8	0.9	1.0	0.5	0.7
Wet - Heavy -					
Extreme Heat	0.5	0.6	0.9	0.2	0.6
Wet - Heavy -					
Temperate	0.6	0.7	0.9	0.2	0.5
Wet - Heavy -					
Extreme Cold	0.5	0.6	0.8	0.2	0.5

Table 4. SEASON FACTORS (z)

Seasonal Variations	Attack ¹	Artillery	Air
	z_u	z_{wg}	z_{wy}
Winter -			
Jungle	1.1	0.9	0.7
Winter -			
Desert	1.0	1.0	1.0
Winter -			
Temperate	1.0	1.0	1.0
Spring -			
Jungle	1.1	0.9	0.7
Spring -			
Desert	1.0	1.0	1.0
Spring -			
Temperate	1.1	1.0	0.9
Summer -			
Jungle	1.1	0.9	0.7
Summer -			
Desert	1.0	1.0	1.0
Summer -			
Temperate	1.1	0.9	1.0
Fall -			
Jungle	1.1	0.9	0.7
Fall -			
Desert	1.0	1.0	1.0
Fall -			
Temperate	1.1	1.0	0.9

¹Defender is always 1.0.

Table 5. EFFECTS OF AIR SUPERIORITY (y)

	Mobility		Artillery	Air	Vulnerability
	m_{yd}	m_{yw} ¹	w_{yg}	w_{yy}	v_y
Air Superiority	1.0	1.0	1.1	1.1	0.9
Air Equality	1.0	1.0	1.0	1.0	1.0
Air Inferiority	0.9	1.0	0.9	0.8	1.1

¹Subscript d for dry or flyable weather; w wet for wet weather when h_{wy} is .5 or lower.

Table 6. POSTURE FACTORS (u)

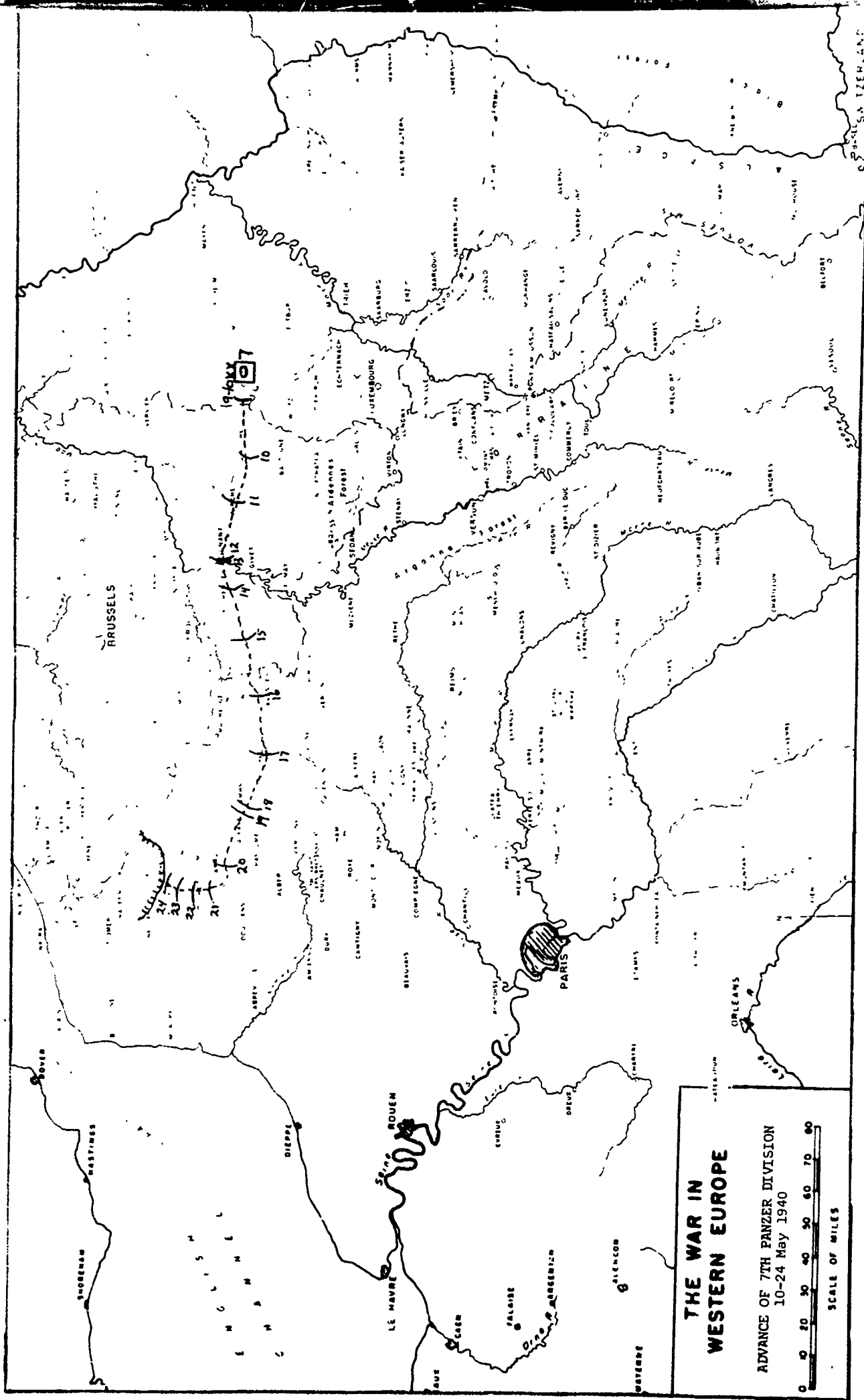
	Force Strength	Vulnerability
	u_s	u_v
Attack	1.0	1.0
Defense (hasty)	1.3	0.7
Defense (prepared)	1.5	0.6
Defense (fortified)	1.6	0.5
Withdrawal	1.15	0.85
Delay	1.4	0.65

Table 7. SHORELINE VULNERABILITY FACTORS (v_p)

Hostile Fire On Shoreline	Across Beach	Across Unfordable River	Across Major Fordable or Minor Unford- able River
Small Arms Fire (to 1,000 meters from shore)	2.0	1.5	1.2
Light Artillery (to 10,000 meters from shore)	1.6	1.3	1.1
Medium Artillery (to 15,000 meters from shore)	1.3	1.1	1.0

Table 8. MISSION FACTORS

	Range	Normal
Complete accomplishment of the mission, a weight of . . .	7-10	8
Substantial, relatively satisfactory, accomplishment . . .	5-7	6
Partial, less than satisfactory, accomplishment	3-5	4
Little achievement of the mission	1-3	2



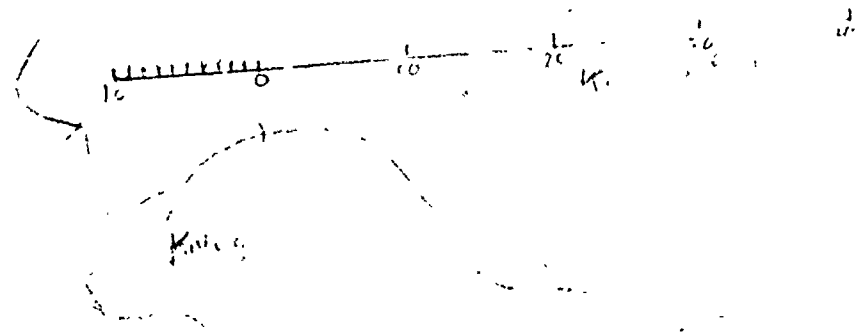
THE WAR IN WESTERN EUROPE
 ADVANCE OF 7TH PANZER DIVISION
 10-24 May 1940
 SCALE OF MILES

Operations of German
XLVII Panzer Corps

in the

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13 November - 3 December
1941



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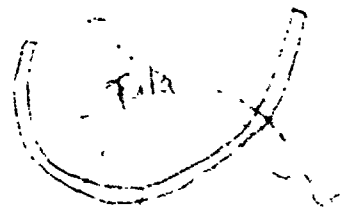
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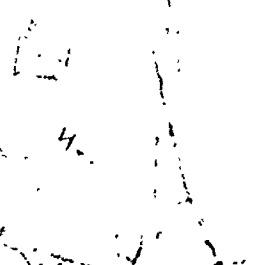
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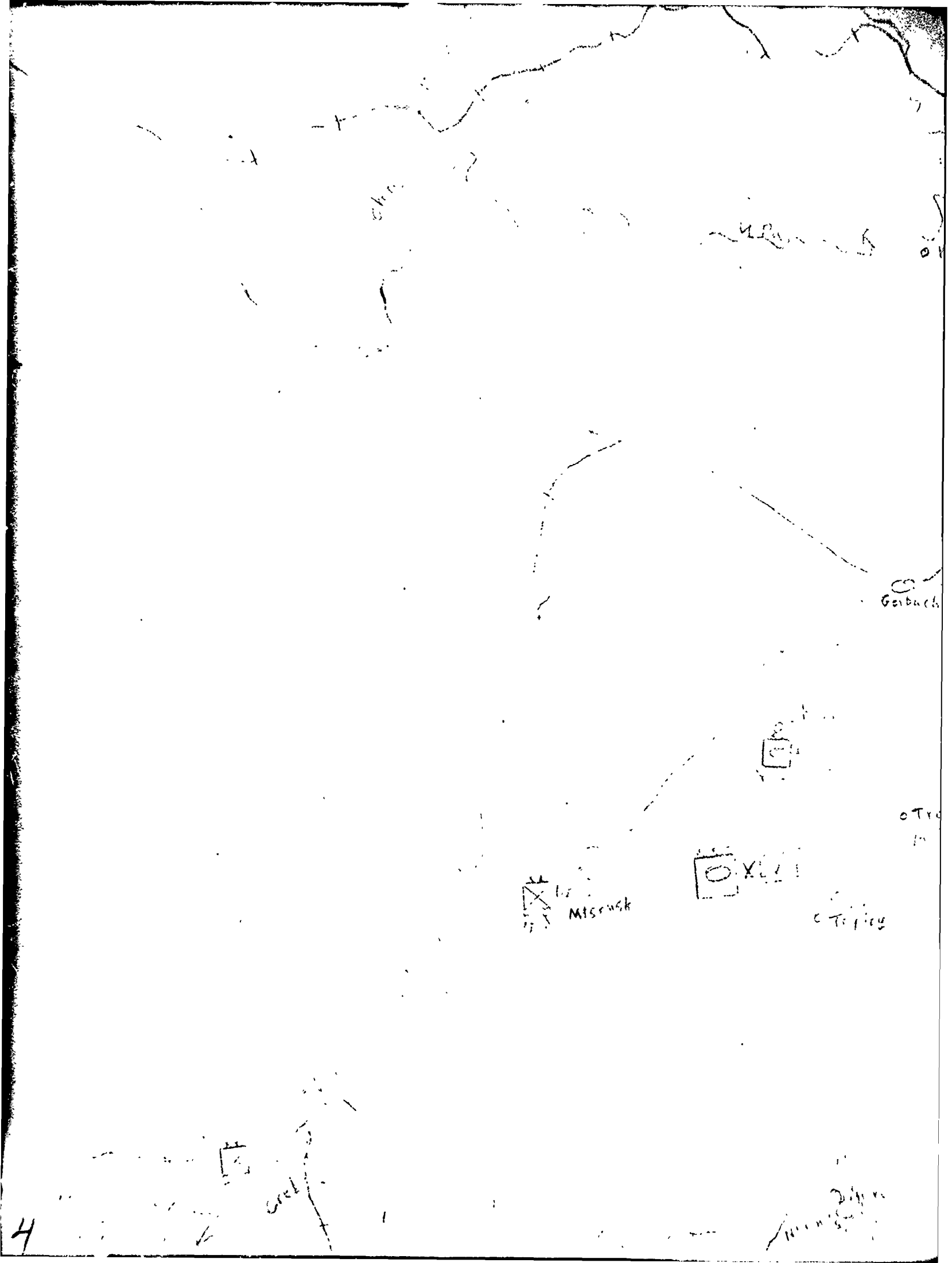
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Operations of the German
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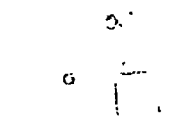
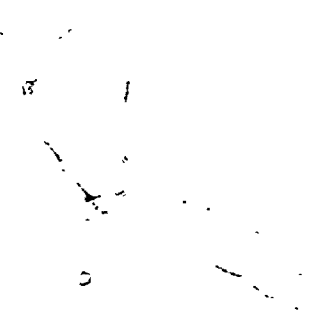




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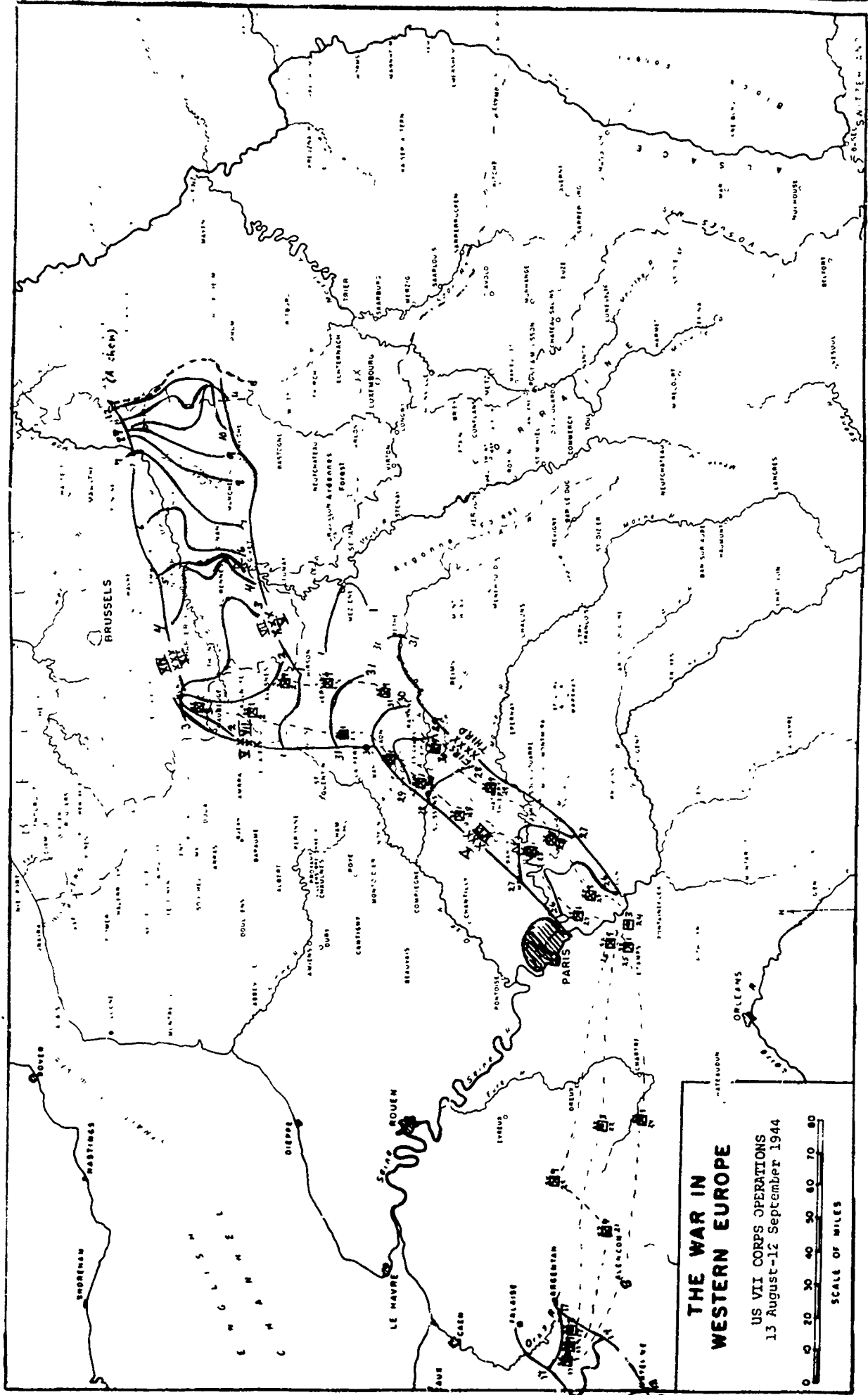
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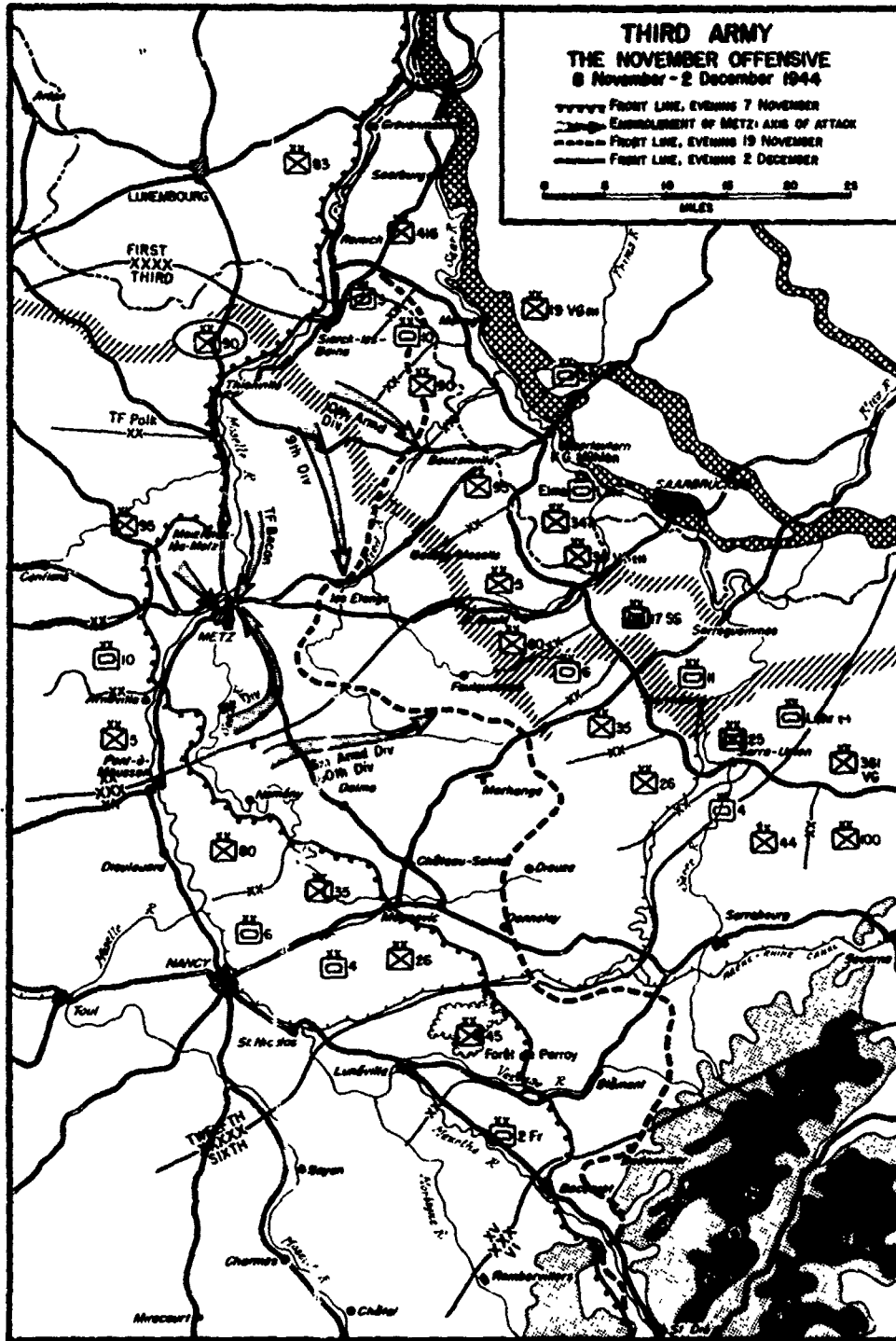


THE WAR IN WESTERN EUROPE
 US VII CORPS OPERATIONS
 13 August-12 September 1944

SCALE OF MILES
 0 10 20 30 40 50 60 70 80

THIRD ARMY
THE NOVEMBER OFFENSIVE
8 November - 2 December 1944

FRONT LINE, EVENING 7 NOVEMBER
 ENVELOPMENT OF METZ: AXIS OF ATTACK
 FRONT LINE, EVENING 19 NOVEMBER
 FRONT LINE, EVENING 2 DECEMBER

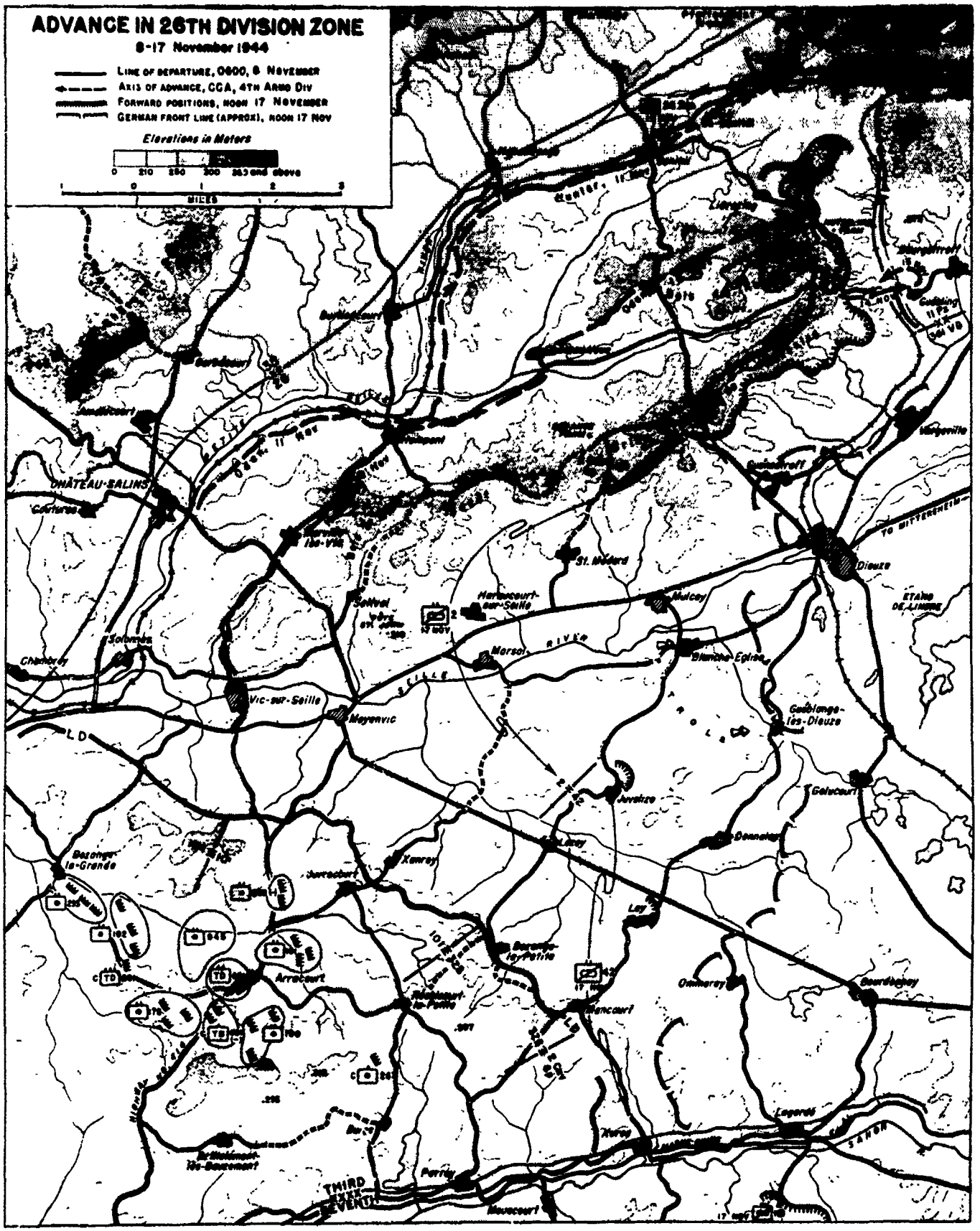


ADVANCE IN 26TH DIVISION ZONE

8-17 November 1944

- LINE OF DEPARTURE, 0600, 8 NOVEMBER
- AXIS OF ADVANCE, CGA, 4TH ARMO DIV
- FORWARD POSITIONS, NOON 17 NOVEMBER
- GERMAN FRONT LINE (APPROX), NOON 17 NOV

Elevations in Meters

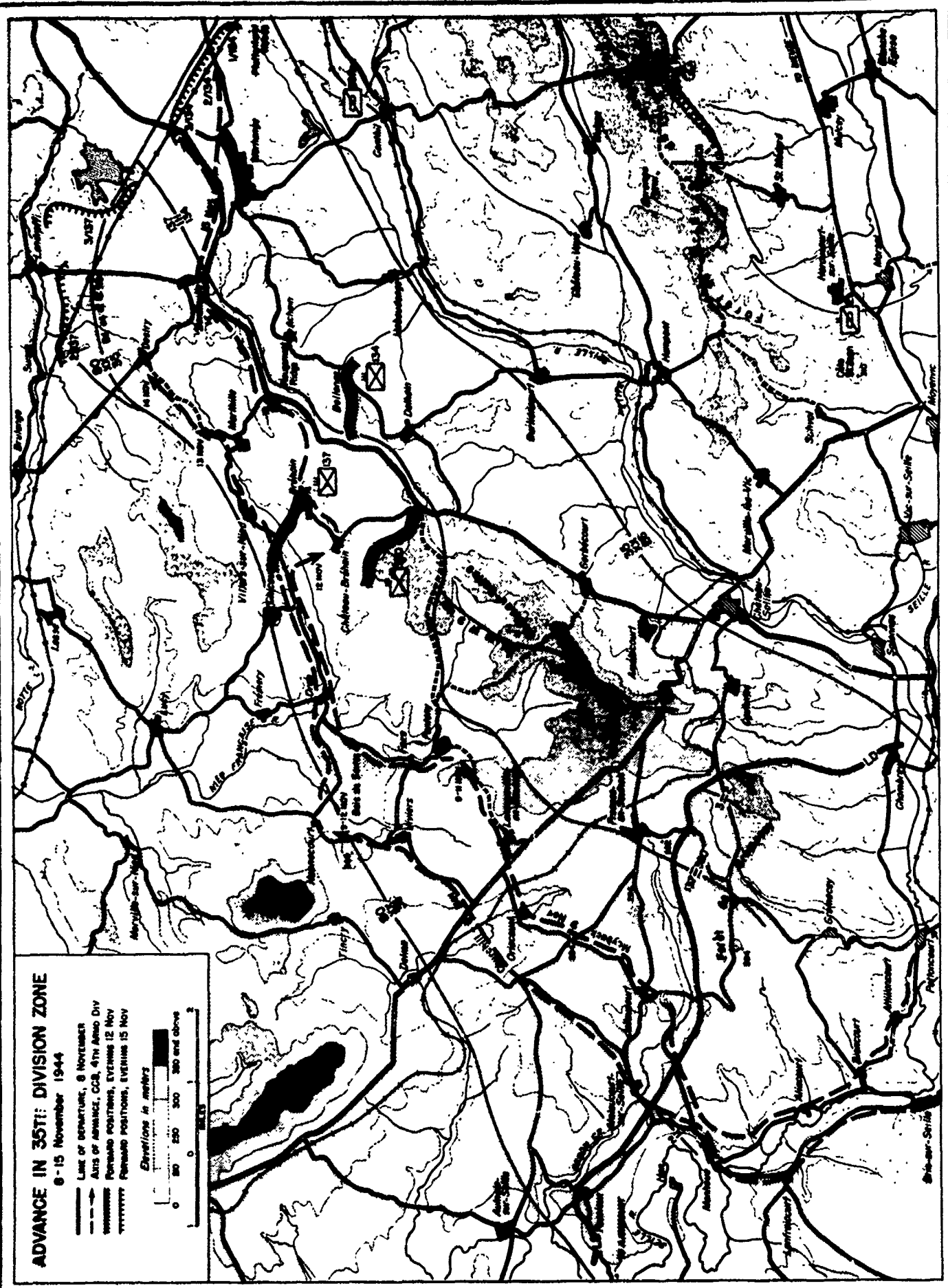


ADVANCE IN 35TH DIVISION ZONE

8-15 November 1944

- Line of departure, 8 November
- - - - - Axis of advance, CGR, 4th Armored Div
- ~~~~~ Forward positions, evenings 12 Nov
- ||||| Forward positions, evenings 15 Nov

Elevations in meters

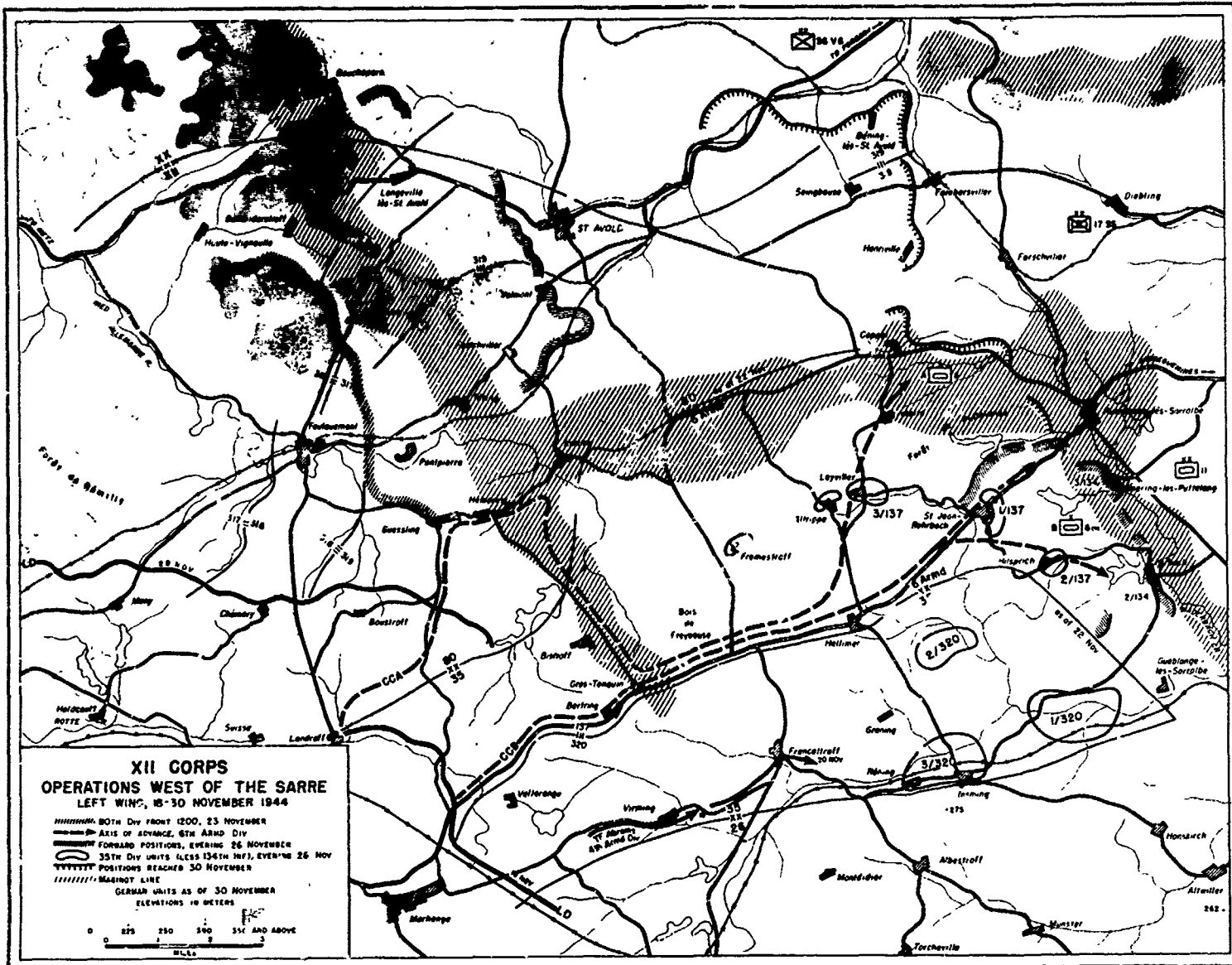




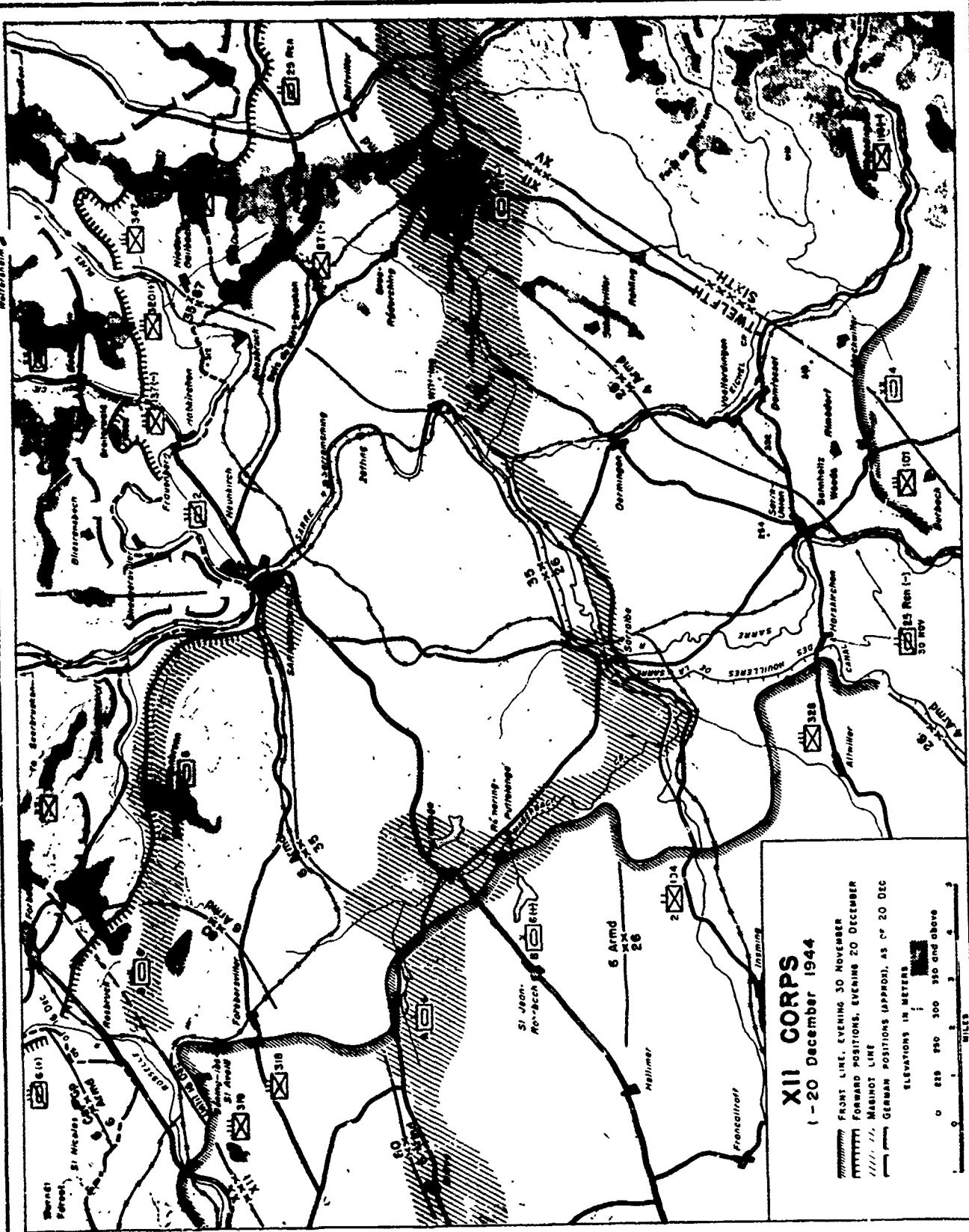
**XII CORPS
ATTACK WEST AND EAST OF THE SARRE**

1918
 24th Division, 23 November
 25th Division, 24 November
 26th Division, 25 November
 27th Division, 26 November
 28th Division, 27 November
 29th Division, 28 November
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 32nd Division, 1 December
 33rd Division, 2 December
 34th Division, 3 December
 35th Division, 4 December
 36th Division, 5 December
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 69th Division, 7 January
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 72nd Division, 10 January
 73rd Division, 11 January
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 91st Division, 29 January
 92nd Division, 30 January
 93rd Division, 31 January
 94th Division, 1 February
 95th Division, 2 February
 96th Division, 3 February
 97th Division, 4 February
 98th Division, 5 February
 99th Division, 6 February
 100th Division, 7 February





8-20000



XII CORPS
 (-20 December 1944)

[Thick solid line] FRONT LINE, EVENING 30 NOVEMBER
 [Diagonal hatching] FORWARD POSITIONS, EVENING 20 DECEMBER
 [Vertical hatching] MAIN LINE
 [Small rectangle with X] GERMAN POSITIONS (APPROX), AS OF 20 DEC

ELEVATIONS IN METERS

0 250 500 750 and above

0 1 2 3 4 5 MILES

SUPPLEMENTARY

INFORMATION

Best Available Copy

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ERRATA

OPPOSED RATES OF ADVANCE OF LARGE FORCES IN EUROPE
(ORALFORE) (U)

Prepared for Deputy Chief of Staff for Military Operations (DMO-PLW)
under Contract No. DAHC19-72-C-0015, 28 August 1972

1. Appendix A, Terms of Reference page App-A1. Change to read as follows:
"5.a . . . forces (armor/motorized divisions . . .)"
2. Appendix C, Quantitative Data, page App-C1, Item S. Change to read as follows:
" . . . non-engagement period for division."

Best Available Copy

END

DATE

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