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MINE AND COUNTERMINE OPERATIONS IN THE BATTLE OF KURSK

FINAL REPORT

25 APRIL 2000

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The principal analysts for this study effort were
Mr. Andrew Remson and Ms. Debbie Anderson

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MINE AND COUNTERMINE OPERATIONS

IN

THE BATTLE OF KURSK

A. INTRODUCTION

The Battle of Kursk was the largest "set-piece" battle of World War II. At the same time, it was one of the most decisive battles of the war. The forces involved on both sides were extremely large. The Germans committed some 50 divisions (16 of them Panzer or Panzer Grenadier), more than 900,000 men, 10,000 artillery pieces, and 2700 tanks.¹ On the Russian side, some 100 divisions, more than 1,300,000 men, 20,000 guns, and 3,500 tanks and self-propelled artillery pieces were involved during the initial phase of the operation, and the entry of the forces of the Steppe Front into the battle added another 573,000 men and 1,551 tanks to the total.² The fighting took place over an area half the size of England or of Alabama. The Kursk salient itself measured about 165 miles from north to south and 75 miles from east to west.

But Kursk's importance was not due simply to the size of the forces involved. It marked the last great German offensive on the Eastern Front. After Kursk the strategic initiative passed clearly and irrevocably to the Russians. The battle also marked the beginning of the end for the German forces in the east. When the German Army withdrew from their farthest points of advance in the Kursk area in late July 1943, they began a retreat which continued -- with many halts and counterattacks -- to Berlin in 1945.

B. GLOBAL STRATEGIC SITUATION IN SPRING 1943

In the spring of 1943, the global strategic situation was clearly becoming more unfavorable for the Axis Powers. In the Pacific the Americans and their allies were steadily

1. For comparison, at the Battle of El Alamein the Germans had about 50,000 men (5.67% of those at Kursk), 276 tanks (10.2%), and 273 artillery pieces (2.7%).

2. Koltunov, G. A. and Soloviev, B. G., Kurskaia Bitva, Moscow, Voenizdat, 1983, p. 11. Detailed breakdown in Koltunov, G. A., "Kurskaia bitva v tsfrakh," Voenno-Istoricheskiy Zhurnal (VIZh), June 1968, pp. 58-68.

Konev, I., "The Great Battle at Kursk and its Historic Significance," in Parotkin, I., The Battle of Kursk, Moscow, Progress, 1974, p.20.

Vasilevsky, A. M., Delo vsei zhizni, Minsk, Belarus Publishing House, 1984, p. 301.

advancing. In early February, for example, the Japanese evacuated the last of their troops from Guadalcanal.³ In North Africa German and Italian forces, defeated at El Alamein, had retreated to Tunisia. The eight German and six Italian divisions surrendered in May, yielding some 350,000 prisoners. After this defeat Germany faced the threat of early Allied landings in southern Europe and the prospect of losing Italy as an ally. Similarly, Germany's other allies -- Romania, Hungary, and Bulgaria -- shocked by the losses their forces had suffered at Stalingrad, were reluctant to furnish more forces. The possibility of drawing Turkey and Spain into the war -- probably never very strong -- had virtually disappeared. The British and American bombing attacks on German cities and war industries were becoming heavier, and the Luftwaffe was able to do less to stop them. Nevertheless, by 1943 some two-thirds of all German fighter aircraft were devoted to the air defense of the Reich.⁴ Likewise, the Battle of the Atlantic was turning against the German Navy. In May, for example, the Germans lost 41 submarines, with another 37 damaged. Unable to bear losses of this magnitude, Admiral Doenitz ordered the submarines out of the North Atlantic.⁵ With convoy losses dropping, large quantities of lend-lease equipment were arriving in the Soviet Union by the spring of 1943. The Red Army did not think much of British and American tanks -- Russian tankers called the M3 Grant "a coffin for seven comrades"⁶ -- but lend-lease trucks were particularly important. By mid 1943, some 183,000 trucks and jeeps had arrived, and more than 25% of Red Army trucks were American built. By the end of the war this proportion had risen to two out of every three. Lend-lease trucks solved one of the Red Army's greatest deficiencies -- the ability to resupply and sustain mobile forces once they had broken through into German rear areas.⁷ All these trends appeared unfavorable from the German point of view. Most ominously of all, however, it was clear that sooner, rather than later, there would be a major second front in Europe.

C. THEATER SITUATION

In June 1941 Hitler launched Operation Barbarossa. German armored columns quickly broke through Russian defenses, captured or destroyed major Russian units, and drove to the gates of Moscow before being stopped by stiffening Russian defenses and the onset of winter. Then the Soviet winter offensives pushed back the Germans and regained a portion of the lost territory. Again in the summer of 1942, the German forces attacked and reached the Caucasus

3. Liddell-Hart, B. H., History of the Second World War, London, Cassell, 1970, p. 362.

4. Overy, Richard, Russia's War: Blood upon the Snow, New York, Penguin, 1997, p. 285.

5. Overy, Richard, Why the Allies Won, New York, Norton, 1995, p. 58.

For more detail, see Padfield, Peter, War beneath the Sea, New York, Wiley, 1995, pp. 308-337 and Gannon, Michael, Black May, New York, Harper Collins, 1998, passim.

6. Dunn, Walter S., Kursk: Hitler's Gamble, 1943, Westport, CT, Praeger, 1997, p. 93.

7. Erickson, John, The Road to Berlin, London, Phoenix, 1983 and 1996, p. 81.

before being stopped at Stalingrad. In the Soviet winter offensive which followed, the Red Army achieved a great victory at Stalingrad, capturing the German Sixth Army and destroying a number of divisions. Manstein's counteroffensive in the spring, however, inflicted heavy casualties and recaptured Kharkov and Belgorod. In late March the spring thaw and rains, rasputitsa, broke up the roads and stopped major military operations. Would the pattern of German victories in the summer followed by Soviet victories in the winter continue? The spring breakup of the roads forced a pause in combat operations and gave both sides time to evaluate the situation and make plans for spring and summer operations.

The theater situation of spring 1943, however, was far different from that of 1941 or 1942. The balance of forces was clearly shifting in favor of the Soviets. At Stalingrad Germany had lost some 22 divisions, vast amounts of materiel, and over 209,000 men killed or captured. In addition, her Italian, Hungarian, and Rumanian allies had lost four armies, 450,000 men and any desire they might originally have had to play an active role in the Russian campaign.⁸ The destroyed tanks and other military equipment could mostly be replaced, thanks to Speer's reorganization of the German economy in early 1943. To be sure, German production of tanks and artillery was still considerably lower than that of the Soviets, but production was sufficient to supply critical units on the Eastern Front.⁹ Replacing the lost personnel, however, was more difficult. During the first six months of 1943, the German Army had a net loss of 100,000 men, while the Red Army had a net gain of one million.¹⁰ On 1 April 1943, the German Army's strength in the East was 2,732,000 men in 147 infantry and 22 panzer divisions with 1,336 tanks and 6,360 guns. The Red Army, on the other hand, had 5,792,000 soldiers in more than 500 division equivalents, with more than 6,000 tanks and 20,000 artillery pieces.¹¹ In an attempt to redress the balance and fill their personnel shortages, the Germans had extended the draft age to 50-year old men and incorporated large numbers of foreign "volunteers" into support and logistical units. The effect of these personnel shortages was most clearly apparent in the infantry divisions. Before Stalingrad, German infantry divisions normally had nine infantry battalions and four artillery battalions with four-gun batteries. By the spring of 1943, most infantry divisions had only six infantry battalions and three-gun artillery batteries. Some divisions retained three regiments with only two battalions each, while others had two regiments of three battalions each. In either case the divisions lacked sufficient manpower to defend their earlier frontages while maintaining a reserve for counterattacks.¹²

8. Dunn, op. cit., p.1.

Cross, Robin, Citadel: The Battle of Kursk, New York, Barnes and Noble, 1994, pp. 48-49.

9. Overy, op. cit., p. 236.

10. Dunn, op. cit., p. 50.

11. Glantz, David M. and House, Jonathan, When Titans Clashed, Lawrence, Kansas, University Press, 1995, p. 151. (Figures from German and Russian records.)

12. Ibid., p. 152.

One should not carry this argument too far. Although the balance of forces no longer permitted the German General Staff seriously to consider a major offensive to seize Moscow or to thrust into the Caucasus, the German Army of the East remained a formidable force. German tank crews in particular, thanks to their training and experience, remained superior to the Russian; and the new tanks under development, the Tiger, the Panther, and the Ferdinand, offered the promise of restored technological superiority. Even with forces inferior in numbers in the theater, the Germans were clearly still capable of concentrating superior forces in a limited area.

Such an area was not hard to find. In April 1943, the line of contact between German and Russian forces ran roughly north-south from Leningrad to the Sea of Azov. Around Kursk, however, a gigantic salient some 165 miles wide penetrated about 75 miles into the German position. See Figure 1. This salient inevitably attracted the attention of military planners on both sides. To the Germans it offered an obvious point of attack. To the Red Army it offered a jumping off point for attacks either against German forces in Orel to the north or those in Kharkov to the south.

D. GERMAN PLANS

German commanders and staff planners saw clearly that they no longer had the forces for a major offensive on a broad front -- even after receiving replacements in men and materiel for their recent losses. What should be done in the changed situation was much less clear. Gen. Guderian, Inspector of Armored Troops, recommended that Germany should forego any strategic offensive in the summer of 1943 and instead concentrate on rebuilding its armored forces.¹³ Field Marshal Manstein at first suggested remaining on the strategic defensive, allowing the Russians to attack, trading space for time, and then striking their forces with armored counteroffensives as he had done in February and March. Hitler, however, did not want to give up any of the territory conquered in Russia.¹⁴ He was much more favorably impressed by a plan developed -- or at least sponsored by -- Gen. Zeitzler, the new Chief of the General Staff. This plan, with the code name Citadel, called for the concentration of German forces for a limited offensive against the Kursk salient. Two tank-heavy forces, one from the north and one from the south, would attack the shoulders of the salient and meet near the city of Kursk. See Figure 1. Such an operation, if successful, would destroy a large number of Russian divisions, decisively weaken the offensive strength of the Russian Army, and place the German High Command in a more favorable position for continuing the war in the east. Success at Kursk would make possible further operations against the Russian forces in the south or toward Moscow. Hitler approved Citadel for planning purposes on April 15, 1943. Originally

13. Guderian, Heinz, Panzer Leader, New York, Dutton, 1952, pp. 306-309.

14. Von Manstein, E., Lost Victories, Novato, CA, Presidio, 1994, pp. 443-446.

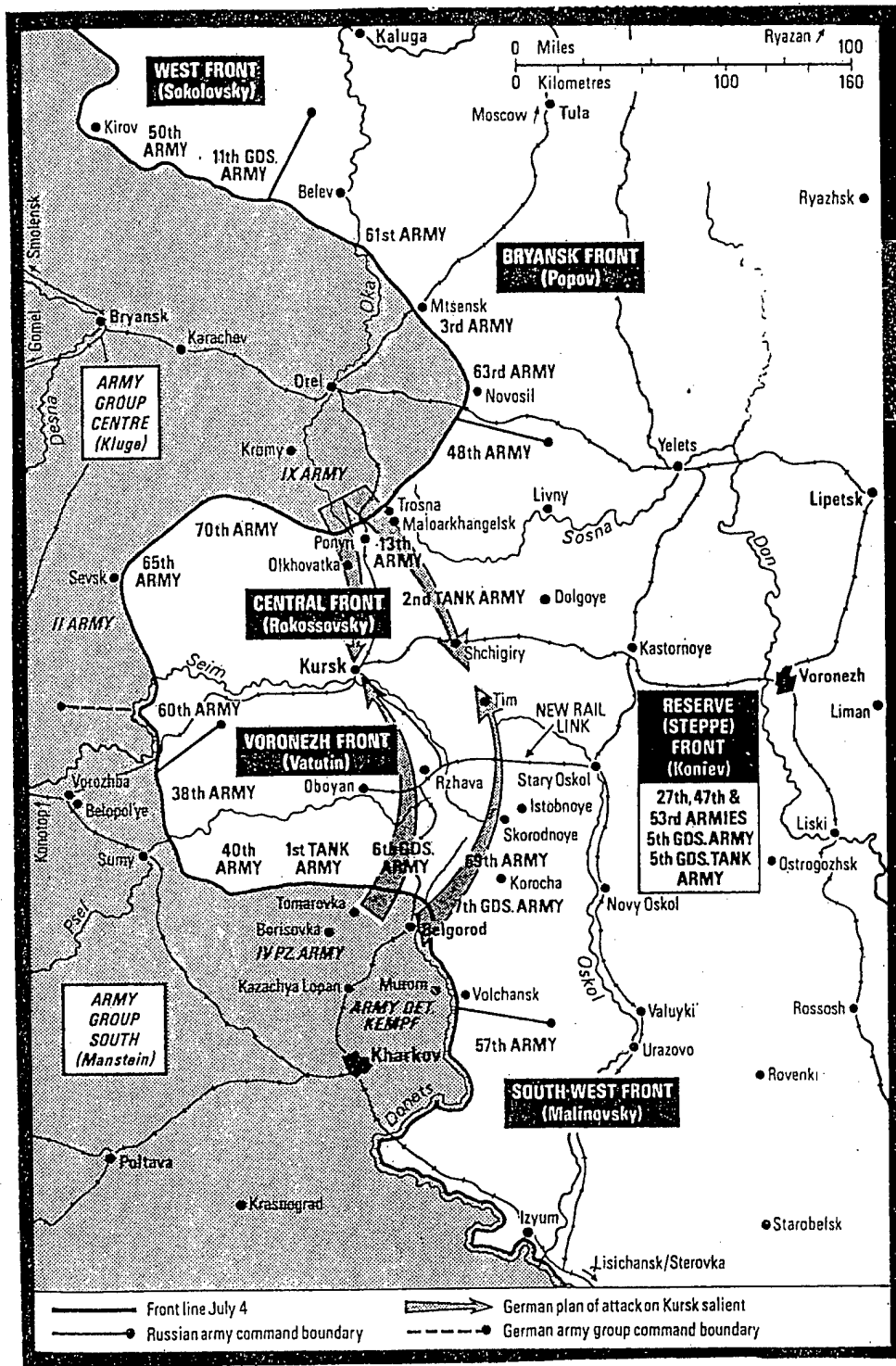


Figure 1. The Kursk Salient and German Plans for the Offensive¹⁵

15. Jukes, Geoffrey, *Kursk: The Clash of Armour*, New York, Ballantine, 1969, p.21.

envisioned for early May, the operation was postponed several times -- primarily because Hitler wanted more of the new Tiger and Panther tanks to be available for the attack.¹⁶ In order to concentrate forces for the offensive, the Germans transferred some 20 divisions from France, replacing them with divisions being rebuilt, and thinned out the forces along the remainder of the Russian front. Around the Kursk salient, which was only 14% of the length of the entire front, they concentrated 17% of their infantry units, 30% of their mechanized units, and an impressive 70% of all their tank units on the eastern front.¹⁷

Within the framework of this strategic plan, detailed plans for the offensive were developed by subordinate headquarters. On the north face of the salient, the Ninth Army planned the attack. Gen. Model decided to attack with four corps abreast. The XLVII Panzer Corps (20th, 2nd, 4th, and 9th Panzer Divisions and 6th Infantry Division) and the XLI Panzer Corps (18th Panzer Division, 10th Panzer Grenadier Division, and the 86th and 292nd Infantry Divisions) in the center would make the main effort. This force would penetrate the Soviet position and drive forward rapidly between the road and the railroad line toward Kursk to the high ground north of the city and link up there with the forces of Army Group South. Their right flank was to be protected by the XLVI Panzer Corps (7th, 31st, 102nd, and 258th Infantry Division). The left flank of the attacking force was to be covered by the XXIII Corps (78th Sturm and 216th and 383rd Infantry Divisions), which would also maintain contact with the Second Panzer Army to the north. Air Fleet VI was to provide air support. Gen. Model commanded a formidable force, with some 1200 tanks and self-propelled artillery pieces, including 31 Tigers and all 90 of the existing Ferdinand heavy tank destroyers.

For the attack on the south face of the salient, even heavier forces were concentrated. The operation was planned and conducted by Army Group South. Field Marshall von Manstein planned a two pronged attack on both sides of Belgorod. Fourth Panzer Army was to make the main effort on the north toward Kursk. Two Panzer Corps were to attack abreast on a sector only 25 kilometers wide: XLVIII Panzer Corps (3rd and 11th Panzer Divisions, the Panzer Grenadier Division Grossdeutschland, and the 167th and 332nd Infantry Divisions) and the II SS Panzer Corps (SS Panzer Grenadier Divisions Leibstandarte Adolf Hitler, Das Reich, and Totenkopf). The LII Corps (57th, 255th, and 332nd Infantry Divisions) was to defend the left (west) flank of the penetration. The mission of the Fourth Army was to break through the Soviet position and advance quickly toward Kursk to link up with Ninth Army.

At the same time the Kempf Army was to attack east of Belgorod on a front of about 15 kilometers with the III Panzer Corps (6th, 7th, and 19th Panzer Divisions and the 168th Infantry Division). The flanks of this penetration would be covered by the other two corps: the XI Corps

16. Von Mellenthin, F. W., Panzer Battles, New York, Ballantine, 1965, p. 261.
Cross, op. cit., pp. 91-95.

17. Koltunov, B. G. "Kurskaia bitva v tsfrakh," Voenno-Istoricheskiy Zhurnal (VIZh), June 1968, p. 58.

(106th, 198th, and 320th Infantry Divisions) and the XLII Corps (39th, 161st, and 282nd Infantry Divisions). The mission of the Kempf Army was to attack in the direction of Korocho to cover the right flank of the Fourth Panzer Army and prevent attacks by Soviet reserves coming from the east. If things went well, they were to continue the attack to the north, in parallel with Fourth Army and meet Ninth Army forces east of Kursk. Air Fleet IV provided air support for Army Group South.

On the western face of the salient was the German Second Army. Its mission was simply to fix the opposing Soviet forces so that they would be cut off and surrounded. With its seven weak infantry divisions, it could not hope to do more.¹⁸

E. SOVIET PLANS

The Soviets confidently expected the Germans to attack the Kursk salient with a double envelopment from the north and the south. Faced with this fact, a number of German historians have assumed a Soviet spy, not yet unveiled, at the highest levels. To be sure, the British did furnish the Soviets with strategic and operational intelligence decoded from German radio traffic in the Ultra operation, and the Soviets received some useful information (as well as a great deal of misinformation) from the Lucy network in Switzerland.¹⁹ But such intelligence was not really necessary to anticipate the Citadel Operation. The double envelopment was the German favorite type of attack -- based on Hannibal's great victory at Cannae in 216 BC -- and Kursk was the obvious location. As indicated above, Hitler issued the first planning directive for Citadel on April 15, 1943. A week before, on April 8, Marshal Zhukov, who was on an inspection visit to the Kursk sector, sent a report to Stalin. In this report, he estimated that the Germans would launch an attack against the Kursk salient in the form of a double envelopment with one attack from Orel in the north toward the city of Kursk and the other from Belgorod-Kharkov in the south.²⁰ As the Germans moved more and more troops into the area, their intentions became even clearer. Since there were so many Soviet nationals in German rear areas, as well as strong partisan groups in the forests, the Germans could not keep troop movements secret. Thus they could not hope to obtain strategic surprise for the operation. The

18. Dunn, *op. cit.*, pp. 53-63.

Piekalkiewicz, Janusz, Operation Citadel, Novato, CA, Presidio, 1987, pp. 107-110.

Koltunov, G. A. and Soloviev, B. G., Kurskaia Bitva, Moscow, Voenizdat, 1970, pp. 40-48. Cited hereafter as Koltunov (1970). (This edition has 396 pages and contains much more detail than the 1983 edition, which has only 128 pages.)

19. Piekalkiewicz, *op. cit.*, pp. 63-67.

20. Zhukov, G., Reminiscences and Reflections, Moscow, Progress, 1985, Vol. 2, pp. 150-152. (The entire message is included.) Cf. Rokossovsky's similar reasoning, A Soldier's Duty, Moscow, Progress, 1970, pp. 182-184.

date and time of the attack, however, did remain unknown -- even to the Germans -- since Hitler kept delaying the attack all through the spring.

Although the Soviets knew what the Germans planned to do, there was considerable discussion on what the Soviet response should be. Stalin originally wanted to attack first, seizing the initiative and forestalling the German attack. After all, the Red Army had numerical superiority, both on the entire front and in the area of the Kursk salient. Marshal Zhukov, however, recommended a different approach. As early as his report of April 8, he argued that, instead of attacking first, "It will be better if we wear the enemy out in defensive action, destroy his tanks, and then, bringing in fresh reserves, by going over to an all-out offensive we will finish off the enemy's main grouping."²¹

After considerable discussion, Marshal Zhukov and the General Staff, with the support of the Front commanders, convinced Stalin that it was better to let the Germans attack first. Thus the Soviet plan had two phases:

- Stop the German attack at Kursk by a deeply echeloned, well fortified defense supported by powerful reserves.
- As soon as the German attack had been stopped, go over to the offense, with attacks against Orel north of the salient and Belgorod and Kharkov to the south.

If the Germans did not attack within a reasonable time, however, Stalin retained the option of attacking first.²²

The Front Commanders developed their plans within the framework of this operational level plan. The Central Front defended the northern face of the salient. Gen. Rokossovski planned to defend with four armies abreast: from west to east 60th (at the nose of the salient), 65th, 70th, 13th, and 48th Combined Arms Armies. See Figure 1. He expected (correctly) the main German effort in the north to be against 13th Army, which held a front of 32 kilometers and was assigned 11 infantry divisions, 6 independent tank brigades or regiments, and an entire artillery corps. (For comparison, the armies on its flanks had comparable zones but only 7 divisions each.) In the second Front echelon, he placed the 2nd Tank Army, primarily for counterattacks. The 16th Air Army provided air support.

Gen. Vatutin's Voronezh Front had responsibility for the south face of the salient. The major Soviet planning error, as Marshal Zhukov later admitted, was that they anticipated the major German attack would be against the north face of the salient, when in fact the stronger

21. Ibid., p.152.

22. Shtemenko, S. M., The Soviet General Staff at War, Moscow, Progress, 1970, pp. 148-161.

German forces were on the south face.²³ As a result of this erroneous estimate, the Voronezh Front was somewhat weaker than the Central Front, with only 35 infantry divisions compared with 41 in the north. Gen. Vatutin also disposed his forces differently. He defended with only four armies abreast -- from west to east 38th, 40th, 6th Guards, and 7th Guards Armies -- but used a more powerful second echelon, with both the 1st Tank Army and the 69th Combined Arms Army. He anticipated the main German attacks in the zones of 6th Guards and 7th Guards Armies north and east of Belgorod. Because Voronezh Front had fewer divisions than Central Front and placed more of them in the second Front echelon, the main line of defense was not so strong. For example, 6th Guards Army, which bore the brunt of the attack by XLVIII Panzer Corps and II SS Panzer Corps, defended a 60 kilometer sector, compared with 13th Army's 32 kilometers in the north face. For the Voronezh Front the 2nd Air Army provided air support.

In addition to pouring men and equipment into the Kursk salient to bring the divisions up to strength and sending large numbers of artillery, tank destroyer, and engineer units, the Soviet General Staff created a large strategic reserve just east of the base of the salient. First organized under the cover name of a military district, it became the Reserve Front and finally the Steppe Front under Gen. Konev. By the time the German offensive began on July 4, this was an extremely powerful force. It included the 5th Guards Tank Army, the 5th Guards, 27th, 47th, and 53rd Combined Arms Armies, 3 separate tank corps, 3 mechanized corps, 3 cavalry corps, and the 5th Air Army -- more than 500,000 men and 1500 tanks. The mission of the Steppe Front was to assist in the defense of the salient by conducting counterattacks or, if the Germans made a major breakthrough, to hold a defense line just east of the base of the salient. As soon as the German offensive was stopped, the Steppe Front was to be prepared to go over to the offensive, with priority to the direction Belgorod-Kharkov.²⁴

F. BUILDUP FOR THE BATTLE

With the arrival of the spring thaw and the breakup of the roads, rasputitsa, major operations in the Kursk area came to a halt. They did not resume until the German offensive began in early July. Throughout the spring of 1943, both the Germans and the Russians rebuilt their forces in preparation for the summer campaign. For both sides such a pause appeared essential.

1. German

Although some historians have argued that the Germans should have attacked in April as Von Manstein recommended, the German forces were, in fact, in very poor shape at that

23. Zhukov, op. cit., p. 174.

24. Koltunov (1970), op. cit., pp. 48-56.
Shtemenko, op. cit., pp. 153-154.

Strength of German Panzer Units at Kursk on 1 July 1943³⁰

	PzII	PzIII kz	PzIII lg	PzIII 75	PzIV kz	PzIV lg	PzV Panther	PzVI Tiger	PzBef Cmd	TOTAL
18th Panzer Div (XLI Pz Corps)	5	10		20	5	29			3	72
2nd Panzer Div (XLVII Pz Corps)	7	8	34	17	2	21			1	90
9th Panzer Div (XLVII Pz Corps)	1	8	30		8	30			6	83
20th Panzer Div (XLVII Pz Corps)	9*	2	10	5	9	40			7	82
4th Panzer Div Army Group Center				15	1	79			6	101
5th Panzer Div Army Group Center				17		76			9	102
8th Panzer Div Army Group Center	17	25	30	4	8	14			6	104
12 Panzer Div Army Group Center	6	15	15	6	1	36			4	83

30. *Ibid.*, pp. 76-82.

Münch, Karlheinz, *Schwere Panzerjäger Abteilung 653*, Winnipeg, Manitoba, Fedorowicz, 1997, p. 50.

Glantz, David M. and House, Jonathan, *The Battle of Kursk*, Lawrence, Kansas, University Press, 1999, pp. 349-353.

	PzII	PzIII kz	PzIII lg	PzIII 75	PzIV kz	PzIV lg	PzV Panther	PzVI Tiger	PzBef Cmd	TOTAL
Pz Abt 505 Army Group Center		8	7					31		46
Heavy Pzjäger Regiment 656 Army Group Center	3	10	7	3				90 Ferdin- nand	8	121
Sturm Pz Abt 216 Army Group Center								45 Brümm- bär		45 Brümmbär
3rd Panzer Div XLVIII Pz Corps	7	8	34	17	2	21			1	90
11th Panzer Div XLVIII Pz Corps	8	11	51		1	25			4	100
Pz Gren Div GD XLVIII Pz Corps	4	1	20	2	5	63		15	8	118**
Panzer Regiment 39 XLVIII Pz Corps							200			200
SS LS Adolf Hitler II SS Pz Corps	4	1	20	2	5	63		15	9	119**
SS Das Reich II SS Pz Corps	1		62			33		14	10	120***
SS Totenkopf II SS Pz Corps			63		8	44		15	9	139

	PzII	PzIII kz	PzIII lg	PzIII 75	PzIV kz	PzIV lg	PzV Panther	PzVI Tiger	PzBef Cmd	TOTAL
6th Panzer Div III Pz Corps	13		34	18		32			6	103****
7th Panzer Div III Pz Corps	12		43	12	1	37			7	112
19th Panzer Div III Pz Corps	2	5	22	11	2	36			3	81
Pz Abt 503 Army Group South								45		45
17 Panzer Div XXIV Pz Corps	4	1	19	9	1	31			2	67
23rd Panzer Div XXIV Pz Corps	1	7	17	3		30			1	59
SS Wiking XXIV Pz Corps	4	1	14	8	1	16			16	60
TOTAL	108	121	532	169	60	756	200	270	126	2,342

* Actually Pz38t
** Plus 13 Flammpanzer
*** Plus 25 T-34
**** Plus 14 Flammpanzer

the tremendous variety of models in each unit -- sometimes only a handful of one model. The SS Division Das Reich even included a battalion of T-34s. This variety must have created a horrendous maintenance problem.

The provision of replacement personnel and equipment were necessary conditions for the rebuilding of the German forces, but they were not sufficient. To integrate the new personnel and equipment into the units, training was also needed. The long delay before the attack was launched provided the time for such training. The training was unusually thorough and, according to some German officers, reached peacetime or homeland standards. The panzer divisions were mostly located in rear areas, where they conducted realistic exercises, culminating in live-fire exercises. Dummy Russian fortifications were constructed for these exercises, and in some cases, captured Russian live minefields were used to practice breaching operations. Infantry units also conducted appropriate training. In XI Corps of Kempf Army, for example, the infantry divisions in the attack zone moved two-thirds of their combat forces to the rear, where the daily training schedule featured tanks passing over foxholes and the crossing of Russian-type mine fields.³¹ By July 1, the German divisions that participated in the offensive at Kursk, particularly the Panzer divisions, were at a high level of combat training.

2. Soviet

In March and April 1943, the Soviet units were also in need of rebuilding. Many of the divisions had been heavily engaged at Stalingrad and had been moved quickly to the Kursk area to stop Manstein's counteroffensive in early March. For example, the 6th Guards Army, formerly the 21st Army, had played a prominent role in the battle of Stalingrad. Six of its seven divisions had been granted guards status³² in February. However, they had sustained many casualties at Stalingrad and were then moved without rest to the Kursk salient to bolster the southern shoulder.³³ But given time, this problem was soluble for the Russians -- in sharp contrast with the German situation described above, the Soviets did not have a serious manpower problem. From January 1 to July 15, 1943, the replacement system sent a total of 2,857,500 troops to the units at the front. Some 57% of the replacements went to the five fronts scheduled to participate in the defense of Kursk and the counteroffensive to follow. Since the semiannual intake of recruits from the Class of 1926 numbered only about 1.5 million, this total for replacements probably included returning wounded and men combed from administrative and

31. US Army, Center of Military History, Military Improvisations during the Russian Campaign, Washington, 1951 and 1986, p. 18.

32. The designation of guards in the title of a unit, despite its Tsarist origins, was reintroduced in the Red Army in 1941 for units that had especially distinguished themselves in combat. Guards units had special guards insignia, extra pay, and a slightly more powerful TOE. Sharp, Charles C., Soviet Order of Battle World War II, Vol IV, West Chester, OH, 1995, pp. 33-35.

33. Dunn, op. cit., p. 71.

service units and retrained as infantrymen.³⁴ Even after the heavy losses in the fighting at Stalingrad, the Red Army increased by a million men in the first six months of 1943.³⁵ Thus the Soviets had an enormous pool of replacements with which to restore the battered divisions, to increase the tables of organization of existing units, and to create new battalions, regiments, brigades and divisions. During April-June 1943, the Soviet divisions in the Kursk salient were brought up to a strength of 8,000 to 9,000 men. (In July 1943 the authorized strength was 9,354 men for a Soviet rifle division and 9,680 for a Guards Rifle Division, both somewhat smaller than the German divisions.³⁶)

The Soviets not only built up the strength of the units in the Kursk salient but also moved additional units into the area. The creation of the very large General Staff reserves which became the Steppe Front was described above. The two fronts occupying the salient both received additional units. At the end of March the Voronezh Front received the 1st Tank Army. In addition, the Soviets moved the following units into the salient between April and July 1943:

Units Moved into the Kursk Salient between April and July 1943³⁷

Type Unit	Central Front	Voronezh Front
Rifle Divisions	8	6
Anti-tank Brigades	3	2
Separate Antitank Regiments	2	22
Artillery Regiments	8	8
Artillery Brigades	4	--
Mortar Brigades	--	2
Guards Mortar Brigades (Katusha)	--	3

34. Yershov, A. in Parotkin, I. (Ed.), The Battle of Kursk, Moscow, Progress, 1974, pp. 265-267.

35. Krivosheev, G. F. (Ed.), Soviet Casualties and Combat Losses in the Twentieth Century, London, Greenhill, 1997, p. 101.

36. Sharp, Charles C., Soviet Order of Battle World War II, Volume X, "Red Swarm," (Rifle Divisions), West Chester, Ohio, Nafziger, 1996, p. 141 and Volume IV, "Red Guards," (Guards Rifle Divisions), p. 95.

37. Koltunov (1970), op. cit., p. 37.

Type Unit	Central Front	Voronezh Front
Tank Brigades	2	10
Separate Tank Regiments	2	5

A similar pattern was evident in military equipment. In 1943 the Soviets were outproducing the Germans in most categories of military equipment. In addition, they were receiving considerable quantities of equipment from Great Britain and the U. S. The table below shows the numbers of tanks and self-propelled artillery pieces the Red Army and the German Army received per quarter in 1943, including those the Soviets received through lend-lease.

Military Equipment Received in 1943³⁸

Type of Equipment	Soviet (Average per Quarter)	German (Second Quarter 1943)
Heavy Tanks	225	156
Medium Tanks	4,100	1,315
Light Tanks	1,400	100
Self-Propelled Guns	1,100	1,325
TOTAL	6,825	2,896

With deliveries of such quantities of equipment, the Soviets were able not only to replace their losses of tanks and self-propelled artillery in the units but also to organize new units and build up reserve supplies in depots and front and army replacement units -- a luxury which the Germans did not have. In mines, small arms, and artillery, Soviet production in 1943 reached a point at which available stocks exceeded demand, and in 1944 production of some weapons either leveled off or was actually reduced.³⁹

At Kursk the Soviets had more tanks than did the Germans. However, a major weakness of their tank fleet was that almost one-third were light tanks, the BT, the T60 and T70.⁴⁰ These were useful only for reconnaissance and for infantry support. The Soviet medium tank

38. *Ibid.*, p. 252.

Dunn, *op. cit.*, p. 90.

39. Krivosheev, *op. cit.*, p.244.

40. Babadjanyan, Marshal A., "Tank and Mechanized Forces," in Parotkin, *op. cit.*, p. 178.

was the T-34, which mounted a 76mm gun and had 52mm of frontal armor. When it was introduced in 1941, it was superior to any German tank in service. In 1943 the T-34 was still a good battle tank and equal to the German Pz IV and superior to the Pz III, but it was outgunned by the Panther, the Tiger, and the Ferdinand. The Soviet long-term solution to this problem was to replace the 76mm gun with an 85mm gun in a cast steel turret originally developed for the KV-85 heavy tank. The resulting T-34/85 was regarded by the Germans as "the best tank in the world," but production did not begin until autumn 1943.⁴¹ Thus the T-34/85 was of no assistance for the battle of Kursk. Fortunately for the Soviets, there were very few Panthers, Tigers, and Ferdinands at Kursk.

The Soviets were well aware of the characteristics of the new German tanks and tank destroyers -- in addition to receiving intelligence reports, they had captured one or two early Tigers at Leningrad in November 1942 -- and they actually anticipated larger numbers than the Germans succeeded in fielding for the battle at Kursk. Part of their planned solution was tactical. They taught their tank crews and anti-tank gunners to engage the new tanks at close range and from the sides and rear, where the armor was thinner. But in addition, the Soviets had never completely accepted the British thesis that the best weapon against a tank is another tank. Instead, Soviet theorists argued for using large quantities of artillery to separate the infantry from the tanks. Then minefields and specialized anti-tank guns would destroy the tanks.

Consequently, to stop the expected tank-heavy German offensive at Kursk, the Soviets moved enormous quantities of artillery and anti-tank artillery into the salient. By July 1943, there were half again as many artillery regiments as infantry regiments in the salient.⁴² These artillery units were concentrated to support the areas where the Soviets anticipated the German attacks. Much of the Soviet artillery had some capability against tanks. The plentiful supply of supporting artillery made it possible, for example, to use the divisional 76mm guns primarily in an anti-tank role. Similarly, both the 122mm self-propelled howitzer (SU122) and the 152mm self-propelled howitzer (SU152) had the power to destroy the Tiger at short range, although they were not equal to the Tiger's 88mm gun at long range. Most of the additional artillery came from the General Staff reserve and from other sectors.

Many of the anti-tank artillery units, on the other hand, were new. In April 1943 the old destroyer divisions, which had mixed regiments of 76mm, 45mm, and 37mm, were eliminated. To replace them, new tank destroyer or antitank brigades were created, each of which had two 76mm gun regiments and one 57mm or 45mm gun regiment. A tank destroyer brigade thus provided central control of 60 to 72 antitank guns. By July 1, 1943, twenty-seven of these brigades (including eighty-one regiments) had been formed, and most of them took part in the

41. Gander, Terry J., Tanks of World War II, Glasgow, Harper Collins, 1995, pp. 134-137.

42. Pospelov (Ed.), Istoria Velicoi Otechestvennoi voiny Sovietskovo Soyuza 1941-1945, (Hereafter abbreviated as IVOVSS), Moscow, Military Publishing House, 1960-1968, Vol. 3, p. 250.

fighting at Kursk. Independent tank destroyer regiments with 20 or 24 76mm or 45mm guns were held in front reserves or assigned to army reserves. In addition, thirty independent anti-tank battalions armed with 85mm guns were formed and assigned to the tank and mechanized corps. Since the anti-tank guns were towed by trucks -- usually American 2½-ton Dodge trucks -- they could be moved rapidly to a threatened area. With the technology of the time, the Soviets considered that a tank destroyer brigade with 60 guns could stop a panzer division, although it might lose most of its guns in the process if the Germans used Tiger tanks against the guns.⁴³

With the additional artillery and anti-tank units moved into the Kursk area, the densities of these weapons reached unparalleled heights. The table below not only shows these densities but also how the guns were concentrated in areas where the Russians anticipated the German main effort -- particularly in the area of 13th Army on the north face of the salient. For purposes of comparison, the density of guns and mortars at Moscow in October 1941 was only 7-11 per kilometer, and at Stalingrad on July 23, 1942, the 62nd Army had 13.4 guns and mortars per kilometer.

**Number of Soviet Guns and Mortars per Kilometer of Front
on July 5, 1943⁴⁴**

Central Front			Voronezh Front		
Army	Guns & Mortars	Anti-tank Guns	Army	Guns & Mortars	Anti-tank Guns
48th	38.3	12.4	38th	14.6	3.5
13th	91.6	23.7	40th	32.7	11.3
70th	26.7	8.3	6th Guards	26.3	9.0
65th	22.4	6.1	7th Guards	31.2	10.1
60th	15.0	3.8			

Like the Germans, the Soviets took advantage of the pause in the fighting to implement an extensive training program, which melded the new equipment, the personnel replacements, and the seasoned veterans into more effective units. The training was based on newly published field manuals, which incorporated lessons learned from recent combat experience. Battalions,

43. Parotkin, *op. cit.*, p. 265.

Sharp, Charles C., *Soviet Order of Battle World War II, Volume VI "Red Thunder"*, West Chester, Ohio, 1995, pp 86 and 93-101.

Dunn, *op. cit.*, pp. 27-28.

44. Fomin, N., in Parotkin, *op. cit.*, p. 197.

regiments, and divisions carried out detailed training programs which culminated in two-sided tactical exercises in their areas.⁴⁵ This was, of course, easiest for second echelon and reserve units which were not in direct contact with the enemy, but even the first echelon units were temporarily relieved and moved to the rear to conduct such training. The 15th Rifle Division, for example, which was assigned the left flank of 13th Army's First Defense Belt, rotated companies and battalions into rear areas for training. For units in the first and second echelons much of this training concentrated on stopping German armored attacks. As the division commander of the 15th Rifle Division put it, "Everyone from the lowest private to the division commander understood that first and foremost we had to stop the enemy tank attacks."⁴⁶ Information on identifying and destroying the new German Tigers, Panthers, and Ferdinands was emphasized. As Khrushchev, then Member of the Military Soviet of the Central Front, put it in his inimitable style, "Every soldier must know the vulnerable points of the Tiger tank as well as we used to know the Lord's Prayer."⁴⁷ During April, May, and June 1943, the Soviet units continued their training, rehearsed their innumerable "variants" -- if the enemy attacks at this point with that force, what do we do? -- and improved their defensive positions and minefields in preparation for the expected German offensive.⁴⁸

3. Order of Battle

Appendix B contains an abbreviated Order of Battle of the German and Russian forces as of July 1, 1943. Special emphasis is given to the engineer units of both sides.

G. THE SOVIET DEFENSE SYSTEM AND MINEFIELDS

At Kursk the Soviets constructed a system of defense more elaborate than any other they built during World War II.⁴⁹ This defense system consisted of an extensive network of trenches incorporating a series of strong points with interlocking anti-tank, machine gun, and artillery fire and protected by anti-tank and anti-personnel minefields. There were eight defense belts, as shown in Figure 2. Units of the first echelon armies manned the three Army lines or belts. The first of these, the Main Defense Belt, was occupied by the front line divisions. About 15 km behind the front was the Second Defense Belt, which was manned by the second

45. Pospelov, IVOVSS, op. cit., p. 252.

46. Dzhandzhgava, V. N., Nemerennyye Versty, Moscow, DOSAAF, 1979, pp. 102-103. (The author commanded the 15th Rifle Division at Kursk.)

47. Carell, Paul, Scorched Earth: The Russian-German War 1943-1944, Atglen, PA, Schiffer, 1994, p. 26.

48. Moskalenko, Marshal K., in Parotkin, op. cit., p.98.

49. Zakharov, Marshal M., in Parotkin, op. cit., p. 123.

echelon divisions of the forward rifle corps. These two belts comprised the tactical zone, which had a depth of about 20 km. The Third Defense Belt, also called the Army Rear Belt, was reserves of the front line armies. It was planned that by the time the Germans had been able about 15 km behind the second belt and was partially occupied by the second echelon forces or to penetrate the first two lines, the surviving defense units would retreat to the third belt and be joined by units arriving from the reserve. Behind these three army level defense lines were three "Front" lines manned by front reserves. Behind these Front lines and across the base of the salient was the Steppe Front Belt. Finally, along the east bank of the Don the State Defense Belt. The depth of the entire defense system was about 250 km.⁵¹

Each of these belts was a complex of mutually supporting strong points, developed in accordance with the Instructions on the Construction of Field Fortifications issued by the General Staff in April 1943. The basis for the defense system was the battalion defense area, which had a frontage of about 2 km and a depth of 1.5 to 2 km. Each battalion defense area, in turn, was subdivided into company and platoon strong points. In a departure from previous practice, anti-tank guns were integrated into these strong points. Because of the large number of troops available at Kursk, division defense sectors were much narrower than during previous battles on the Eastern Front: 6 to 9 km, with the narrower sectors in the areas where the major German attacks were anticipated. In a divisional sector of the Main Defense Belt at Kursk the Soviets usually placed two rifle battalions of each of two rifle regiments in front, the third battalion of these regiments about 2 km to the rear, and the third regiment in a third line about 5 km from the front. Each of these battalions occupied a battalion defense area with prepared trenches and weapons emplacements. Thus the Main Defense Belt manned by each front line division consisted of three lines of battalion defense areas. Each of these battalion defense areas consisted of two or three lines of trenches. The first line of trenches, protected by minefields and barbed wire, included riflemen, machine guns, and anti-tank weapons. Infantry and heavy weapons in the second and third trenches, located about 200 meters and 1000 meters respectively from the first trench, provided covering fire for trenches to their front and gave depth to the battalion defensive position. Switch lines (alternate positions) were prepared that could be used to protect the flanks of the regiment in the event of a breakthrough in a neighboring sector. The fighting trenches were connected by communication trenches, in order that reinforcements and supplies could come forward and troops could be evacuated without exposure to enemy fire. Wide use was made of simple overhead cover that could be constructed by the troops themselves. The main line of resistance was protected in the front by lines of barbed wire and a series of minefields, mostly anti-tank minefields.⁵² Figure 3 is a detailed sketch of the

51. Galitsan, A., "Engineer Organization of Defense [at Kursk]," Soviet Military Review, 1973, No. 6, pp. 28-30.

52. Bazhenov, A., "Razvitiye taktiki oboronitel'nogo boya po orytu Kurskoi bitvy," Voенно-Istoricheskiy Zhurnal (VIZh), 1983, No. 6, pp. 35-38.

(continued...)

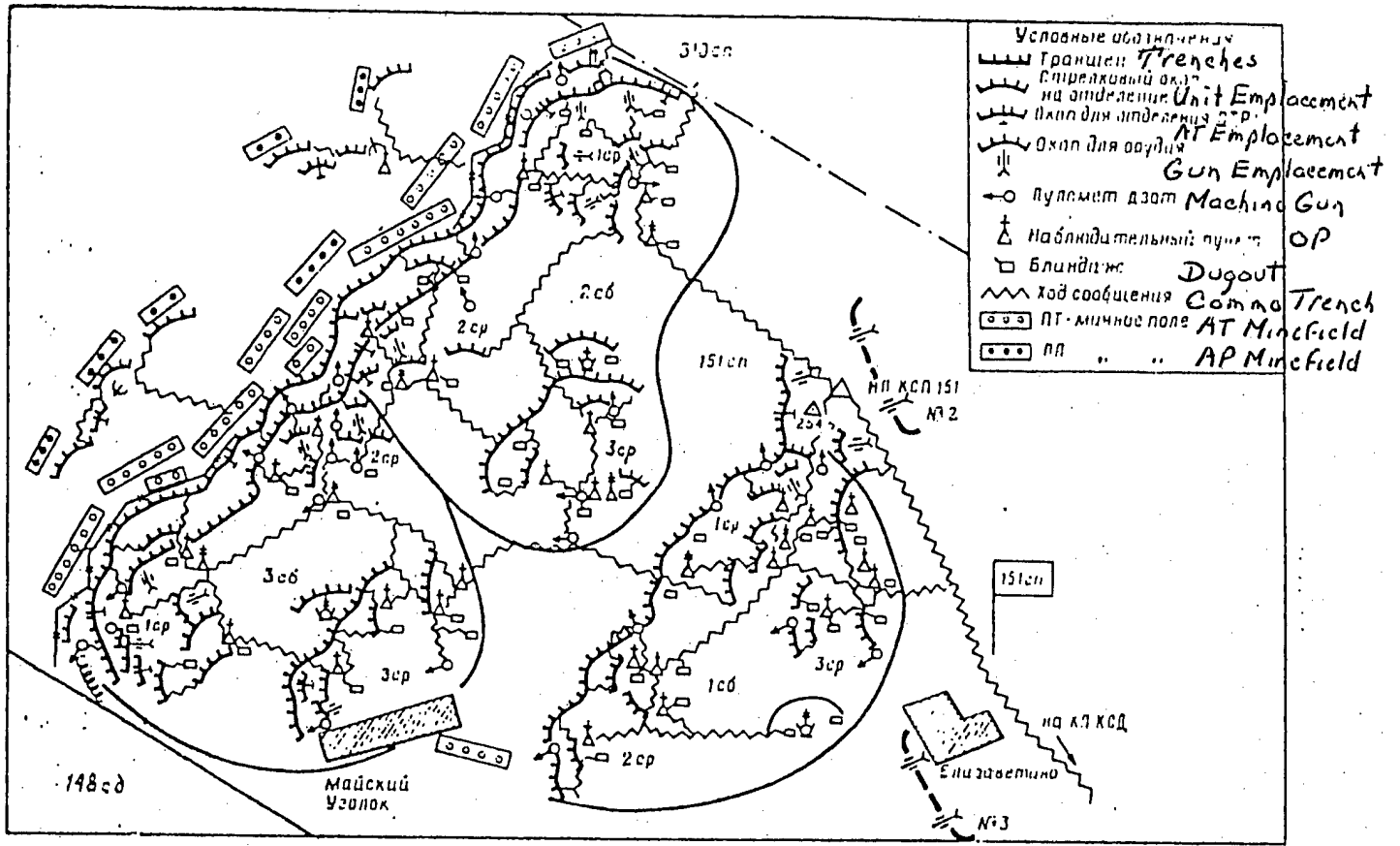


Figure 3. Defensive Position of 151st Rifle Regiment, 8th Rifle Division
June 29, 1943⁵³

52. (...continued)

Glantz, David M., Soviet Defensive Tactics at Kursk, Ft. Leavenworth, KS, 1986, pp. 12-24.

Dunn, op. cit., pp. 100-101.

53. Bazhenov, op. cit., p. 38.

positions of the 151st Rifle Regiment, which was part of the 8th Rifle Division of the 13th Army defending against the main German attack on the north face of the salient. Clearly shown are the trench lines, weapons emplacements, and anti-personnel and anti-tank minefields.

In front of the main line of resistance each regiment set up an outpost line with, typically, three positions. Each position was protected by a minefield, usually, as shown in Figure 3, an anti-personnel minefield. Although the outposts had anti-tank rifles, they were not expected to stop a major attack. Instead, their mission was to prevent the enemy from closing on the main line by surprise. After forcing the enemy to deploy and organize for an attack, the forces manning the outpost line were to withdraw under cover through the communications trenches to the main line.

Between the outpost line and the main line of defense was a dense series of minefields, mostly anti-tank minefields. These minefields were covered by machine gun and rifle fire to make it more difficult for the enemy to clear breaches and by anti-tank guns to stop any tanks trying to bull through or to pass through lanes which had been cleared. During the spring of 1943, the Soviet General Staff had published a new directive on minefields and other obstacles. According to this directive, anti-tank minefields were to have a depth of at least 100 meters. They were composed of 3 or more rows 15 to 40 meters apart. Instead of making one minefield excessively deep, separate minefields were laid, leaving a short stretch of unmined ground to let the enemy think he had gotten through the mines. Individual anti-tank mines in a row were to be 6 to 10 meters apart, in order to avoid sympathetic detonation. In general, each minefield contained either all anti-tank mines or all anti-personnel mines, although sometimes an anti-tank minefield would have one row of anti-personnel mines on the side facing the enemy to discourage clearing. The minefields were not laid in one continuous field across the entire front but in relatively short sections intersecting with each other at random angles.⁵⁴ Because of the time and engineer effort available at Kursk, however, these minefields covered essentially the entire front. On likely avenues of approach, there were several minefields, one behind the other. As Figure 3 shows, for example, an enemy attacking the boundary between the two front line battalions of the 151st Rifle Regiment might have to cross three minefields. Although most of the minefields in the Main Defensive Belt were in front of the outpost line and between that line and the main line of resistance, minefields were also used elsewhere, for example, to cover gaps between battalion defense areas and to block possible enemy routes into the defensive positions. The 151st Rifle Regiment used a small anti-tank minefield to bar a possible entry into its position through the zone of the 148th Rifle Division on its left flank at Maiskiy Ugolok. (See Figure 3.)

As a rule, each rifle corps at Kursk deployed in two echelons, with two rifle divisions in the corps first echelon and one (or two in critical areas) in the corps second echelon. The corps second echelon division or divisions manned the Second Defense Belt, which was located

54. Tsirlin, A. D., Biryuko, P. I., Istomin, V. P., and Fedoseev, Ye. N., Inzhenernye voiska v boyakh za Sovetskyyu Rodinu, Moscow, Military Publishing House, 1970, p. 155.

12-20 km behind the Main Line of Resistance. This distance was chosen to force the enemy to regroup his forces and move his artillery before making an assault on the position. The Second Defense Belt was organized in essentially the same way as the First Defense Belt described above and protected by similar minefields. In most cases, however, there were fewer troops and a slightly lower priority for engineer effort, so the fortifications were not so extensive. Figure 4 shows the combat formation of the 25th Guards Rifle Corps of the 7th Guards Army, which was defending east of Belgorod. The 78th Guards Rifle Division and the 81st Guards Rifle Division manned the First Defensive Belt, and the 73rd Guards Rifle Division held the Second Belt. The corps reserve, the 167th Tank Regiment was located with the second echelon. The sketch shows the battalion defense areas and strong points but not details of trench lines, minefields, and weapons emplacements.⁵⁵ Although this formation was typical for rifle corps at Kursk, there were more divisions in critical areas. Of the three armies in areas of the main German attacks, for example, the 7th Guards Army had three divisions in the first belt and three in the second. The 6th Guards Army, defending north and west of Belgorod, had four divisions in the first belt and three in the second. In the 13th Army on the north face of the salient, there were four divisions in the first belt and two in the second.⁵⁶

About 15 km behind the Second Defensive Belt was the Third Defensive Belt or the Army Rear Defense Belt, which was organized like the first and second belts and protected by minefields. The purpose of this belt was to contain the penetration of enemy armored spearheads, the main bodies of which were to be destroyed in the zone. In case of a major rupture of the second belt, the Army Rear Belt would permit the army either to regroup its reserves and launch a decisive counterattack or to form a new defensive line based on the new tactical situation.⁵⁷ In areas of low threat, the Third Defensive Belt was not fully manned before the battle. The Soviets anticipated that by the time the Germans had been able to penetrate the first two lines, units from the reserves could man the Third Defense Belt, assisted by units withdrawing from the first and second belts. In areas where the German main attack was expected, however, the belt was fully manned.

The interrelationship among the three Army Defense Belts can probably best be shown by an actual example. The 13th Army, on the north face of the salient defended a 32 km front with two corps forward and two in the army second echelon. The 15th Corps and the 29th Corps manned the first two defense belts with a total of six rifle divisions. The 17th and the 18th Guards Rifle Corps manned the Third Defense Belt, with the 17th Guards Rifle Corps on the west end of the belt. Although the German 47th Panzer Corps never penetrated that far, the 17th Guards Rifle Corps moved forward to the Second Defense Belt to hold the German panzer divisions, while the 280th Rifle Division and the 132nd Rifle Division withdrew under pressure

55. Glantz, *op.cit.*, pp. 13-14.

56. Dunn, *op. cit.*, p. 101.

57. War Department Technical Manual 30-430, Handbook on U. S. S. R. Military Forces, Washington, November 1945, p. VI-4.

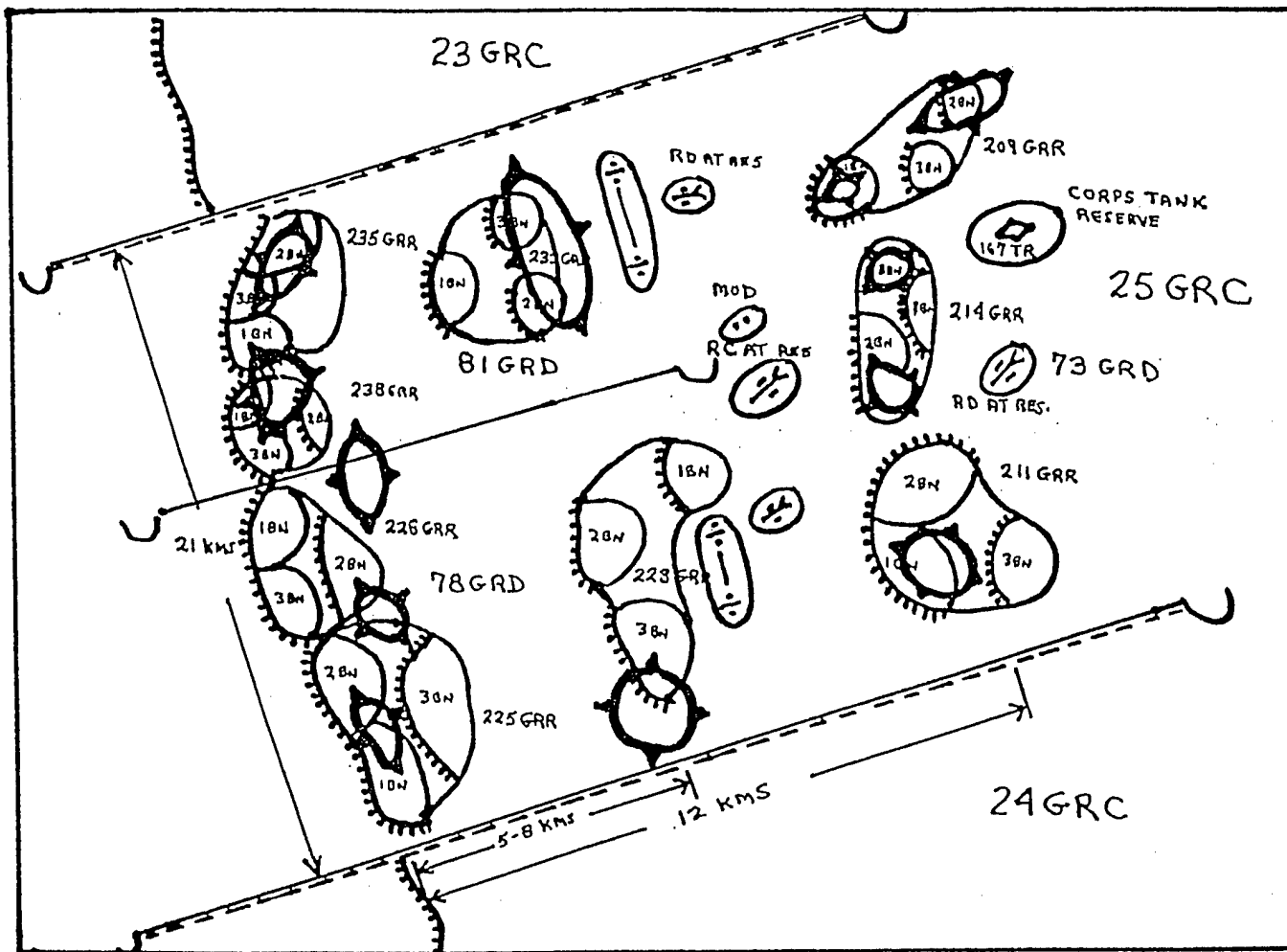


Figure 4. Combat Formation of 25th Guards Rifle Corps, 7th Guards Army
July 5, 1943⁵⁸

58. Glantz, *op. cit.*, p. 14.

from the first belt to the second, joining the 140th and 175th Rifle Divisions there. This massive force held the west shoulder of the German penetration. Similarly, in the center of the 13th Army sector, the 81st and 75th Rifle Divisions withdrew from the first belt to the second and joined the 307th Rifle Division, which had been in Army reserve at Ponyri. On the east end of the army sector the same process took place. Here the Third Defense Belt was initially occupied by the 18th Guards Rifle Corps, which consisted of the 2nd, 3rd, and 4th Guards Airborne Divisions. (The Soviets considered these elite divisions, but they had neither parachute equipment nor jump training.) When the Germans broke through the First Defense Belt, the 8th and 148th Rifle Divisions withdrew and joined the 74th Rifle Division in the Second Defense Belt. To assist them in holding the east shoulder of the German penetration, the 18th Guards Rifle Corps moved forward from the Third Defense Belt to the Second. The Third Defense Belt also served as a base for a series of counterattacks by Front tank corps and elements of the 2nd Tank Army.⁵⁹ As this example indicates, the Soviets planned and conducted the defense at Kursk in a very dynamic manner.

Behind the defense areas of the forward armies, the Central and Voronezh Fronts developed three Front Defense Belts to stop major German penetrations and serve as the basis for counterattacks. In general, these belts were organized like the Army belts, with trenches, emplacements, and minefields. The First Front Belt was located 50 to 100 km from the Main Defensive Belt. Most of this belt was occupied by Front troops. The Second Front Belt joined the First and Third Front Belts and provided cut-off positions north and south of Kursk. In the event of a major penetration of the First Front Belt, the Second Belt was designed to provide a last defense of Kursk and a corridor -- albeit a narrow one -- for the withdrawal of the units holding the west face of the salient. This Belt was not manned before the battle. The Third Front Belt followed the east bank of the Tim, Seym, and Oskol Rivers across the base of the Kursk salient. Like the Second Front Belt, it was not manned.⁶⁰ Although only one of the three Front Belts was manned, there were large forces available in the Front second echelon and reserves. The Central Front kept the 2nd Tank Army of two tank corps and one mechanized corps in its front second echelon. The Voronezh Front had not only the 1st Tank Army but also the 69th Combined Arms Army with five rifle divisions in its second echelon. Each Front also had two separate tank corps and one mechanized corps in reserve. In addition, the Front Commanders expected to receive reinforcements from the very large forces in the Steppe Front, which had the 5th Guards Tank Army, four combined arms armies, three separate tank corps, three mechanized corps, and three cavalry corps.⁶¹ Across the base of the salient, the Steppe Front had its own defense belt, which tied in to the Third Front Belt. Behind this, on the east

59. Dunn, *op. cit.*, p. 102.
Koltunov (1970), *op. cit.*, pp. 114-116.

60. Koltunov (1970), *op. cit.*, p. 63.

61. *Ibid.*, pp. 62-64.

bank of the Don was the State Defense Belt.⁶² In a worst-case scenario in which the German offensive was successful, the Third Front Belt, the Steppe Front Belt, and the State Defense Belt would have provided the basis for a Soviet defense across the base of the salient. In fact, however, none of the last five belts were tested in the battle. The Germans penetrated the Third Defense Belt at only one point, south of Prokorovka, and their advance was stopped there after the attack of Rotmistrov's 5th Guards Tank Army.

Figure 3 shows the extensive minefields, trenches, and other fortifications for one rifle regiment just before the Battle of Kursk. Since there were three regiments in each division and some 76 rifle divisions in the Central and Voronezh Fronts alone, it is obvious that an enormous amount of engineer effort was required. Soviet doctrine called for the direction of engineer forces to be centralized during defensive operations. Consequently the employment of the engineer forces was centralized at the front and army levels. The commander of the Central Front had four engineer brigades of various types under his command, the commander of the Voronezh Front five such brigades, and the commander of the Steppe Front two.⁶³ There were also 21 independent engineer battalions of various types in the Central Front (including those attached to the Armies) and 14 in the Voronezh Front, in addition to the organic division and brigade engineers.⁶⁴ See the Russian Order of Battle beginning on page B-9 of Appendix B. This was a formidable engineer force, but it was still not sufficient for the work required.

Soviet doctrine calls such tasks as laying mines, building obstacles, and constructing fortifications engineer tasks, but this does not mean that they are to be performed only by engineers. The trenches and other field fortifications at Kursk were mostly constructed by the troops occupying the positions, with some technical assistance and staff supervision by engineers. At Kursk even laying minefields, a task normally performed by engineer troops, was sometimes performed also by infantrymen, artillerymen, and even tank crews.⁶⁵

Local civilians also assisted in the effort of constructing field fortifications. By the end of April, some 105,000 people were working at such tasks in the salient, and by June this number had risen to over 300,000. They dug more than 5,000 km of trenches and communications trenches in the area of the Central Front alone. In the city of Kursk the streets were barricaded, 900 pillboxes built, and buildings turned into strong points. The same was

62. Russian historians complain that not much is known about the details of the Steppe Defense Belt and the State Defense Belt. See Parotkin, *op. cit.*, p. 319.

63. Parotkin, *op. cit.*, p.221.

64. Koltunov (1970), *op. cit.*, p. 62.

65. Parotkin, *op. cit.*, p. 221.

done in Oboyan, Stary Oskol, and other towns. In the Orel and Voronezh Oblasts some 5,051,135 man days were devoted to this work.⁶⁶

The Front and Army engineers coordinated all this effort. Construction of the various defense belts was performed as follows:

- First Defense Belt Occupying division troops with engineer assistance
- Second Defense Belt Occupying troops with engineer and civilian assistance
- Army Rear Belt Occupying troops with engineer and civilian assistance
- Front Belts Defensive Construction Departments
- Steppe Front Occupying troops with engineer and civilian assistance
- State Defense Belt Defensive Construction Departments⁶⁷

The Soviets collected detailed statistics on the engineer tasks performed in preparation for the defensive battle at Kursk. The table below shows what was accomplished in the three Army Defense Belts of the Central and the Voronezh Fronts. It should be noted that this table does not include work done on the three Front Defense Belts, the Steppe Defense Belt, or the State Defense Belt. For laying mines the priority placed on the First Defense Belt is quite clear -- many more mines were laid in the First Defense Belt than in the Second and Third Belts combined.

66. Parotkin, op. cit., p. 290.
Pospelov, IVOVSS, op. cit., p. 255.

67. Galitsan, op. cit., p. 28.

**Engineer Work Accomplished in the Army Defense Belts
of the Central and the Voronezh Fronts
before the Beginning of the Battle of Kursk⁶⁸**

	FIRST DEFENSE BELT	SECOND & THIRD DEFENSE BELTS	TOTAL IN THREE ARMY BELTS
Anti-tank Mines Laid	434,667	68,996	503,663
Anti-personnel Mines Laid	410,980	28,368	439,348
Non-Explosive Anti-tank Obstacles	Approx. 490 km	Approx. 250 km	Approx. 740 km
Barbed Wire Obstacles	Approx. 700 km	—	Approx. 700 km
Rifle and Machine Gun Emplacements	30,673	35,228	65,901
Anti-tank Rifle Emplacements	10,049	16,048	26,097
Trenches and Communication Trenches	2,593 km	3,399 km	5,992 km*
Command Posts and Observation Posts	4,983	4,350	9,333
Artillery Emplacements	6,353	7,575	13,928
Mortar Emplacements	13,924	20,221	34,145

* Other sources give figures as high as 9,000-10,000 km for the total length of trenches.⁶⁹

During all this work, the Soviets emphasized camouflage -- operational maskirovka. Minefields, command and observation posts, artillery and anti-tank artillery emplacements were all carefully camouflaged. In many cases dummy positions were constructed to deceive German air and ground observation. German reports of the battle indicate that the Soviets did a fine job

68. Koltunov, "Kurskaia bitva v tsfrakh," Voenno-Istoricheskiy Zhurnal (VIZh), June 1968, p. 66.

Kolibernov, Ye., "Characteristics of Engineer Support in the Battle of Kursk," VIZh, July 1983, p.4. (Translated by USA FSTC AD-B099 8892.)

69. Cf. Pospelov, I VOVS, op. cit., p. 250.

of camouflage. Often German tankers did not realize that they were in a minefield until the first tank blew up or that they were approaching a Pakfront or anti-tank strong point until the guns opened fire. The Soviets were especially successful in concealing the location and size of their reserves. They concealed actual areas of concentration and constructed dummy ones far from the critical sectors.⁷⁰ For example, although the Germans realized that the Soviets had strong armored forces east of the salient, they had no idea of how strong those forces actually were -- a tank army, four combined arms armies, and nine separate tank, mechanized, and cavalry corps -- nor how quickly they could be brought into action at Kursk.

The Soviet defenses at Kursk were built mainly against tanks. Although all types of obstacles were used -- minefields, anti-tank ditches, scarps and counter-scarps,⁷¹ hedgehogs, and road blocks -- "minefields were the basic type of obstacle and their organization the main mission of the engineer troops on the defense."⁷² As the table above indicates, nearly a million mines were laid before the battle began. The average density in the three Army defense lines came to 1,500 anti-tank mines and 1,700 anti-personnel mines per kilometer of front -- three to four times as many as in earlier operations. Naturally these mines and other obstacles were not distributed evenly across the front but were concentrated in areas where the German attacks were anticipated. In the 32-kilometer wide defense area of the 13th Army the engineers laid some 50,000 anti-tank mines and 35,000 anti-personnel mines and set up 35 km of barbed wire and 11 km of electrified wire obstacles. In the 60-kilometer sector of the 6th Guards Army on the southern face of the salient, there were some 90,000 anti-tank mines and 64,000 anti-personnel mines. On the expected routes of German attack, mine densities reached from 1,400 to 2,000 anti-tank mines per kilometer of front.⁷³

Nor did the Soviet minelaying come to an end when the battle began. Soviet doctrine called for the creation of Mobile Obstacle Detachments at every tactical level to lay mines in front of the enemy advance. These Mobile Obstacle Detachments varied in size: an engineer section at regimental level, a platoon or company at division level, a company at Army level and an engineer battalion at Front level. The 13th Army, for example, had five Mobile Obstacle Detachments, each composed of an engineer platoon or company. When the German attack began, this Army received three additional battalions of engineers to function as Mobile Obstacle Detachments. Each of these detachments was equipped with a supply of mines and trucks in order to move quickly to threatened points. However, they had no mechanical mine laying

70. Tsirlin, et. al., op. cit., p. 171.

71. A scarp is a steep artificial slope designed to be impassible for tanks, like the steep outer slope of a fortification. A counter-scarp is a steep drop, designed to be impassible for tanks. Both would also be difficult for infantry.

72. Parotkin, op. cit., p. 220.

73. Ibid.
Tsirlin, et. al., op. cit., p. 158.

devices.⁷⁴ During the course of the fighting, these detachments laid 35,000 mines in the 13th Army and 70th Army sectors alone. Similarly, on the southern face of the salient, engineer troops of the Voronezh Front laid 55,000 additional mines during the fighting. Since they were laid in front of a German advance, these mines were much more effective than those laid before the battle, even though in many cases there was no time even to bury the mines. Soviet military writers have estimated that "two-thirds of all enemy tanks destroyed by obstacles blew up in the minefields laid during the battle."⁷⁵ In the zone of the 81st Rifle Division of the 13th Army, for example, a Mobile Obstacle Detachment laid a minefield of 1000 anti-tank mines in front of a German attack on July 5. In this minefield 17 of the 40 attacking armored vehicles (probably assault guns with the 86th Infantry Division) blew up, and the advance of the enemy did not resume until the next morning.⁷⁶

The Soviets used a wide variety of anti-tank and anti-personnel mines in these minefields. Some of the most common are described in the table below. Almost all the anti-tank mines had pressure fuzes, and most could be equipped with anti-disturbance devices. As the table indicates, many of these mines had wooden or cardboard cases. This reduced the effectiveness of the German electrical mine detectors, although the Soviets did not carry this approach as far as they could have -- the wooden mines were usually assembled with metal nails. In addition to these standard mines, the Soviets used some non-standard ones at Kursk. For example, Soviet authors described "fire mines" composed of some 19 bottles of gasoline surrounding an antipersonnel mine. When the mine exploded, the gasoline was ignited. In some cases flamethrower mines were installed. Although relatively few of these were used, they certainly impressed the Germans and appear in many accounts of the battle and were even mentioned in several of Hitler's daily conferences.⁷⁷

74. Tsirlin, *et. al.*, *op. cit.*, pp. 158-159.

75. Parotkin, *op. cit.*, p. 221.

76. Sazonov, I., "Razvitie takticheskoy oborony v Velikoy Otechestvennoy Voyne," *VIZh*, September, 1968, p. 24.

77. Matsulenko, V., "New Stage in Tactics," *Soviet Military Review*, June 1973, p. 30.

US Army, Engineer Agency for Resources Inventories, Landmine and countermine Warfare: World War II, Eastern Europe, August 1973, pp. 387-391. (Includes technical data on the flame thrower mine.)

Principal Soviet Mines Used at Kursk⁷⁸

Designation	Type	Weight (Pounds)	Comments
TM-38	AT	9	Square metal case
TM-35	AT	11.5	Square metal case
TM-41	AT	11.9	Round metal case.
PMZ-40	AT/AP	Approx. 20	Round metal case, 11 in. diameter
T-IV	AT	10.75	Square wood or metal case
TMD-40	AT	11-12	Rectangular wood case
TMB-2 "Caseless" Mine	AT	14.5	Round case of cardboard, covered with tar or asphalt for waterproofing.
YaM-5 Series	AT	15-17	Large wood case, 20 x 8 x 5 in.
TMD-B	AT	16.5-20	Rectangular wood case
NV-41	AT	17.6	Rectangular wood case with trapezoidal lid.
LMG	AT	Unk.	An early side-attack mine, consisting of a rocket with a shaped charge and a launcher. Activated by pull wire or command.
Dog AT Mine	AT	24	Explosive contained in two saddlebags. activated by tilt rod on dog's back.
PMK-40	AP	3.2 oz.	Metal or cardboard case. Looks like a shoe polish can.
Fragmentation Tread Mine	AP	7.9	Rectangular metal or wood case.
PMD-6	AP	14 oz.	Small (7.5x3.5x2.5 in.) rectangular wood case

78. TM 30-430, *op. cit.*, pp. IX-109 through IX-147.

US Army, TM 5-280, *Foreign Mine Warfare Equipment*, 1971, pp. 6-97 through 6-149.

Landmine and countermine Warfare: World War II, Eastern Europe, *op. cit.*, pp. 151-206.

Plyaskin, V. Ya., Lysukhin, I. F., and Ruvinskiy, V. A., *Inzhenernoe obespechenie obshchevoyshogo boya*, Moscow, Military Publishing House, 1972, p. 52.

Designation	Type	Weight (Pounds)	Comments
AP Wooden Box Mine	AP	2.6	Rectangular wood case.
POMZ-2	AP	4.4	Stake mine. Cast steel body externally grooved to enhance fragmentation. Tripwire activated.
OZM-152 Fragmentation Mine	AP	88.1	Modified 152mm artillery round, which was launched from an ejection cup and exploded about 18 in. above the ground. Electric ignition by command, pull, or pressure switch. (122mm artillery or mortar shells were also used.)

When the Soviets began constructing their defense system and laying extensive minefields in early April 1943, they anticipated that the German offensive might begin in early May. Thus their goal was to create an effective defense system by that time. As the days and weeks passed with no attack, however, Soviet engineers continued to improve fortifications and lay more minefields. In addition, the delay gave commanders and staff officers at all levels time to inspect the defense system. Division, corps, army, and Front commanders and their staff officers -- all inspected the various belts, and most suggested improvements. Even Marshal Zhukov, the representative of the General Staff, visited most of the front-line divisions of the Central Front. Consequently the work on the defense system and minefields continued until the German offensive began on July 5.⁷⁹

H. ANALYSIS: WHAT THE GERMANS NEEDED TO DO TO SUCCEED

Hitler's objectives in the offensive at Kursk were to cut off the salient by attacks on the shoulders from the north and the south, trap and destroy a large number of Russian divisions, decisively weaken the offensive strength of the Russian Army, and place the German High Command in a more favorable position for continuing the war in the east. To accomplish these objectives, time was a critical factor. If the two armor-heavy forces reached Kursk only after considerable delay, the Soviet forces in the nose of the salient would have had sufficient time to withdraw. Moreover, every delay made success less likely. Soviet forces outnumbered the Germans in every category, not only across the entire front but even in the Kursk salient. Although the Germans could obtain local superiority by concentrating forces on a narrow front

79. Tsirlin, *et. al.*, *op. cit.*, p. 156.

at the point of attack, every delay gave the Soviets time to move some of their extensive reserves to the critical point and organize counterattacks.

To quantify the problem, the German pincer attacks needed to meet near Kursk and close the pocket in less than about five or six days if they were to encircle a large group of Soviet forces. Delay beyond this period would give time for the arrival of reserves from the Steppe Front and from the General Staff Reserves and the withdrawal of the forces threatened with encirclement. To get to Kursk in this amount of time required an advance of about 20 km per day on each face -- only a day's march for an infantryman. With the extensive Soviet defense system and minefields, however, maintaining such an advance required the Germans to break through a defense line every day and move up to the next line. If substantial Soviet forces were able to withdraw to the next line, joining the forces there and the corps and army reserves arriving, the defending forces would soon outnumber the attacker at that point. Thus to continue the advance after breaking through a defense line, the Germans needed to destroy the defending units and prevent them from withdrawing in good order to the next line.⁸⁰ Considering the forces available on both sides, the strength of the Soviet defensive positions and minefields, the covered routes of withdrawal, and the Soviet reserves available, a German success on this timetable was clearly going to be very difficult to achieve.

I. THE COMBAT ON THE NORTH FACE OF THE SALIENT

1. Timing of the Attack

On July 1, 1943, Hitler announced to a conference of his generals from the Eastern Front whom he had summoned to his headquarters in East Prussia, "I have decided to fix July 5 as the date for launching Operation Citadel." He stressed the importance of security. "It is vital to ensure the element of surprise. To the very last moment the enemy must remain uncertain about the timing of the offensive.... We must make absolutely sure that nothing of our intentions is betrayed."⁸¹

On the very next day, July 2, Marshal Vasilevski, Chief of the Soviet General Staff, received information from Soviet intelligence that the German attack would begin during the period 3-6 July. With Stalin's approval, he notified the Front Headquarters and directed that all units be placed on the highest level of alert.⁸² Actually this was less of an intelligence coup than it appeared at first glance, since this was the third such alert since May 1.⁸³ Nevertheless,

80. Dunn, op.cit., p. 138.

81. Carell, op. cit., pp. 21 and 24.

82. Vasilevski, op. cit., p. 301.

83. Shtemenko, op. cit., p. 165.

the Soviet units were on full alert, and there would be no surprise. In placing their units on alert, the Front commanders emphasized the importance of being prepared for German attempts to clear paths through the minefields in front of the First Defense Belt.

At about 2200 hours on July 4, troops of the 15th Rifle Division of the 13th Army located and engaged a detachment from the engineer battalion of the German 6th Infantry Division clearing lanes south of the village of Tagino. They captured a prisoner, who stated that the German attack was scheduled to follow a short artillery barrage beginning at 0330 hours (German time) on July 5. This intelligence was quickly passed up to Front Headquarters, where it was confirmed by reports from other sources. Thus the Soviets knew the exact time for the beginning of the offensive.⁸⁴

2. Soviet Counter Preparation

Based on the intelligence he had on the time of the German attack, Marshal Rokossovsky decided to strike first with his artillery. Just 15 minutes before the German artillery preparation was to begin, more than 1200 guns, mortars, and rocket launchers of the Central Front's artillery units opened fire in an extensive counter preparation. This was a massive series of preplanned fires directed primarily against the German artillery -- artillery positions and observation posts made up more than 80% of the targets.⁸⁵ This artillery attack considerably weakened and disorganized the German artillery bombardment and the preparations for the attack. Of the 100 batteries which were targets, more than 50 were suppressed. The psychological effect was probably even greater -- for a time Ninth Army staff officers feared that the Russians were about to launch a major offensive. As a result, the initial German attacks were not so well coordinated as had been planned. Although the Luftwaffe attacks on the Soviet positions began on schedule, the artillery bombardment began two hours later than planned and was ragged, as batteries and battalions knocked out by the Russian fire came back into action. Likewise, the ground attacks were delayed and not simultaneous. The 41st Panzer Corps and 23rd Corps began their attacks at 0530 hours, but 46th and 47th Panzer Corps did not attack until an hour later.⁸⁶

84. Dzhandzhgava, op. cit., p. 112. (Division Commander)
Zhukov, op. cit., p. 180. (At Central Front Headquarters)

85. Khoroshilov, G., "Employment of Artillery," in Parotkin, op. cit., p. 208.

86. Dunn, op. cit., p. 171.
Carell, op. cit., p. 34.
Rokossovsky in Parotkin, op. cit., p. 87.
Zhukov, op. cit., pp. 182-183.
Pospelov, op. cit., p. 259.

3. German Tactical Concept

Gen. Model, Commander of the German Ninth Army, planned to attack with four Corps abreast. The main effort would be by his two strongest corps, XLI and XLVI Panzer Corps, with the latter attacking on a sector only 40 kilometers wide. Gen. Model planned to break through the Russian defenses using primarily the infantry divisions already in contact. Then, probably on the second day of the offensive, he planned to send his panzer divisions through the holes in the Russian defenses to push on quickly to the vicinity of Kursk. Thus of the ten divisions in the initial assault, all were infantry, except for the 20th Panzer Division. In the sector of the main effort, XLI and XLVI Panzer Corps would make the assault with three infantry divisions and a panzer division and had three panzer divisions poised to exploit the breakthrough. In addition, there were two panzer divisions and a panzer grenadier division in army group reserve.

This powerful force was to attack against a formidable and well prepared defense, protected by field fortifications and extensive minefields. The sector where the Germans planned to attack was held by three Soviet divisions in the first echelon, two in the second, and three rifle corps and two tank corps in the third echelon, all heavily reinforced with tank destroyer units and artillery.⁸⁷ Figure 5 shows the situation just before the German attack began.⁸⁸

The Germans did not, of course, expect unsupported infantry divisions to be able to break through the Soviet defense lines. Consequently they supported the assaulting infantry units with large numbers of armored vehicles: tanks, mobile anti-tank guns, and assault guns. For example, in the sector of XLI Panzer Corps, the assault was conducted by the 292nd and 86th Infantry Divisions. Each of these divisions was supported by a battalion of the heavy Ferdinand tank destroyers (long L71 88mm guns with very heavy armor mounted on a Tiger chassis). The 90 Ferdinands in these two battalions constituted the entire inventory of the German Army. In addition, these two infantry divisions had the 45 Brümmbärs (150mm howitzers on a Pz. IV chassis) of the 216th Sturmpanzer Battalion and the Sturmgeschütz of the 177th and 244 Sturmgeschütz Brigades.⁸⁹ Similarly the attack of the 31st Infantry Division of XLVI Panzer Corps was supported by the two Tiger companies of Heavy Panzer Battalion 505, as well as Sturmgeschütz Battalions.⁹⁰ Even though Gen. Model was holding back the bulk of his panzer divisions, these were coordinated combined arms attacks, not unsupported infantry attacks. With

87. Haupt, Werner, Army Group Center, Atglen, PA, Schiffer, 1997, pp. 148-151.
Koltunov (1970), op. cit., p. 106.

88. Figure is from Glantz, op. cit., p. 30.

89. Münch, Karlheinz, Schwere Panzerjäger Abteilung 653, Winnipeg, Canada, Fedorowicz, 1997, p. 50.

90. Haupt, op. cit., p. 149.
Jentz, Thomas L., Panzertruppen, Vol. II, Atglen, PA, Schiffer, 1996, p. 82.

so much armor involved, in fact, the Soviet units considered that they were under attack by panzer units.⁹¹

4. Breaching the Initial Soviet Minefields

The first task facing the attacking German units was to get through the dense anti-personnel and anti-tank minefields which essentially covered the entire front. During World War II the principal German technique for breaching minefields was for engineer troops to use probes to locate the mines and then either to lift the mines by hand or destroy them in place. See Figures C-6 and C-7 in Appendix C. This was also the principal method they used at Kursk. To be sure, the German Army also had several types of metallic mine detectors: Berlin 40, Tempelhof 41, and Frankfort 40.⁹² See Figure C-5, Appendix C. These electromagnetic mine detectors were not very useful at the Battle of Kursk for two main reasons. In the first place, the Soviets used a large number of mines with wood or cardboard cases which were difficult or impossible for the detectors to locate. In the second place, the soil in the Kursk area is highly magnetic -- so magnetic, in fact, that compasses do not work properly. This made magnetic mine detectors even less effective. Thus the common elements in the German breaching were the widespread use of probes and almost no reliance on electronic mine detectors. Beyond these common elements, however, it is interesting that different German divisions on the north face of the salient used several different techniques to breach the minefields.

The 6th Infantry Division of XLVII panzer Corps decided to attempt a covert breach. On the night of 4/5 July, the division engineers, reinforced by engineers from the 47th Infantry Division, attempted to clear passages through the minefields under cover of darkness. This is a very difficult task under any conditions and was especially difficult in this case. Although some minefields were in front of the outpost line, the principal minefields were between the outpost line and the First Defense Belt. In addition, the Soviet troops of the 15th Rifle Division were on alert and had been warned to be especially watchful for German attempts to breach the minefields. Consequently, the Soviets realized what was happening, sent out patrols to disrupt the breaching operations, and captured some of the engineers.⁹³

The 31st Infantry Division, the left flank division of XLVI Panzer Corps, decided to wait until daylight to breach the minefields. The Tiger tanks provided suppressing fire. With their 88mm guns, they could do this from outside the effective range of the Soviet anti-tank guns. The engineers from the 31st Engineer Battalion, working in completely flat ground without any cover, cleared lanes for the tanks. In spite of the suppressing fire, the Soviet troops of the 280th

91. Koltunov (1970), op. cit., p. 106.

92. TM-E 30-451, op. cit., p. VIII-69.

93. Carell, op. cit., p. 33.
Dzhandzhgava, op. cit., p. 112.

Rifle Division continued to drop mortar and artillery rounds on the engineers. Thus engineer casualties were heavy, including a company commander and two platoon leaders from 2nd Company within the first few minutes of the operation. Nevertheless, in about two hours the engineers had opened lanes for the tanks. The accompanying infantry, however, encountered anti-personnel box mines whenever they moved outside the cleared lanes.⁹⁴

The Germans also used more "high tech" methods to clear lanes through the minefields. The most impressive of these was the B IV, a low, lightly armored tracked vehicle which resembled a British Bren gun carrier. See Figures C-1 and C-2 in Appendix C. The B IV weighed four tons, was powered by a six-cylinder Borgward engine, and carried a high explosive charge of 1000 pounds. The driver drove the B IV close to the forward edge of the minefield and then left the vehicle and tried to make his way to safety -- not a good insurance risk. The B IV was then driven further into the minefield by remote control from a tank and detonated. The detonation set off all mines over a radius of forty to fifty yards but also destroyed the carrier vehicle. A second B IV was then driven into the breach and detonated in the same manner to deepen the breach. At Kursk the Germans estimated that up to four B IV were required to create a breach through a typical Soviet minefield. The B IVs were organized into radio-controlled panzer companies and battalions. Three of these companies were used in the attacks by Ninth Army on July 5.

The 314th Radio-Controlled Panzer Company supported the 653rd Heavy Panzerjäger Battalion (Ferdinand), which was leading the attack of XLI Corps west of the railway. According to the official report, "In accordance with its attack orders, the company began clearing three lanes through the minefield. Due to the great depth of the minefield, a total of 12 B IV radio-controlled tanks were expended in the process. The control tanks traversed these lanes without suffering any damage from mines. The crossing of these lanes by pioneers, as outlined in the order, was unsuccessful however, because they could not move forward through overwhelming artillery fire. This caused a halt to the attack. The numerous artillery explosions on the battlefield made it impossible for the heavy Panzerjäger (Ferdinands) to recognize the lanes cleared through the minefields by the B IV. Even the B IV tracks were not visible in the thick sod. This caused losses among the Ferdinands, despite the lanes cleared in the minefield."⁹⁵ In fact, the 653rd Heavy Panzerjäger Battalion, which began the attack with 49 Ferdinands, reached its objective at 1700 hours with only twelve still operational. Most of the losses were due to mines.⁹⁶

The 313th Radio-Controlled Panzer Company was less successful. It supported the 654th Heavy Panzerjäger Battalion (Ferdinand), which was leading the attack of XLI Corps east of the

94. Carell, op. cit., pp. 36-37.

95. Official Report signed by Major Reinel, Battalion Commander 301st Radio-Controlled Panzer Battalion, printed in Münch, op. cit., p. 51.

96. Ibid., p. 52.

railway. According to the official report, "Four B IV were destroyed when one of the company's platoons crossed an unknown friendly minefield on approach to the front line. The other platoon therefore was only able to clear one lane through the Russian minefield, expending four B IV in the process. Artillery fire struck and detonated one B IV in the assembly area and set two more ablaze."⁹⁷

The remaining Radio-Controlled Panzer Company, the 312th, supported the Tiger Tanks of the 505th Heavy Panzer Battalion. In this area, the attack sector of the 31st Infantry Division of XLVI Panzer Corps, lanes through the initial minefields had already been cleared by hand, as described above. Consequently, the tactical commander used the B IV of this company "forward of the Tiger tanks as a reconnaissance force in accordance with tactical requirements." The B IV apparently did not encounter additional minefields. Therefore, instead of breaching minefields, some 20 B IV were used to destroy nests of anti-tank guns, heavy bunkers, other Russian positions, and even one T-34 tank.⁹⁸

The B IV was considered an armor system and was manned by armor troops. There was also an engineer system, Goliath, based on similar principles. It was a midget tank, about 2 feet high, 2 feet two inches wide, and 4 feet long, which was remote controlled by radio or by wire and carried an explosive charge of 200 pounds. See Figures C-3 and C-4 in Appendix C. Like the B IV, the Goliath could be used to detonate mines or destroy an enemy position. Several Goliaths could be used to breach a Russian minefield. The Goliaths were operated by Armored Engineer Companies. Two of these companies, 811th and 813th Armored Engineer Companies, were assigned to XXIII Corps and used to support the attack of the 78th Sturm (Assault) and 216th Infantry Divisions. One platoon also supported the 505th Heavy Panzer Battalion.⁹⁹ The Goliaths were not notably successful. "Whenever a Goliath reached its target, the effect was striking. Mostly, however, they did not reach their target."¹⁰⁰

German engineer doctrine described the fabrication and use of expedient mine rollers to be used to breach minefields.¹⁰¹ The German engineers at Kursk were certainly aware of this doctrine. The 315th Radio-Controlled Panzer Company, in fact, had been formed from cadre of the 1st Mine Clearance Battalion and for reasons of tradition used a rhombus with attached

97. Ibid., p. 51.

98. Ibid., p. 51.

99. Haupt, Army Group Center, op. cit., p. 148.
Cross, op. cit., p. 163.

100. Carell, op. cit., p. 42.

101. German Army, Ausbildungsvorschrift für die Pioniere, Teil 4, Sperren, 25 June 1935, Section 394, pp. 312-313.

circle (representing a tank with a mine clearing roller) as its tactical symbol.¹⁰² One historian asserts that mine rollers were used together with the Goliath on the north face of the salient.¹⁰³ However, no reports have been found on the use of such mine rollers at Kursk.¹⁰⁴

Using this wide variety of methods and techniques, the German attack forces eventually breached the minefields and reached the Soviet First Defense Belt. No minefield is intended to be an impassible obstacle. But breaching the first minefields did not end the German problem with mines. The Soviets had laid additional minefields to protect each defense line, although these were not so extensive as those in front of the First Defense Belt. In addition, the many Mobile Obstacle Detachments were busy laying mines on the routes of the German advance. On July 5, for example, the five Mobile Obstacle Detachments of 13th Army laid about 6,000 additional mines, and the Germans continued to encounter minefields throughout the battle.¹⁰⁵ The initial minefields accomplished one of their objectives, slowing the German attack. Where the German breaching was accomplished by hand in daylight as in the 31st Infantry Division attack sector, this delay amounted to several hours, allowing the Soviets time to bring forward additional troops and prepare for counterattacks.

5. German Initial Losses in the Minefields

The minefields also accomplished their second objective, inflicting casualties on the attacker. According to Soviet reports, during the first day of combat the Germans lost 98 tanks and assault guns and more than 2,000 soldiers in the minefields. About 75% of these losses were in the minefields laid in advance.¹⁰⁶ To put these figures in perspective, one should recall that this is about the same as the number of tanks in a typical panzer division on the north face of the Kursk salient. Thus the Germans lost about the equivalent of the tanks of a panzer division in the minefields on July 5. Some qualifications to these figures are in order. Many of these losses were mobility kills. This was especially true in the case of the Tigers and Ferdinands, since the tracks were probably the most vulnerable parts of these vehicles. Moreover, the Germans were advancing on July 5. Hence if the damaged vehicles were not destroyed by later anti-tank fire, they could be recovered. Since the Germans had a very efficient recovery and repair service at Kursk, many of the tanks which the Soviets reported as disabled by mines were

102. Jaugitz, Markus (translated by Davis Johnston), German Remote Control Tank Units 1943-1945, Atglen, PA, Schiffer, 1996, p. 7.

103. Seaton, Albert, The Russo-German War, Novato, CA, Presidio, 1993, p. 364.

104. Jentz, Thomas L., Gepanzerte Pionier-Fahrzeuge - Goliath to Raeumer S, Darlington, MD, Darlington Productions, 1998, pp. 28-33 has photographs and descriptions of several experimental German mine rollers. None were fielded.

105. Tsirlin, op. cit., p. 160.

106. Ibid.

recovered and returned to action.¹⁰⁷ (The evening report of the German units, on the other hand, reported only total writeoffs, which during an advance were much lower figures.)

6. July 5, 1943: Breaking through the First Defense Belt

On the west flank of the German attack, the 258th, 31st, and 7th Infantry Divisions of XLVI Panzer Army attacked the Soviet 280th Rifle Division of 70th Army. Although the attack began at 0630 hours, delays in getting through the minefields meant that the attacking divisions did not close on the Main Line of Defense until about 0930. The 258th Division on the west took Obydenki Ismailovo, less than 2 km from the start line, but then was halted by very strong Soviet resistance. The 7th and 31st Infantry Divisions likewise made only slight advances and at the end of the day were still in the First Defense Belt.¹⁰⁸

The XLVII Panzer Corps was more successful against the Soviet 15th Rifle Division. The 20th Panzer Division and the 6th Infantry Division attacked in strong infantry-armor teams, including Tiger tanks and assault guns, and supported by a heavy artillery barrage and air support. The attempt by the 6th division engineers to make covert breaches the night before the attack was disrupted by the Soviet 15th Rifle Division. The breaching had to be done on the morning of July 5 by hand under fire. This delayed the advance. As soon as the breaches were opened, the Tigers created gaps in the first Soviet line and the other tanks and infantry charged through. By noon the 6th Infantry Division had succeeded in breaking through the first Soviet Defense line and reaching the village of Butyrki but was facing strong resistance from the 15th Rifle Division and the 6th Guards Rifle Division. At this time Gen. Model committed the 2nd and 9th Panzer Divisions. With their added combat power they were able to push back the 15th Rifle Division, advance some 5 km and close on the Soviet Second Defense Belt.¹⁰⁹ See Figure 6.¹¹⁰ The attack of the 20th Panzer Division began slowly. Engineers had to clear lanes through the minefields before the panzers could begin the assault. Then, as the war diary

107. US Army Center for Military History, German Tank Maintenance in World War II, (Publication 104-7), 1982, pp. 33-37.

108. Klink, Ernst, Das Gesetz des Handelns die Operation "Zitadelle," Stuttgart, Deutsche Verlags Anstalt, 1966, p. 246 (Vol. 7 of Militärgeschlichen Forschungsamt series).

Koltunov (1970), op. cit., p. 106.

109. Ibid.

110. Figure is from Glantz, op. cit., p. 31.

of the 21st Panzer Abteilung reported, "The Tigers pounded the first gaps in the enemy positions which the Abteilung then charged through."¹¹¹ By 0900 the division's Pz. III and IV were deploying in a cherry orchard just north of Podolyan. "Enemy tanks that had pulled back out of Gnilets were taken under fire and driven off. In the interim, a ford was prepared in Podolyan, and the Abteilung started their advance toward Bobrik, where our Pioniere prepared a crossing within a short time. Hill 224.5 was reached, where a long halt occurred. About 1800 hours the Abteilung, with the Panzer Grenadiers, started to attack toward Saborovka. The 1st Company was on the right for flank security, then the 4th Company, Staff, 3rd Company and the 2nd Company on the left. Shortly after starting, the commander's tank and another tank drove onto mines, resulting in a short delay. The attack rapidly advanced on the right wing, but here also one tank of the 1st Company was damaged by a mine. After a short firefight, effectively supported by combat aircraft, the Abteilung entered Saborovka and crossed the Sopa. Five T-34 tanks that stood well camouflaged within the Sopa depression on the far side were destroyed by the 4th Company. The 2nd Company was on guard south of the totally destroyed Saborovka, while the rest of the Abteilung took up positions north of the village with flank security toward the right. During the night Russian bombers attacked our positions several times without success."¹¹² Saborovka was about 10 km south of the original line of contact. Thus in the first day of fighting, the divisions of XLVII Corps broke through the First Defense Belt and, after hard fighting, reached the 2nd Defense Belt at some points.

In the sector of XLI Corps, the attack of the 292nd and 86th Infantry Divisions was supported by the Ferdinand heavy tank destroyers of the 656th Heavy Panzerjäger Regiment. As described above, the radio controlled B IV carriers were used to breach the Soviet minefields in this sector. Then the Ferdinands were used to break through the Soviet Defense line. Except when passing through breaches in the minefields, the Germans attacked in Panzerkeil (arrowhead) formation. The Ferdinands were in the first line, followed by medium tanks in the second line, and light tanks, assault guns, and dismounted infantry behind them. The east flank of the beleaguered 15th Rifle Division in the Archangelsk area, for example, was hit by a battalion of tanks supported by infantry of the 292nd infantry Division. The attack penetrated the first line of defense and reached Oserki, about 5 km from the start line. At 2200 hours, one regiment of the 292nd reached Butyaki, 5 km south of Oserki. The 101st Panzer Grenadier Regiment of the 18th Panzer Division advanced on the west flank of the 292nd Division in the attack. The remainder of the 18th Panzer Division, however, occupied the woods south of Oserki but remained in reserve. The eastern portion of the 292nd attack sector was held by the Soviet 81st Rifle Division. One company of Ferdinands in this area succeeded in driving straight through the 81st defense lines to Aleksandrovka, but their success was more apparent than real. The Soviet infantry sealed the breach behind them, forcing the German infantry, now without armor support, to fight for every yard. Farther to the east, the 86th Infantry Division,

111. The 21st was the only panzer battalion of the 20th Panzer Division. Panzer Abteilung 21 War Diary, 5 July 1943, reprinted in Jentz, *op. cit.*, p. 75.

112. *Ibid.*

supported by assault guns, advanced with great difficulty. They suffered heavy losses in the minefields and from the fire of the Soviet 5th Artillery Division. Nevertheless, the 86th Division reached Otschki on the road to Maloarchangelsk, about 10 miles from its start line. Thus on July 5, the XLI Corps had broken through the First Defense Line, and its right flank division had reached the Second Defense Line. The 86th Division, however, was only about halfway to the Second Defense Belt at Ponyry Station.¹¹³

On the east flank of 9th Army's sector, the XXIII Corps attacked with three divisions abreast. The 78th Storm Division had a special organization with almost as many armored vehicles as a Panzer Grenadier Division. In addition, as described above, it had a company of Goliaths to assist in breaching the Soviet minefields. With the help of strong close air support, the division broke through the first line of the Soviet 148th Rifle Division and advanced 10 km to the road from Protasovo to Maloarchangelsk. (Map 1 of Appendix D shows a 1:50,000 scale map of the 78th Storm Division sector.) Farther to the east, the German 216th Infantry Division had more limited success. Despite heavy artillery and mortar fire, it broke through the 8th Rifle Division on a narrow sector and advanced about 10 km to Ielisaveto. However, the area between Trossna and Protasovo on the Maloarchangelsk road was still held by the Soviets, and they continued to mount local counterattacks, supported by tanks, against the German penetration. On the east flank of the corps sector, the 383rd German Infantry Division attacked the 16th Rifle Division of 48th Army. After 6 hours of heavy fighting, the Germans gave up the attack. Then the 16th Rifle Division counterattacked with heavy artillery support. Casualties were heavy on both sides and included a German regimental commander and a battalion commander, but the day ended with both sides about where they had begun.¹¹⁴

In summary, the 9th German Army had great difficulty on July 5. Breaching the Soviet minefields and penetrating the First Defense Belt were considerably more difficult than the Germans had anticipated and led to heavy losses, particularly in infantrymen and tanks. Only in the sector of the XLI Corps and part of the XLVII Corps sector did they succeed in advancing all the way to the Second Defense Belt -- elsewhere they were still fighting in the First Belt at the end of the day. The defending Soviet troops also suffered heavy losses -- particularly in anti-tank guns -- but they had more replacements available. Moreover, in most cases the Soviet units retired on order through covered routes and joined the forces waiting in the Second Belt. Although Gen. Model was disappointed at the advance of only about 10 km, this turned out to be greater than 9th Army achieved in any other day of the battle. In fact it was equal to half

113. Klink, *op. cit.*, p. 247.

Koltunov (1970), *op. cit.*, p. 109.

Healy, Mark, *Kursk 1943: The Tide Turns in the East*, London, Osprey, 1993, p. 36.

Paul, Wolfgang, *Geschichte der 18. Panzer Division 1940-1943*, Freiburg, 18th Panzer Division Association, ND, pp. 253-255.

114. Klink, *op. cit.*, pp. 246-247.

Koltunov (1970), *op. cit.*, p. 110.

the distance covered in the remaining week of the battle on the north face of the salient. Figure 6 shows the situation at 2100 Hours on July 5.

By noon on July 5, it had become clear to the Soviets that the German main effort was west of the railway against the sector defended by 13th Army. Therefore Marshal Rokossovski ordered the implementation of "Variant 2" of the Front Defense Plan, modified to reflect the German main effort toward Olkovatka, and reinforcements started moving quickly to the threatened sectors. See Figure 6. The 16th Tank Corps moved to Olkovatka against the 47th Panzer Corps, the 19th Tank Corps to Molotytschi against the 20th Panzer Division, the 17th Guards Rifle Corps to Kashara against the 6th Infantry Division, the 18th Guards Rifle Corps to Maloarchangelsk against the 78th Sturm Division, and the 9th Tank Corps advanced closer to the front. From the 60th and 65th Armies on the west face of the salient, the 11th Guards Tank Brigade and two other tank regiments were sent to 2nd Tank Army. The 2nd Artillery Brigade from 48th Army was sent to 13th Army. The General Staff promised the whole of Gen. Torfimenko's 27th Army as reinforcements to Central Front, but this offer had to be withdrawn when the situation on the south face of the salient became more dangerous.¹¹⁵

7. July 6, 1943: Fighting between the Belts

At 2200 Hours on July 5, Marshal Rokossovsky decided "to deliver a swift, short, but powerful counter-blow at the enemy forces wedged into our defenses," beginning at dawn on July 6.¹¹⁶ This effort consisted of a series of counterattacks by tank and infantry forces across the entire German attack sector. The Soviets committed over 750 tanks and self-propelled guns in these counterattacks. They were preceded by massive artillery barrages by the 4th Soviet Artillery Corps and some five separate artillery brigades and regiments. In the 34-kilometer sector of the counterattacks the Soviets had concentrated 908 guns and 637 mortars for a density of 43.7 artillery pieces per kilometer of front.¹¹⁷

In the sector of XLVI Panzer Corps, the Soviet 19th Tank Corps was ordered to attack the German 31st Infantry Division. However, the Tank Corps spent too much time preparing for the attack and was not ready until after noon. When it finally moved out, the Germans had no difficulty repulsing the attack. Then the Germans counterattacked and, despite heavy Russian artillery fire and air support, advanced to a position about 1 km south of Gnilets. At 1900 hours the German 31st Division attacked again, pushed back the 280th Soviet Rifle Division, and

115. Rokossovsky in Parotkin, op. cit., p. 88.

Markin, I. I., Kurskaya Bitva, Moscow, Military Publishing House, 1958, p. 113.

Klink, op. cit., pp. 255-256.

Koltunov (1970), op. cit., p. 114.

116. Rokossovsky in Parotkin, op. cit., p. 88.

117. Koltunov (1970), op. cit., p. 116.

created a bridgehead across the Svapa. The Russians launched a counterattack supported by T-34 tanks, but the Germans held the bridgehead.¹¹⁸

In the German XLVII Corps sector, the Soviet 70th and 75th Guards Rifle Divisions, supported by the tanks of 16th and 9th Tank Corps, attacked the German 2nd Panzer Division between Bobrik and Saborovka. Initially the 16th Tank Corps was able to advance 1.5 to 2 km near Butryki. However, the Germans committed fresh tank units and, after heavy fighting, were able not only to recover their positions but even slightly to expand their bridgehead over the Scapa River at Saborovka. In the eastern portion of the corps sector, the Soviet 18th Guards Rifle Corps, supported by the 3rd Tank Corps, attacked the 9th Panzer and elements of the 6th Infantry Divisions. The 9th Panzer Division had a particularly hard fight but stopped the attack. Then the 2nd and 9th Panzer Divisions, attacking with infantry in the first wave and supported by a heavy artillery bombardment, advanced and took high ground on both sides of Olkovatka.¹¹⁹

East of Olkovatka, the Soviet 148th, 81st, and 74th Rifle Divisions attacked the 292nd and 86th German Divisions of XLI Panzer Corps north of Ponyry 1 and Ponyry Station. The attack began at 0350 Hours and was supported by the 12th Artillery Division and by air heavy attacks. To help stop these Soviet counterattacks, the German 9th Army reserves, the 12th Panzer and 10th Panzergrenadier Divisions, were thrown into the battle -- even though Gen. Model had originally planned to hold them back to exploit the breakthrough. The fierce fighting here became a microcosm of the whole Kursk battle, as both sides poured additional forces into the struggle, attacks and counterattacks followed from both sides, and advances were measured in meters. The Soviet 307th Rifle Division, for example, reported attacks by elements of the 292nd, 86th, and 78th Sturm German Divisions, supported by 170 tanks. The Ferdinands of the 656th Heavy Panzerjäger Regiment supported the 86th Infantry Division east of Ponyry. The 205th Rifle Regiment of the 70th Guards Rifle Division was attacked by 60 German tanks and destroyed 3 German Pz IVs at close range with antitank rifles. The 84th Guards Tank Destroyer Battalion destroyed 5 Pz IVs with its 45mm antitank guns. Similarly a battery of the 729th Tank Destroyer Battalion claimed five tanks at Ponyry. The German XLI Corps claimed 28 Soviet tanks, mostly T-34s. By the evening of July 6, the Germans had made some advances and were fighting in the vicinity of Ponyry, they had not been able to break through the Second Defense Belt.¹²⁰

118. Klink, *op. cit.*, pp. 247-248.
Koltunov (1970), *op. cit.*, p. 116.

119. Klink, *op. cit.*, p. 247-248.
Koltunov (1970), *op. cit.*, p. 118.
Krupchenko, I. E., Ananiyev, I. M., et al. *Soviet Tank Forces*, Moscow, 1982?,
Translated by FTD, AD B073125, p. 299-300.

120. Klink, *op. cit.*, p. 247-248.
Koltunov (1970), *op. cit.*, p. 119-120.

Farther to the east, in the sector of XXIII German Corps, the 78th Sturm Division took Protasovo after hard fighting. A Soviet counterattack recaptured part of the village, and house-to-house fighting continued for several hours. By the evening of July 6, the 78th Division had succeeded in clearing the village and advanced to the Second Defense Belt near Slavka. The 216th German Infantry Division, on the other hand, was attacked by the Soviet 15th Rifle Corps, with tank support, and had great difficulty holding their gains from the previous day. Similarly to the northeast the 383rd Infantry Division defended in their original July 5 positions against attacks by elements of the Soviet 15th Rifle Corps of 48th Army.¹²¹

As the German forces approached the Soviet Second Defense Belt, they encountered the protective minefields laid in advance. In addition, the Soviet engineers of the Mobile Obstacle Detachments intensified their activities in laying mines on the German routes of advance. On July 6, engineer units of Central Front laid more than 9,000 mines, in addition to destroying some 16 bridges. During this day of fighting, 88 German tanks and self-propelled artillery pieces were stopped in these minefields -- 65 of them in minefields laid during the battle.¹²² Clearly mines continued to be an important factor in the battle.

The Soviet counterattacks on July 6, dispersed all across the front, did not succeed in pushing the Germans back. However, they inflicted heavy losses on the Germans and forced them to commit the reserves which had been earmarked for exploiting a breakthrough. In addition, they slowed the German advance -- German gains on July 6 were only about half those of the first day. This allowed time for more Soviet reserves to move into the salient and significantly reduced the chances of German success at Kursk.

8. July 7, 1943: Attacking the Second Defense Belt

On the evening of July 6, Marshal Rokossovski ordered the Soviet counterattacks to continue the next day. At about the same time, Gen. Model ordered all five of his corps to continue their attacks. Thus the stage was set for a continuation of the bloody, indecisive fighting of the day before. A close reading of the German operations orders, however, highlights a significant change. The objective of XLVI Panzer Corps was to strengthen the bridgehead over the Svapa River and to take the high ground west of Bobrik. The XLVII Panzer Corps received the 4th Panzer Division from Army reserve to assist its drive south toward Olkovatka. The objective of the XLI Panzer Corps was to establish a bridgehead over the Snova River west of Ponyry. The 78th Sturm Division of XXIII Corps was to push the 74th Rifle Division back toward Iunika, 5 km southwest of Maloarchangelsk and establish a defensive

121. Klink, op. cit., p. 247.

Koltunov (1970), op. cit., p. 119-120.

122. Tsirlin, op. cit., p. 161.

position.¹²³ Although earlier orders had emphasized quick breakthroughs and rapid advance by panzer columns toward Kursk, the objectives for July 7 required advances of only about 5 km. Clearly the Army Commander and his staff had abandoned hope of cutting off large numbers of Russian troops in a huge pocket before reinforcements could arrive.

Even with these limited objectives, things did not go well for the 9th Army on July 7. On the west flank the 31st and 7th Infantry divisions of XLVI Corps fought for the high ground west of Gnilets in an attempt to widen the base of the penetration. They took a hill in the morning after hard fighting only to lose it in the afternoon to a Soviet counterattack by the 175th Rifle Division supported by the tanks of the 19th Tank Corps. Thus the Germans made little progress in this sector.¹²⁴

Things went somewhat better for the XLVII Panzer Corps, which attacked south toward Kashara and Olkovatka. The attack began at 0830 when a battle group of German tanks from the 9th Panzer Division and infantry from the 6th Infantry Division attempted to break through the Second Defense Belt in the 17th Guards Rifle Corps sector. At noon two German infantry regiments of the 6th Division hit the Soviet 6th Guards Rifle Division at Bitiug. At 1700 hours thirty tanks and infantry of the 9th Panzer Division made some gains at Ponyry 2 (south of Bitiug), which was held by the 75th Guards Rifle Division supported by the 3rd Tank Destroyer Brigade. The Soviets counterattacked with the 16th Tank Corps supported by the 2nd Tank Destroyer Brigade. The Germans countered with an attack by 40 tanks, but a battery of the 449th Tank Destroyer Regiment destroyed 15 of these tanks. For the day the 17th Guards Rifle Corps claimed 8,000 Germans killed and 100 German tanks destroyed. These claims are no doubt excessive, but losses were heavy on both sides. For example, the Soviet 3rd Tank Destroyer Brigade continued in action even though its 1st Antitank Battalion lost 70% of its men during the day. At the end of the day's fighting, the Germans had reached their initial objective at Kashara, within the Second Defense Belt, although control of the village was still disputed.¹²⁵ See Figure 7.¹²⁶

In the XLI Panzer Corps sector, fighting raged all day long around Ponyry 1 and Ponyry Station. At 1000 hours the 18th Panzer Division, which had been in Corps reserve, attacked toward Ponyry 1 on the right flank of the 292nd Infantry Division. At the same time two battalions of the 10th Panzer Grenadier Division from the Army reserve pushed the 4th Guards

123. Klink, op. cit., p. 248-250.
Koltunov (1970), op. cit., p. 121-122.

124. Klink, op. cit., p. 248 and 251.
Koltunov (1970), op. cit., p. 121-122.

125. Klink, op. cit., p. 249-251.
Koltunov (1970), op. cit., p. 121.

126. Figure is from Glantz, op. cit., p. 32.

Airborne Division back a short distance. Meanwhile the German 86th Infantry Division attacked with two infantry battalions supported by tanks and the Ferdinands of Heavy Panzerjäger Battalion 653 and drove the Soviet 307th Rifle Division back. However, the Soviets counterattacked with support from the 13th Tank Destroyer Brigade, the 11th Mortar Brigade, and the 2nd Guards Mortar Brigade (Katusha multiple rockets). The counterattack destroyed 10 Tigers and 12 PzIVs, but Hill 253.3, which the Soviets took in the morning was recovered by the Germans in the afternoon. At 1530 hours the German 18th Panzer, 86th and 292nd Infantry Divisions launched a coordinated attack on both sides of Ponyry Station. The Soviet 307th Rifle Division repelled the attack. The 2nd Battalion of the 159th Guards Artillery Regiment reported the destruction of 2 Tigers and 5 other tanks. At 1900 hours the Germans tried again with an infantry regiment supported by 60 tanks. Throughout the day the Soviets launched strong counterattacks in response to German attempts to break through the Second Defense Belt. The 307th Rifle Division was supported by massed artillery fires and the tanks of the 3rd Tank Corps, the 129th Separate Tank Brigade, and the 27th Separate Tank Regiment -- many of them dug in with only their turrets showing. The fighting surged back and forth throughout the day at Ponyry Station. The village schoolhouse, tractor depot, railway station and water tower became company objectives, and ferocious battles were fought for their control. The intensity of the fighting here led both German and Soviet writers to give Ponyry Station the title of "Little Stalingrad." However, the Germans did not succeed in breaking through the Second Defense Belt.¹²⁷

On the east flank of 9th Army the Soviet 74th Rifle Division launched some 11 attacks, each of 2 battalions supported by artillery, against the German 78th Sturm Division at Protasovo. The village -- little but ruins by this time -- changed hands several times during the day but was in Russian hands at nightfall. The 78th Division fought well but, even with the support of a company of Ferdinands, it did not make any significant progress into the Second Defense Belt.¹²⁸

Again the advancing German forces frequently found themselves in minefields, many of them recently laid. Typically, the first report of the minefield was when the first mine exploded. On July 7, Soviet engineers laid more than 8,000 additional mines. The entire 1st Guards Engineer Brigade with its three battalions was committed at Ponyry. During the day's fighting, some 108 German tanks and self-propelled artillery pieces were destroyed in minefields, 76 of these in minefields laid by Mobile Obstacle Detachments.¹²⁹ The Tiger

127. Krupchenko, *op. cit.*, pp 302-303.
Münc, *op. cit.*, p. 52.
Klink, *op. cit.*, p. 248-250 and 256.
Koltunov (1970), *op. cit.*, pp. 122-123.

128. Klink, *op. cit.*, p. 251.
Koltunov (1970), *op. cit.*, p. 123.

129. Tsirlin, *op. cit.*, p. 161.

tanks, which were often used at the point of the Panzerkeil to lead attacks, were especially hard hit by mines. On the evening of July 7, Heavy Panzer Battalion 505 reported that two Tigers had been completely destroyed and 25 were in need of repair (of the 31 available on July 5). Sixteen of the Tigers awaiting repair had damage to the running gear from mines. In an attempt to reduce the high losses from mines, XLVII Panzer Corps directed that an engineer squad in an armored personnel carrier be attached to each company of the Tiger battalion for the duration of the operation.¹³⁰ At this stage in the battle there are no reports of the use of B IVs or Goliaths to breach the mines. The German sappers reverted to breaching by hand. This was somewhat easier for the minefields laid during the battle than breaching the minefields laid in advance, since the Mobile Obstacle Detachments laid many of their mines on the surface. However most of them were still covered by fire.

9. July 8-11, 1943: Stalemate on the North Face

On July 8, Gen Model called a conference with his corps commanders to review the situation. In three days of heavy fighting the Ninth Army had succeeded in breaking through the minefields and defenses of the First Defense Belt and advancing to the Second Defense Belt. But the main effort had advanced only 12-15 km. Kursk was still more than 60 km away, and there were still four prepared defense belts and large Soviet forces between the advancing 9th Army troops and that objective. Moreover, losses had been very heavy -- in three days 9th Army had lost more than 10,000 men. To be sure, some 5,000 replacements had arrived, but most of them remained in the divisional replacement battalions instead of being introduced into rifle companies in the midst of heavy fighting. Without strong rifle companies to support the panzer forces, the German advance had been slowed or stopped. The panzer forces themselves had also suffered heavy losses. Of the more than 700 tanks in the panzer divisions of 9th Army on July 5, less than half were operational three days later.¹³¹ Some units had suffered crippling losses. Heavy Panzerjäger Battalion 653, for example, which began July 5 with 45 Ferdinands, had no vehicles operational on July 8 and ceased combat operations for a "recovery day."¹³²

Gen. Model recognized that the Soviet minefields and strong defenses had prevented a quick tank-supported breakthrough. He considered that the original plan of reaching Kursk quickly with a tank-led spearhead was now impossible. To penetrate the Second Defense Belt would take four or five days of slow, grinding attacks and would require a heavy expenditure of men, materiel, and munitions. Gen. Model and his corps commanders discussed possible new tactics to overcome the unexpected difficulties caused by the Soviet minefields and defenses. Attaching more tank battalions to work with the panzer grenadier units and relieving the

130. Jentz, Thomas L., Germany's Tiger Tanks: Tiger I and II: Combat Tactics, Atglen, PA, Schiffer, 1997, p. 89.

131. Klink, op. cit., pp. 251 and 256.

132. Münch, op. cit., p. 52.

attacking divisions after a few days to refit and refill with replacements were among the changes proposed.¹³³

What was not discussed by the commanders but what they should have realized, however, was the fact that surrounding large numbers of Soviet forces was now clearly impossible. Soviet reserves were pouring into the salient, while the scant reserves of 9th Army and Army Group Center had virtually all been committed. On the northern face of the salient the Battle of Kursk had become a battle of attrition, and the Germans could not win that kind of battle.

Nevertheless, Gen. Model decided to continue his attacks, hoping finally to break through the Soviet defenses. Gen. Von Kluge, the Central Army Group Commander, was informed of the conclusions of the conference and supported them.¹³⁴ In spite of tenacious Soviet defense and vigorous counterattacks, the troops of XLVII Corps continued to advance during the next few days. In one limited area they met with some success. By massing the forces of 20th, 4th, and 9th Panzer Divisions, on July 10 the Germans advanced to Teploie, deep in the Soviet Second Defense Belt. This was their deepest penetration during the course of the battle on the northern face of the salient.¹³⁵ The Soviet 132nd Rifle Division and the 70th Guards Rifle Division, both heavily reinforced by anti-tank units, managed to stop the advance. In the afternoon, the Soviets counterattacked with elements of the 2nd Tank Army, the 10th Tank Corps, the 40th, 70th Guards, and 75th Guards Rifle Divisions, supported by the 1st Guards Artillery Division.¹³⁶

10. July 12, 1943: Soviet Counteroffensive against Orel

Gen. Model was still planning to continue his attacks on July 12. The previous evening Gen. Von Kluge had released the 12th Panzer Division and the 36th Infantry Division to the XLVI Panzer Corps for the attack. But at first light on the morning of July 12, the fresh troops of the Soviet Bryansk and Western Fronts launched the planned counteroffensive from the north against Orel. This counteroffensive, although an integral part of the Soviet plans since April, seems to have caught the Germans completely by surprise. The Soviet counteroffensive, led by the Third Tank Army with some 21 divisions, 230,000 men and 1,460 tanks, posed a major threat to the rear of 9th Army and to Orel. To meet this threat, the Germans began quickly to move troops north. At 0800 hours, for example, the 12th Panzer Division and the 36th Infantry Division were halted on their way to support 9th Army and turned north. By 0900 the Ferdinands of the 653rd Heavy Panzerjäger Battalion and two battalions of heavy artillery also were pulled out and moved north. The 20th Panzer Division followed later in the day, and in

133. Klink, *op. cit.*, p. 258.

134. *Ibid.*, p. 259.

135. *Ibid.*, pp. 253 and 257.

136. Dunn, *op. cit.*, p.180.

the evening Gen. Model was given command of both the 9th Army and the 2nd Panzer Army to coordinate the battle for Orel.¹³⁷ The German offensive on the north face of the salient at Kursk effectively had ended.

Figure 8 shows the situation at 2100 Hours on July 12, 1943.¹³⁸ It should be noted that Russian and German sources do not agree on the situation at this time. German sources show Trossna, Ponyry Station, Kashara, and Teploie all in German hands. Russian maps show them all in Russian possession. In any case, the German 9th Army had advanced only 12-15 km in the eight days from July 5 to July 12. They had made their best gains in the first two days, before the Soviet reserves began arriving. Only at Teploie did they succeed in making a dent in the Soviet Second Defense Belt. The remaining six Soviet defense belts remained untested.

11. The Role of Soviet Minefields and German Minefield Breaching on the North Face during the Offensive

As the narrative of the fighting indicates, minefields played a vital role in the Soviet defense on the north face of the salient. According to Soviet historians, during the period from July 5 through July 12, the Germans lost 420 tanks and assault guns and some 4,000 men in the minefields, many of them in the minefields laid after the battle began. In addition to the extensive minefields laid before the battle, Soviet Mobile Obstacle Detachments laid about 35,000 anti-tank mines and 4,000 antipersonnel mines in the defense sectors of 13th Army and the right flank of 70th Army during the fighting. The 1st Guards Engineer Brigade was especially effective in this work. Operating mostly in battalion and company sized detachments, the brigade destroyed 140 German tanks and assault guns during the period from July 5 to July 9. It also claimed some 2,500 enemy casualties, including 600 on electrified obstacles.¹³⁹

The Germans on the north face of the salient never solved the problem of locating and breaching the Soviet minefields quickly and without major losses. In the initial attack on July 5, of course, they knew roughly where the minefields were located and planned how to breach them. The 6th Infantry Division planned a covert breach under cover of darkness. However, the troops of the Soviet 15th Rifle Division were on the alert, disrupted the breaching operation, and even captured some of the engineers. Three companies of radio-controlled B IVs were also used to breach the initial minefields. Only one of these, the 314th Radio Controlled Panzer Company supporting the 653rd Heavy Panzerjäger Battalion (Ferdinand) in XLI Corps sector, was moderately successful. It breached three lanes through the minefield, but the lack of a marking system meant that many of the Ferdinands were not able to stay in the lanes and consequently suffered heavy losses. The Goliath system (midget tanks with explosive charges)

137. Klink, Op. cit., p. 263.
Münch, op. cit., p. 52.

138. Figure is from Glantz, op. cit., p. 33.

139. Tsirlin, op. cit., p. 162.

was used to support the 78th Sturm Division and the 505th Heavy Panzer (Tiger) Battalion in XXIII Corps sector. It was not notably successful in breaching the minefields. See Section I.4.

After the initial attacks on July 5, the Germans no longer knew where to expect Soviet minefields. Even areas which were free of mines one day were often mined during the night by Mobile Obstacle Detachments. Typically the Germans' first realization that they were in a minefield was when the first vehicle blew up or the first anti-personnel mine exploded. The standard reaction to this situation was to halt and call for engineers to clear lanes. In an attempt to reduce losses from mines, the Germans began, belatedly, attaching an engineer squad in an armored personnel carrier to each Tiger company. There is no mention of any systematic use of the B IVs or the Goliaths during the remainder of the offensive. The Soviet minefields continued to delay the German advance and inflict heavy losses throughout the fighting on the north face of the salient.

The delays the minefields imposed on the German attacks were probably at least as important as the losses they inflicted. Each minefield they encountered caused the German attackers to stop and wait for engineers to clear lanes. This greatly reduced the speed of the advance. To succeed in their plan of cutting off the salient and trapping large numbers of Soviet troops before reinforcements arrived, the Germans needed to advance about 20 km per day. In fact, the troops of 9th Army advanced only a total of 12-15 km from July 5 to July 12. Such delay was fatal to their hope of success.

J. THE COMBAT ON THE SOUTH FACE OF THE SALIENT

1. Timing of the Attack

The mission assigned to Army Group South was, "With concentrated forces, Army Group South breaks out to the west of the Belgorod area, advances on a line Prilepy-Oboyan to the east and makes contact with Army Group Center near Kursk. The attack is screened to the east and west."¹⁴⁰ The German offensive was planned as a coordinated operation. The attack from the south by Field Marshal von Manstein's Army Group South was to be simultaneous with that of Gen. Model's Ninth Army from the North. In accordance with German doctrine, however, local commanders were allowed flexibility in the precise time of their attacks. Figure 9 shows the situation in the south face of the salient at 0600 hours on July 4, 1943.¹⁴¹

The attack in the south was even less of a surprise than on the north face of the salient. Gen. Vatutin, the commander of the Voronezh Front, had received the same warning from Marshal Vasilevski that the German offensive would begin during the period 3-6 July. He was

140. Quoted in Haupt, Werner, Army Group South, Atglen, PA, Schiffer, 1998, p. 260.

141. Figure from Glantz, op. cit., p. 34.

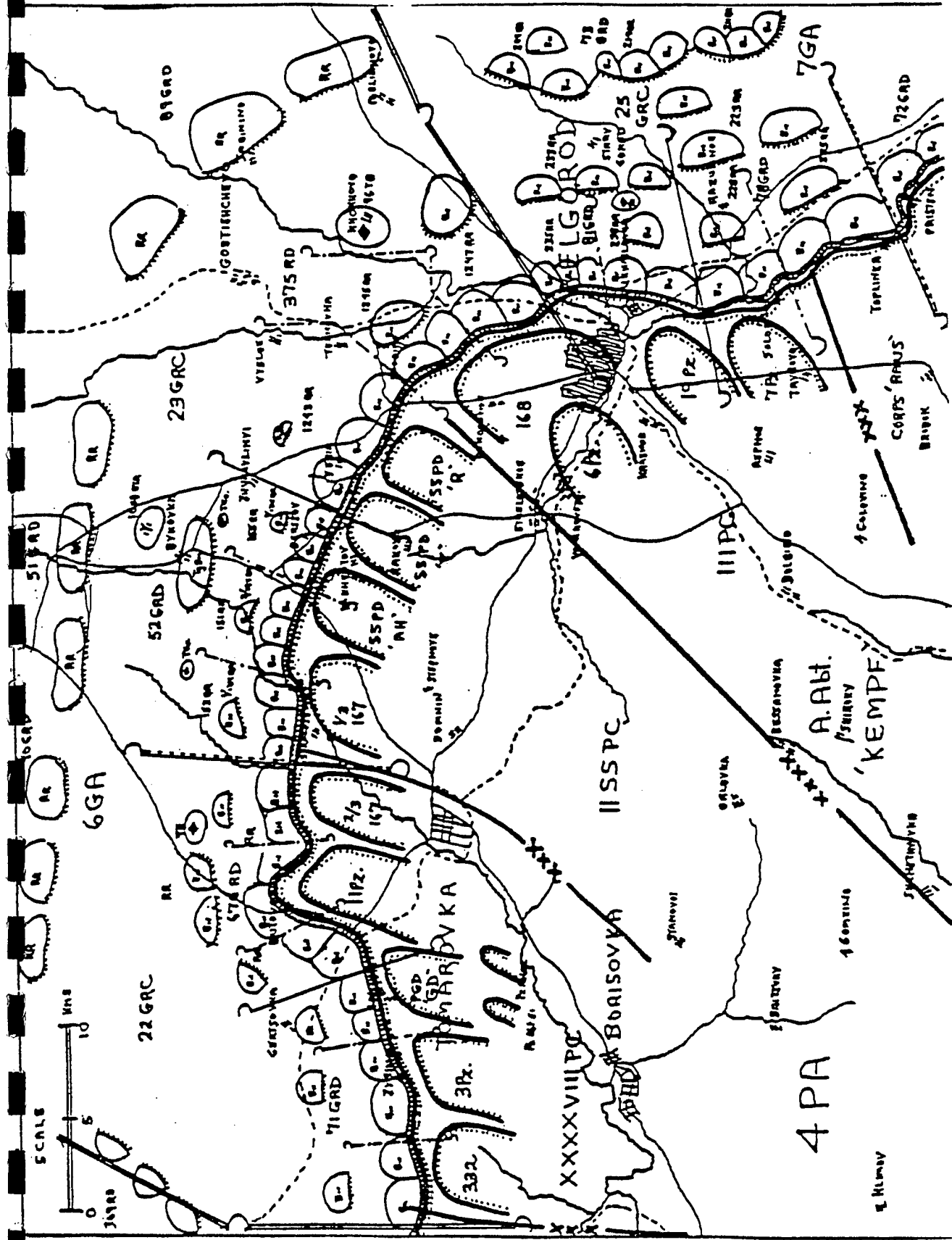


Figure 9. Situation on the South Face of the Salient at 0600 Hours, July 4, 1943

also informed by Central Front that a captured German engineer had revealed that the attack on the north face would follow a short artillery barrage beginning at 0330 hours (German time) on July 5. See Section I.1. On the south face of the salient a prisoner from the 168th Infantry Division of III Panzer Corps stated that the German offensive would begin at dawn on July 5. The same information was provided by a deserter from the German forces, a Slovene engineer.¹⁴²

2. Attack on the Soviet Outpost Line on July 4, 1943

Information from prisoners and deserters on the time of the beginning of the offensive could be considered part of the fortunes of war -- just bad luck -- by the Germans. However, the Germans also alerted the Russians to the beginning of the offensive by staging attacks to capture the outpost line on the afternoon of July 4. In front of the attack sector of XLVIII Panzer Corps the Soviet outpost line occupied a series of low hills which overlooked the German assembly areas and provided good positions for Soviet forward observers. These hills also precluded any German observation of the Soviet First Defense Line. Gen. von Knobelsdorf, the corps commander, considered that he needed to seize these hills before launching the attack. Consequently, the Corps Operation Order specified, "On D-1, without commitment of tanks, the Corps will capture enemy outposts up to the line of hills southeast, north, and west of Butovo and from there to the forest east of Bubny."¹⁴³ On the night of July 3-4, German engineers cleared lanes by hand through the minefields in front of the outpost line. Using probes and digging by hand, the 2nd Engineer Company of the Panzergrenadier Division Grossdeutschland reported lifting 2700 mines in a period of five hours in the Butovo sector.¹⁴⁴

At 1445 hours on July 4, the attack on the outpost line of 6th Guards Army began with a bombing run by about 100 aircraft, mostly Ju87D. This was followed by an artillery bombardment, which included both tube artillery and Nebelwerfer multiple rocket batteries. Then the panzer grenadiers of 3rd Panzer Division, Panzergrenadier Division Grossdeutschland, and 11th Panzer Division advanced through the cleared lanes. Although the corps operations order specified that no tanks were to be used, the infantry were supported by assault guns and accompanied by armored observation and signals vehicles. Consequently, the Soviets reported that they were being attacked by tanks. The German attacks were hampered by torrential rains, which reduced visibility and turned the terrain into mud. In spite of the clearing that had been done during the night, the Germans were still hampered by mines. As one participant put it, "The damned things were everywhere!" One artillery battalion commander had two vehicles

142. Dunn, op. cit., p. 108.

143. Corps Operational Order reprinted in Historical Evaluation and Research Organization (HERO), A Study of Breakthrough Operations, (DTIC No. A036492), Dunn Loring, VA, 1976, pp. 113-118.

144. Spaeter, Helmut, The History of the Panzerkorps Grossdeutschland, Vol. 2, 1958, p. 113. Cross, op. cit., pp. 156-157.

blown up under him during the advance, a battery commander was severely wounded by a mine, and the battalion commander of the 3rd battalion of the Panzer Fusilier Regiment Grossdeutschland lost a leg to a mine. Consequently, "Everyone moved through the terrain slowly with extreme caution."¹⁴⁵ Nevertheless, faced by such heavy attacks, the Soviet forces of the 199th Guards Rifle Regiment and the 71st Guards Rifle Division resisted only briefly and then withdrew through communications trenches to the Main Defense Line as planned. On the flanks of the XLVIII Panzer Corps, the LII Corps and the II SS Panzer Corps launched supporting attacks. Thus on the afternoon of July 4, there was activity across the whole 4th Panzer Army/6th Guards Army front. To be sure, after the troops of XLVIII Panzer Corps had seized the outpost line, they dug in and made no attempt to exploit their success. The fighting died down in the sector, but Soviet troops manning the First Defense Line reported that they could hear tank engines. Although XLVIII Panzer Corps had gained a somewhat more favorable position for launching the offensive, they had given up any hope of tactical surprise. The Soviets had little doubt that the German offensive on the south face of the salient was imminent. In the evening of July 4, Gen. Vatutin directed the implementation of Variant 1 of the Front Defense Plan, the main German attack against 6th Guards Army toward Oboyan and a secondary attack against 7th Guards Army south of Belgorod. This was, of course, correct.¹⁴⁶

3. Soviet Counter Preparation

Like Marshal Rokossovsky in the north, Gen Vatutin decided to launch his counter preparation just before the German attack. The counter preparation at Kursk was much heavier than in earlier battles. Some 2,460 guns, mortars, and rocket launchers were used on both faces of the salient, and more than half the artillery's initial allocation of ammunition was consumed. See Section I.2. Although the counter preparation in the south was launched at the same time as that in the north and lasted the same time -- about 30 minutes -- the choice of targets was quite different. The counter preparation on the north face was a classic counter preparation directed primarily against the German artillery. More than 80% of the targets were artillery positions. On the south face, however, 77% of the targets were infantry and armor units in their attack positions. The difference in emphasis was clearly based on the different situation on the two faces. In the north, 13th Army had very heavy forces to defend a front of only 32 km. In the south, however, 6th Guards Army and 7th Guards Army had to defend fronts of 60 and 54 km respectively with smaller forces. Consequently they were more concerned with the tank and infantry forces preparing to attack than with the enemy artillery.¹⁴⁷

The sudden, extremely heavy counter preparation was quite effective -- especially psychologically. Guy Sajer, a member of Grossdeutschland Division, gave a graphic description

145. Spaeter, op. cit., pp 114-115.

146. Cross, op. cit., pp. 157-159.
Erickson, op. cit., p. 98.

147. Khoroshilov in Parotkin, op. cit., p.208.

of the terror produced by seemingly endless explosions, even to those in comparatively safe shelters.¹⁴⁸ In spite of the disruption and the psychological impacts, actual casualties were surprisingly low, since most of the German troops were in shelters with overhead cover. As on the north face, the counter preparation in the south delayed the German attacks and disrupted their coordination. The German High Command had to delay the attack against the Voronezh Front for three hours in order to regain control of their units.¹⁴⁹

4. German Tactical Concept

The German tactical concept on the south face of the salient was quite different from that in the north. As Section I.3 indicates, Gen. Model planned to break through the Russian defenses on the north face with the infantry divisions already in contact. Then he planned to send his panzer divisions through the holes in the Russian defenses to push on quickly to Kursk. In the south, on the other hand, Field Marshal von Manstein planned for his armored divisions to lead the attack from the first day. West of Belgorod the two panzer corps of 4th Panzer Army would attack to the north through Oboyan on the shortest route to Kursk. These two corps, XLVIII and II SS Panzer Corps, had a total of two panzer and four panzergrenadier divisions and only two infantry divisions. Similarly, the III Panzer Corps with its three panzer divisions would lead the attack of Army Kempf southwest of Belgorod. The three all-infantry corps were to defend the flanks of the penetrations -- the LII Corps the west flank of 4th Panzer Army and the XI and XLII Corps the flanks of Army Kempf.

Just as Gen. Model did not expect his infantry divisions to break through the Russian defenses without armored support, Field Marshal Manstein did not expect his tankers to push through without infantry. The infantry support, however, would be provided by the armored infantry, panzergrenadier, units of the panzer and panzergrenadier divisions. These troops were well trained in working with tanks and rode to the battlefield in armored personnel carriers.¹⁵⁰

Army Group South had 135 Tiger tanks -- the equivalent of 3 battalions. See the table in Section F.1. During the attack on the south face of the salient these were not employed in mass, as Gen. Guderian had recommended, or even in battalion formations. Instead, they were employed in company-sized formations to support the attacking panzer divisions. This tactical employment was favored by the TOE -- each of the SS divisions and the Panzergrenadier Division Grossdeutschland had one company of Tigers. But the separate Heavy Panzer Battalion 503 was used by III Panzer Corps in the same way to support the attacking panzer divisions.

148. Sajer, Guy, The Forgotten Soldier, New York, Harper, 1971, pp. 234-235.

149. Piekalkiewicz, op. cit., p. 138.

150. Dunn, op. cit., pp. 53-63 and 109.
Piekalkiewicz, op. cit., pp. 107-110.
Koltunov (1970), op. cit., pp. 40-48.

The 200 Panthers of Panzer Battalions 51 and 52 (Panzer Regiment 39), on the other hand, were employed together in support of Panzergrenadier Division Grossdeutschland.

Whenever the terrain and the Soviet minefields on the south face permitted, the Germans attacked in Panzerkeil or arrow formation with tanks in the lead. The German tanks usually attacked in a battalion force of about 50 tanks spread over a frontage of about 1,200 meters. The first wave was formed by two lead companies, preferably one of them a Tiger company at the point of the arrowhead. Each forward company placed two platoons of five tanks in a 500-meter line with the ten tanks spaced about 50 m apart. The two remaining platoons and the headquarters section followed in column. The tanks of each of the platoons were arranged in a wedge or arrow shape, giving the name to the formation. The mission of the first wave was to attack the enemy antitank defense. The Tigers were especially effective at this task, since their 88mm guns gave them a range advantage over the Soviet tanks and 76mm antitank guns. They could engage the Russian guns and tanks while still outside the effective range of the enemy weapons. The German second wave would provide covering fire for the first wave with one tank company and then would attack the enemy infantry with the help of one or two companies of the division's panzer grenadiers. These armored infantrymen would move forward in armored personnel carriers as close as possible to the point where they would engage the enemy. Then they would dismount and, supported by assault guns, attack the remaining antitank guns, machine gun emplacements, and infantry positions. The third wave, with the remaining tank company and the bulk of the panzer grenadiers, would eliminate any remaining resistance. The flanks were protected by antitank guns, operating by platoons and moving by bounds.¹⁵¹ These were essentially standard German tank-infantry tactics. The most important departure from the standard was the use of the Tiger tanks at the point of the arrow in the first wave. The most significant difference from the initial tactics on the north face of the salient was the use of tanks in the initial attack. In the north, as Section I.2 indicated, the initial attack was primarily by infantry units supported by assault guns and Ferdinands.

Once the German attack entered the Soviet front line company strong points, the tactical concept was to eliminate the Soviet positions one by one. Each strong point was an essential link in the chain of interlocking fire -- each company strong point depended on its neighbors to lay down a curtain of fire across its front. Thus as soon as they captured one strong point, the Germans planned to "roll up" the neighboring strong points from the flank. The Soviets, of course, were well aware of the German tactics and, as Section G indicated, attempted to forestall them by:

- Deep defensive belts rather than thin lines
- Providing defense in depth: eight defense belts

151. TM-E 30-451, *op. cit.*, Section IV, pp. 9-14.

Sharp, Charles C., German Panzer Tactics in World War II, West Chester, OH, Nafziger, 1998, *passim*.

- Masses of artillery and antitank guns
- Reserves for counterattacks at every echelon
- Extensive use of mines

5. Breaching the Initial Soviet Minefields

On the north face of the salient the Germans used two "high tech" methods to try to breach the Soviet minefields. The B IV and the smaller Goliath were both remote controlled vehicles with explosive charges. Several vehicles could be used one after the other to clear a lane through a minefield. As Section I.4 described, the B IV and the Goliath were only partially successful. In fact, most minefield breaching in the north was done by hand, by engineers using probes to locate the mines.

On the south face of the salient no B IV or Goliath units were assigned. As in the north, magnetic mine detectors were not very effective because of the magnetic soil and the large amounts of metal in the ground from previous battles and from artillery fire. Consequently, engineers used probes to locate the mines and lifted them by hand. Whenever possible the Germans tried to do this under cover of darkness on the night before a planned attack. On the night of July 4-5 the German divisions scheduled to attack had detachments of engineers clearing lanes through the Soviet minefields. This was slow and dangerous work and could not always be completed before the attack. For example, the war diary of XLVIII Panzer Corps for the night of July 4-5 reported that at 0520 hours 11th Panzer Division requested additional engineers to clear mines near Butovo. Two engineer companies of the 1st Engineer Training Battalion -- all the corps had in reserve -- were temporarily attached to 11th Panzer Division for that purpose.¹⁵²

Using these primitive techniques, the German attacking forces breached the minefields and reached the Soviet First Defense Belt on July 5, albeit after some delay. But this did not end the German problem with Soviet mines. The Mobile Obstacle Detachments, although not so numerous as on the northern face of the salient, were busy laying mines on the routes of the German advance. For example, the 211th Special Minelaying Company laid a series of command detonated minefields in the sector of 6th Guards Army near Berezov on July 5. When these were detonated, they destroyed 17 tanks, 20 motorcycles and a battalion of infantry, according to Soviet reports.¹⁵³ Moreover, the Soviets had laid additional minefields to protect each defense line, although these were not so extensive as those laid in front of the First Defense Belt. Since the Germans on the south face of the salient performed their minefield breaching

152. War diary reprinted in HERO, op. cit., p. 122.

153. Tsirlin, op. cit., p. 163.

by hand, the minefields were quite effective in delaying the German attacks and allowing time for the Russians to bring forward additional troops.

6. German Initial Losses in the Minefields

In addition to delaying the German advance, the Soviet minefields also inflicted losses on the attackers. According to Soviet sources, the Germans lost 67 tanks and the equivalent of two battalions of infantry in the minefields on the first day of the offensive on the south face of the salient.¹⁵⁴ The tank losses represented about four tank companies or about two-thirds of the tank strength of a typical panzer division. Of course, many of the tanks were no doubt mobility kills and were back in action within a short period of time. The personnel casualties from mines were not all simple infantrymen but included a number of officers who were leading from the front and even one division commander, Lt Gen. Schäfer, commander of the 332nd Infantry Division of XLVIII Panzer Corps.¹⁵⁵

7. July 5, 1943: Breaking through the First Defense Belt

The attack on the south face of the Kursk salient began at 0400 hours on July 5 with a heavy air bombardment by the Stukas and bombers of Air Fleet IV. More than 2,500 bombs were dropped on the positions of the 67th Guards Rifle Division of 6th Guards Army. This was followed by a short, but extremely intense artillery bombardment. Within 50 minutes more shells were fired between Belgorod and Gertsovka than during the whole of the campaigns in Poland and France combined.¹⁵⁶ Despite the violence of the aerial and artillery bombardment, Soviet casualties were relatively light, since most of the troops were in positions with overhead cover at that time.

The tanks and infantry of 4th Panzer Army began their attack at 0500. Because of the effects of the Soviet counterpreparation and of the weather, however, the different corps and divisions did not attack simultaneously. During the days before the offensive the weather in the area had been very dry. On the afternoon and night of July 4, however, a series of very heavy thunderstorms swept through the area on the southern face of the salient, and the rain continued all night. The heavy rainfall greatly reduced the trafficability of the roads and terrain. As the War Diary of XLVIII Panzer Corps recorded, "Roads were at times impassable by wheeled vehicles because of rainstorms."¹⁵⁷ The rain turned shallow streams, which the Germans had planned to ford, into small rivers which required bridging equipment.

154. Ibid.

155. War Diary of XLVIII Panzer Corps, HERO, op. cit., p. 125.

156. Carell, op. cit., p. 52.

157. HERO, op. cit., p. 121.

On the west flank of the attack, the LII Corps attacked east and north of Bubny, supported by a heavy artillery barrage. See Figure 9. Bubny, held by the German 255th Infantry Division, became the anchor for the west shoulder of the German penetration. Following the classic method of defeating a penetration, however, the Soviets attacked at the base of the penetration, beginning on the first day of the offensive. Essentially the 255th Infantry Division was occupied for the remainder of the Kursk operation defending against Soviet counterattacks in this area.¹⁵⁸

The XLVIII Panzer Corps attacked at 0500. Because of the minefields and the condition of the roads, however, the attack was not so well organized as had been planned. According to the Corps War Diary, the 3rd Panzer Division was delayed in moving forward because the road between Fastov and Gertsovka was heavily mined. The 332nd Infantry Division had to delay launching its attack, since it had problems bringing up its artillery and heavy weapons. The 11th Panzer Division encountered a heavily mined area near Butovo and had to request corps engineer assistance. When infantry and tank units of the Panzer Grenadier Division Grossdeutschland reached the antitank ditch and ravine east of Berezovyy, they encountered deep minefields. In addition, the antitank ditch and ravine were both full of water. The first tanks did not get across the ravine until 1000 -- a delay of 4½ hours -- and the crossing was not completed until July 6. By that time the Soviets had considerably strengthened their defense. In addition, the division reported that its panzer regiment had already lost a considerable number of tanks in the minefields north of Hill 229.8. Map 2 of Appendix D is a 1:50,000 scale map of the XLVIII Panzer Corps Sector. During the fighting on July 5, the Grossdeutschland Panzer Regiment lost 5 assault guns and about 20 tanks as a result of mines.¹⁵⁹

In spite of such difficulties with minefields and the water logged terrain, the XLVIII Panzer Corps succeeded in breaking through the Soviet First Defense Belt. The 3rd Panzer Division attacked Butovo against elements of the 67th and 71st Guards Rifle Divisions supported by the 27th Tank Destroyer Brigade and four independent tank destroyer regiments and succeeded in breaking through the first line of defense and pushing back the Soviets about 5 km. As indicated above, the Panzer Grenadier Division Grossdeutschland had great difficulty getting through the antitank ditch and ravine and the minefields east of Berezovyy. They did not complete the crossing until July 6. Likewise, the performance of the 200 Panthers of Panzer Regiment 39 was disappointing. The Corps Commander had expected that this mass of armor would quickly break through the Soviet defenses and capture the ground to the north. Instead the Panthers encountered a minefield soon after jumping off, and had to call for engineers to clear lanes. Soviet artillery and anti-tank fire concentrated on the stranded Panthers and the engineers working to extricate them. Some 40 Panthers were knocked out by mines or by

158. Klink, *op. cit.*, p. 209.

159. Corps War Diary, HERO, *op. cit.*, pp. 122-124 and 132.

Spaeter, *op. cit.*, pp. 115-120.

Donnhauser, Anton, *Der Weg der 11. Panzer-Division*, Bad Wörishofen, 1982, p. 112.

hostile fire. Meanwhile the infantry, who had been waiting for support by the Panthers, attacked the Soviet positions and were thrown back with heavy casualties. Consequently, the attack was abandoned, and those Panthers which could be extricated were shifted to support the main body of the division to the east. This was a textbook case of the ability of a dense minefield, properly covered by fire, to completely stop a major attack. The attack which the Grossdeutschland mounted further to the east, with the Tiger Company at the point of the thrust, was more successful and pushed back the Soviet forces. By evening the tank regiment of the Grossdeutschland Division had reached Cherkasskoe, about 5 km from the start line. On the east flank of the Corps, the 11th Panzer Division and the 167th Infantry Division attacked the 67th Guards Rifle Division and the 153rd Guards Rifle Regiment of the 52nd Guards Rifle Division at 1100 hours near Berezov. The 52nd Division, supported by the 1008th and the 538th Tank Destroyer Regiments, claimed 18 German tanks, including 10 Tigers, 4 assault guns, and 200 infantry. By 1600 the division had been forced out of its first line positions and was withdrawing with the support of the 28th Tank Destroyer Brigade. The division claimed an additional 25 tanks. The 52nd Division withdrew about 6 km to Bukovka on the Vorskla River, where it was joined by the 96th Tank Brigade with about 40 tanks and elements of the 51st Guards Rifle Division.¹⁶⁰ Thus by the end of the day on July 5 the XLVIII Panzer Corps had succeeded in breaking through the initial Soviet minefields and the First Line of Defense. However, they had advanced only 5-6 km -- far short of expectations. Since they were only about half way to the Second Defense Belt, they were not in a position to launch an attack on the Second Defense Belt by the next morning.

To the east, the 2nd SS Panzer Corps was more successful. With its three well-equipped panzergrenadier divisions, it attacked the 155th Guards Rifle Regiment of the 52nd Guards Rifle Division and the 1243rd Rifle Regiment of the 375th Rifle Division. The 375th Rifle Division held a 15 km sector from Berezov to Belomestnaya, north east of Belgorod. See Figure 9. In spite of extensive minefields and field fortifications and good support from artillery and anti-tank guns, two regiments obviously could not stop three panzergrenadier divisions. Clearly the Soviets had not expected a major effort at this point. The 375th Rifle Division withdrew to the northeast to the east bank of the Novi Donets River, pursued by the SS Totenkopf Division. By about 1430 hours both the SS Leibstandarte (LS) Adolf Hitler and Das Reich Divisions had pushed through the gaps in the First Defense Belt. They drove north through the space between the defense belts against light opposition. By 1630 hours the LS Adolf Hitler Division was attacking Butovka on the Vorskla River in coordination with elements of the XLVIII Panzer Corps. By 1840 hours the division had moved another 5 km north and was only 500 m south of the Second Defense Belt in a sector from Iakovlevo to the Donets. This was about 15 km from the divisions starting position. The Soviets had brought up elements of the 51st Guards

160. Koltunov (1970), *op. cit.*, pp. 135, 138-141.

Spaeter, *op. cit.*, pp. 115-120.

Klink, *op. cit.*, pp. 209-211.

The Panthers also had maintenance problems, although early reports that many caught fire before entering combat appears to have been an exaggeration.

Rifle Division and the 230th Tank Regiment to slow down the advance. The panzer battalions of the SS Das Reich Division were stopped further south. It did not close on the Second Defense Belt until 0300 on July 6, as the infantry came up during the night. The Totenkopf division was still on the Belgorod-Oboyan Road behind the other two divisions slowly pushing the 375th Rifle Division eastward toward the North Donets.¹⁶¹ Clearly the 2nd SS Panzer Corps had done well on the first day of the battle. They had broken through the First Defense Belt and closed up to the Second Belt. However, this success in getting through the Soviet minefields and breaking through the First Defense Belt had come at a high cost in casualties. The LS Adolf Hitler Division, for example, reported 522 soldiers wounded and 97 killed in action during the first day's fighting. Moreover the Germans had not succeeded in destroying the opposing Soviet units. The entire corps reported only 7 Soviet tanks captured or destroyed - the Soviet tank regiments had obviously managed to withdraw in good order. Similarly, the Soviet artillery withdrew without major losses. The advancing Germans destroyed only one gun, two mortars and thirteen rocket launchers. Even the 375th Rifle Division, which had held the breakthrough sector, was not destroyed but retained its integrity and continued to hold a front line divisional sector for the next week.¹⁶²

The two Panzer Corps of Fourth Panzer Army were both attacking north, planning to meet the forces of Ninth Army at Kursk. The mission of Army Detachment Kempf, on the other hand, was to attack to the east against the 7th Guards Army and then turn north through Korocha to cover the right flank of Fourth Panzer Army and prevent attacks from Soviet reserves coming from the east. See Section D. Army Detachment Kempf began its attack at 0225 on July 5, following a 30-40 minute bombardment on the Soviet positions. The III Panzer Corps made the main attack on the north. This attack of the Kempf Army was more complicated than that of 4th Panzer Army, because it required crossing the North Donets River, which flowed between the German and Russian positions. Only at Belgorod had the Germans secured a bridgehead before the attack. See Figure 9. From this bridgehead, the 168th Infantry Division, supported by artillery and tanks from the 6th Panzer Divisions, attacked the 238th Guards Rifle Regiment of the 81st Guards Rifle Division and forced it back about 3 km to the east. Another battle group took Chernaia Poliana, 5 km northeast, forcing back the 235th Guards Rifle Regiment about the same distance. However, the Soviets had heavily mined the roads leading out of the bridgehead and kept heavy artillery fire on the crossing sites, destroying several bridges. This slowed the German advance and gave the Soviets time to reinforce the defense at Saryi Gorod. Consequently, the German advance was limited to 3 km. The 19th

161. Stadler, Silvester, Die Offensive gegen Kursk 1943: II. SS-Panzerkorps als Stosskeil im Grosskampf, Osnabrück, Munin Verlag, 1980, p.39.

Koltunov (1970), op. cit., p. 141.

162. Klink, op. cit., p. 210.

Stadler, op. cit., pp. 44 and 55.

Ailsby, Christopher, Waffen-SS: Hitler's Black Guard at War, New York, Barnes & Noble, 1997, p. 106.

Panzer Division attacked with thirty tanks, including some Tigers, at Michailovka and encountered stiff Soviet resistance. By 1100 the division reported that despite heavy losses it was firmly established on the east bank of the river. At 1300 the 78th Guards Rifle Division reported that it was being attacked by 100 tanks but had destroyed 19 of them by fire and 7 in the minefields. However, elements of the 81st Guards Rifle Division were still delaying the 19th Panzer Division at Michailovka. In the Corps commander's words, "The 19th Panzer Division gained only a little ground in the heavily mined forests southeast of Belgorod and lost many tanks due to mines." During the night, German engineers completed a bridge at Pushkarnoie which enabled the 19th Panzer to complete moving its tanks and other vehicles across the river. To the south, the 7th Panzer Division was more successful. The 58th Panzer Engineer Battalion spent the night of July 4-5 clearing mines from the crossing sites and bringing forward boats and bridging material. Early on July 5 the division made a successful river crossing and the engineers built a 50-ton bridge at Dorobuschino, 7 km south of Belgorod. Here too the advance encountered stiff opposition and was temporarily halted by the 78th Guards Rifle Division at the rail line that passed through Dorobuschino. After bringing up additional forces, however, the 7th Panzer Division continued to advance. By evening it had driven back the 78th Guards Rifle Division to Razumenoe. The Germans occupied the town after heavy street fighting and repulsing a Soviet counterattack supported by tanks. By nightfall the 7th Panzer Division had a tank unit on a hill near Krutoi Log, 5 km further east and halfway to the Second Defense Line. Thus the III Panzer Corps had mixed success during the first day of fighting. Although the Germans succeeded in crossing the North Donets River, only the 7th Panzer Division succeeded in breaking through the First Defense Belt and even that division was able to advance only halfway to the Second Belt.¹⁶³

During the night Gen. Breith, the Corps Commander, decided on a significant change in plans. The 6th Panzer Division withdrew from the north flank, crossed the North Donets on the 7th Division bridge, and became the corps reserve in the area to the west of Krutoi Log behind the 7th Panzer Division. This followed the standard German tactical practice of reinforcing success and appeared to be a good idea from the corps point of view.¹⁶⁴ From a

163. Koltunov (1970), op. cit., p. 142.

Klink, op. cit., pp. 213-214.

Jentz, op. cit., pp. 87-88.

Breith, Hermann, "Breakthrough of III Panzer Corps through Deeply Echeloned Russian Defenses," reprinted as Chapter VI of Newton, Steven H., German Battle Tactics on the Russian Front 1941-1945, Atglen, PA, Schiffer, 1994, pp. 157-158.

Manteuffel, Gen. Hasso, Die 7. Panzer-division im Zweiten Weltkrieg, Friedberg, 7th Panzer Division Association, 1986, pp 343-345.

Von Knobelsdorff, Gen. Otto, Geschichte der niedersächsischen 19. Panzer-Division, Bad Nauheim, Podzum, 1958, pp. 207-208.

164. Breith, op. cit., p. 158.

Klink, op. cit., p. 214.

higher level, however, it had some serious disadvantages. It left a salient held by the Soviet 375th Infantry and 81st Guards Rifle Division separating the advance of II SS Panzer Corps from III Panzer Corps. The Soviets poured reinforcements into this salient and used it as a base for counterattacks against the flank of II SS Panzer Corps. To defend against these counterattacks, the SS Totenkopf Division spent several days serving as flank guard for 4th Panzer Army. Similarly, the 19th Panzer Division of III Panzer Corps had to defend the other side of the salient until the Soviets were finally forced to withdraw on July 15. Thus the armored spearheads of each of the two corps was deprived of a third of the corps combat power during these critical days.

To the south, the infantry of XI and XLII Corps had little success. In the XI Corps sector the 106th Infantry division crossed the Donets with the support of the 905th Assault Gun Battalion. But the engineers could build only an 8-ton bridge, which was not strong enough to carry the assault guns. Without their support the division advanced only to Toblinka, just east of the river, where it was stopped by an attack by the 72nd Guards Rifle Division supported by tanks and elements of the 213th Rifle Division. The 320th Infantry Division crossed the Donets after heavy fighting and reached the railroad at Maslova Pristani. The XLII Corps also crossed the river but immediately was halted by a minefield. Thus the two southern corps of Army Detachment Kempf succeeded in crossing the river but did not penetrate the First Defense Belt and did not reach their objectives for July 5.¹⁶⁵

During the fighting on July 5 both the Red Air Force and the Luftwaffe were very active on the southern face of the salient. Neither side had air superiority over the entire area. The bombers of the German VIII Air Corps attacked targets immediately behind the Soviet front, while its ground attack and dive bomber units bombed and strafed enemy pockets of resistance, artillery batteries, and reserves within the actual battle area. This air support greatly assisted the attack of XLVIII and II SS Panzer Corps. But the Red Air Force was also very active on July 5. The Soviet 2nd Air Army flew 1,322 sorties and the 17th Air Army 569 sorties in support of 6th Guards Army. In addition, 17th Air Army flew more than 200 sorties in support of 7th Guards Army, destroying more than 40 enemy vehicles. The advancing German tanks had to be wary of air attack the entire day. At the same time, Soviet fighters were employed to protect the withdrawing tanks and infantry from air attack -- a luxury the Russian troops had not enjoyed in earlier battles.¹⁶⁶

165. Klink, *op. cit.*, p. 214.
Koltunov (1970), *op. cit.*, p. 142.

166. Koltunov (1970), *op. cit.*, pp. 141-142.
Plocher, Gen. Hermann, *The German Air Force Versus Russia, 1943*, USAF Historical Division, Aerospace Studies Institute, Air University, 1967, p. 85.

8. July 6, 1943: Fighting between the Belts

Although the German forces had not been so successful on July 5 as the High Command had hoped, their success was nevertheless great enough to cause serious concern to the Soviet commanders. After all, the Germans had broken through the First Defense Belt in two places, and the II SS Panzer Corps had advanced up to the Second Belt. During the night of July 5-6, therefore, the Soviets began to move large numbers of reinforcements to the threatened areas.

During the afternoon of July 5 Gen. Vatutin, Commander of the Voronezh Front, ordered his operational reserves to begin their movement. The First Tank Army was ordered to move some 40 km forward from Oboyan to a position just behind the Second Defense Belt of 6th Guards Army. At first they were ordered to counterattack on July 6, in order to stop the advance of the XLVIII Panzer Corps toward Oboyan. After a discussion between Gen. Katukov, the tank army commander and Gen. Vatutin, however, the orders were changed, and the First Tank Army dug in its tanks for defense. The 6th Tank Corps was placed behind the 90th Guards Rifle Division in the west, the 3rd Mechanized Corps behind the 67th Guards Rifle Division in the center, and the 31st Tank Corps on the Oboyan road behind the 51st Guards Rifle Division on the east flank of the army. This greatly increased the strength of the Second Defense Belt. Since the 40th Army and the 38th Army were not under serious attack, Gen. Vatutin shifted forces from them to the threatened area. Units transferred from 40th Army, for example, included the 29th Tank Destroyer brigade and the 1244th and 869th Tank Destroyer Regiments, with a total of over 100 antitank guns. The 309th Rifle Division was also moved from 40th Army to a reserve position on the Oboyan road, supported by the 59th Tank Regiment, the 86th Tank Brigade, the 1461st SU Regiment, and the 12th and 1689th Tank Destroyer Regiments, with a total of more than 120 armored vehicles and 40 antitank guns. The 192nd Tank Brigade from 40th Army and the 180th Tank Brigade from 38th Army were moved to positions on the west flank of the German penetration and spent the next few days vigorously attacking the west flank of XLVIII Panzer Corps.¹⁶⁷

Neither Gen. Vatutin nor the Soviet General Staff, the Stavka, was certain that the Voronezh Front would be able to stop the German advance using only the Front's own resources. Hence the Stavka began moving additional resources to the threatened area. To stop the advance of the II SS Panzer Corps, the Stavka ordered the 2nd Guards Tank Corps and the 10th Tank Corps to support the Voronezh Front. The 2nd Guards Tank Corps (from Southwest Front reserves) was moved to an area south of Prokorovka during the night of July 5-6 and ordered to attack the east flank of the II SS Panzer Corps. This tank corps was in excellent condition and spent the next few days in combat against the SS Das Reich Division. Similarly, the 10th Tank Corps of the 5th Guards Army was moved behind 6th Guards Army to strengthen

167. Koltunov (1970), *op. cit.*, pp. 143-144.

Klink, *op. cit.*, pp. 217-219.

Armstrong, Richard N., Red Army Tank Commanders, Atglen, PA, Schiffer, 1994, pp. 58-60.

its defense. The 5th Guards Tank Corps was moved to the Lutschki area by midnight on July 5-6 to support the 52nd Guards Rifle Division, which had been driven back by the SS Das Reich and Adolph Hitler Divisions. The 5th Guards Tank Corps included the 20th, 21st, and 22nd Guards Tank Brigades, the 6th Guards Motorized Rifle Brigade, the 48th Guards Tank Regiment, the 1499th Antitank Regiment (20 76mm guns), the 454th Mortar Regiment, and the 60th Engineer Battalion. With over 200 T-34s, KVs and Churchill tanks and six battalions of infantry, it was stronger than a panzer division. Thus these three tank corps were roughly equivalent to the panzer divisions of II SS Panzer Corps. In addition, in the late evening of July 5 the Stavka attached 18th Tank Corps to the 5th Guards Tank Army and alerted the entire tank army for possible movement to the Voronezh Front.¹⁶⁸

In response to this massive movement of Soviet reinforcements to the threatened sectors, the Germans could shift units; but essentially they had no additional reserves to commit to the battle. In theory, Army Group South had the XXIV Panzer Corps (17th, 23 and SS Wiking Panzer Divisions), located near Voronezh, as the Army Group reserve. However, approval of General Headquarters -- in essence, Hitler's approval -- was required before it could be committed. This situation highlights a major German difficulty at the Battle of Kursk. Both the Germans and the Russians suffered heavy losses in men and in tanks during the battle. Because of the flow of Soviet reinforcements, however, their strength in the salient increased throughout the battle, while German strength steadily declined.

Field Marshal von Manstein's orders to 4th Panzer Army were to break through the Second Defense Belt on the morning of July 6. The initial problem was to get through the mines which the Soviet engineers had laid in great numbers during the night on the German routes of advance. The tanks of XLVIII Panzer Corps had to wait while the engineers cleared paths through the minefields by hand. As the Corps war diary recorded, "Since the crossing at Berezovyy is completely covered with mud, the commitment of the entire tank force of the corps depends entirely on the speed of the mine clearing." The engineers of both the 11th Panzer Division and the Panzergrenadier Division Grossdeutschland were involved in this effort. Nevertheless, the attack had to be delayed until 0830. When it began, however, the attack was successful. In spite of wet weather and additional mines, the Germans drove the 71st, 67th, and 52nd Guards Rifle Divisions back to the Second Defense Belt, the forward edge of which was on the north bank of the Pena River. The progress reports recorded in the Corps War Diary make it clear that both the 11th Panzer and the Grossdeutschland Divisions spent most of the day overcoming minefields covered by anti-tank fire. Both divisions reported heavy casualties. Nevertheless, at the end of the day the Corps War Diary summarized, "The Corps has made good progress through the Soviet First Defense Zone and is preparing to attack the Second

168. Stadler, op. cit., p. 72.

Koltunov (1970), op. cit., pp. 143-144.

Klink, op. cit., pp. 217.

Sharp, Charles C., Soviet Order of Battle World War II: "Red Storm" Soviet Mechanized Corps and Guards Armored Units, West Chester, OH, Nafziger, 1995, pp. 38-39, 43.

Defense Zone." However, this represented only about a 10 km advance since the beginning of the offensive.¹⁶⁹

The II SS Panzer Corps made more progress. On July 5 the corps had broken through the First Defense Belt and closed up to the Second Defense Belt. At 0900 on July 6, the Das Reich and LS Adolf Hitler SS Panzergrenadier Divisions attacked the Second Defense Belt with strong close air support. On July 6 the II Panzer Corps received virtually all the air support available on the south face of the salient. The Luftwaffe was using the new SD-1 and SD-2 cluster bombs. These contained 180 2-kg or 360 1-kg fragmentation bomblets which proved devastating to troops with no overhead cover, such as those manning the Soviet anti-tank guns. By 1130 the LS Adolf Hitler Division had broken through the positions of the 155th Guards Rifle Regiment of the 52nd Guards Rifle Division at Iakovlevo, capturing a large number of prisoners. Then they turned and rolled up the positions of the adjacent 151st Guards Rifle Regiment. The Soviets moved quickly to close the gap this created in their defenses: the 31st Tank Corps and the 1st Guards Tank Brigade of the 3rd Mechanized Corps took up positions north of Iakovlevo. At 1300 some 38 tanks of the 230th Soviet Tank Regiment counterattacked at Iakovlevo, and at 1700 another attack with 30 tanks and air support hit the LS Adolf Hitler Division. At the same time the 100th Tank Brigade of 31st Tank Corps arrived at Bolschoi Maiachki, behind the 52nd Guards Rifle Division. Just to the east Das Reich Division was still fighting at Luchki at 1400. Later in the day the division continued to push forward and encountered elements of the 5th Guards Tank Corps with British Churchill tanks, supported by the 122nd Guards Artillery Regiment. In the afternoon the 2nd Guards Tank Corps counterattacked east of Luchki with the help of two divisions from the 69th Army. This counterattack halted the German advance on the west bank of the Novi Donets River. At midnight Das Reich Division was in a defensive position just northwest of Iakovlevo -- well inside the Second Defense Belt. The third panzergrenadier division of the corps, Totenkopf, did not participate in the attack on the Second Defense Belt. Instead, it was busy all day against the 375th Rifle Division supported by the 496th Tank Destroyer Brigade and the 96th Tank Brigade on the corps and army east flank. It repulsed several counterattacks with heavy Russian losses. For example, in an attack at 1900 the Totenkopf Division reported the destruction of 15 Soviet tanks. However, this Soviet pressure kept the Totenkopf Division from moving north and adding its significant strength to the spearhead of the advance. In summary, the II SS Panzer Corps had advanced about 5 km north during the fighting on July 6 and had penetrated the Second Defense Belt at two places: Iakovlevo and Luchki. The fighting was intense, with heavy casualties on both sides. The II SS Panzer Corps claimed to have captured 1609 prisoners and destroyed 90 Soviet tanks and 83 anti-tank guns. However, the Soviet tanks, anti-tank guns, and

169. XLVIII Corps War Diary, HERO, *op. cit.*, pp. 132-140.
Spaeter, *op. cit.*, pp. 120-122.
Stadler, *op. cit.*, pp. 50, 54, 56.
Koltunov (1970), *op. cit.*, pp. 146-148.
Klink, *op. cit.*, pp. 211.

mines were exacting a toll on the German tanks, sapping the strength of the panzer divisions. On the evening of July 6 Gen. Vatutin reported to Stalin by telephone that some 332 German tanks had been destroyed in the 6th Guards Army sector. The LS Adolf Hitler War Diary for July 6 recorded 84 dead and 384 wounded. In two days of combat the division had lost 181 killed and 906 wounded -- roughly 10% of its strength. Continued losses of this magnitude clearly could not be sustained.¹⁷⁰

South of Belgorod the Army Kempf received orders on the evening of July 5 to drive through the First Defense Belt of 7th Guards Army between the Donets River and the railroad on the following day. To prepare for the expected attack, the Soviets moved reserves to the area during the night. A shock group including elements of the 25th Guards Rifle Corps, the 31st Tank Destroyer Brigade, the 167th Tank Regiment, and the 1438th SU (Self Propelled Artillery) Regiment assembled near Batratskia Dacha, 15 km east of the Donets, just behind the second defense line and in the path of the 19th Panzer Division. Another shock group, including the 201st Tank Brigade, the 1529th SU Regiment, and the 1669th Tank Destroyer Regiment, gathered at Gremiachii, between the First and Second Defense Belts in the path of the 7th Panzer Division. Two similar groups assembled at Pristani and at Nukludovo to stop XI and XLII Corps. The Soviets launched counterattacks all along the front beginning at 0330 on July 6, but these ran head on into the advancing 7th and 19th Panzer Divisions of III Panzer Corps. The 7th Panzer Division gained the advantage in this meeting engagement and advanced about 5 km to Krutoi Log. Similarly, the 19th Panzer Division drove the Soviet 78th Guards Rifle Division back to Blisnaia Igumenka, 10 km northeast of Belgorod and attacked the flank of the Russian units opposing the 168th Infantry Division. With this assistance, the 168th Infantry Division finally broke through the First Defense Line southeast of Michailovka. The 6th Panzer Division did not complete its river crossing (on the bridges of the 7th Panzer Division) until 0700. Therefore, it did not take part in the initial attack. Later in the day it was inserted between the 7th and 19th Panzer Divisions and turned north in the direction of Melekovo. By the end of the day the 7th and 6th Panzer Divisions reached Yastrebovo. The 7th Panzer Division reported increasing enemy resistance by strong Russian tank units equipped with the new Stalin (IS-2) Tanks with extremely powerful 122 mm guns. If the report was correct, this must have been their first appearance in combat. The XI and XLII Corps also attacked on July 6. The XI Corps made little progress until the Russians withdrew to the Second Defense Belt in order to avoid having an open flank. The XLII Corps south of Volkovo remained west of the

170. Stadler, *op. cit.*, pp. 49-52, 55, 57.
Koltunov (1970), *op. cit.*, pp. 148-149.
Klink, *op. cit.*, pp. 218.
Carell, *op. cit.*, p. 66.
Healy, *op. cit.*, p. 63.
Ailsby, *op. cit.*, p. 106.

Donets.¹⁷¹ In summary, the Kempf Army advanced during the fighting on July 6, and the III Panzer Corps successfully broke into the Soviet Second Defense Belt. In spite of these successes, however, the Kempf Army was not yet in a position to be able to accomplish its mission of protecting the flank of 4th Panzer Army from an attack from the east.

Close air support continued to play an important role in the fighting on the south face of the salient on July 6. The aircraft of VIII Air Corps of Air Fleet IV provided particularly effective support of the attack by II Panzer Corps. During the day, however, the Soviet 2nd and 17th Air Armies flew many more sorties than the Luftwaffe -- 1,632 compared to 899. In addition, the Soviet figures represented an increase over those for July 5, while the number of Luftwaffe sorties declined. In the air, as on the ground German strength was declining.¹⁷²

Throughout July 6 the Germans were advancing. Reports from battalions, regiments, and divisions emphasized success in attaining objectives and in continuing the advance. The LS Adolf Hitler and Das Reich Divisions of II Panzer Corps appeared well on the way to breaking through the Second Defense Belt and felt that open country was just ahead on the road to Oboyan. In spite of these advances and these successes, however, the Germans had advanced only 10 to 15 km in two days from their initial positions on July 4. Kursk was still over 110 km away. German success depended, as Section H indicated, on closing the gap between 9th Army and 4th Panzer Army before the Soviet reserves arrived. The fierce Russian resistance in their prepared positions and minefields on July 5 had already jeopardized the German chances of success. The rapid movement of reserves on the night of July 5-6 reduced the Germans' chances considerably. The counterattacks on July 6 in the area between the First and Second Defense Belts delayed the German advance and reduced the German chances. Unless the battle took a sharp turn in German favor, there would be no hope of surrounding and destroying large numbers of Soviet troops.¹⁷³ The Germans hoped to force such a sharp turn on July 7.

171. Koltunov (1970), op. cit., pp. 144-145, 150.

Klink, op. cit., p. 215.

Breith, op. cit., pp. 158-159.

Manteuffel, op. cit., pp. 345-346.

The SU (Self propelled artillery) regiments were equipped with either the 122 mm or the 152 mm gun, mounted on modified T-34 chassis. Both had antitank capability, and a direct hit from the 43.5 kg projectile of the SU122 could destroy even a Tiger tank.

172. Koltunov (1970), op. cit., p. 151.

Plocher, op. cit., p. 86.

173. Dunn, op. cit., p. 127.

9. July 7, 1943: Breaking through the Second Defense Belt

By the evening of July 6, Gen. Vatutin, Commander of the Voronezh Front, was sufficiently concerned about the German advances to ask the Stavka for an additional four tank corps and two air corps. The Stavka agreed promptly on the four tank corps, and they arrived on July 7. In addition, the 7th Guards Army was reinforced on the east flank of the German penetration by units of the 35th Guards Rifle Corps, the 92nd Guards Rifle Division, and the 31st Tank Brigade. With regard to air support, Marshal Vasilevsky issued orders just after midnight that the entire 17th Air Army of the Southwest Front would support the Voronezh Front, instead of dividing its support between the two fronts as it had during the previous two days.¹⁷⁴ Looking beyond Gen. Vatutin's request, the Stavka also ordered Gen. Rotmistrov to move his 5th Guards Tank Army, reinforced by the 18th Tank Corps, to Sary Oskol as soon as possible and be prepared to counterattack against the east flank of the advancing German forces. With three tank corps and a mechanized corps, this was a formidable force -- roughly the equivalent of a German Panzer Corps -- and it had seen no combat during the battle. Stalin personally telephoned Gen. Rotmistrov to confirm the order. To allow 5th Guards Army to move in daylight, Stalin promised air cover. The 5th Guards Army began its movement at 0130 hours on July 7.¹⁷⁵ This order was to have a profound influence on the course of the battle.

Field Marshal von Manstein's orders to 4th Panzer Army for July 7 were to drive north about 20 km to reach the Third Defense Belt, which ran south of Oboyan to Prokorovka. The II SS Panzer Corps was to move northeast to the Psel River and then continue to Kursk without stopping. The XLVIII Panzer Corps was to break through the Second Defense Belt and close up to the Third Belt. while maintaining contact with the II SS Panzer Corps in order to prevent a possible Soviet counterattack from the northeast. The LII Corps was to defend the shoulder and the west flank of the penetration. To defend this flank, it received the 332nd Infantry Division from XLVIII Corps. (This transfer was essentially a change in corps boundaries.)¹⁷⁶

The XLVIII Panzer Corps still faced the difficulty of breaking through the Second Defense Belt. This was no small problem. As the corps War Diary described it, "Soviet defenses along the Pena River appear to be stronger than those we broke through yesterday.... On the northern bank of the Pena River the Soviets have prepared very strong positions, including minefields, antitank ditches, barbed wire, etc." During the morning elements of the 3rd Panzer Division were tied down providing security for the west flank of the penetration, but during the afternoon they were relieved by the 332nd Infantry Division and moved north to support the attack. The division assembled south of Luchanino and at 1430, after an artillery

174. Koltunov (1970), op. cit., p. 152.

175. Rotmistrov, Pavel, "Tanks against Tanks" in Sokolov, Sergey, Main Front, London, Brassey's, 1987, p. 106.

176. Klink, op. cit., pp. 219-220.

XLVII Panzer Corps War Diary, HERO, op. cit., p. 142.

preparation, attacked to the north against the 90th Guards Rifle Division. The division reported that it was very difficult for the tank units to cross the Pena, because the terrain was heavily mined and under artillery fire. Nevertheless, with the help of engineer clearing teams, the attack had made slow but steady progress by the end of the day. See Figure 10.¹⁷⁷ The Grossdeutschland Panzergrenadier Division attacked from its bridgehead northeast of Dobrova. The Panther Brigade encountered stiff resistance. It suffered especially heavy losses, when it advanced fully deployed into a minefield which had not been identified. By 1700 hours only 40 Panthers were still operational. The 11th Panzer Division attacked just east of Dobrova and encountered the minefields and field fortifications of the Second Defense Belt. Both divisions made slow progress to the north until about 1500, when they encountered the 31st Tank Corps and the 3rd Mechanized Corps of the Soviet 1st Tank Army. The series of attacks and counterattacks lasted three hours. Losses were heavy on both sides. The 3rd Battery of the 35th Tank Destroyer Regiment of 3rd Mechanized Corps fired on 37 German tanks at ranges of 200 to 300 meters, putting five Tigers out of action. The 112th Soviet Tank Brigade blocked the Grossdeutschland Division north of Sirtsevo. They claimed to have destroyed or damaged fifteen German tanks, including six Tigers, but also reported that they had also lost fifteen tanks. At the end of the day on July 7, the XLVIII Panzer Corps was still entangled in the Second Defense Belt. The Corps War Diary summarized, "A day of extremely heavy fighting has come to an end. Soviet casualties were very high, and our own were not inconsiderable. East of Luchanino German troops have broken through the second defense zone. It is now obvious that the Soviets had prepared a deeply echeloned defense system which they are defending stubbornly." Clearly the Soviets regarded the attacks of the XLVIII Panzer Corps along the road to Oboyan as the most serious threat and concentrated most of their reinforcements there -- notably 1st Tank Army, with the 6th and 31st Tank Corps and the 31st Mechanized Corps. This left a weaker spot further to the east, along the road to Prokorovka.¹⁷⁸

The attack of the II SS Panzer Corps on July 7 took advantage of this weaker spot in the Soviet defense. The corps attacked to the northeast with LS Adolf Hitler Division on the left and Das Reich Division on the right. The two divisions moved out at 0600 from the Second Defense Belt at Iakovlevo and south of Prokovka with strong artillery and air support. They advanced along the road to Prokorovka, pushing back the battered 51st and 52nd Guards Rifle Divisions. Soon they began to receive armored counterattacks. Late in the morning elements of the 5th Guards Tank Corps attacked the left flank of the LS Adolf Hitler Division north of Iakovlevo. The 1st Guards Tank Brigade attacked at Michailovka and the 49th Tank Brigade at Prokovka. After an unsuccessful attempt to stop the LS Adolf Hitler Division at Ulianovka, the 31st Tank Corps retreated north on the Oboyan Road. By late afternoon the division had

177. Klink, *op. cit.*, Appendix 3, Sketch 10.

178. Klink, *op. cit.*, p. 220.

XLVII Panzer Corps War Diary, HERO, *op. cit.*, pp. 140-147.

Spaeter, *op. cit.*, 122-123.

Koltunov (1970), *op. cit.*, pp. 153-154.

reached North Luchki, about 5 km northeast of Ulianovka. On the right Das Reich Division reached Kalinin, about 8 km from its starting point, without meeting heavy resistance. At 0920, however, a heavy Soviet attack, supported by 35 T-34s came from the northwest. Additional heavy tank battles took place between Kalinin and Teterevino, including an attack at 1030 by the 2nd Tank Corps. Das Reich Division successfully beat off these attacks and by the end of the day had advanced over 10 km and reached Teterevino on the road to Prokorovka. This represented a significant gain after a hard day's fighting, but it was still 10 km short of the Third Defense Belt, the objective for the day. The Totenkopf Division again spent the day protecting the Corps and Army east flank against attacks from the 2nd Guards Tank Corps and the 375th Infantry Division. However, the 167th Infantry Division received orders to transfer to II SS Panzer Corps and assume this mission. At nightfall the II SS Corps halted and set up strong defensive positions on both flanks, since it had moved about 10 km ahead of neighboring German forces.¹⁷⁹

In Army Kempf the attacks on July 7 were confined to the III Panzer Corps sector. The XI Corps remained on the defensive, and the Soviets made repeated attacks, supported by tanks. In the south the XLII Corps remained on the west bank of the Donets and limited its activity to providing supporting artillery fire. The III Panzer Corps, on the other hand, turned to strike almost due north on the morning of July 7. To reinforce the spearhead of the corps attack, the 168th Infantry Division replaced the 19th Panzer Division at Michailovka against the 81st Guards Rifle Division. This enabled the 19th Panzer Division to concentrate its efforts on the 92nd and 94th Guards Rifle Division of 35th Guards Rifle Corps near Blishniaia Igumenka. See Figure 10. The 6th Panzer Division, east of the 19th Panzer Division, advanced slowly north, reaching a position 2 km north of Sevrukovo. The 7th Panzer Division captured Myasoyedovo, despite heavy resistance and the Soviet commitment of a large number of tanks. Russian pressure against the extending eastern flank of the corps increased considerably. The densely wooded terrain on this flank was almost impassable for tanks and helped the Soviets to outflank the 6th and 7th Panzer Divisions from the east and delay their advance to the north. The Soviets continued to bring up reinforcements, while the movements of the German tanks and motorized units were greatly hampered by the dense forests and the ever-present minefields.¹⁸⁰ In spite of its advances on July 7, the Kempf Army was still not in a position to provide much protection to the right flank of 4th Panzer Army.

179. Klink, *op. cit.*, p. 220.
Stadler, *op. cit.*, pp. 57-60.
Koltunov (1970), *op. cit.*, pp. 152-154.

180. Koltunov (1970), *op. cit.*, pp. 154-155.
Klink, *op. cit.*, pp. 227-228.
Breith, *op. cit.*, p. 159.
Manteuffel, *op. cit.*, pp. 346-347.

Both German and Soviet reports testify as to the severity of the fighting on July 7, and losses were heavy on both sides. For example, LS Adolf Hitler and Das Reich of II SS Panzer Corps captured 466 prisoners and destroyed 117 tanks and 17 anti-tank guns. The Soviet tank losses reflect the Soviet counterattacks to delay the movement of the Panzer Corps to the Third Defense Belt. The low number of anti-tank guns destroyed in spite of the very large number engaged, however, indicate that they were not being overrun by the Germans.¹⁸¹

Both sides continued to make good use of close air support. The Luftwaffe attacks on Soviet tanks by the new armored Hs-129 ground support aircraft of the 4th Antitank Group and by Col. Rudel's Stukas armed with a 37mm anti-tank gun were particularly effective. They were credited with breaking up several battalion-sized and one brigade-sized tank attacks on July 7 and 8. Col. Rudel himself claimed 12 enemy tanks in one day.¹⁸² On the Soviet side, Gen Schumalov, Commander of the 7th Guards Army, wrote a personal telegram to the commander of the 17th Air Army thanking him for the effective close air support near Yastrebovo and Maslova Pristani on July 7.¹⁸³ However, the air situation was changing. The German High Command, concerned by the lack of success on the north face of the salient, diverted three Air Groups -- roughly 40% of the aircraft of the VIII Air Corps -- from support of 4th Panzer Army to support of 9th Army.¹⁸⁴ The diversion of these aircraft greatly simplified the Soviet task of moving reinforcements from the east during the next few days.

10. July 8, 1943: Fighting between the Second and Third Belts

During the night of July 7-8, Soviet reinforcements continued to move to the threatened areas. For example, the 6th Guards Army and the 1st Tank Army defending south of Oboyan received the 309th Rifle Division, three anti-tank brigades, and howitzer, mortar, and tank brigades. The Soviets were also moving reserves to the Prokorovka area to block the advance of II SS Panzer Corps. By the morning of July 8, the 2nd Tank Corps moved into position south of Prokorovka just behind the Third Defense Belt. Elements of 69th Army moved into position at Ivanovskii, directly in the path of Das Reich Division. Units from the Stavka reserve were also arriving. On July 8 the 5th Guards Tank Army arrived at Stary Oskol, after a 48-hour road march of about 250 km. After a day of preparation, it received orders to move to

181. Stadler, op. cit., p. 73.

182. Carell, op. cit., pp. 68-69.

Deichmann, Gen. Paul, German Air Force Operations in Support of the Army, USAF Historical Division, Research Studies Institute, Air University, 1962, pp. 148-149.

Plocher, op. cit., pp. 93-95.

183. Koltunov (1970), op. cit., p. 155.

184. Klink, op. cit., p. 221.

Prokorovka. Advanced elements of 5th Guards Army, including 10th Tank Corps, had already arrived in the area, and the remainder of the army was closing up.¹⁸⁵

On the evening of July 7, Field Marshal von Manstein, realizing the time was growing short for the offensive to succeed, ordered both the SS Corps and the XLVIII Corps to drive north as soon as possible on July 8 with all available forces. In II SS Panzer Corps the Das Reich Division was to continue northeast toward Prokorovka, but the LS Adolf Hitler Division was to turn to the northwest against Soviet units south of the Psel. This would assist the XLVIII Corps in its drive toward Oboyan. Thus four of the six panzer divisions in 4th Panzer Army were to concentrate on the drive north, and the Totenkopf Division would join them as soon as it was relieved from protecting the east flank of the army.¹⁸⁶

Just after midnight Soviet aircraft attacked the crossing near Luchanino, and destroyed the bridge being built by the 3rd Panzer Division. The division therefore crossed at Dubrova and attacked to the west toward Luchanino and Syrzevo. It was soon engaged in heavy combat with fresh Soviet forces attacking from the east. The 40th Soviet Army counterattacked with the 112th Tank Brigade of the 6th Tank Corps and the 1st and 10th Mechanized Brigades of the 3rd Mechanized Corps -- a total of more than 100 tanks and seven battalions of motorized infantry. In the center of the XLVIII Corps sector, the Gross Deutschland Division advanced to Verchopenie. There it was attacked by the 3rd Mechanized Brigade and the 49th Tank Brigade of 3rd Mechanized Corps plus the 200th Tank Brigade of the 6th Tank Corps -- another panzer division-sized force. On the right of the corps sector the 11th Panzer Division attacked to the north along the road to Oboyan about 1230. At first it made good progress but then was hit by a series of counterattacks from the 31st and 5th Guards Tank Corps. By the evening of July 8, XLVIII Panzer Corps had gained a little more than 10 km. Although this was short of the objectives Von Manstein had set, it represented a good gain in spite of heavy counterattacks throughout the day. All divisions reported that Soviet resistance was stiffening throughout the sector. During the afternoon of July 8, the Soviet 10th Tank Corps began arriving and taking up position in the path of the Grossdeutschland Division. Because of the steady flow of reinforcements, the Soviet units defending the road to Oboyan now outnumbered the three depleted divisions of XLVIII Panzer Corps.¹⁸⁷

185. Klink, op. cit., p. 223.
Stadler, op. cit., pp. 60-61.
Koltunov (1970), op. cit., p. 154.
Rotmistrov, op. cit., pp. 108-109.

186. Stadler, op. cit., pp. 61-62.

187. Klink, op. cit., pp. 221-223.
XLVIII Panzer Corps War Diary, HERO, op. cit., pp. 147-154.
Spaeter, op. cit., pp. 123-125.
Stadler, op. cit., pp. 60-61, 73-74.
Koltunov (1970), op. cit., pp. 156-157.

On the east flank of II SS Panzer Corps the Adolf Hitler Panzer Regiment attacked to the north from Prokovka at 0500 hours. By 0800 the Panzer Regiment had passed through Maliie Maiachki, nearly 15 km north of the Second Defense Belt, and was driving north towards Gresnoie. At 0920 the regiment encountered the Soviet 192nd Tank Brigade, the 31st Tank Brigade, the 29th Tank Destroyer Brigade, and elements of the 51st Guards Rifle Division. A major battle between tanks supported by infantry began which lasted all day over a 15 km front. The Russians were not cleared from Maliie Maiatschki until 1430 hours. By 1700 the LS Adolf Hitler Division had driven back the Soviet units holding Visselyi, but then it withdrew slightly for the night. Thus the division had made good progress during the day, although it had lost contact with the 11th Panzer Division to the west. During the night Das Reich Division concentrated the panzer regiment, the 3rd Battalion of Der Fuhrer Regiment, and the 3rd Battalion of the Artillery Regiment at Teterevino on the Prokorovka Road. At 0800 on July 7 this powerful group attacked the Soviet 5th Guards Tank Corps. By 1100 it had advanced 10 km and seized a hill east of Visselyi. See Figure 10. By 1330 it had advanced another 3 km and was only 10 km south of the Third Defense Belt. However, the infantry of both the LS Adolf Hitler and Das Reich divisions, left behind by the advance, encountered difficulties. At 0900 the infantry of the LS Adolf Hitler Division near Teterevino was attacked by strong forces of Soviet motorized infantry and about 100 tanks. The division sent its assault gun battalion to help, and the Luftwaffe attacked the Russian tanks from the air. Nevertheless, Soviet tanks broke through the German defenses and nearly overran the division supply point. The panzer regiment of Das Reich Division was ordered to turn and attack the Soviets from the north. With this assistance, the LS Adolf Hitler infantry were finally able to drive back the Soviets. Similarly, the 2nd Soviet Tank Corps repeatedly attacked the infantry units of Das Reich Division south of Teterevino. During the afternoon there were attacks at Teterevino, North Luchki, and Kalinin. In one of these attacks twenty Soviet tanks broke through and dispersed the divisional artillery. The German infantry received unexpected help from the reconnaissance battalion of the Totenkopf Division, which happened to be passing through on the way north. To meet the simultaneous heavy attacks from the northwest, the northeast, and the east, the II SS Panzer Corps had to use all its reserves. For example, Das Reich used a battle group consisting of the Reich Engineer Battalion, the 627th Engineer Battalion, and the 3rd Battalion of the 818th Artillery Regiment to defend a sector between the division and the adjacent Totenkopf Division, which was still defending the corps east flank. In spite of these difficulties, July 8 was a successful day for II SS Panzer Corps. The corps advanced to within 10 km of the Third Defense Belt and claimed 183 Soviet Tanks destroyed and 2,192 prisoners -- the most on any one day during the offensive.¹⁸⁸

East of Belgorod the Kempf Army also made significant progress on July 8. In the III Panzer Corps Sector, the 168th Infantry Division was still blocked a few km east of Belgorod as it attacked the 81st Guards Rifle Division at Saryi Gorod. To the east, however, the 19th,

188. Klink, *op. cit.*, pp. 222-223.

Stadler, *op. cit.*, pp. 65-69, 73, 81.

Koltunov (1970), *op. cit.*, pp. 156-157.

6th, and 7th Panzer Divisions launched a coordinated assault against the 92nd and 94th Guards Rifle Divisions and the east flank of the 81st Guards Rifle Division. By noon they had broken through the Soviet positions near Melekovo. During the afternoon they continued to drive to the north and reached a point more than 20 km from their original start line on July 5. However, the Soviets retreated in good order. The 94th Guards Rifle Division retreated to the east, and the 94th Guards Rifle Division retreated to the north. The Soviet 305th Rifle Division was inserted into the gap between the two divisions. The 19th Panzer Division turned west and cleared Russian troops from the defensive positions around Dalnaia Igumenka. Both sides suffered heavy losses in the bitter fighting, including Gen. Gustav Schmidt, the commander of the 19th Panzer Division. By the end of the day, however, the Germans were in complete control of the Melekovo area. The weak point of Army Kempf's position was the eastern flank. The 198th and 106th Infantry Divisions of XI Corps were supposed to guard this flank. However, these infantry divisions, with only horse-drawn transport, could not keep up with the advance, and the 7th Panzer Division had to provide flank security. During the afternoon the 94th Guards Rifle Division continued to launch counterattacks, several supported by tanks on the German flank north of Melekovo. In view of the strong Soviet forces known to be to the east, this situation was of serious concern to Army Kempf and III Panzer Corps.¹⁸⁹

Most of the fighting on July 8 was in the space between the Second and Third Defense Belts. Hence mines played a much smaller role than during the earlier days of the battle. To be sure, the Soviet Mobile Obstacle Detachments continued to lay mines in the path of the advancing German troops, but these were not nearly so dense as the minefields in front of the First and Second Defense Belts.¹⁹⁰

Viewed from division level and below, July 8 was a successful day for the Germans. The battalions and regiments achieved their objectives, they advanced faster than during the previous days of the offensive, destroyed more Soviet tanks, and captured more prisoners. The German troops had broken through the Second Defense Belt and were fighting in relatively open country. Even the number and density of enemy minefields seemed to be decreasing. Viewed from corps, army, and army group level, however, the picture was not so bright. Losses in tanks and in men greatly exceeded replacements. Thus the strength of the panzer divisions declined with each day of the operation. On the other hand, Soviet strength opposing the advance was clearly increasing, despite the heavy losses. The Soviets had already brought sizable reserves to block the German advance. During the fighting on July 8, the Soviets had seven armored corps plus a number of independent tank brigades and regiments attacking the

189. Klink, *op. cit.*, pp. 228-229.
Breith, *op. cit.*, pp. 159-160.
Manteuffel, *op. cit.*, p. 347.
Knobelsdorff, *op. cit.*, pp. 208-209.
Koltunov (1970), *op. cit.*, pp. 159-160.

190. XLVIII Panzer Corps War Diary, HERO, *op. cit.*, pp. 147-154.

penetration from the north, the west, and the east. Ominously German intelligence reports and Luftwaffe reconnaissance announced the movement of large numbers of tank units from the east. Clearly the attempt to reach Kursk and surround large Soviet forces before reserves could arrive was not succeeding. In spite of their advances on July 8, the Germans were not much more than 20 km from their starting positions -- a day's march on foot. Kursk was still 100 km away.

11. July 9, 1943: Slow German Advance to the Third Belt

In spite of the slow German advance during the first four days of fighting and the ominous intelligence reports, Field Marshal von Manstein remained optimistic. Unaware of the magnitude of the Russian reserves, he continued to hope that the next day's advance would bring a major breakthrough. Once this happened, the rate of advance would increase. Although the Germans had no significant reserves available on the south face of the salient, they were able to increase their combat power at the point of attack. Two regiments of the 167th Infantry Division finally arrived to take over the mission of flank security for 4th Panzer Army. (The order to make the move from XLVIII Panzer Corps had been issued on July 7.) The Totenkopf Division marched north on the night of July 8-9 and took up a position between the LS Adolf Hitler and Das Reich Divisions at the cutting edge of the penetration.¹⁹¹ Thus six panzer divisions were concentrated for an attack toward Oboyan and Kursk.

During the night of July 8-9, the Soviets continued to move reinforcements to the points of attack. For example, the 6th Guards Army received the 111th Guards Artillery Regiment, the 66th Rocket Launcher Regiment, and the 12th Tank Destroyer Regiment from the 40th Army. The 1st Tank Army received the 180th Tank Brigade and the 222nd Tank Destroyer Regiment from the 38th Army; the 59th and 60th Tank Regiments and the 4th antitank Regiment from the 40th Army; and the 438th Tank Destroyer Regiment and the 38th Rocket Launcher Regiment from the Steppe Front. These reinforcing units brought more than 100 tanks and 60 antitank guns. The antitank units were in addition to the 29th Tank Destroyer Brigade and the 869th and 1244th Tank Destroyer Regiments, with a total of over 100 guns, already on the Oboyan Road. This concentration of force represented a formidable obstacle to any attempt to push through to Oboyan with a tank-heavy attack. From the theater reserves, the 5th Guards Tank Army was completing its second move toward the front and took up a position about 10 km north of Prokorovka on July 9. The 5th Guards Tank Corps and the 10th Tank Corps had already arrived on July 8. The 5th Guards Army was transferred to the Voronezh Front and began a night march on the evening of July 8. It took up a position between the 5th Guards Tank Army at Prokorovka and the 6th Guards Army on the Oboyan Road. Thus two additional Soviet armies, with a total of four tank corps, a mechanized corps, and six rifle divisions, were in position to oppose the advance of II SS Panzer Corps. In addition, the Stavka ordered the 47th Army and the 4th Guards Tank Corps to move to the Korochoa area, about 55 km east of Belgorod, to reinforce the Third Line of Defense behind the 7th Guards Army. At the same

191. Stadler, op. cit., pp. 57-59, 70.

time the 53rd Army and the 1st Mechanized Corps were alerted for movement to the Kursk area. Actually, the 47th and 53rd Armies were never employed during the defensive battle of Kursk, but they provided a powerful reserve for emergencies.¹⁹²

On the west flank of 4th Panzer Army the Soviet 161st Rifle Division and the 71st and 90th Guards Rifle Divisions attacked the German 332nd Infantry Division several times on July 9. Other attacks hit the German 255th Infantry Division at Dimitriievka at the base of the salient. See Figure 10. Some of these attacks were supported by tanks. Although these attacks were not strong enough seriously to threaten to cut off the salient, they prevented LII Corps from thinning out troops at the base of the salient in order to provide more support for the German forces attacking to the north. Because of XLVIII Panzer Corps' shortage of infantry units, 3rd Panzer Division had to assist in providing flank security to the west.¹⁹³

In accomplishing this mission, the 3rd Panzer Division spent most of the day in heavy fighting near Luchanino and Syrzevo. See Figure 10. Because of the shortage of infantry, the divisional engineer battalion, the 39th Engineers, was assigned a section of the flank to hold. Along the Pena the division encountered dense minefields and reported that its armored battle group was "Moving slowly, blocked by minefields, and under fire from antitank rifles and observed artillery fire." In spite of these difficulties, the division succeeded in clearing the Russians out of Luchanino and beating off a number of counterattacks. At Syrzevo it launched some twelve separate attacks during the day and succeeded in driving the Soviet 6th Tank Corps back across the Pena. The Grossdeutschland and 11th Panzer Divisions attacked to the north up the Oboyan Road against the 3rd Mechanized Corps, the 31st Tank Corps, and elements of the 6th Tank Corps. They encountered heavy resistance, including dug-in tanks. Losses were heavy on both sides. The Grossdeutschland Division claimed 66 Soviet tanks and the 11th Panzer Division 35 tanks destroyed along the Oboyan road, and the Soviets claimed 295 German ones. The Grossdeutschland Division captured Verchopenie, and the Soviet forces withdrew 6 to 8 km to the north. During the day the Grossdeutschland and 11th Panzer Divisions had advanced about ten km to the north along the Oboyan road.¹⁹⁴ See Figure 10.

192. Klink, *op. cit.*, pp. 232-233.
Koltunov (1970), *op. cit.*, pp. 156-158.

193. Stadler, *op. cit.*, pp. 79-82.
Klink, *op. cit.*, pp. 223-224.
Koltunov (1970), pp. 158-159.

194. Klink, *op. cit.*, pp. 223-224, 232.
XLVIII Panzer Corps War Diary, HERO, *op. cit.*, pp. 154-161.
Spaeter, *op. cit.*, pp. 125-127.
Stadler, *op. cit.*, pp. 70.
Koltunov (1970), *op. cit.*, pp. 158-161.

On July 9 the II SS Panzer Corps also continued its movement to the north. A battle group of the LS Adolf Hitler Division moved northwest through Ryliski to a point just east of Suchoe Solotino, 5 km east of the Oboyan road. Another battle group of the division attacked the Soviet 31st Tank Corps north and by the evening had reached the Psel River 2 km east of Kotschetovka. By 1000 hours the Totenkopf Division had cleared the 51st and 52nd Guards Rifle Divisions from the area northwest of Gresnoie. One panzer grenadier combat group joined a group from the LS Adolf Hitler Division 2 km east of Kotschetovka. A second panzer grenadier combat group drove northeast and crossed a branch of the Psel River south of Vesselyi. A third group drove north to Koslovka on the Psel and began building a bridge. On the corps east flank, the Das Reich Division, with one regiment of the 167th Infantry Division attached, spent the day fending off tank-supported attacks from the north and northeast by elements of the 5th Guards Mechanized Corps and the 2nd Tank Corps. Some of the attacks from the direction of Prokorovka included 80 to 100 tanks. Further south other elements of the 2nd Tank Corps attacked the two regiments of the 167th Infantry Division defending the corps east flank. Overall, the II SS Panzer Corps was engaged in heavy fighting on July 9, inflicting heavy damage on the Soviet forces but also suffering considerable losses. It continued to advance to the north, but rather slowly. At the end of the day Oboyan was still about 20 km away.¹⁹⁵

The original mission of the Kempf Army had been to drive east on the road to Korochoa to tie down Soviet reserves and prevent them from moving west to join the battle, and to be prepared to exploit the encirclement at Kursk. During the evening of July 8, Von Manstein dropped these optimistic goals and ordered the Kempf Army to attack to the north to assist the II SS Panzer Corps.¹⁹⁶ On July 9 the 6th Panzer Division, with 150 tanks, broke through the Soviet defenses, pushed back the 92nd Guards Rifle Division, took the high ground north of Melekovo, 20 km northeast of Belgorod, and crossed the Belgorod-Korochoa road. The 19th Panzer and the 7th Panzer Divisions advanced on either side of the 6th Panzer Division and protected the flanks of the penetration. One battle group of the 6th Panzer Division crossed the Rasumnoie River east of Olkovatka at the point of the attack. In the afternoon, however, the Soviets vigorously counterattacked north of Melekovo and forced some elements of the 6th Panzer Division to shift to the defense. The 168th Infantry Division spent July 9 still trying to overcome the Russian resistance in the fortified area around Saryi Gorod just east of Belgorod. This position, with strong, mutually supporting fortified positions and minefields covered by fire, was the anchor for the salient that separated the III Panzer Corps from the 4th Panzer Army and provided a base from which the Soviets staged attacks on the east flank of 4th Panzer Army. Aside from III Panzer Corps, the units of the Kempf Army had a quiet day on July 9. The XI

195. Klink, *op. cit.*, pp. 223-225.
Stadler, *op. cit.*, pp. 75, 79-82.
Koltunov (1970), *op. cit.*, pp. 158-161.

196. Klink, *op. cit.*, pp. 228-229.

Corps continued to provide security for the east flank, and XLII Corps had a very quiet day defending its original positions.¹⁹⁷

On July 9, the Germans retained the initiative. In spite of the increase in combat power obtained by shifting the Totenkopf Division to the point of attack, the pace of advance was slow. As Figure 10 shows, they had moved less than about 10 km from their positions two days before. The Russians, on the other hand, continued their methodical buildup of reserves, adding two fresh armies to the forces opposing II SS Panzer Corps. In addition, Soviet tank brigades and corps continued to counterattack the penetration from the west, the north, and the east, slowing down the German advance and weakening the German forces.

12. July 10, 1943: German Advance Virtually Stopped; Soviet Reinforcements in Place

By noon on July 9, Field Marshal von Manstein realized that the Soviet resistance was slowing down the offensive so much that additional forces would be required. Since he had no significant reserves available in the immediate area, he ordered the 1st Panzer Army to move the 24th Panzer Corps with the Wiking SS Panzer Grenadier Division and the 24th Panzer Division to Kharkov, where they would be available to assist the forces on the south face of the salient. After a night march, the corps arrived in Kharkov on July 10. However, the German Supreme Headquarters, OKW, "kept a string" on the 24th Corps -- it could not be committed without OKW approval, since OKW was concerned by reports of large Soviet forces massing in the south.¹⁹⁸

The Soviets had no such reluctance to move additional troops into the area. The 10th Tank Corps was already arriving opposite the XLVIII Panzer Corps along the Oboyan road. In addition, the 204th and 184th Rifle Divisions, a tank brigade, three tank destroyer regiments, and four rocket launcher regiments were transferred from the Voronezh Front reserve to the Oboyan road sector. These units added more than sixty tanks and the same number of antitank guns to the defenses there. The 2nd Air Army was ordered to give the Oboyan road sector priority for July 10. On the east flank of the German penetration, Gen. Vatutin reorganized the Soviet command structure. The 69th Army, reinforced by two divisions from the Stavka reserve, was inserted north of the 7th Guards Army sector between the two branches of the Donets River and took command of all forces in the sector. It then had a total of nine rifle divisions, 2nd Guards Tank Corps, 96th Tank Brigade, 148th Tank Regiment, 30th Tank Destroyer Brigade, two tank destroyer regiments, 27th Artillery Brigade, and a rocket launcher brigade. Its position opposing III Panzer Corps, was about midway between the Second and

197. Klink, *op. cit.*, pp. 229-231.
Manteuffel, *op. cit.*, p. 347.
Koltunov (1970), *op. cit.*, pp. 160-161.

198. Klink, *op. cit.*, p. 225.

Third Defense Belts. See Figure 11.¹⁹⁹ The Soviet 27th Army and 53rd Army of the Steppe Front continued their move towards the area.²⁰⁰

After the thundershowers on July 4 and 5, the weather had been hot and dry on the southern face of the salient. On July 10, however, there was a sharp change -- the weather was cloudy with frequent heavy thunderstorms. The roads were muddy and mostly impassable except for horses and tracked vehicles. The muddy conditions slowed activity on the ground, and the clouds and rain reduced the activity in the air.²⁰¹

In the XLVIII Corps sector fighting was heavy on July 10, and the German progress was slow. The 3rd Panzer division spent most of the day fighting off counterattacks against the west flank of the penetration south of the Psel. The Grossdeutschland Division, on the west side of the Oboyan road, attacked against stiff opposition. At 0900, for example, the panzer regiment was engaged in a tank battle around Hill 243.0 and the reconnaissance battalion and the grenadier regiment were engaged in a fierce tank and infantry battle near Kalinovka, about 5 km north of Verchopenie. Casualties were heavy and included the commander of Panzer Regiment Grossdeutschland, Col. Count von Strachwicz. By evening, however, the division had advanced 2-3 km and reached Kalinovka. A combat team composed of the Panther Brigade and the Fusilier Regiment actually attacked to the southwest to try to cut off Soviet units tenaciously defending part of Verchopenie. To the east, the 11th Panzer Division attacked to the north on both sides of the Oboyan road at 0800 hours against the 309th Rifle Division and elements of the 31st and 10th Tank Corps. By evening the division reached Kotschetovka, 5 km to the north. The right flank of the division tied in with the Totenkopf Division, and the left flank tied in with the Grossdeutschland Division at Kalinovka. This eliminated the gaps in the German formation which had concerned the corps commander.²⁰²

On the left flank of II SS Panzer Corps, the Totenkopf Division attacked against the battered 51st and 52nd Guards Rifle Divisions, which had been fighting continuously since the morning of July 5 and had suffered heavy casualties. By 1600 hours the division had reached Koslovka and Kotschetovka and had completed a bridge over the Psel. The 2nd SS Panzer Grenadier Regiment of the LS Adolf Hitler Division, attacking to the east toward Vinogradovka,

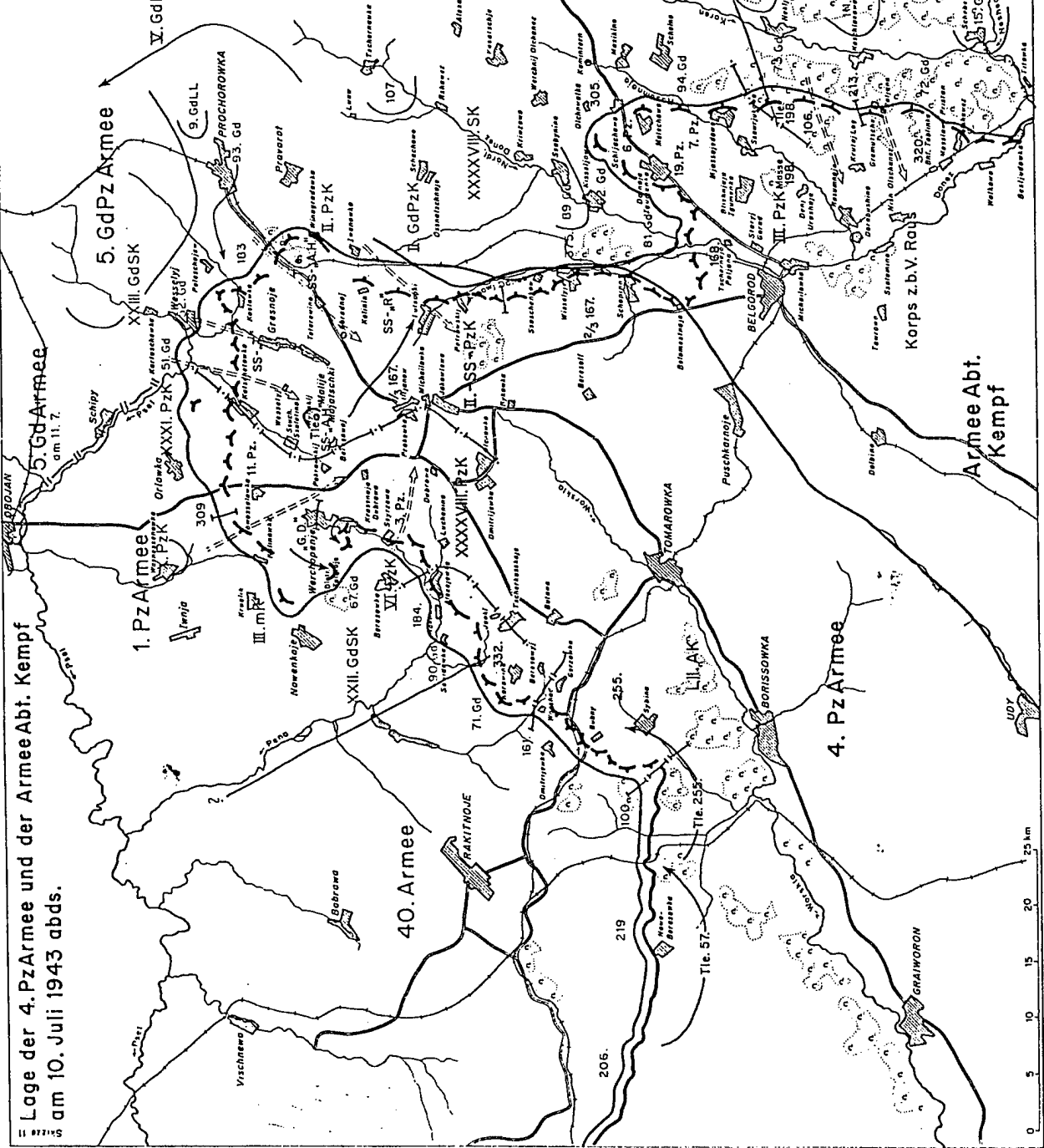
199. Klink, op. cit., Appendix 3, Sketch 11.

200. Klink, op. cit., pp. 232-233.
Koltunov (1970), op. cit., pp. 161-162.

201. Stadler, op. cit., p. 84.

202. Klink, op. cit., pp. 225-226.
XLVIII Panzer Corps War Diary, HERO, op. cit., pp. 161-168.
Spaeter, op. cit., pp. 127-128.
Stadler, op. cit., pp. 86-90.
Koltunov (1970), op. cit., pp. 162-164.

Zeichenerklärung:
 - Vorderer Linie am 10.7. 22.00
 - Gleitlinie am 12.7.
 - Reserven



Lage der 4. PzArmee und der ArmeeAbt. Kempf
 am 10. Juli 1943 abds.

Figure 11. Situation on the South Face of the Salient on July 10, 1943

had more problems. It was facing the fresh 183rd Soviet Rifle Division, and during the day the 10th Tank Corps and the 93rd Guards Rifle Division joined the action. Facing heavy flanking fire from Vinogradovka and from the north bank of the Psel, the regiment did not reach the railroad north of Terevino until 1130 hours. After repelling several Soviet counterattacks, during the afternoon the regiment advanced about 3 km. along the railroad toward Prokorovka. The tank regiment of the LS Adolf Hitler Division was attacking to the east in the Maliie Maiatschki area. By the end of the day it had advanced about 5 km. The SS Division Das Reich, on the east flank of the German penetration, attacked to the east and crossed the Novi Donets at Petrovskii, which had been held by the 375th Soviet Rifle Division. This crossing threatened to "roll up" the Soviet units to the south in the salient between the 4th Panzer Army and the III Panzer Corps. Their withdrawal eased the advance of the III Panzer Corps and released the 19th Panzer Division and the 198th Infantry Division to assist the movement to the north.²⁰³

Assisted by the success of Das Reich Division, the panzer divisions of III Panzer Corps advanced slowly to the north against heavy Soviet resistance and counterattacks. The 168th Infantry Division drove back a counterattack by the by the 81st Guards Rifle Division, which was still holding out at Staryi Gorod, only 2 km from Belgorod. The 19th Panzer Division was attacked at Dalnaia Igumenka by the 92nd Guards Rifle Division. After repelling the attack, the 19th Panzer Division advanced 1-2 km. Likewise, the 6th Panzer Division advanced a few km north of Melekovo and repulsed a Soviet counterattack supported by 50 tanks. The 7th Panzer Division was holding a defensive front on the Rasumnoie River against the 94th Guards Rifle Division between Melekovo and Miassoiedovo, 20 km northeast of Belgorod. See Figure 11. The remainder of Army Kempf was on the defense on July 10.²⁰⁴

Close air support did not play an important role in the fighting on the southern face of the salient on July 10. The aircraft used for close air support had virtually no all-weather capability. Hence the rain on July 10 kept most German and Soviet close air support aircraft grounded. In the afternoon, however, the weather improved slightly, and some Soviet aircraft appeared.²⁰⁵

The German advance on the south face of the salient slowed on July 9, and it slowed still more on July 10. To some extent, of course, this was due to the weather on July 10 -- the lack

203. Klink, op. cit., pp. 225-229.
Stadler, op. cit., pp. 75-89.
Koltunov (1970), op. cit., pp. 163-164.

204. Klink, op. cit., p. 230.
Manteuffel, op. cit., p. 347.
Koltunov (1970), op. cit., p. 164.

205. Klink, op. cit., p. 230.
Koltunov (1970), op. cit., pp. 163-164.

of close air support and the deteriorating road conditions. But, more importantly, the power of the attacking panzer units had also declined. Five days of heavy combat, including breaking through two Soviet defense belts with their dense minefields and heavy concentration of antitank guns, had taken their toll. For example, at 1320 hours on July 10, the 3rd Panzer Division reported that it had only four Mark IV (long) tanks available of the 21 which it had on July 1. Similarly, the Panzer Grenadier Division Grossdeutschland reported its tank strength at 1830 as "three Tigers, six panthers, and about eleven Mark III and Mark IV (Long) tanks still operational" -- about 20 tanks compared with the 118 it had on July 1. Panzer Regiment 11 of the 6th Panzer Division, III Panzer Corps, had similar losses. It began the battle with 105 operational tanks and on July 10 was down to 22. With regard to Tiger tanks, the Heavy Panzer Battalion 503 began the battle with 45 Tigers, 40 of them operational. During the fighting from July 5-8, they reported 34 losses, 16 of them to mines. Many of these Tigers were repaired, but nevertheless on July 10 only 22 Tigers were operational. The picture for Panthers was even bleaker. Panzer Regiment 29 of Panzer Brigade 10 had 200 Panthers on July 1. After the unit's disastrous encounters with Soviet minefields on July 5 and 7, its operational strength dropped to 40 on July 7, and it never recovered during the battle. Personnel losses were also high -- during the period from July 5 through July 10, the Panther Regiment had 9 officers killed and 19 wounded. When Gen. Guderian visited XLVIII Corps on July 10 he was told that on that date there were only 10 operational Panthers in the front lines. He incorporated that figure in his report. When the report reached Army General Headquarters, it produced such a reaction that an investigation was launched. Later a corrected report was prepared showing 38 Panthers operational on July 10 and 131 awaiting repair.²⁰⁶ Of course, all the panzer units had large numbers of tanks awaiting repair which would eventually be returned to combat, but these did not contribute anything to immediate combat power.

To be sure, the Soviet tank losses had also been heavy -- probably heavier than the German. The T-34, with its 76mm gun, was outgunned by both the Tiger and the Panther and could only knock them out after closing to very close range. In addition, the German tank crews were superior to the Soviet ones, thanks to their longer training and greater experience. On July 11 Gen. Hoth claimed that the two panzer corps of 4th Panzer Army had put more than 1000 Soviet tanks out of action since July 5. (XLVIII Panzer Corps, however, claimed only 170 Soviet tanks during this period.)²⁰⁷ Clearly both sides had lost large numbers of tanks. The

206. XLVIII Panzer Corps War Diary, HERO, op. cit., pp. 164 and 166.
Jentz, op. cit., pp. 91, 93 and 96-101.

207. Sharp, Charles C., German Panzer Tactics in World War II, West Chester, OH, Nafziger, 1998, pp. 5-6.
Stadler, op. cit., p. 97.
Klink, op. cit., p. 236.
Krivosheev, op. cit., p. 262, based on Soviet records, reports Soviet losses of tanks and SP artillery as 1,614 for the entire defensive battle July 5-23. This includes the very heavy losses on July 12.

crucial difference between the two sides, however, was that the Germans were receiving very few replacement tanks and crews, while the Soviets were continuously bringing into the battle area both replacements and fresh tank units -- not just separate tank regiments and brigades, but entire tank and mechanized corps and even the 5th Guards Tank Army. At 1130 hours on July 10 the Chief of Staff of the XLVIII Panzer Corps had a significant telephone conversation with his counterpart at II SS Panzer Corps. The two chiefs of staff agreed "that there are many Soviet armored units, equipped with numerous tanks, which have not yet been committed in a major, decisive attack."²⁰⁸ This fact was a key to the remaining course of the battle.

13. July 11, 1943: Very Small German Gains, except for III Panzer Corps

Field Marshal von Manstein was also concerned about the way the battle was developing. On the morning of July 11 he had a conference with the commanders of 4th Panzer Army and Kempf Army. After the conference, he described his appreciation of the situation and his plans in a message to Army General Staff Headquarters (OKH). He planned for 4th Panzer Army to continue its attack and take Oboyan. The II SS Panzer Corps and the III Panzer Corps would destroy the newly identified 69th Soviet Army. Manstein apparently did not understand the threat presented by the 5th Guards Tank Army, although German intelligence had reported contact with some of its principal subordinate elements, specifically 5th Guards Mechanized Corps. He again underlined his need for the XXIV Panzer Corps, which he planned to use to defend the east flank of the penetration. Even these forces might not be sufficient -- there might be need for the 8th and 12th Panzer Divisions as well. In addition, the 2nd Army should be strengthened so that it would be able to roll up the pocket from the west.²⁰⁹ From the point of view of the German high command, however, there was virtually no chance that Manstein could be given these reinforcements, considering the reports of Soviet forces massing opposite other sectors of the front.

On the Soviet side, Gen Vatutin considered that the Voronezh Front was accomplishing its mission. To be sure, the Germans had attacked with more forces than he and the Stavka had anticipated and consequently had penetrated more deeply than he had hoped. But the minefields and the dense defense belts had functioned as planned. The German advance had been slowed, and their forces had been greatly weakened. After five days of heavy combat they had advanced only about 30 km -- an hour's drive. Although they had broken through the first two defense belts, they were facing the third. They were still almost 100 km from Kursk. The slowness of the German advance had given the Soviets time to move massive reinforcements into the sector. By July 11 Gen. Vatutin considered that he outnumbered the Germans in all categories. Consequently, he planned a massive counterattack for July 12. The 5th Guards Tank Army at Prokorovka would play the major role in this attack, with all the other armies of the Front going

208. XLVIII Panzer Corps War Diary, HERO, op. cit., p. 164.

209. Klink, op. cit., pp. 235-236.

on the offensive to support the attack and to pin down the German forces. Gen. Vatutin planned to use July 11 to reorganize his forces for this counterattack.²¹⁰ Stalin and the Stavka also considered that the German advance was coming to a halt. Therefore they planned to launch the counteroffensive phase of the operation with a major attack on the rear of Central Army Group north of Orel. This counteroffensive would first drain troops from the German 9th Army on the north face of the salient, but eventually it would also draw troops from the southern face.

The weather forecast for July 11 predicted better weather, and the Germans hoped for better air support. However, the day began with heavy rains that grounded most aircraft, turned the roads into mud, and made movement virtually impossible except for tracked vehicles. Thus the weather favored the Soviet plans for the day, not the German ones. To make matters worse, there was even a shortage of artillery shells in several German units because the muddy roads had immobilized the munitions trucks. In the evening, however, the weather improved, and there was a strong wind.²¹¹

In the XLVIII Panzer Corps area there was heavy fighting on July 11, but very little movement toward the north. The Panzergrenadier Division Grossdeutschland and the 3rd Panzer Division spent most of the day clearing up resistance in the Verchopenoye-Berezovka area. This heavily mined and fortified area was serving as a base from which the Soviet 5th, 10th, and 6th Tank Corps could launch attacks on the west flank of the penetration. See Figure 12.²¹² Gen. Knobelsdorf, the German corps commander, felt that he could not continue the advance toward Oboyan until he had eliminated this threat. He hoped to encircle and destroy significant Soviet forces in this area. The Grossdeutschland Panzergrenadier Division with the Panther Brigade attacked from the north, while the 3rd Panzer Division attacked from the south and the west. The attacks were slowed by the rain and by extensive minefields and encountered fierce resistance. The Grossdeutschland Division reported, "Just after sunrise Soviet tanks and infantry attacked the positions of the Grenadier Regiment from the north and west. The attacks were repulsed. The Assault Gun Battalion attacked the Soviet tanks observed at Kalinove, destroying seven T-34s. Starting at 0600, the Panther Brigade pushed south from Hill 258.5 and inflicted heavy casualties on Soviet troops retreating west from Berezovka. The brigade first ran into a minefield on Hill 237.6. After clearing a passage through it at Point 1.5, the brigade encountered another minefield, making it temporarily impossible to proceed. After clearing a way through that one, the brigade reached Hill 243.8 toward evening." The Panther Regiment and the Fusilier Regiment cooperated to capture the bunkers on the southern edge of Berezovka, and elements of the 3rd Panzer Division joined in house-to-house combat in the western part of the village. After completing this operation, the Grossdeutschland Division, except for the Grenadier Regiment, was pulled out in order to prepare to attack to the northeast on July 12.

210. Koltunov (1970), *op. cit.*, p. 164.
Klink, *op. cit.*, pp. 242-243.

211. Stadler, *op. cit.*, p. 93.

212. Map from Klink, *op. cit.*, Appendix 3, Sketch 12.

Lage der 4. Pz Armee und der Armee Abt. Kempf
 am 11. und 12. Juli 1943

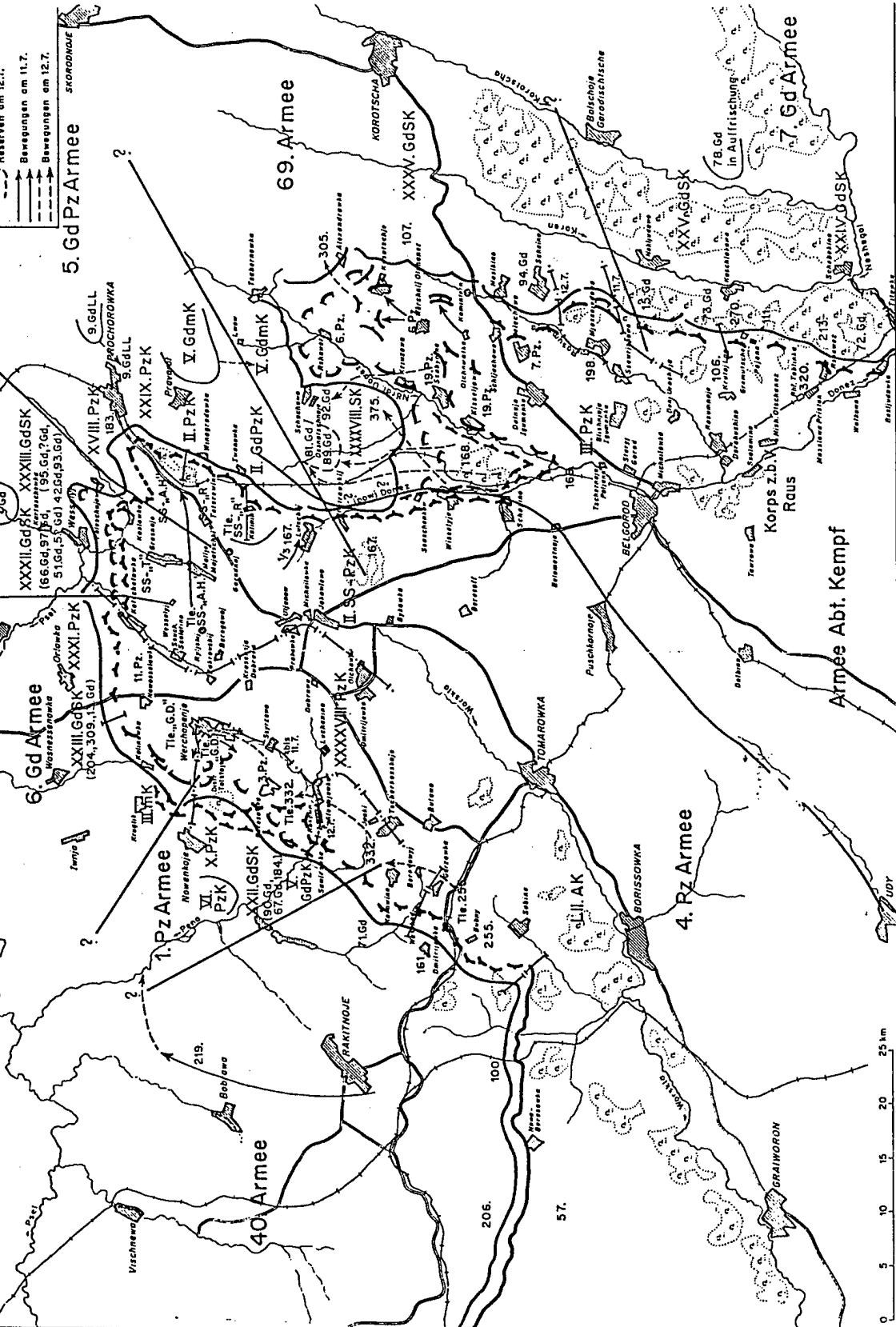


Figure 12. Situation on the South Face of the Salient on July 11 and 12, 1943

Meanwhile, the 11th Panzer Division attacked to the north, up the Oboyan road. It encountered difficulties both from the weather and from the Soviets. At 0930, for example, it reported that it was failing to make headway in the mud: "Tanks are sliding off at inclines of 10°." On the right flank of the division Hill 207.0, which the division had captured the day before, was retaken by the Soviets. The attack to the north was without air support, disorganized, and unsuccessful. The division finished the day roughly where it had started. Soviet resistance was getting stronger. The 11th Panzer Division reported "The enemy was reinforced yesterday and today by constant deliveries of tanks, heavy weapons, and motorized infantry, brought from the northeast."²¹³

The II SS Panzer Corps also made little progress on July 11. The Totenkopf Division planned to attack at 0415. During the night, however, Soviet infantry supported by tanks attacked the bridgehead over the Psel. The Totenkopf Division repulsed this attack, but only after the Russian infantry had gotten within hand grenade range. At 0415 the 51st and 52nd Rifle Divisions, supported by tanks, attacked the left flank of the division between Kotschetovka and Koslovka. Another tank-supported attack hit the bridgehead at 0830. The Germans had great difficulty stopping these attacks, because the muddy roads immobilized the ammunition trucks, creating a shortage of artillery rounds. The situation improved somewhat in the afternoon, when the German engineers completed two more bridges across the Psel at Bogorodizkoie, one a 60-ton bridge which could carry Tiger tanks. Nevertheless, the rain precluded any significant advance. The rain also delayed and slowed the attack of the LS Adolf Hitler Division. In the afternoon, however, the division advanced a few kilometers along the road to Prokorovka against strong resistance by the reinforced 183rd Rifle Division. At Petrovka, only 500 meters northwest of Prokorovka, the Soviets reported repulsing a German tank attack. Two batteries of the 233rd Soviet Artillery Regiment were attacked by 40 German tanks. Although the regiment reported putting 16 German tanks out of action, it was finally forced to retreat. When the fighting stopped at 2015, forward elements of the LS Adolf Hitler Division were less than 4 km from Prokorovka. They had reached the Third Soviet Defense Belt. South of that town two regiments of Das Reich Division attacked the 2nd Soviet Tank Corps at 0930 hours. The struggle lasted more than three hours, as the German tanks were picked off by antitank guns. Finally the Russians were forced to withdraw northeast toward Prokorovka. Further to the south at Ivanovka the Das Reich Division had to fight off several attacks by the 2nd Tank Corps and was able to advance only about 1 km to the east. Thus the 2nd SS Panzer Corps faced heavy resistance all across its front on July 11, as well as heavy rains and deteriorating road conditions. Consequently, the corps made little progress during the day, although the Germans did succeed in reaching the Third Soviet Defense Belt at Prokorovka.²¹⁴

213. XLVIII Panzer Corps War Diary, HERO, op. cit., pp. 168-173.
Klink, op. cit., p. 236.

214. Stadler, op. cit., pp. 93-97.
Koltunov (1970), op. cit., p. 165.

The III Panzer Corps of Kempf Army, on the other hand, was very successful on July 11. The Russians were withdrawing toward the Third Defense Belt, which in this area stretched from Korochoa to Prokorovka. Since the Russians were withdrawing, the Germans were able to move forward without heavy casualties. The 6th Panzer Division served as the point in the German advance, and the other two panzer divisions guarded its flanks. The 6th Panzer Division broke through the Soviet defenses at Schliachovo, on the road from Belgorod to Korochoa, and drove the 305th Rifle Division and the 92nd Guards Rifle Division back 15 km to Rshavez. The 19th Panzer Division, which had suffered heavy losses in the earlier fighting, protected the west flank of the penetration. Advancing north on the east side of the North Donets, it also advanced some 15 km during the day against relatively light opposition. On the east flank, the 7th Panzer Division followed the 6th Panzer Division through Schliachovo. However, it concentrated during the day in protecting the flank of the 6th Panzer Division. By the evening of July 11 the 7th Panzer Division was covering a 20 km sector from Shena north to Kasatschie, roughly along the west bank of the Rasumnoie River. During the day the Soviets directed several attacks against this flank, notably one by the 94th Guards Rifle Division at Scheino on the south flank of the 7th Panzer Division.²¹⁵

In summary, the Germans made small gains on July 11, except for the III Panzer Corps, which made a substantial advance of 15 km. This advance did not, of course, present a direct and immediate threat to Oboyan or Kursk. However, if the III Panzer Corps could reach Prokorovka, 25 km to the north, and join forces with the II SS Panzer Corps, this would create a formidable mass of armor. Field Marshal von Manstein planned for such a situation in order to deal with the newly arrived Soviet reserves, and the Soviets were determined to prevent it.

During their advance, the Germans continued to encounter delays and losses from the Soviet minefields, both those laid in advance to defend the Third Defense Belt and those laid in their path by the mobile obstacle detachments. In addition to the mobile obstacle detachments formed by divisional engineer units, others were formed by the 42nd Engineer Brigade and the 5th Engineer Sapper Brigade, which were assigned to the Voronezh Front. Daily reports on losses to mines on the south face of the salient are not available. From July 5 through July 11, however, the Soviets reported that a total of 355 enemy tanks (including 29 Tigers), 30 assault guns, 60 trucks, and 7 armored personnel carriers were destroyed on the minefields.²¹⁶ Some of these no doubt represented mobility kills, and, since the Germans were still advancing during

215. Klink, *op. cit.*, p. 234, 237-238.

Manteuffel, *op. cit.*, pp. 347-348.

Breith, *op. cit.*, pp. 160-162. (Breith wrote, "The 3rd Panzer Corps had now penetrated the enemy defenses and was in a position to operate in open terrain." Actually they had not reached the Third Defense Belt.)

Koltunov (1970), *op. cit.*, p. 165-166.

216. Tsirlin, *op. cit.*, p. 163.

this period, were repaired and returned to action. Nevertheless the losses represented a considerable, and continuing drain on scarce German resources.

14. July 12, 1943: Soviet Counteroffensive: the Great Tank Battle at Prokorovka

From July 5 through July 12 the Germans had the initiative on the south face of the salient. They chose the point and time of attack. The Soviets responded, relying on the strength of their minefields and prepared positions to slow the German attacks and moving reinforcing units to the threatened points to strengthen the defense and carry out counterattacks. While the defense and the counterattacks slowed the German advance and sapped the strength of their forces, the Soviets moved large forces -- including entire armies from the strategic reserve -- into the area. On July 12 the Soviet Voronezh Front launched a massive, Front level counteroffensive.

Although this counteroffensive included counterattacks all along the south face of the salient, the main effort was by the 5th Guards Tank Army southwest of the agricultural town of Prokorovka (which was also called Alexandrovka). The mission of 5th Guards Tank Army was to attack to the southwest, destroy the German II SS Panzer Corps, and seize Krasnaya Dubrava and Yakovlevo. If successful, this attack would also cut the line of supply to XLVIII Panzer Corps and force 4th Panzer Army to withdraw.

The 5th Guards Tank Army was composed of the 18th and 29th Tank Corps, the 5th Guards Mechanized Corps, and smaller units. The three corps and smaller units were well trained and were essentially at full strength -- they had seen no combat during the battle. The 18th Tank Corps included a regiment of KV-1 heavy tanks as well as the normal three tank brigades and a motorized rifle brigade. For this operation two additional tank corps were attached to 5th Guards Tank Army: the 2nd Tank Corps and the 2nd Guards Tank Corps. (The similarity of the names of these two different tank corps confused German intelligence officers at the time and more than one later historian of the battle.) The 2nd Tank Corps came from Southwest Front Reserves and was also up to strength. It had the 62nd Heavy Tank Regiment of KV-1 heavy tanks attached for the battle. The 2nd Guards Tank Corps, on the other hand, had been in combat since the third day of the offensive, and its effectiveness was somewhat reduced. Thus, for the attack the 5th Guards Tank Army had five tank and mechanized corps, each about the same size as a German panzer division. Gen. Rotmistrov, the 5th Tank Army Commander, has written that he had about 850 tanks and self propelled guns. However, only about 500 were T-34s, and about 260 were light T-70s, which had only a 45mm gun and hence were not of much value in combat against most other tanks.²¹⁷

217. Rotmistrov, *op. cit.*, p. 111.

Sharp, Charles C., "School of Battle: Soviet Tank Corps and Tank Brigades January 1942 to 1945," West Chester, OH, Nafziger, 1995, pp. 14, 32, 33, and 43.

(continued...)

The Germans on the south face of the salient also were planning to attack. The mission of II SS Panzer Corps for July 12 was to "strike and defeat the enemy south of Prokorovka and thereby create the conditions for a further advance through Prokorovka."²¹⁸ Thus the German II SS Panzer Corps was planning to attack to the northeast toward Prokorovka while the Soviet 5th Guards Tank Army was planning to attack to the southwest from the area around Prokorovka. Neither army knew the other's specific attack plans and schedule. The stage was set for what historians have called the greatest tank battle in history.

For both sides the best terrain for the attack was a relatively narrow (6 to 8 km wide) strip of land southwest of Prokorovka. This corridor was good tank country. It was generally flat, except for gullies where the ground sloped down to the river in the north and where several villages extended along the river bank. It was bounded on the north by the Psel River and on the south by the embankment of the Belgorod to Kursk rail line, which represented an obstacle to tanks. See Figure 12 and the more detailed, 1:50,000 scale, Map 3 in Appendix D. North of the Psel the terrain was also good for tanks, but the river itself presented a serious obstacle - especially after the rain of the preceding days. However, the Totenkopf Division had completed one bridge capable of carrying Tiger tanks on July 11. South of the railway embankment the terrain was less favorable for tanks. The Third Defense Belt passed through Prokorovka. It had been originally created by the 6th Guards Army, but on July 12 this section was manned by the 5th Guards Tank Army at Prokorovka, the 5th Guards Army on the northwest and the 69th Army to the south.²¹⁹

The German II SS Panzer Corps planned for the LS Adolf Hitler division to take advantage of the good terrain and attack between the Psel and the railroad toward Prokorovka. The Totenkopf Division would attack to the northeast from its bridgehead north of the Psel. The Das Reich Division would attack to the east, protecting the corps and army right flank, and make contact with the III Panzer Corps attacking from the south.²²⁰

On the Soviet side, Gen. Rotmistrov planned to attack with all four of his tank corps in the army first echelon and the 5th Guards Mechanized Corps in the second echelon. The 18th

217. (...continued)

Sharp, Charles C., "Red Storm: Soviet Mechanized Corps and Guards Armored Units 1942 to 1945," West Chester, OH, Nafziger, 1995, pp. 38, 39, 58, and 59.

218. 4th Panzer Army Operations Order for 12 July 1943, Stadler, op. cit., p. 97.

219. Turner, Frederick C., "Prokhorovka: The Great Russian Tank Encounter Battle with the Germans," Armor, May-June 1993, p. 9. (Col. Turner visited the battlefield while conducting research for his article.) Prokhorovka is the correct transliteration. This study, however, follows most English accounts in using Prokorovka.

220. Stadler, op. cit., pp. 97-98.

and 29th Tank Corps would attack to the southwest between the Psel and the railway embankment, each with two tank brigades forward and a mechanized brigade in the corps second echelon. The 2nd Tank Corps and the 2nd Guards Tank Corps would attack south of the railway embankment. This plan had to be modified before it could be executed. Although the German advance on July 11 had been only a few kilometers, it had captured what the Soviets had planned to be the line of departure for the attack. Gen. Rotmistrov has described how he escorted Marshal Vasilevski, Chief of the Soviet General Staff, forward on the evening of July 11 to show him the assembly areas for the attack. As they approached the designated positions, they heard tank engines, and saw tanks in combat order moving across a wheat field. Marshal Vasilevski thought they were Russian tanks and began berating Gen Rotmistrov for violating security by allowing the tanks to move in daylight. Gen. Rotmistrov pointed out that the tanks were German, and the two Soviet generals beat a hasty retreat to the command post. The two tank brigades of the 29th Tank Corps had to attack to stop the German advance. Consequently, the attack of 5th Guards Tank Army on July 12 was revised and the time of the attack moved forward to 0830 hours.²²¹

A second difficulty for the Soviets was the threat posed by III Panzer Corps. As Section 12 indicated, it advanced about 15 km on July 11. If this advance continued, it would threaten the south flank and rear of the 5th Guards Tank Army and hence endanger the success of the Front counteroffensive. To assist the 69th Army in stopping the III Panzer Corps, the Voronezh Front Commander ordered the 5th Guards Tank Army to send the 5th Guards Mechanized Corps (less the 10th Guards Mechanized Brigade and the 24th Guards Tank Brigade), together with most of the smaller forces in the Army second echelon. This made up a well balanced force with about 120 tanks, roughly equivalent to two panzer divisions. It was placed under the command of Gen. Trufanov, the deputy commander of the 5th Guards Tank Army. The departure of this force left the 5th Guards Tank Army with only the 10th Guards Mechanized Brigade and the 24th Tank Brigade for an army second echelon.²²²

There has been a great deal of confusion about the strength of II Panzer Corps at the tank battle of Prokorovka. According to Gen. Rotmistrov, Soviet intelligence estimated that the three panzer divisions had about 700 tanks, including 100 Tigers and Ferdinands.²²³ This was certainly incorrect. As Section F.1 indicated, all the Ferdinands were on the northern face of the salient, about 100 miles away. (Although several Soviet units reported destroying Ferdinands on the south face of the salient, they must have been using quite unusual antitank weapons!) On July 1, before the battle, II SS Panzer Corps had only about 416 tanks, including 44 Tigers. See Section F.1., page 12 above. After a week of heavy combat, they had

221. Rotmistrov, op. cit., pp. 111-112.

222. Rotmistrov, op. cit., p. 112.
Klink, op. cit., p. 243.
Koltunov (1970), op. cit., pp. 170-174.

223. Rotmistrov, op. cit., p. 111.

considerably fewer, in spite of repairs and some replacements. According to the II SS Corps daily report to 4th Panzer Army on July 11, the corps had a total of 238 tanks on that date, 211 of which were listed as operational. Of these 25 were command tanks and Pz IIs. Only 14 Tigers remained -- less than one-third of the original 44 -- and 10 of these were with the Totenkopf Division north of the Psel.²²⁴

The 5th Guards Tank Army launched its attack at 0830 on July 12, following a fifteen-minute artillery barrage and air attacks by the 2nd Air Army. The 18th and 29th Tank Corps attacked in the corridor between the Psel River and the railway embankment southwest of Prokorovka. Each corps attacked with two tank brigades in the first echelon and the mechanized brigade in the second echelon. At virtually the same time the LS Adolf Hitler Division attacked toward Prokorovka. Thus in this area the battle was essentially a meeting engagement in which mines and fortifications played a very small part. This is the portion of the battle which has most frequently been described by historians. The Soviet tankers, attacking from the northeast, had the rising sun at their backs. This blinded the German gunners to some extent and gave the Soviets a slight advantage. Following Gen Rotmistrov's orders, the Russian tankers closed rapidly, in order to offset the range advantage of the Tiger's 88mm gun and utilize the T-34's greater speed and maneuverability. Thus this portion of the battle quickly turned into a melee of tank against tank with very little command and control. In this kind of battle the superior German tank crew training certainly gave them a significant advantage, but the Soviets had a considerable advantage in numbers. Although the LS Adolph Hitler Division had only four Tiger tanks and lost one of them early in the day, the remaining Tigers were very effective. Wittmann and the other Tiger commanders each reported destroying several Russian tanks. The battle in this area raged all day, as both sides committed second echelon forces and reserves in brigade and battalion attacks and counterattacks. In the morning the Russians initially pushed back the Germans. About noon the LS Adolph Hitler Division reported that a breakthrough near Hill 252.2 had been repulsed. By 1430 hours the 181st and 170th Tank Brigades of the Soviet 18th Tank Corps had reached the Oktiabrski Collective Farm. The Germans counterattacked, and later in the afternoon, elements of the LS Adolph Hitler Division even reached the outskirts of Prokorovka. By the evening, however, the Germans had been driven out of the town. Both sides, exhausted, assessed their losses and took up defensive positions, but the Soviets remained in possession of this portion of the battlefield.²²⁵

224. US National Archives, German Military Records, Record Group T-354, Roll 605.

Nipe, George M. Decision in the Ukraine, Summer 1943, Winnipeg, Fedorowicz, 1996, pp. 37-38 and 373.

225. Stadler, op. cit., pp. 100-102.

Rotmistrov, op. cit., p. 115.

Koltunov (1970), op. cit., pp. 168-169.

Turner, op. cit., pp. 11-12.

Agte, Patrick, Michael Wittmann and the Tiger Commanders of the Leibstandarte, Winnipeg, Fedorowicz, 1996, pp. 98-99.

South of the railway embankment the 2nd Tank Corps attacked the Das Reich SS Division, and further south the 2nd Guards Tank Corps attacked toward Kalinin, striking the south flank of the division. The terrain in this area was not so favorable for tanks as north of the embankment. Although the fighting continued all day, the line of contact in the evening was not much changed from where it had been in the morning.²²⁶ See Figure 12.

By the morning of July 12 the Totenkopf Division had finally brought its Panzer Regiment and its Tiger tanks across the 60-ton bridge over the Psel. It planned to attack from this bridgehead to extend the flank of the II SS Panzer Corps. However, at 0830 hours the 5th Guards Army attacked to the south with the 32nd Guards Corps striking at Kotschetovka and the 33rd Guards Corps hitting the bridgehead. The attack against the bridgehead was repelled, but to the west some of the Soviet units broke through Totenkopf's defense and even reached the artillery positions of the Adolph Hitler Division to the south. This attack was finally stopped by the German artillery firing at point blank range. Later in the day the Panzer Regiment of the Totenkopf Division attacked to the northeast from the bridgehead, overran two strong Soviet lines with antitank guns, and reached Poleschoiev, 10 km west of Prokorovka. This threatened the right flank of the 5th Guards Tank Army, and Gen. Rotmistrov had to send the 24th Guards Tank Brigade and the 10th Guards Mechanized Brigade of 5th Guards Tank Corps to assist the 95th Guards Rifle Division of 5th Guards Army in stopping the advance and restoring the situation.²²⁷

Both sides recognized the crucial importance of III Panzer Corps to the battle of Prokorovka. If the German panzer divisions continued their advance for another 20 km and reached the vicinity of Prokorovka, they would threaten not only the flank of 5th Guards Tank Army but the integrity of the entire Front position. Consequently, on the orders of Gen Vatutin, Gen Rotmistrov sent most of his second echelon and reserves, under the command of Gen. Trufanov south to block III Panzer Corps. This force included the 11th and 12th Guards Mechanized Brigades of 5th Guards Mechanized Corps, the 26th Guards Tank Brigade, the 1447th SU (Self Propelled Artillery) Regiment, the 104th Guards Tank Destroyer Regiment, the 1st Motorcycle Regiment, the 53rd Guards Tank Regiment, and the 689th Tank Destroyer Regiment. Gen. Trufanov organized these forces into two strong strike groups and throughout July 12 conducted a series of tank-supported counterattacks against the 6th Panzer Division, which was leading the III Panzer Corps advance. In addition, Voronezh Front reinforced the 69th Army with a number of artillery units: the 10th and 32nd Tank Destroyer Brigades, the 27th Artillery Brigade, and the 441st Rocket Launcher Regiment, adding several hundred guns

226. Stadler, *op. cit.*, pp. 100-102.
Koltunov (1970), *op. cit.*, p. 169.

227. Rotmistrov, *op. cit.*, p. 115.
Stadler, *op. cit.*, p. 100.
Klink, *op. cit.*, p. 233.
Koltunov (1970), *op. cit.*, p. 172.

to the defense. With the aid of these forces the Soviet 69th Army stopped the advance of III Panzer Corps on July 12 and prevented it joining II SS Panzer Corps at Prokorovka.²²⁸

The battle of Prokorovka has justly gone down in history for the size of the armored forces involved, the ferocity of the fighting, and the bravery of the troops on both sides. It was not, however, a clear-cut tactical victory for either side. The 5th Guards Tank Army did not accomplish its mission of destroying the II SS Panzer Corps and seizing Krasnaya Dubrava and Yakovlevo. But neither did the II SS Panzer Corps succeed in defeating the enemy south of Prokorovka and seizing that town. Not much ground changed hands during the day's fighting, as Figure 12 shows clearly. In front of Prokorovka the German LS Adolph Hitler Division faced the 18th and 29th Tank Corps in almost their original positions, although the Soviets did claim possession of the battlefield. The Soviet breakthrough of the Totenkopf positions at Kotschetovka was stopped and driven back. North of the Psel, however, the Totenkopf Division advanced about four km to Poleschoiev but was stopped there. Both sides suffered heavy losses, especially in tanks. The II SS Panzer Corps reported that it destroyed or captured 249 Soviet tanks on July 12: 185 by LS Adolph Hitler Division, 61 by Totenkopf Division and 3 by Das Reich. This is fairly close to the 200 tanks 5th Guards Tank Army reported losing. These losses were concentrated in the 18th Tank Corps (45 tanks) and 29th Tank Corps (90 tanks).²²⁹ German losses are harder to determine accurately. Gen Rotmistrov wrote that 5th Guards Tank Army destroyed 350 German tanks on July 12. This is clearly too high, since II SS Panzer Corps actually had only 211 operational tanks on July 11. From reports to 4th Panzer Army, the II SS Panzer Corps lost at least 51 tanks as complete losses. At this time the Germans were usually able to repair about two-thirds of tanks damaged in action. Assuming this proportion was true at Prokorovka, total German tank losses would have been about 153.²³⁰ Although Soviet tank losses at Prokorovka were thus probably higher than German ones, they could be replaced more quickly. Russian tank production was much higher than German, and replacement stocks of tanks were located in forward depots. But if the battle of Prokorovka was essentially a draw on the tactical level, the picture was much different on a higher level. At the theater or strategic level it was clearly a Soviet victory. The mission of Voronezh Front was to inflict heavy losses on the German units and, most important, to stop their advance. This the

228. Rotmistrov, op. cit., p. 112.
Klink, op. cit., pp. 243-244.
Koltunov (1970), op. cit., pp. 173-174.

229. Stadler, op. cit., p. 115.
Koltunov (1970), op. cit., p. 176.
Rotmistrov, op. cit., p. 118.
Vasilevsky, op. cit., p. 304.

230. Rotmistrov, op. cit., p. 118.
National Archives, Record Group T-354, Roll 605.
Nipe, op. cit., pp. 38-39, uses slightly different figures to estimate a complete loss of 70-80 German tanks in II SS Panzer Corps on July 12.

Soviets finally accomplished at Prokorovka, although the Front required substantial reinforcements from the STAVKA reserves and the Steppe Front to do the job. The War Diary of the XLVIII Panzer Corps laconically reported the results of the battle, "At the right flank of the Panzer Army the Soviets have committed fresh reserves.... These troops have met the main forces of the II SS Panzer Corps and elements of Kempf in a major tank battle at Prokorovka and turned them back."²³¹ The German units were by no means destroyed, but they had been stopped and were not capable of continuing the offensive without significant reinforcement. No such reinforcements were available.

Compared with the great tank battle at Prokorovka, the fighting on the XLVIII Panzer Corps front was definitely a sideshow. The XLVIII Panzer Corps had planned to attack on July 12, with the Panzergrenadier Division Grossdeutschland attacking to the north on both sides of the road to Oboyan, the 11th Panzer Division attacking to the north on its right flank, and the 3rd Panzer Division attacking to the northwest. The attack was scheduled to begin at 1500 hours, to allow time for the Grossdeutschland Division to reorganize and regroup after attacking to the south near Verchopenie on July 11. The Soviet offensive, however, began at 0830 hours. The 3rd Soviet Mechanized Corps and the 31st Tank Corps hit the 3rd Panzer Division with an attack toward Novoselovki. Further to the south the 10th Tank Corps and the 204th and 309th Rifle Divisions attacked southwest of Kalinovka. Thus the 3rd Panzer Division was being attacked by the equivalent of three panzer divisions and two infantry divisions, although both the Soviet and the German units were considerably worn by a week of combat. The Soviet forces broke through 2.5 km northwest of Verchopenie, and the Corps ordered the Grossdeutschland Division to send its panzer brigade south to restore the situation. Instead of attacking to the north, the remainder of the Grossdeutschland Division spent the day beating off attacks on both sides of the Oboyan Road by the 204th and the 309th Soviet Rifle Divisions supported by tanks. To the east, the attacks on the 11th Panzer Division began at 0430 with attacks by units of the 23rd Guards Rifle Corps on the left and right flanks of the division, followed by an attack on the center. The Soviets succeeded in capturing Hill 209.3, but a counterattack by the Panzer Regiment and the 111th Panzergrenadier Regiment approximately reestablished the original line of contact by 1345. Despite the Soviet attacks, the XLVIII Corps wanted to follow the original plan. At 1350, for example, the Corps repeated orders that the attack begin at 1500. At 1445, however, the Corps had to announce that the attack to the north was canceled and directed all three divisions to shift to defense. At 1845 the Corps War Diary recorded, "An attempt is being made to mine the area in front of the German defense very thoroughly." Although the Germans may have used some mines earlier during the Kursk offensive, this is the first time laying mines was mentioned in the Corps War Diary. Significantly, the Corps orders for July 13 were to "defend the line on its northern front and

231. Entry for 2030 hours 15 July 1943. XLVIII Panzer Corps War Diary, HERO, *op. cit.*, p. 196.

destroy the armored forces opposite its western front." No longer was the Corps planning to drive north to Oboyan.²³²

South of the XLVIII Panzer Corps sector the LII Corps was attacked across its entire front by units of the 22nd Guards Rifle Corps on July 12. The 71st Guards Rifle Division attacked the south flank of the 332nd Infantry Division at Korovino about 1100 hours. Later in the day the 219th Rifle Division and the 5th Guards Tank Corps attacked the north flank of the division while the 90th Guards Rifle Division attacked the center. Thus the 332nd Division, which was supposed to move north to relieve the 3rd Panzer Division, instead spent the day defending its positions against attacks from four rifle divisions and a tank corps.²³³

By the evening of July 12, Field Marshal von Manstein had realized that without substantial reinforcements his forces could not continue the attack. Consequently, at 2110 hours he ordered the XXIV Panzer Corps, with the Wiking SS and the 23rd Panzer Divisions, to move overnight from Kharkov to Belgorod in order to support the right flank of his offensive. In view of the reserves which the Soviets still had available, it is doubtful that these two weak divisions, with a total of only 47 PzIV tanks, would have made much difference. In any case, the German High Command, concerned about the threat of Soviet attacks in the south, refused to release the unit.²³⁴

At first light on July 12, the fresh troops of the Soviet Briansk and Western Fronts had launched the planned counteroffensive from the north against Orel. The initial successes of this offensive posed an immediate threat to the rear of the German 9th Army and to Orel. To meet this threat the Germans began immediately to pull troops from their offensive on the north face of the Kursk salient. By 0800 hours the 12th Panzer Division and the 36th Infantry Division were halted on their way south to reinforce 9th Army and turned north, and other units followed throughout the day. See Section I.10. It was clear that the German offensive on the north face of the salient had ended -- Gen. Model's troops were never going to reach Kursk. Instead they would soon be requesting reinforcements from Army Group South in order to stop the Soviet offensive.

232. XLVIII Panzer Corps War Diary, HERO, op. cit., pp. 173-179.
Klink, op. cit., pp. 238-239.
Koltunov (1970), op. cit., pp. 171-172.

233. XLVIII Panzer Corps War Diary, HERO, op. cit., p. 176.
Klink, op. cit., pp. 238.
Koltunov (1970), op. cit., pp. 171-172.

234. Stadler, op. cit., p. 104.
Klink, op. cit., p. 266.

15. July 13-15, 1943: Stalemate on the South Face

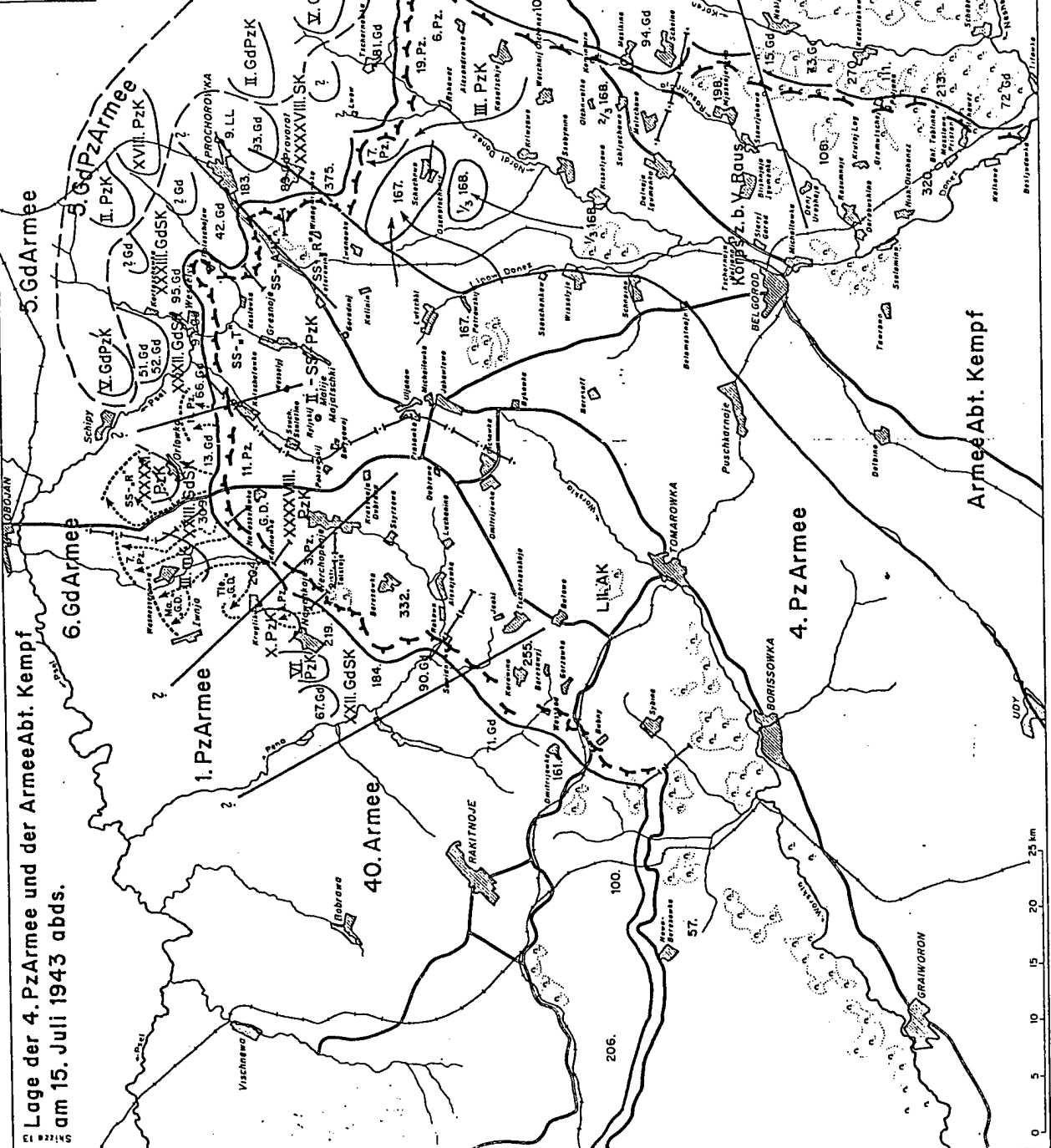
On July 13, the commanders of both German Army Groups were summoned to a conference at Hitler's Headquarters in East Prussia. Hitler opened the conference by announcing that the Allies had landed in Sicily, and the situation there was already serious. The Italians were not even attempting to fight, and the island was likely to be lost. It would be necessary to form new armies in Italy and perhaps in the Western Balkans. These forces must come from the Eastern Front, so Citadel would have to be discontinued. Field Marshal von Kluge, Commander of Army Group Center, agreed. He reported that the 9th Army was making no progress and that he was having to take all its mobile reserves in order to stop the Soviet penetrations into the Oriel salient. Therefore, there could be no question of continuing with Citadel or of resuming the operation at a later date. Field Marshal von Manstein, however, recommended continuing the offensive. He considered that he had breached the last Soviet defense line (there were actually five remaining) and was in the process of destroying the last Soviet mobile reserves (also not correct). Hitler ruled that the Kursk offensive was to be halted but conceded that Army Group South could continue its attack until it had achieved its aim of smashing the enemy's armored reserves.²³⁵

Smashing the Soviet armored reserves proved to be much more difficult to accomplish than to talk about. XLVIII Panzer Corps orders for both July 13 and 14 were the same: "To defend the line of its northern front and destroy the armored forces opposite its western front by an enveloping attack." The 11th Panzer Division held the northern front on both sides of the road to Oboyan and beat off repeated attacks by the 13th, 96th, 6th, and 51st Guards Rifle Divisions, the 309th and 204th Rifle Divisions, and the 180th and 86th Tank Brigades. Although the 11th Panzer successfully repelled the attacks, the division suffered heavy losses. By July 15 it reported only 28 tanks operational. Infantry losses were also heavy. To the division's urgent requests for infantry reinforcement, the Corps could only respond with the promise of two more companies from the 1st Engineer Training Battalion. On the corps west flank the enveloping attack was to be carried out by the 3rd Panzer Division and the Panzer Grenadier Division Grossdeutschland. The Grossdeutschland Division had some local successes against the 5th Guards Tank Corps and the 10th Tank Corps west of Verchopenie and the 3rd Tank Corps at Novosselovka, but could not claim to have gained much ground or destroyed major Soviet armored forces. See Figure 13.²³⁶ The 3rd Panzer Division was less successful. On July 13 the Soviet 184th and 219th Rifle Divisions, supported by the 6th Tank Corps, broke through the 3rd Panzer Division Defense west of Beresovka, and the attack was halted with great difficulty. When the armored group of the division attacked into the Tolstoye Woods the next day, they encountered a broad, deep antitank minefield which the Soviet engineers had laid during the night. After losing several tanks in the minefield, the division delayed the attack and tried to bypass the minefield. Unable to find a bypass, the armored group had to wait while

235. Manstein, op. cit., pp. 448-449.

236. Map from Klink, op. cit., Appendix 3, Sketch 13.

Zeichenerklärung:
 - Vorderes Linien am 15.7. 22⁰⁰
 - Reserven
 - "Roland", I. Phase



Lage der 4. PzArmee und der ArmeeAbt. Kempf am 15. Juli 1943 abds.

Figure 13. Situation on the South Face of the Salient on July 15, 1943

engineers cleared paths through the minefield. When they finally got through the minefield, Soviet tanks were waiting for them. In spite of this lack of success, optimistic corps staff officers developed a plan, code named "Roland," for resuming the attack to the north toward Oboyan, but forces were never available to execute this plan. Instead, XLVIII Panzer Corps continued to fight a grinding war of attrition against Soviet forces that were increasing in number.²³⁷

From July 13-15 the II SS Panzer Corps beat off Soviet attacks and made stabbing attacks against the Soviet defenses in the Prokorovka area. On July 13 the weather was very bad, with heavy rain showers making many roads impassable. This hampered the efforts of II SS Panzer Corps to regroup its units. However, the weather did not prevent the Soviet units from continuing their attacks against the Totenkopf Division's bridgehead north of the Psel. At 1000 hours on July 13, units of 5th Guards Army launched an attack with tank support and seized the high ground between the villages of Veselyi and Polezhaev. See Figure 13. A German tank attack threw them off this position, but a Soviet counterattack in the afternoon finally cleared the hill and forced the Germans back toward the river. In front of Prokorovka the LS Adolf Hitler Division saw very little action, as Soviet forces concentrated on reducing the bridgehead north of the Psel. South of the railway the Das Reich Division experienced heavy attacks from the Ivanovka area on July 13. The next day the division attacked to the southeast, seizing Ivanovka and then Vinogradovka and pushing the Soviet 89th Guards Rifle Division back toward Pravorot. This attack produced a violent Soviet reaction, since seizing this key road intersection would threaten the flanks of the 69th Army to the south and the 5th Guards Tank Army to the north. The Germans attacked vigorously, with infantry crossing a Soviet minefield and fighting house to house in built up areas. Although the fighting continued until 1825 hours, the Germans did not succeed in taking Pravorot. The intensity of fighting in the II SS Panzer Corps sector is indicated by the German claims of Soviet tanks destroyed: 144 on July 13, 3 on July 14, and 44 on July 15. In spite of this heavy fighting, a comparison of Figure 12 and Figure 13 shows that they made no significant territorial gains. Significantly, they did not claim to have destroyed any major Soviet units.²³⁸

The German High command was also becoming concerned about developments in the German 2nd Army area. As Section D indicated, the seven weak infantry divisions of this army were assigned to hold a 170 km front on the face of the salient. One infantry division was

237. Klink, op. cit., pp. 266-268.
XLVIII Panzer Corps War Diary, HERO, op. cit., pp. 180-198.
Donnhäuser, op. cit., pp. 116-117.
Stadler, op. cit., pp. 109-110.
Koltunov (1970), op. cit., pp. 175-176.

238. Klink, op. cit., pp. 266-268.
Stadler, op. cit., pp. 109-139.
Koltunov (1970), op. cit., pp. 174-176.

assigned the mission of holding a sector of 60 km -- about the same width as 4th Panzer Army's attack sector on July 5. The German 2nd Army sector had been quiet since the beginning of the offensive. The German forces were too weak to carry out offensive actions, and the Soviet forces opposite them were being drawn down to reinforce the Voronezh Front. On July 14, however, this lull was broken. A two-battalion attack hit the 327th Infantry Division south of Rylsk, units of the Soviet 60th Army attacked the 82nd Infantry Division, and units of 38th Soviet Army struck the 88th Infantry Division. Although these attacks were stopped, the Germans had reason to be concerned. They had few troops in the area, and no reinforcements were available. Moreover, a Soviet breakthrough here would put Soviet forces in the rear of 9th Army and 4th Panzer Army.²³⁹

Only in the sector of III Panzer Corps of Army Kempf were the Germans successful during July 13-15. In spite of the heavy rain on July 13, the 19th Panzer Division made progress and pushed the Soviet 81st Guards Rifle Division back toward Schakova. The Soviets concentrated their counterattacks against the 6th and 7th Panzer Divisions, using units from the 5th Guards Mechanized Corps and the 2nd Guards Tank Corps of 5th Guards Tank Army. These counterattacks were supported by the Red Air Force, which launched massive air attacks against the 6th Panzer Division's bridgehead across the North Donets at Rshavez. See Figure 13. These air attacks produced heavy German casualties -- particularly among the officers. The III Panzer Corps also continued its effort to eliminate the salient between its advance and the II SS Panzer Corps, which the Soviets had maintained since the beginning of the Kursk offensive. The 7th Panzer Division attacked toward Vinogradovka from the south, while the SS Division Das Reich attacked from the west. This effort continued on July 14. The German 167th Infantry Division attacked east toward Schachova from a position on the railroad south of Ivanovka, while the 7th Panzer Division attacked from the east. Finally, at 1420 hours on July 15, elements of the 7th Panzer Division met the panzer regiment of Das Reich division at the village of Maloe Iablonovo. The gap was closed. This freed the 167th Infantry Division, the 168th Infantry Division, and the elements of Das Reich Division which had been tied down defending against Soviet attacks from the salient. II SS Panzer Corps no longer had a vulnerable right flank, nor III Panzer Corps a left one. Thus during the period July 13-15, III Panzer Corps not only continued to advance toward Prokorovka, but also made contact with 4th Panzer Army. After these successes, Gen. Breith, the III Panzer Corps commander, planned to use the 7th and 19th Panzer Division to continue the drive toward Prokorovka, while the 6th Panzer Division defended the right flank against attacks from the east by 35th Guards Rifle Corps and other elements of the Soviet 69th Army.²⁴⁰

239. Klink, op. cit., p. 240.
Mehner, op. cit., p. 126.

240. Klink, op. cit., pp. 240-241.
Manteuffel, op. cit., pp. 348-349.
Breith, op. cit., pp. 162-164.
Koltunov (1970), op. cit., p. 175-176.

16. July 16-23, 1943: German Withdrawal to Initial Positions

In spite of the continuing advance of III Panzer Corps, the German offensive was ending. The German High Command simply could not leave such a high proportion of its forces -- particularly armored forces -- committed at Kursk when there was an urgent need for them elsewhere. The Soviet offensive at Orel must be stopped before it could cut off Gen. Model's 9th Army. Hitler was concerned about the situation in Italy and wanted to send German forces there. In addition, German intelligence correctly anticipated major Soviet offensives in the south against the German 1st Panzer Army on the Donets and the 6th Army holding the line of the Mius River. (These Soviet offensives began on July 17.) Troops to assist in stabilizing all these situations could only be found from among those at Kursk. In order to release a significant number of units for these purposes, the troops on the south face of the salient would clearly have to withdraw to a shorter, more easily defensible line.

On July 15, Hitler ordered Army Group South to terminate offensive operations along the entire front. At 2220 hours 4th Panzer Army issued a warning order directing its subordinate corps, "To stop the offensive and be prepared to withdraw southward to the lines held on July 4." The actual withdrawal began during the night of July 17-18. It was well planned and executed, with a strong rear guard. The Soviet forces, apparently surprised and in the process of regrouping and reorganizing for their planned offensive toward Kharkov, mounted only local attacks against the retreating Germans. By July 23 the German units were defending in approximately the same positions from which they had launched the offensive on July 4. The Panzergrenadier Division Grossdeutschland was transferred to 9th Army, and the 2nd SS Panzer Corps was regrouping west of Belgorod for possible employment in the south or in Italy. The German offensive at Kursk had ended.²⁴¹

17. The Role of the Soviet Minefields and German Minefield Breaching on the South Face during the Offensive

Minefields played an important role in the Soviet defenses in the south, just as they did on the north face of the salient. Before the battle began, the Soviets had laid some 292,000 antitank mines and 306,000 antipersonnel mines in the sector of the Voronezh Front. During the battle Soviet engineers laid more than 55,000 additional mines. Mobile Obstacle Detachments organized by the 5th Engineer Sapper Brigade and the 42nd Engineer Brigade were

241. Klink, op. cit., pp. 268-269.

XLVIII Panzer Corps War Diary, HERO, op. cit., p. 196.

Donnhauser, op. cit., p. 117.

Stadler, op. cit., p. 142.

Koltunov (1970), op. cit., p. 177.

Piekalkiewicz, op. cit., p. 211.

especially active in this work, in addition to the mobile obstacle detachments formed by divisional engineer units. Some 113 German tanks, 30 assault guns and 73 other vehicles were destroyed in just the minefields laid by Mobile Obstacle Detachments during the battle. According to Soviet historians, the Germans lost a total of about 630 tanks in all the Soviet minefields on the south face of the salient during the period July 5 to July 17. Mines were a particularly important weapon against the heavy Tigers and Ferdinands whose frontal armor made them invulnerable to the Soviet tank guns and antitank guns, except at very close range. The Germans also lost considerable numbers of personnel -- both tank crews and infantrymen -- to mines.²⁴² Thus the Soviet minefields were quite effective in inflicting losses on the attacker.

To be sure, many of the German tank losses in minefields were mobility kills. German studies at the time indicated that on the average about one-third of tank losses were total writeoffs. As long as the Germans were advancing, the other tanks could be recovered, repaired, and put back into action -- some of them in only a few hours. Nevertheless, as the battle continued, the German tank losses from mines and other causes mounted up, and the number of tanks available for combat declined. For example, on July 10, after five days of combat, the 3rd Panzer Division reported that it had only four Mark IV (long) tanks available of the 21 which it had on July 1. Similarly, the Panzer Grenadier Division Grossdeutschland reported its tank strength on July 10 as "three Tigers, six panthers, and about eleven Mark III and Mark IV (Long) tanks still operational" -- about 20 tanks compared with the 118 it had on July 1. Panzer Regiment 11 of the 6th Panzer Division, III Panzer Corps, had similar losses. It began the battle with 105 operational tanks and on July 10 was down to 22. With regard to Tiger tanks, Heavy Panzer Battalion 503 began the battle with 45 Tigers, 40 of them operational. During the fighting from July 5-8, they reported 34 losses, 16 of them to mines. Many of these Tigers were repaired, but nevertheless on July 10 only 22 Tigers were operational. The picture for Panthers was even bleaker. Panzer Regiment 29 of Panzer Brigade 10 had 200 Panthers on July 1. After the unit's disastrous encounters with Soviet minefields on July 5 and 7, its operational strength dropped to 40 on July 7, and it never recovered during the battle. Personnel losses were also high -- during the period from July 5 through July 10, the Panther Regiment had 9 officers killed and 19 wounded.²⁴³ Clearly the losses in tanks and personnel were drastically reducing the combat effectiveness of the German armored units.

The Soviet minefields were also effective in delaying the German advance. In their offensive on the north face of the salient the Germans used the B IV and the Goliath, radio-controlled tracked vehicles loaded with explosives, in an effort to clear lanes quickly through the initial Soviet minefields, as Section I.4 described. In the south, however, they relied entirely on traditional techniques -- locating the mines by probes and clearing them by hand. This

242. Tsirlin, *op. cit.*, pp. 163-165.

243. XLVIII Panzer Corps War Diary, HERO, *op. cit.*, pp. 164 and 166.
Jentz, *op. cit.*, pp. 91, 93 and 96-101.

technique, though effective, is both dangerous and slow. For breaching the minefields in front of the outpost line for the attack on July 4, the Germans had plenty of time for reconnaissance and knew where the minefields were located. Thus they could work relatively quickly. The engineers of Panzergrenadier Division Grossdeutschland, for example, claimed to have lifted 2,700 mines by hand in five hours during the night of July 3/4. (Nevertheless the Germans still suffered heavy casualties from mines during the attack, including a battery commander and a battalion commander.)

Once past the outpost line, the Germans no longer knew where the Soviet minefields were located. Thus both losses and delays increased. The initial attack of XLVIII Panzer Corps on July 5, for example, was delayed for several hours because the engineers of the Panzergrenadier Division Grossdeutschland and the 11th Panzer Division had not completed the necessary cleared passages in the initial minefields. In addition to the delay, the Grossdeutschland Panzer Regiment lost 20 tanks and 5 assault guns to mines on July 5.

Gen. Knobelsdorf, the corps commander of XLVIII Panzer Corps, had attached all 200 of the new Panther tanks to the Panzergrenadier Division Grossdeutschland. As the corps war diary makes clear, he expected that this mass of armor would quickly break through the Soviet defenses and capture the ground to the north. Instead, the result was a case study in the ability of a dense minefield, properly covered by fire, to completely stop a major attack and force a change in plans. Soon after jumping off, the Panthers encountered a minefield and had to call for engineers to clear lanes. Soviet artillery and anti-tank fire concentrated on the stranded Panthers and the engineers working to extricate them. Some 40 Panthers were knocked out by mines or by hostile fire. Meanwhile the infantry, who had been waiting for support by the Panthers, attacked the Soviet positions without tank support and were thrown back with heavy casualties. Consequently, the attack was abandoned, and those Panthers which could be extricated were shifted to support the main body of the division to the east. This change in plans caused a delay of several hours. As a result of these and other delays, the corps advance was slowed considerably. Although the corps did succeed in breaking through the First Soviet Defense Belt on July 5, it advanced only 5-6 km instead of the planned 15-20 km and was not in a position to assault the Second Belt the next day as planned.²⁴⁴

The effective Soviet use of Mobile Obstacle Detachments to lay mines in front of the German advance meant that areas that were free of mines one day became minefields overnight. After breaking through the First Defense Belt on July 5, for example, the German XLVIII Corps hoped to advance quickly the next day and attack the Second Belt. Instead, on July 6 both the 11th Panzer Division and the Panzergrenadier Division Grossdeutschland faced further minefields, most of which had been laid during the night. The tanks halted and waited while

244. See Section J.7.

Corps War Diary, HERO, *op. cit.*, pp. 122-124 and 132.

Spaeter, *op. cit.*, pp. 115-120.

Donnhauser, *op. cit.*, p. 112.

engineers from the two divisions cleared passages. The corps war diary complained, "The commitment of the entire tank force of the corps depends entirely on the speed of the mine clearing."²⁴⁵ Partly because of this late start, the corps was able only to advance up to the Second Defense Belt on July 6, not to attack it. But in order to trap large numbers of Soviet units at Kursk before reinforcements could arrive, the Germans needed to break through one defense line each day and advance up to the next. Hence after two days of fighting, XLVIII Panzer Corps was already a day behind schedule.

The II SS Panzer Corps was much more successful on July 5. Although the minefields they faced were probably just as dense as those opposite XLVIII Panzer Corps, their breakthrough sector was held by only two regiments: the 1243rd Rifle Regiment of the 375th Rifle Division and the 155th Guards Rifle Regiment of the 52nd Guards Rifle Division. In spite of dense minefields, artillery, and antitank guns, two regiments could not stop three panzergrenadier divisions. It was not just the density of the Soviet minefields which made them effective against XLVIII Panzer Corps, but also the fact that they were covered by small arms, artillery, and antitank guns. II SS Panzer Corps, facing much lighter opposition, advanced 15 km on July 5 and closed on the Second Defense Belt. Even though the sector was lightly manned and the Soviet units withdrew in good order without waiting to be destroyed, the success of II SS Panzer Corps in getting through the Soviet minefields and breaking through the First Defense Belt had come at a high cost in casualties. The LS Adolf Hitler Division, for example, reported 522 soldiers wounded and 97 killed in action during the first day's fighting.²⁴⁶ The minefields also assisted in slowing down the German advance. Although the 15 km advance was greater than that of any other German corps on July 5, it was a very small advance for an armored corps facing relatively light opposition -- especially when compared with German advances in earlier campaigns. While the Germans prepared to attack the Second Defense Belt the next day, the Soviets began a massive movement of reinforcements into the area -- reinforcements which would slow and eventually stop the German advance. As early as July 8, for example, the Soviets estimated that their forces defending the road to Oboyan outnumbered the three armored divisions of XLVIII Panzer Corps.²⁴⁷

245. Corps War Diary, HERO, op. cit., p. 132.

246. See Section J.7.

Klink, op. cit., p. 210.

Stadler, op. cit., pp. 44 and 55.

Ailsby, op. cit., p. 106.

247. See Section J.8.

Koltunov (1970), op. cit., pp. 143-144 and 156-157.

Klink, op. cit., pp. 217-219 and 221-223.

Armstrong, op. cit., pp. 58-60.

XLVIII Panzer Corps War Diary, HERO, pp. 147-154.

In the zone of III Panzer Corps of the Kempf Army the Soviet minefields not only slowed the German offensive but also led to a major change in German plans which had a profound effect on the outcome of the battle. The mission of the III Panzer Corps was to attack to the northeast toward Korocha from its initial positions just south of Belgorod and then turn north to protect the flank of 4th Panzer Army from Soviet attacks from the east. The line of contact before the battle was mostly along the North Donets River -- only at Belgorod did the Germans have a bridgehead across the river before the attack. Gen. Breith, the corps commander, planned to take advantage of this bridgehead to speed up his advance. However, the Soviets were aware of the danger. They had heavily mined the roads leading out of the bridgehead and kept heavy artillery fire on the crossing sites, destroying several bridges. This slowed the advance of the 6th Panzer and 168th Infantry Divisions and gave the Soviets time to reinforce the defense at Staryi Gorod. Consequently, the German advance was limited to 3 km. for the day. Similarly, the 19th Panzer Division attacked with thirty tanks, including some Tigers, at Michailovka and encountered minefields and stiff Soviet resistance. In the Corps commander's words, "The 19th Panzer Division gained only a little ground in the heavily mined forests southeast of Belgorod and lost many tanks due to mines." Further to the south the 7th Panzer Division was more successful. The 58th Panzer Engineer Battalion spent the night of July 4-5 clearing mines from the crossing sites and bringing forward boats and bridging material. Early on July 5 the division made a successful river crossing, and the engineers built a 50-ton bridge at Dorobuschino, 7 km south of Belgorod. By nightfall the 7th Panzer Division had a tank unit on a hill near Krutoi Log, halfway to the Second Defense Line. During the night Gen. Breith, the Corps Commander, decided on a change in plans. The 6th Panzer Division withdrew from the corps north flank and crossed the North Donets on the 7th Division bridge. This followed the standard German tactical practice of reinforcing success and appeared to be a good idea from the corps point of view.²⁴⁸ From a higher level, however, it had some serious disadvantages. It left a salient separating II SS Panzer Corps from III Panzer Corps. The Soviets poured reinforcements into this salient and used it as a base for counterattacks against the flank of II SS Panzer Corps. To defend against these counterattacks, the SS Totenkopf Division spent several days serving as the corps and army flank guard. Similarly, the 19th Panzer Division of III Panzer Corps had to defend the east side of the salient until the Soviets were finally forced to withdraw on July 15. Thus the armored spearheads of each of the two corps was deprived of a third of the corps combat power during these critical days. In addition, the shift south increased the distance the III Panzer Corps needed to advance. Throughout the entire battle the corps remained about a day behind II SS Panzer Corps. Thus III Panzer Corps was never able to accomplish its mission of defending the east flank of the German 4th Panzer Army -- the flank from which came the attack by the Soviet 5th Guards Tank Army which finally stopped the German advance at Prokorovka.

248. See Section J.7.

Koltunov, *op. cit.*, p. 142.

Breith, *op. cit.*, pp. 157-158.

Klink, *op. cit.*, pp. 213-214.

Throughout the battle the Germans kept hoping to break through the crust of Soviet resistance and move into open country, but this never happened. Instead, they encountered the next defense belt, with its prepared minefields supplemented by additional ones laid in their path by the ubiquitous Mobile Obstacle Detachments. "After penetrating to a depth of twelve miles (25 km), we still found ourselves in the midst of minefields and opposed by Pakfronts." as Gen. von Mellenthin described the problem.²⁴⁹ For example, on July 11 the Panther Brigade was attacking near Berezovka. "The brigade first ran into a minefield on Hill 237.6. After clearing a passage through it at Point 1.5, the brigade encountered another minefield, making it temporarily impossible to proceed. After clearing a way through that one, the brigade reached Hill 243.8 toward evening."²⁵⁰ Likewise, on July 12, when the armored group of the 3rd Panzer Division attacked into the Tolstoye Woods, they encountered a broad, deep antitank minefield which the Soviet engineers had laid during the night. After losing several tanks in the minefield, the division delayed the attack and tried to bypass the minefield. Unable to find a bypass, the armored group had to wait while engineers cleared passages through the minefield by hand. When they finally got through the minefield, they found Soviet tanks waiting for them.²⁵¹ Thus throughout the entire battle the Soviet minefields continued to inflict losses and delays on the German attackers. The only portion of the battle where minefields were not important was the great tank battle at Prokorovka, which was essentially a meeting engagement.

K. CONCLUSIONS

1. The Role of Soviet Minefields in the Battle

Both on the north face and on the south of the salient the Soviet minefields played a vital role in the Battle of Kursk. They inflicted heavy losses on the attacking German forces, and helped to slow their advance, giving time for the Soviets to move reinforcements to the threatened areas. The number of mines employed and their density both far exceeded the figures for earlier campaigns. Before the battle began the Soviets had laid some 529,000 anti-tank mines and 468,000 anti-personnel mines. The average density in the three Army defense belts was 1,500 anti-tank mines and 1,700 anti-personnel mines per kilometer of front -- three to four times as many as in earlier operations. On the expected routes of German attack, mine densities reached from 1,400 to 2,000 anti-tank mines per kilometer of front. The minefields were integrated with the Soviet defense positions and covered by small arms, artillery, and anti-tank guns, the density of which also set new records at Kursk. In addition to the mines laid before the battle, the Soviet Mobile Obstacle Detachments continued to lay mines during the fighting

249. Von Mellenthin, op. cit., p. 279.

250. See Section J.13.

Quotation from Daily Report of Grossdeutschland Division, XLVIII War Diary, HERO, op. cit., p. 173.

251. XLVIII War Diary, HERO, op. cit., pp. 186-192.

-- some 35,000 in the Central Front and 55,000 in the Voronezh Front sector. Since they were laid in front of a German advance, these mines were much more effective than those laid before the battle, even though in many cases there was no time even to bury them. Soviet military writers have estimated that "two-thirds of all enemy tanks destroyed by obstacles blew up in the minefields laid during the battle."²⁵²

The Soviet minefields inflicted heavy losses on the German attacking forces. According to Soviet historians, during the period from July 5 through July 12, the Germans lost 420 tanks and assault guns and some 4,000 men in the minefields in the sector assigned to Central Front. On the south face of the salient they lost an additional 630 tanks during the period July 5 - July 17.²⁵³ Even though many of these tanks were probably mobility kills and could be repaired, these losses represented a substantial drain on German combat power.

The delays the minefields imposed on the German attacks were probably at least as important as the losses they inflicted. Each minefield they encountered caused the German attackers to stop and wait for engineers to clear lanes -- usually by hand. This greatly reduced the speed of the advance. To succeed in their plan of cutting off the salient and trapping large numbers of Soviet troops before reinforcements arrived, the Germans needed to break through a defense belt each day and close up to the next belt. This would require an advance of about 20 km per day, only a day's march for an infantryman. But on the north face of the salient the troops of 9th Army advanced only a total of 12-15 km from July 5 to July 12. On the south face the Germans did better. They were able to breach the First Defense Belt on July 5, although many of the defenders withdrew to the Second Defense Belt. Then the 4th Panzer Army took three days to break through the Second Belt and close up to the Third. Such delay was fatal to their hope of success. The Soviets poured reinforcements into the threatened areas -- not just brigades and divisions but Tank and Mechanized Corps and finally the entire 5th Guards and 5th Guards Tank Armies. As these reinforcements arrived and were thrown into the battle, the German advance slowed still further. By July 10 the German advance on the north face had been halted, and on the south face the Soviets outnumbered the German forces in every category. The attack of the 5th Guards Tank Army at Prokorovka finally stopped the German advance in the south. The table below shows how the German advance was slowed and stopped.

252. See Section G.
Parotkin, *op. cit.*, p. 221.
Tsirlin, *op. cit.*, pp. 157-158.

253. See Sections I.12 and J.16.
Tsirlin, *op. cit.*, pp. 162-165.

Rate of Advance of German Forces during the Battle of Kursk²⁵⁴

Date	Central Front Sector		Voronezh Front Sector	
	Width of Attack Sector	Advance	Width of Attack Sector	Advance
July 5	45 km	4-5 km	30 km	7-9 km
July 6	40 km	3-4 km	25 km	5-6 km
July 7	15 km	1-2 km	20 km	5-7 km
July 8	2 km	0.5-1 km	20 km	3-5 km
July 9	2 km	0.3-0.5 km	15 km	1-2 km
July 10	--	--	15 km	1-3 km
July 11	--	--	15 km	2-3 km
July 12	--	--	18 km	--

2. The Effect on Engineer Mine Warfare Doctrine

The Battle of Kursk does not appear to have led to significant changes in German engineer doctrine. However, it had two major and long-lasting effects on Soviet engineer doctrine. Impressed by the effectiveness of the minefields at Kursk in slowing the advance of the German tank-heavy forces, the Soviets placed increased importance on minefields, properly covered by small arms, artillery, and anti-tank fire, not only in the defense but also in protecting the flanks of an attack. They put considerably more emphasis on laying minefields than most western armies. The last combat engineer text published before the breakup of the Soviet Union, for example, stated, "Minefields are the principal type of artificial obstacle in modern combined arms combat. They are highly effective, easy to set up, and difficult to overcome." The authors supported this thesis with data from the Battle of Kursk, 45 years before.²⁵⁵

The Battle of Kursk also supported the concept of laying mines during the fighting in the path of an advancing enemy. As Section G described, Soviet General Staff Instructions issued

254. Koltunov, G. A., "Kurskaia bitva v tsfrakh," *Voенно-Istoricheskiy Zhurnal (VIZh)*, June 1968, p. 68.

255. Kolibernov, Ye. S., Kornev, V. I., and Soskov, A. A., *Inzhernoye obespecheniye boya*, (Combat Engineer Support), Moscow, Voenizdat, 1988, pp. 101-102. (Unfortunately the FSCT translation regularly translates the Russian "minefields" as "mixed minefields.")

before the battle called for the creation of Mobile Obstacle Detachments at every tactical level to lay mines in front of the enemy advance. A few Mobile Obstacle Detachments had been used in earlier campaigns. They usually consisted of a few engineer soldiers and a horse-drawn cart to transport their mines. At Kursk, however, the availability of trucks -- mostly American Dodge trucks furnished through Lend Lease -- greatly increased the mobility of the detachments and hence the viability of the concept. Mobile Obstacle Detachments could move quickly to any threatened point. Since they laid mines in the path of the advancing Germans, the mines were much more effective than those laid before the battle. The concept was a resounding success during the Battle of Kursk. Gen. Tsirlin's generalization that two-thirds of the enemy tanks destroyed by minefields blew up in the minefields laid during the battle²⁵⁶ was cited by generations of Soviet military writers. Thus the concept of creating Mobile Obstacle Detachments to lay mines in front of an advancing enemy became a permanent part of Soviet engineer doctrine.

3. The Effect on Engineer Mine Warfare Equipment

Equipping the Mobile Obstacle Detachments with trucks enabled them to move quickly to a threatened area. Once they arrived, however, they had no special equipment with which to lay mines -- the mines still had to be emplaced by hand. Generally the Mobile Obstacle Detachments tried to do this at night. During the Battle of Kursk the fighting usually died down at night, and the Germans withdrew their tanks a short distance to more defensible positions. In a well known quotation Gen. Rotmistrov described "the night workers of the war," including "engineers making their way to the front line to lay mines where enemy tanks were expected to attack."²⁵⁷ When this was not possible, however, the task was much more difficult. Laying mines in daylight in front of advancing enemy tanks was a dangerous mission. Many Soviet engineers received awards for this work during the Battle of Kursk, a high proportion of them posthumously. Clearly there had to be a better way. Once the concept of laying mines rapidly in front of an advancing enemy became doctrine, the Soviets worked to develop equipment for the task. The development process in the postwar period led from mine chutes attached to trucks, through several types of towed minelaying trailers (PMR-2, PMR-3, PMR-4), to armored minelaying vehicles (GMZ). This sort of equipment was absent from the inventories of most western armies until the development of small, scatterable mines, although the British did develop a mechanical minelayer for their bar mine.

With regard to countermine equipment, the Germans used two types of tracked explosive carriers at Kursk, as described in Section I.4. The B IV was a four-ton tracked vehicle carrying a 1000-pound charge and operated by armor troops. The Goliath was a miniature tank carrying a 200-pound charge and operated by engineer troops. Both systems were used on July 5 on the

256. Tsirlin in Parotkin, op. cit., p. 221.

257. Rotmistrov, op. cit., p. 116.

north face of the salient to breach the initial Soviet minefields: four companies of B IVs and two companies of Goliaths. Neither system worked especially well. Although the explosive charge in the B IV was large enough to detonate all pressure type mines in the vicinity and four B IVs could be used to clear a path through a standard Soviet minefield, there was no provision for marking the cleared path. The B IVs of the 314th Radio-Controlled Panzer Company, for example, succeeded in clearing three lanes for the 653rd Heavy Panzerjäger Battalion, which was leading the attack of XLI Corps; but the Ferdinands could not stay in the cleared lanes, and many of them were disabled by mines. The Goliaths supported the attack of XXIII Corps but were not very successful. As one German historian described their action, "Whenever a Goliath reached its target, the effect was striking. Mostly, however, they did not reach their target."²⁵⁸ In spite of their shortcomings, the B IVs remained in service until 1945, but they were largely used for other purposes than breaching minefields.²⁵⁹

The most important new piece of countermine equipment was the Russian PT-3 mine roller, designed by Magalev. The first Engineer Tank Regiments were formed in June 1943. Each was authorized 22 T-34 tanks and 18 PT-3 tank rollers. Some of these units were used for the offensive against Orel, which the Soviets considered the second phase of the Battle of Kursk, but they played no role in the defensive battle. The PT-3 was a track width mine roller consisting of two independent sets of rollers mounted on arms in front of each track. The area between the two banks of rollers was not cleared.²⁶⁰ The PT-3 was certainly not the first mine clearing roller -- the British constructed a crude tank-mounted roller in 1919,²⁶¹ and German engineer doctrine before World War II described expedient mine rollers -- but it was the first able to survive several mine blasts. It not only remained in service until the 1950s but also formed the basis for later Soviet, Israeli, and American mine clearing rollers.

4. General Conclusions

The Battle of Kursk was one of the great turning points in World War II. It marked the last great German offensive on the Eastern Front. After Kursk the strategic initiative passed clearly and irrevocably to the Russians. The battle also marked the beginning of the end for the German forces in the east. When the German Army withdrew from south of Oboyan and

258. See Section I.4.

Quotation from Carell, op. cit., p. 42.

Münch, op. cit., pp. 51-52.

259. Jaugitz, op. cit., pp. 21-28 and 48.

260. Tsirlin, op. cit., p. 155.

A predecessor to the PT-3 was used to breach the Mannerheim Line in the east against Finland in early 1940.

261. Croll, Mike, The History of Landmines, Barnsley, Pen and Sword, 1998, p. 31.

Prokorovka on the night of July 17, 1943, they began a retreat which continued -- with many halts and counterattacks -- to Berlin two years later.

Losses on both sides during the battle were enormous. A German historian has put the total losses of the two German army groups involved in the battle at 3,300 killed and 17,400 wounded and missing. Losses were especially heavy among officers and infantrymen. They included 7 division commanders, 38 regimental commanders, and 252 battalion commanders.²⁶² In terms of the combat infantry in the divisions the casualty rates amounted to 27% to 38% within less than two weeks.²⁶³ Soviet losses were even higher. Recent Russian historians with access to the military records state that the three Fronts involved in the Battle of Kursk lost a total of 70,330 men in irrecoverable losses and 107,517 in sick and wounded, as well as 1,614 tanks and self-propelled guns.²⁶⁴

The Soviet losses were replaced. Despite these losses, total personnel and tank strength at the front continued to increase. The German losses, on the other hand, were not. At the end of August Field Marshal Manstein was complaining that for the 133,000 casualties suffered by Army Group South in July and August he had received only 33,000 replacements. The divisions remained seriously under strength. Even an elite division like the Panzergrenadier Division Grossdeutschland had companies which averaged only about 20 men, and the 2nd Grenadier Battalion consisted of three officers and 22 men.²⁶⁵ Gen. Guderian, Inspector General of Armored Troops at the time later wrote. "By the failure of *Citadel* we had suffered a decisive defeat. The armored formations, reformed and re-equipped with so much effort, had lost heavily both in men and equipment and would now be unemployable for a long time to come."²⁶⁶ Marshal Konev put it more succinctly: Kursk was "the swan song" of the German armored forces.²⁶⁷

262. Haupt, op. cit., p. 181. Others have estimated much higher German losses. Gen. von Manstein wrote that Army Group South lost 133,000 men in July and August 1943.

263. Cross, op. cit., p. 233.

264. Krivosheev, op. cit., pp. 132 and 262.

265. Cross, op. cit., p. 233.

266. Guderian, op. cit., p. 312.

267. Konev in Parotkin, op. cit., p. 30.

APPENDIX A
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APPENDIX B

ABBREVIATED ORDER OF BATTLE AS OF JULY 1, 1943¹ (With Emphasis on Engineer Units)

GERMAN

NORTH FACE

ARMY GROUP CENTER (Field Marshal Guenther von Kluge)

NINTH ARMY (Colonel General Model)

XX Corps (Gen. von Roman)

- 45th Infantry Division (Gen. von Falkenstein)
 - 81st Pioneer Battalion
- 72nd Infantry Division (Gen. Muller-Gebhard)
 - 72nd Pioneer Battalion
- 137th Infantry Division (Gen. Kamecke)
 - 137th Pioneer Battalion
- 251st Infantry Division (Gen. Felzmann)
 - 251st Pioneer Battalion
- 512th Pioneer Regiment Staff
- 4th Pioneer Regiment Staff
- 750th Pioneer Battalion

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44th Construction Battalion
418th Construction Battalion
80th Construction Battalion
244th Construction Battalion

XLVI Panzer Corps (Gen. Zorn)

7th Infantry Division (Gen. von Rappard)
7th Pioneer Battalion
31st Infantry Division (Gen. Hossbach)
31st Pioneer Battalion
102nd Infantry Division (Gen. Hitzfeld)
102nd Pioneer Battalion
258th Infantry Division (Gen. Hocker)
258th Pioneer Battalion
423rd Pioneer Battalion
433rd Pioneer Battalion
443rd Pioneer Battalion

XLVII Panzer Corps (Gen. Lemelsen)

2nd Panzer Division (Gen. Lubbe)
38th Panzer Pioneer Battalion
9th Panzer Division (Gen. Scheller)
86th Panzer Pioneer Battalion
20th Panzer Division (Gen von Kessel)
20th Panzer Pioneer Battalion
6th Infantry Division (Gen Grossmann)
6th Pioneer Battalion
245th Assault Gun Abteilung
904th Assault Gun Abteilung
312nd Radio Controlled Panzer Company (216th Heavy Panzer Abteilung)
678th Pioneer Regiment
2nd Pioneer Lehr (Training) Battalion
47th Pioneer Battalion (Motorized)

XLI Panzer Corps (Gen. Harpe)

18th Panzer Division (Gen von Schlieben)
209th Panzer Pioneer Battalion
86th Infantry Division (Gen. Weidling)
186th Pioneer Battalion
292nd Infantry Division (Gen. Werner von Kluge)
292nd Pioneer Battalion
656th Heavy Panzerjäger Regiment (Ferdinand)
653rd Heavy Panzerjäger Abteilung (Ferdinand)
314th Remote Controlled Panzer Company (B IV)

654th Heavy Panzerjäger Abteilung (Ferdinand)
313th Remote Controlled Panzer Company (B IV)
216th Heavy Panzer Abteilung Grizzly Bear)
177th Assault Gun Abteilung
244th Assault Gun Abteilung
21st Panzer Brigade
505th Panzer Abteilung (Tiger)
312th Remote Controlled Panzer Company (B IV)
909th Assault Gun Abteilung
104th Pioneer Regiment
42nd Pioneer Battalion (Motorized)
417th Construction Battalion

XXIII Corps (Gen. Freissner)

78th Sturm Division (Gen. Traut)
178th Pioneer Battalion
216th Infantry Division (Gen. Schack)
216th Pioneer Battalion
383rd Infantry Division (Gen. Hoffmeister)
383rd Pioneer Battalion
36th Infantry Division (1 Regiment) (Reserve)
36th Pioneer Battalion (1 Company)
623rd Pioneer Regiment
746th Pioneer Battalion
85th Pioneer Battalion
78th Construction Battalion
811th Armored Engineer Company (Goliath)
813th Armored Engineer Company (Goliath)

Army Engineer Troops

654th Pioneer Battalion
751st Pioneer Battalion
42nd Bridge Construction Battalion
593rd Bridge Construction Battalion
544th Road Construction Battalion
576th Road Construction Battalion
580th Road Construction Battalion

Reserves

4th Panzer Division (Army Reserve)
79th Panzer Pioneer Battalion
12th Panzer Division (Army Reserve in XLVII Panzer Corps sector)
32nd Panzer Pioneer Battalion
5th Panzer Division

89th Panzer Pioneer Battalion
9th Panzer Division
86th Panzer Pioneer Battalion
10th Panzergrenadier Division (Army Reserve in XLVII Panzer Corps
sector)
10th Motorized Pioneer Battalion
36th Infantry Division (Minus 1 Regiment)
36th Pioneer Battalion (Minus 1 Company)

AIR FLEET VI (Col. Gen. von Grimm)
First Air Division (Gen. Deichmann)

WEST FACE

SECOND ARMY (Col. Gen. Weiss)

XIII Corps

82nd Infantry Division
182nd Pioneer Battalion
340th Infantry Division
340th Pioneer Battalion
1 Regiment of 327th Infantry Division
742nd Pioneer Battalion

VII Corps

88th Infantry Division
188th Pioneer Battalion
26th Infantry Division
26th Pioneer Battalion
323rd Infantry Division
323rd Pioneer Battalion
75th Infantry Division
175th Pioneer Battalion
68th Infantry Division
168th Pioneer Battalion
202nd Antitank Abteilung
559th Antitank Abteilung
616th Antitank Abteilung
215th Pioneer Battalion

85th Pioneer Staff

Army Engineer Troops

221st Pioneer Battalion
4th Bridge Construction Battalion
133rd Construction Battalion
407th Construction Battalion

Reserves

327th Infantry Division (-)
327th Pioneer Battalion

SOUTH FACE

ARMY GROUP SOUTH (Field Marshal Eric von Manstein)

ARMY "KEMPF" (Gen. Werner Kempf)

III Panzer Corps (Gen. Breith)

6th Panzer Division (Gen. von Hunnersdorf)
57th Panzer Pioneer Battalion
7th Panzer Division (Gen. von Funck)
58th Panzer Pioneer Battalion
19th Panzer Division (Gen. Rudolf Schmidt)
19th Panzer Pioneer Battalion
168th Infantry Division (Gen. de Beaulieu)
248th Pioneer Battalion
503rd Heavy Panzer Abteilung (Tiger)
674th Pioneer Regiment
70th Pioneer Battalion
651st Pioneer Battalion
601st Pioneer Regiment
127th Pioneer Battalion
531st Pioneer Bridge Battalion

XI Corps (Gen. Raus)

106th Infantry Division (Gen. Forst)
106th Pioneer Battalion
320th Infantry Division (Gen. Postel)
320th Pioneer Battalion
198th Infantry Division
229th Pioneer Battalion
18th Pioneer Regiment

52nd Pioneer Battalion
923rd Pioneer Bridge Battalion
246th Road Construction Battalion

XLII Corps (Gen. Mattenklott)

39th Infantry Division (Gen. Loenweneck)
139th Pioneer Battalion
161st Infantry Division (Gen. Recke)
241st Pioneer Battalion
282nd Infantry Division (Gen Kohler)
282nd Pioneer Battalion
620th Pioneer Regiment
26th Construction Regiment
112th Construction Battalion
153rd Construction Battalion
219th Construction Battalion

Army Engineer Troops

21st Pioneer Bridge Battalion
22nd Road Construction Group
538th Road Construction Battalion
676th Road Construction Battalion
911th Stormboat Company

FOURTH PANZER ARMY (Col. Gen. Hoth)

LII Corps (Gen. Ott)

57th Infantry Division (Gen. Fretter-Pico)
157th Pioneer Battalion
255th Infantry Division (Gen. Poppe)
255th Pioneer Battalion
332nd Infantry Division (Gen. Schaefer)
332nd Pioneer Battalion
677th Pioneer Regiment
74th Pioneer Battalion

XLVIII Panzer Corps (Gen. von Knobelsdorf)

3rd Panzer Division (Gen. Westhoven)
39th Panzer Pioneer Battalion
11th Panzer Division (Gen. Mickl)
231st Panzer Pioneer Battalion
Panzer Grenadier Division Grossdeutschland (Gen. Hoernlein)
Grossdeutschland Panzer Pioneer Battalion
167th Infantry Division (Gen. Trierenberg)

238th Pioneer Battalion
10th Panzer Brigade (Panther)
39th Panzer Regiment (Panther)
51st Panzer Abteilung
52nd Panzer Abteilung
515th Pioneer Regiment
48th Pioneer Battalion (Motorized)
1st Pioneer Lehr (Training) Battalion (Motorized)
938th Bridge Construction Group
34th Construction Troop Command
507th Light Road Construction Battalion
81st Construction Battalion

II SS Panzer Corps (SS Obergruppenfuehrer Hauser)

1st SS Panzer Grenadier Division Leibstandart Adolf Hitler (SS
Brigadefuehrer Wisch)
Leibstandart SS Adolf Hitler Panzer Pioneer Battalion
2nd SS Panzer Grenadier Division Das Reich (SS Gruppenfuehrer Kruger)
Das Reich SS Panzer Pioneer Battalion
3rd SS Panzer Grenadier Division Totenkopf (SS Brigadefuehrer Priess)
Totenkopf SS Panzer Pioneer Battalion
680th Pioneer Regiment
627th Pioneer Battalion (Motorized)
666th Pioneer Battalion (Motorized)
929th Bridge Construction Group
8th Construction Troop Command
26th Bridging Battalion
410th Construction Battalion
508th Light Road Construction Battalion

Army Engineer Troops

155th Construction Battalion
305th Construction Battalion
922nd Bridge Construction Group

VIII Air Corps

Army Group Reserves

XXIV Panzer Corps (Gen. Nehring) (OKH permission required for commitment)

5th SS Panzer Grenadier Division Wiking (SS Obergruppenfuehrer Gille)
Wiking SS Panzer Pioneer Battalion
17th Panzer Division (Gen. Schilling) (Detached early July)
27th Panzer Pioneer Battalion

23rd Panzer Division
51st Panzer Pioneer Battalion

AIR FLEET IV (Gen. Dessloch)

RUSSIAN

NORTH FACE

CENTRAL FRONT (Marshal K. K. Rokossovski)

60TH ARMY (Gen. Chernyakovski)

- 24th Rifle Corps² (Gen. Kiriukhin)
 - 112th Rifle Division (Col. Poliakov)
 - 159th Engineer Sapper Battalion
- 42nd Rifle Division (Gen. Multan)
 - xxx Engineer Sapper Battalion³
- 129th Rifle Brigade
- 30th Rifle Corps (Gen. Lazko)
 - 121st Rifle Division (Gen. Ladygin)
 - xxx Engineer Sapper Battalion
 - 141st Rifle Division (Col. Rassadnikov)
 - xxx Engineer Sapper Battalion
 - 322nd Rifle Division (Col. N. I. Ivanov)
 - 603rd Engineer Sapper Battalion
- 55th Rifle Division (Col. Zaiiulev)
 - 46th Engineer Sapper Battalion
- 248th Rifle Brigade
- 150th Tank Brigade
- 58th Separate Armored Train
- 59th Engineer Sapper Brigade
- 317th Separate Engineer Battalion

2. When the Rifle Corps were recreated beginning in late 1942, each was authorized an Engineer Battalion with a Light Bridge Train and a Sawmill Section. However, Engineer Battalions were actually created in only a few Rifle Corps. At Kursk it appears that engineer support was largely centralized at Army and Front level, in accordance with Red Army doctrine for defensive combat. Tank and Mechanized Corps, on the other hand, (which were designed for offense) did have their authorized engineer battalions. Aganov, S. Kh., Inzhenernyye voiska Sovetskii armii 1918-1945, Moscow, Voenizdat, 1995, pp. 405 and 408.

3. Each Red Army Rifle Division Guards Rifle Division, and Airborne Division had an organic Engineer Sapper Battalion organized under shtat (TO&E) 04/556. For security reasons these units were assigned random numbers not related to the division numbers. This system made things difficult, not only for German intelligence but also for later historians. Consequently, many of the divisional Sapper Engineer Battalions are not identified in existing sources. Sharp, op. cit., Volumes IV, VIII, and IX.

65TH ARMY (Gen. Batov)

18th Rifle Corps (Gen. I. I. Ivanov)
69th Rifle Division (Col. Kuzulov)
99th Engineer Sapper Battalion
149th Rifle Division (Col. Orlov)
233rd Engineer Sapper Battalion
246th Rifle Division (Lt. Col. Fedosenko)
xxx Engineer Sapper Battalion
27th Rifle Corps (Gen. Cherokmantov)
60th Rifle Division (Gen. Kliaro)
696th Engineer Sapper Battalion
193rd Rifle Division (Gen. Zhobrev)
4th Engineer Sapper Battalion
115th Rifle Brigade (Col. Sankovsky)
37th Guards Rifle Division (Col. Ushakov)
xxx Guards Engineer Sapper Battalion
181st Rifle Division (Gen. Saraev)
xxx Engineer Sapper Battalion
194th Rifle Division (Col. Opiakin)
158th Engineer Sapper Battalion
354th Rifle Division (Gen. Alekseev)
476th Engineer Sapper Battalion
29th Guards Separate Tank Regiment
40th Separate Tank Regiment
84th Separate Tank Regiment
255th Separate Tank Regiment (Lt. Col. Mukhin)
14th Engineer Mine Brigade
321st Separate Engineer Battalion

70TH ARMY (Gen. Galinin)

28th Rifle Corps (Gen. Nechaev)
132nd Rifle Division (Gen. Shkrylev)
xxx Engineer Sapper Battalion
211th Rifle Division ((Gen. Makhlinovsky)
572nd Engineer Sapper Battalion
280th Rifle Division (Gen. Golosov)
583rd Engineer Sapper Battalion
102nd Rifle Division (Gen. A. N. Andreev)
xxx Engineer Sapper Battalion
140th Rifle Division (Gen. Kiselev)
87th Engineer Sapper Battalion
162nd Rifle Division (Gen. Senchillo)
xxx Engineer Sapper Battalion
175th Rifle Division (Col. Borosov)

xxx Engineer Sapper Battalion
240th Separate Tank Regiment
251st Separate Tank Regiment
259th Separate Tank Regiment
3rd Destroyer Brigade (2nd Destroyer Division)
169th Separate Engineer Battalion
371st Separate Engineer Battalion
386th Separate Engineer Battalion

13TH ARMY (Gen. Pukhov)

17th Guards Rifle Corps (Gen. Bondarev)
6th Guards Rifle Division (Gen. Onuprienko)
xxx Guards Engineer Sapper Battalion
70th Guards Rifle Division (Gen. Gusev)
77th Guards Engineer Sapper Battalion
75th Guards Rifle Division (Gen. Goroshny)
xxx Guards Engineer Sapper Battalion
18th Guards Rifle Corps (Gen. Afonin)
2nd Guards Airborne Division (Gen. Dudarev)
xxx Guards Airborne Engineer Sapper Battalion
3rd Guards Airborne Division (Col. Konev)
xxx Guards Airborne Engineer Sapper Battalion
4th Guards Airborne Division (Gen. Rumiantsev)
xxx Guards Airborne Engineer Sapper Battalion
15th Rifle Corps (Gen. Liudnikov)
8th Rifle Division (Col. Gudz)
21st Engineer Sapper Battalion
74th Rifle Division (Gen. Kazarian)
110th Engineer Sapper Battalion
148th Rifle Division (Gen. Mishchenko)
163rd Engineer Sapper Battalion
29th Rifle Corps (Gen. Slyshkin)
15th Rifle Division (Col. Dzhandzhgava)
75th Engineer Sapper Battalion
81st Rifle Division (Gen. Barinov)
66th Engineer Sapper Battalion
307th Rifle Division (Gen. Enshin)
xxx Engineer Sapper Battalion
129th Tank Brigade (Col. Petrushin)
4th Tank Brigade
106th Tank Brigade
27th Guards Separate Tank Regiment
30th Guards Separate Tank Regiment
43rd Separate Tank Regiment

58th Separate Tank Regiment (Col. Priakhin)
237th Separate Tank Regiment
49th Separate Armored Train
4th Artillery Penetration Corps (Gen. Ignatov)
 5th Artillery Penetration Division (Col. Snegirov)
 12th Artillery Penetration Division (Col. Kurkovsky)
 5th Guards Mortar Division (Col. Firsov)
275th Separate Engineer Battalion

48TH ARMY (Gen. Romanenko)

42nd Rifle Corps (Gen. Kolganov)
 16th Rifle Division (Gen Karvialis)
 93rd Engineer Sapper Battalion
 202nd Rifle Division (Col. Revenko)
 371st Engineer Sapper Battalion
 399th Rifle Division (Col. Ponomarov)
 xxx Engineer Sapper Battalion
73rd Rifle Division (Gen Smirnov)
 xxx Engineer Sapper Battalion
137th Rifle Division (Col. Volovich)
 169th Engineer Sapper Battalion
143rd Rifle Division (Col Lukin)
 xxx Engineer Sapper Battalion
170th Rifle Division (Col. Cheriakh)
 xxx Engineer Sapper Battalion
45th Separate Tank Regiment
193rd Separate Tank Regiment
299th Separate Tank Regiment
37th Separate Armored Train
313th Separate Engineer Battalion

2ND TANK ARMY (Gen. Rodin)

3rd Tank Corps (Gen. Sinenko)
 50th Tank Brigade (Col. Konovalov)
 51st Tank Brigade (Lt. Col. Kokurin)
 103rd Tank Brigade (Col. Maksimov)
 57th Motorized Rifle Brigade
 90th Motorized Engineer Sapper Battalion⁴
16th Tank Corps (Gen. Grigorev)

4. Originally each Tank Corps was authorized one Engineer Mine Company. In February 1943, however, the shtat (TO&E) was revised and an Engineer Sapper Battalion replaced the Engineer Mine Company. Sharp, op. cit., Volume II, p.48. Aganov, S. Kh., op. cit., p. 409.

107th Tank Brigade (Lt. Col. Teliakov)
109th Tank Brigade (Lt. Col. Babkovsky)
164th Tank Brigade ((Lt. Col. Kopolov)
15th Motorized Rifle Brigade (Col. Akimochkin)
205th Motorized Engineer Sapper Battalion
11th Guards Tank Brigade (Col. Bubnov)
357th Separate Engineer Battalion

16TH AIR ARMY (Gen. Rudenko)

3rd Bomber Aviation Corps (Gen. Karavatsky)
6th Mixed Aviation Corps (Gen. Antoshkin)
6th Fighter Aviation Corps (Gen. Erlykin)
2nd Guards Assault Aviation Division (Col. Komorov)
299th Assault Aviation Division (Col. Krupsky)
1st Guards Fighter Aviation Division (Lt. Col. Krupenin)
283rd Fighter Aviation Division (Col. Denisov)
286th Fighter Aviation Division (Col. I. I. Ivanov)

CENTRAL FRONT RESERVES

9th Tank Corps (Gen. Bogdanov)
23rd Tank Brigade (Col. Demidov)
95th Tank Brigade (Col. Galushko)
108th Tank Brigade (Col. Lieberman)
8th Motorized Rifle Brigade
xxx Motorized Engineer Sapper Battalion
19th Tank Corps (Gen. Vasilev)
79th Tank Brigade (Lt. Col. Vasetsky)
101st Tank Brigade (Col. Kostelev)
26th Motorized Rifle Brigade
xxx Motorized Engineer Sapper Battalion
40th Separate Armored Train

CENTRAL FRONT ENGINEER TROOPS

1st Guards Special Engineer Brigade (Col. Ioffe)
6th Engineer Sapper Brigade
14th Engineer Sapper Brigade
59th Engineer Sapper Brigade
12th Guards Mine Battalion
120th Separate Engineer Battalion
257th Separate Engineer Battalion
9th Engineer Pontoon Bridge Battalion
49th Engineer Pontoon Bridge Battalion
50th Engineer Pontoon Bridge Battalion
104th Engineer Pontoon Bridge Battalion

SOUTH FACE

VORONEZH FRONT (Gen. N. F. Vatutin)

6TH GUARDS ARMY (Gen. Chistyakov)

- 23rd Guards Rifle Corps (Gen. Vakhrameev)
 - 51st Guards Rifle Division (Gen. Tavartkiladze)
 - xxx Guards Engineer Sapper Battalion
 - 52nd Guards Rifle Division (Gen. Nekrasov)
 - 61st Guards Engineer Sapper Battalion
 - 375th Rifle Division (Col. Govorunenko)
 - xxx Engineer Sapper Battalion
- 67th Guards Rifle Division (Gen. Baksov)
 - xxx Guards Engineer Sapper Battalion
- 71st Guards Rifle Division (Col. Sivakov)
 - 82nd Guards Engineer Sapper Battalion
- 90th Rifle Division (Col. Chernov.)
 - 17th Engineer Sapper Battalion
- 89th Guards Rifle Division (Col. Pigin)
 - xxx Guards Engineer Sapper Battalion
- 96th Tank Brigade (Gen Lebedev)
- 230th Separate Tank Regiment (Attached to 52nd Guards Rifle Division)
- 245th Separate Tank Regiment (Attached to 67th Guards Rifle Division)
- 60th Separate Armored Train
- 205th Separate Engineer Battalion
- 540th Separate Engineer Battalion

7TH GUARDS ARMY (Gen. Schumalov)

- 24th Guards Rifle Corps (Gen. Vasilev)
 - 15th Guards Rifle Division (Gen. Vasilenko)
 - 42nd? Guards Engineer Sapper Battalion
 - 36th Guards Rifle Division (Gen. Denisenko)
 - xxx Guards Engineer Sapper Battalion
 - 72nd Guards Rifle Division (Gen. Losev)
 - xxx Guards Engineer Sapper Battalion
 - 148th Separate Tank Regiment
- 25th Guards Rifle Corps (Gen. Safiullen)
 - 73rd Guards Rifle Division (Col. Kozak)
 - xxx Guards Engineer Sapper Battalion
 - 78th Guards Rifle Division (Gen. Skvortsov)
 - 89th Guards Engineer Sapper Battalion
 - 81st Guards Rifle Division (Col. Morozov)
 - 92nd Guards Engineer Sapper Battalion

167th Separate Tank Regiment
262nd Separate Tank Regiment
213th Rifle Division (Col. Buslaev)
387th Engineer Sapper Battalion
27th Guards Tank Brigade (Col. Nevzhinsky)
201st Tank Brigade (Gen. Taranov)
34th Separate Armored Train
60th Engineer Sapper Brigade (Col. Tsepenluk)
175th Separate Engineer Battalion
325th Separate Engineer Battalion (Major Sychev)

38TH ARMY (Gen. Chibikov)

50th Rifle Corps (Gen. Martirosian)
167th Rifle Division (Gen. Melnikov)
180th Engineer Sapper Battalion
232th Rifle Division (Col. Ulitin)
392nd Engineer Sapper Battalion
340th Rifle Division (Col. Shadrin)
xxx Engineer Sapper Battalion
51st Rifle Corps (Gen. Andreenko)
180th Rifle Division (Gen. Shmelev)
33rd Engineer Sapper Battalion
240th Rifle Division (Gen. Umansky)
368th Engineer Sapper Battalion
204th Rifle Division (Col. Baidak) (Formed in May 1943)
xxx Engineer Sapper Battalion
180th Separate Tank Brigade (Col. Kiselev)
192nd Separate Tank Brigade (Col. Karavan)
235th Separate Engineer Battalion
268th Separate Engineer Battalion
108th Pontoon Bridge Battalion
1505th Separate Mine Sapper Battalion

40TH ARMY (Gen. Moskalenko)

47th Rifle Corps (Gen. Griaznov)
161st Rifle Division (Gen. Tertyshny)
336th Engineer Sapper Battalion
206th Rifle Division (Col. Rutko)
xxx Engineer Sapper Battalion
237th Rifle Division (Col. Diakonov)
xxx Engineer Sapper Battalion
52nd Rifle Corps (Gen. Perkhovich)
100th Rifle Division (Col. Bezzubov)
xxx Engineer Sapper Battalion

219th Rifle Division (Gen. Kotelnikov)
382nd Engineer Sapper Battalion
309th Rifle Division (Col. Dremin)
xxx Engineer Sapper Battalion
184th Rifle Division (Col. Tsukarev)
xxx Engineer Sapper Battalion
86th Separate Tank Brigade (Col. Agafonov)
59th Separate Tank Regiment
60th Separate Heavy Tank Regiment
14th Separate Engineer Battalion

69TH ARMY (Gen. Krychenkin)

48th Rifle Corps (Gen. Rogozny)
107th Rifle Division (Gen. Bezhko)
xxx Engineer Sapper Battalion
183rd Rifle Division (Gen. Kostitsyn)
xxx Engineer Sapper Battalion
305th Rifle Division (Col. Vasilev)
xxx Engineer Sapper Battalion
49th Rifle Corps (Gen. Terentev)
111th Rifle Division (Col. Petrushin)
xxx Engineer Sapper Battalion
270th Rifle Division (Col. Beliaev)
xxx Engineer Sapper Battalion
328th Separate Engineer Battalion

1ST TANK ARMY (Gen. Katukov)

31st Tank Corps (Gen. Cherniekov)
100th Tank Brigade (Col. N. M. Ivanov)
237th Tank Brigade (Major Protsenko)
242nd Tank Brigade (Lt. Col. Sokolov)
145th Engineer Sapper Battalion
6th Tank Corps (Gen. Getman)
22nd Tank Brigade (Col. Vedenichev)
112th Tank Brigade (Col. Leonov)
200th Tank Brigade (Col. Morguniv)
6th Motorized Rifle Brigade (Col. Elin)
85th Engineer Sapper Battalion
3rd Mechanized Corps (Gen. Krivoshein)
1st Mechanized Brigade (Col. Lipatenkov)
3rd Mechanized Brigade (Col. A. Kh. Babadzhanian)
10th Mechanized Brigade (Col. Iakovlev)
1st Guards Tank Brigade (Col. Gorelov)
49th Tank Brigade (Col. Burda)

27th Engineer Sapper Battalion
71st Separate Motorized Engineer Battalion
267th Separate Motorized Engineer Battalion

2ND AIR ARMY (Gen. Krasovsky)

1st Bomber Aviation Corps (Col. Polbin)
1st Assault Aviation Corps (Gen. Riazanov)
4th Fighter Aviation Corps (Gen. Podgorny)
5th Fighter Aviation Corps (Gen. Galunov)
205th Fighter Aviation Division (Col. Nemtsevich)
291st Assault Aviation Division (Gen. Vitruk)
203rd Fighter Aviation Division (Gen. Baranchuk)
208th Night Bomber Aviation Division (Col. Iuseev)

VORONEZH FRONT RESERVES

35th Guards Rifle Corps (Gen. Goriachev)
 92nd Guards Rifle Division (Col. Trunin)
 xxx Guards Engineer Sapper Battalion
 93rd Guards Rifle Division (Gen. Tikhominov)
 xxx Guards Engineer Sapper Battalion
 94th Guards Rifle Division (Col. Russkikh)
 xxx Guards Engineer Sapper Battalion
5th Guards Tank Corps (Gen. Kravchenko)
 20th Guards Tank Brigade (Lt. Col. Okhrimanko)
 21st Guards Tank Brigade (Col. Ovcharenko)
 22nd Guards Tank Brigade (Col. Zhilin)
 6th Guards Motorized Rifle Brigade
 48th Guards Tank Regiment
 60th Guards Engineer Sapper Battalion
2nd Guards Tank Corps (Gen. Burdeiny)
 4th Guards Tank Brigade (Col. Brazhnikov)
 25th Guards Tank Brigade (Lt. Col. Bulygin)
 26th Guards Tank Brigade (Col. Nesterov)
 4th Guards Motorized Rifle Brigade
 47th Guards Tank Regiment
 51st Engineer Sapper Battalion

VORONEZH FRONT ENGINEER TROOPS

42nd Special Engineer Brigade (Spetznaz)
4th Sapper Engineer Brigade
5th Sapper Engineer Brigade
60th Sapper Engineer Brigade
6th Engineer Pontoon Bridge Brigade
13th Separate Engineer Battalion

100th Separate Engineer Battalion
6th Separate Engineer Battalion
20th Separate Engineer Battalion

STAVKA RESERVE: STEPPE FRONT (Col. Gen. Konev)

4TH GUARDS ARMY (Gen. Kulik)

20th Guards Rifle Corps (Gen. Biriukov)
 5th Guards Airborne Division (Gen. Bogdanov)
 xxx Guards Airborne Engineer Sapper Battalion
7th Guards Airborne Division (Gen. Mikeladze)
 xxx Guards Airborne Engineer Sapper Battalion
8th Guards Airborne Division (Gen. Stenin)
 xxx Guards Airborne Engineer Sapper Battalion
21st Guards Rifle Corps (Gen. Fomenko)
 68th Guards Rifle Division (Gen. Isakov)
 xxx Guards Engineer Sapper Battalion
 69th Guards Rifle Division (Gen. Dzhakhua)
 xxx Guards Engineer Sapper Battalion
 80th Guards Rifle Division (Gen. Iakovlev)
 xxx Guards Engineer Sapper Battalion
3rd Guards Tank Corps (Gen. Vovchenko)
 3rd Guards Tank Brigade (Col. Pokhodzev)
 18th Guards Tank Brigade (Col. Gumeniuk)
 19th Guards Tank Brigade (Col. Pozolotin)
 2nd Guards Motorized Rifle Brigade (Col. Pavlenko)
 xxx Guards Engineer Sapper Battalion
48th Separate Engineer Battalion

5TH GUARDS ARMY (Gen. Zhadev) (To Voronezh Front on July 8)

32nd Guards Rifle Corps (Gen. Rodimtsev)
 13th Guards Rifle Division (Gen. Baklanov)
 8th Guards Engineer Sapper Battalion
 66th Guards Rifle Division (Gen. Iakushin)
 xxx Guards Engineer Sapper Battalion
 6th Guards Airborne Division (Col. Smirnov)
33rd Guards Rifle Corps (Gen. Popov)
 95th Guards Rifle Division (Col. Liakhov)
 xxx Guards Engineer Sapper Battalion
 97th Guards Rifle Division (Col. Antsiferov)
 110th Guards Engineer Sapper Battalion
 9th Guards Airborne Division (Col. Sazonov)
 42nd Guards Rifle Division (Gen. Bobrov)

xxx Guards Engineer Sapper Battalion
10th Tank Corps (Gen. Burkov)
178th Tank Brigade (Major Pivorarov)
183rd Tank Brigade (Col. Andriushchenko)
186th Tank Brigade (Lt. Col. Ovsianikov)
11th Motorized Rifle Brigade (Col. Borodkin)
xxx Engineer Battalion
256th Separate Engineer Battalion
431st Separate Engineer Battalion

5TH GUARDS TANK ARMY (Gen. Rotmistrov) (To Voronezh Front on July 11)

18th Tank Corps (Gen. Bakharov)
110th Tank Brigade (Lt. Col. Khliupin)
170th Tank Brigade (Lt. Col. Tarasov)
181st tank Brigade (Lt. Col. Puzyrev)
32nd Motorized Rifle Brigade (Lt. Col. Stukov)
36th Guards Separate Tank Regiment (Heavy)
115th Engineer Sapper Battalion
29th Tank Corps (Gen. Kirichenko)
25th Tank Brigade (Col. Volodin)
31st Tank Brigade (Col. Moiseev)
32nd Tank Brigade (Col. Linev)
53rd Motorized Rifle Brigade
193rd Engineer Sapper Battalion
5th Guards Mechanized Corps (Gen. Skvortsov)
10th Guards Mechanized Brigade (Col. Mikhailov)
11th Guards Mechanized Brigade (Col. Grishchenko)
12th Guards Mechanized Brigade (Col. Borisenko)
24th Guards Tank Brigade (Lt. Col. Karpov)
68th Guards Engineer Sapper Battalion
2nd Guards Tank Corps (Gen. A. F. Popov) (Attached from Southwestern Front
on July 8.)
4th Guards Tank Brigade
25th Guards Tank Brigade
26th Guards Tank Brigade
4th Guards Motorized Rifle Brigade
53rd Guards Separate Tank Regiment (Major Kurnosov)
51st Engineer Sapper Battalion
377th Separate Engineer Battalion

27TH ARMY (Gen. Torfimenko) (To Voronezh Front on July 14)

71st Rifle Division (Gen. Zamirovsky)
128th Engineer Sapper Battalion
147th Rifle Division (Gen. Iakimov)

xxx Engineer Sapper Battalion
155th Rifle Division (Col. Kaprov)
xxx Engineer Sapper Battalion
163rd Rifle Division (Col. Karlov)
230th Engineer Sapper Battalion
166th Rifle Division (Col. Poltorzhitsky)
xxx Engineer Sapper Battalion
241st Rifle Division (Col. Arabei)
xxx Engineer Sapper Battalion
93rd Tank Brigade (Major Doropei)
39th Separate Tank Regiment
25th Separate Engineer Battalion
38th Separate Engineer Battalion

47TH ARMY (Gen. Kozlov)

21st Rifle Corps (Gen. Abramov)
23rd Rifle Division (Col. Korolev)
xxx Engineer Sapper Battalion
218th Rifle Division (Col. Kliushnikov)
xxx Engineer Sapper Battalion
337th Rifle Division (Gen. Liaskin)
616th Engineer Sapper Battalion
23rd Rifle Corps (Gen. Chuvakov)
29th Rifle Division (Col. Ivanovsky)
78th Engineer Sapper Battalion
30th Rifle Division (Col. Savchenko)
101st Engineer Sapper Battalion
38th Rifle Division (Col. Skliarov)
132nd Engineer Sapper Battalion
91st Separate Engineer Battalion

53RD ARMY (Gen. Managarov) (To Voronezh Front on July 14)

28th Guards Rifle Division (Gen. Churmaev)
36th Guards Engineer Sapper Battalion
84th Rifle Division (Col. Buniashin)
xxx Engineer Sapper Battalion
116th Rifle Division (Gen. Makarov)
250th Engineer Sapper Battalion
214th Rifle Division (Gen. Dremine)
403rd Engineer Sapper Battalion
233rd Rifle Division (Col. Bransky)
341st Engineer Sapper Battalion
252nd Rifle Division (Gen. Anisimov)
551st Engineer Sapper Battalion

299th Rifle Division (Col. Klimenko)
xxx Engineer Sapper Battalion
34th Separate Tank Regiment
35th Separate Tank Regiment
11th Separate Engineer Battalion
17th Separate Engineer Battalion

FRONT SUBORDINATION

35th Rifle Corps (Headquarters only)
3rd Guards Cavalry Corps⁵ (Gen. Oshkovsky)
5th Guards Cavalry Division⁶ (Gen. Chepurkin)
6th Guards Cavalry Division (Col. Brikel)
32nd Cavalry Division (Col. Maliukov)
5th Guards Cavalry Corps (Gen. Selivanov)
11th Guards Cavalry Division (Col. Slanov)
12th Guards Cavalry Division (Col. Grigorovich)
63rd Cavalry division (Gen. Beloshnichenko)
7th Guards Cavalry Corps (Gen. Maleev)
14th Guards Cavalry Division (Col. Fiksel)
15th Guards Cavalry Division (Gen. Chalenko)
16th Guards Cavalry Division (Col. Belov)
4th Guards Tank Corps (Gen. Poluboirov)
12th Guards Tank Brigade (Lt. Col. (Col. on July 11) Dushak)
13th Guards Tank Brigade (Col. Baukov)
14th Guards Tank Brigade (Col. Mikhailov)
3rd Guards Motorized Rifle Brigade (Col. M. P. Leonov)
106th Engineer Sapper Battalion
3rd Guards Mechanized Corps (Gen. Obukhov)
7th Guards Mechanized Brigade (Col. Rodionov)
8th Guards Mechanized Brigade (Col. Bely)
9th Guards Mechanized Brigade (Col. Goriachev)
35th Guards Tank Brigade (Col. Aslanov)
62nd Guards Engineer Sapper Battalion
1st Mechanized Corps (Gen. Slomatin)
19th Mechanized Brigade (Lt. Col. Ershov)
35th Mechanized Brigade
37th Mechanized Brigade (Lt. Col. Tsyganenko)
219th Tank Brigade (Lt. Col. Khilobok)

5. The Cavalry Corps did not have organic engineer sapper units. Aganov, op. cit., p. 408.

6. In early 1943 Cavalry Divisions and Guards Cavalry Divisions had only a separate Sapper Squadron of 85. Ibid.

xxx Engineer Sapper Battalion

STEPPE FRONT ENGINEER TROOPS

8th Engineer Sapper Brigade
27th Special Designation Engineer Brigade
7th Engineer Pontoon Bridge Battalion
19th Engineer Pontoon Bridge Battalion
40th Engineer Pontoon Bridge Battalion
246th Separate Engineer Battalion
247th Separate Engineer Battalion
248th Separate Engineer Battalion
250th Separate Engineer Battalion
284th Separate Engineer Battalion

5TH AIR ARMY (Gen. Goryunov)

7th Mixed Aviation Corps (Gen. Arkhangelsky)
8th Mixed Aviation Corps (Gen. Kamanin)
3rd Fighter Aviation Corps (Gen. Savitsky)
7th Fighter Aviation Corps (Gen. Utin)
69th Guards Fighter Aviation Regiment

APPENDIX C

PHOTOGRAPHS OF GERMAN COUNTERMINE EQUIPMENT USED AT THE BATTLE OF KURSK

This Appendix contains photographs of some German countermine equipment used at the Battle of Kursk. The following equipment is included:

- Borgward B IV (Sd.Kfz.301) C-2
- Goliath (Sd.Kfz.302 and 303a) C-4
- Electromagnetic Mine Detector C-6
- Mine Probes C-7

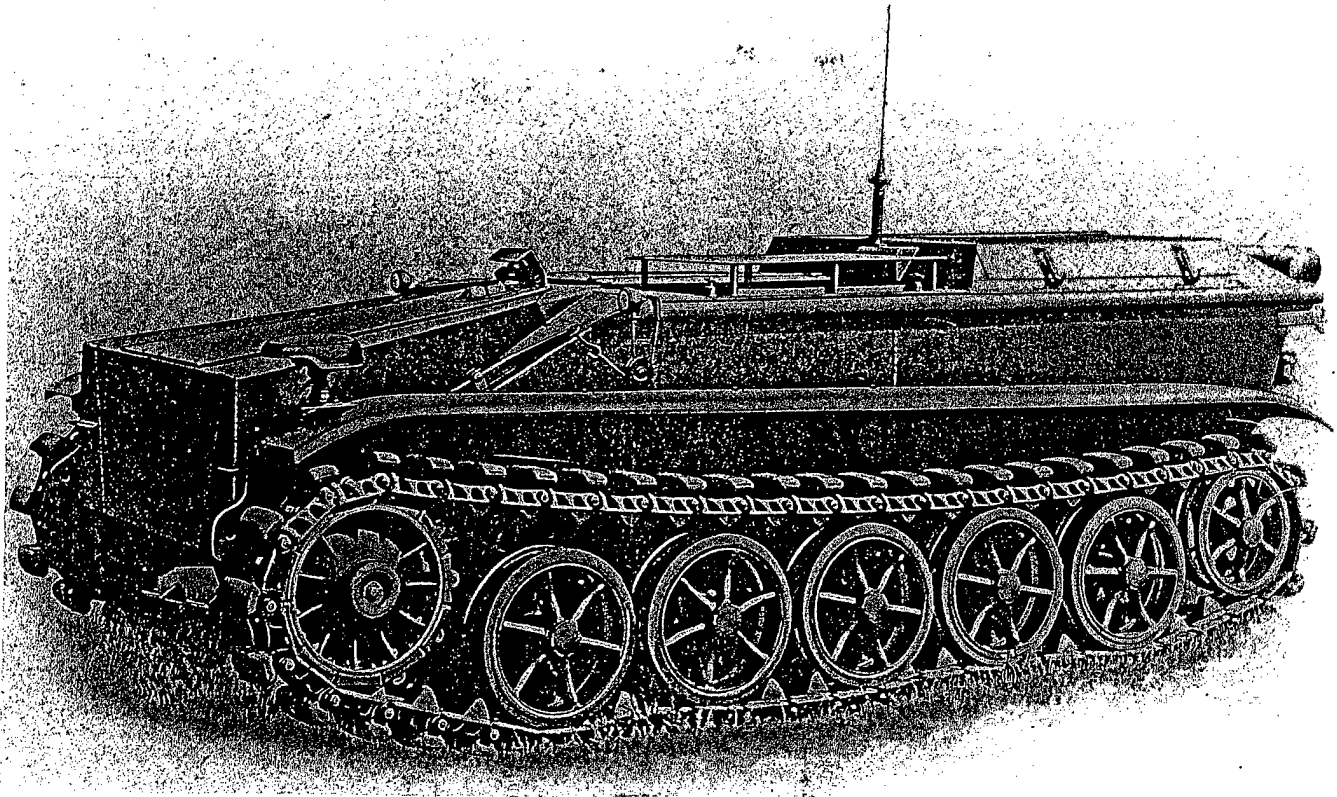


Figure C-1. Borgward B IV (Sd.Kfz.301)¹

1. Jentz, Thomas L., Gepanzerte Pionier-Fahrzeuge - Goliath to Raumer S, Darlington, MD, Darlington Productions, 1998, p. 14.



Figure C-2. A Control Tank (PzKfw III) Marshals two B IVs into Departure Position at Kursk, July 1943²

2. Jaugitz, Markus (translated by Davis Johnston), German Remote Control Tank Units 1943-1945, Atglen, PA, Schiffer, 1996, p. 17.

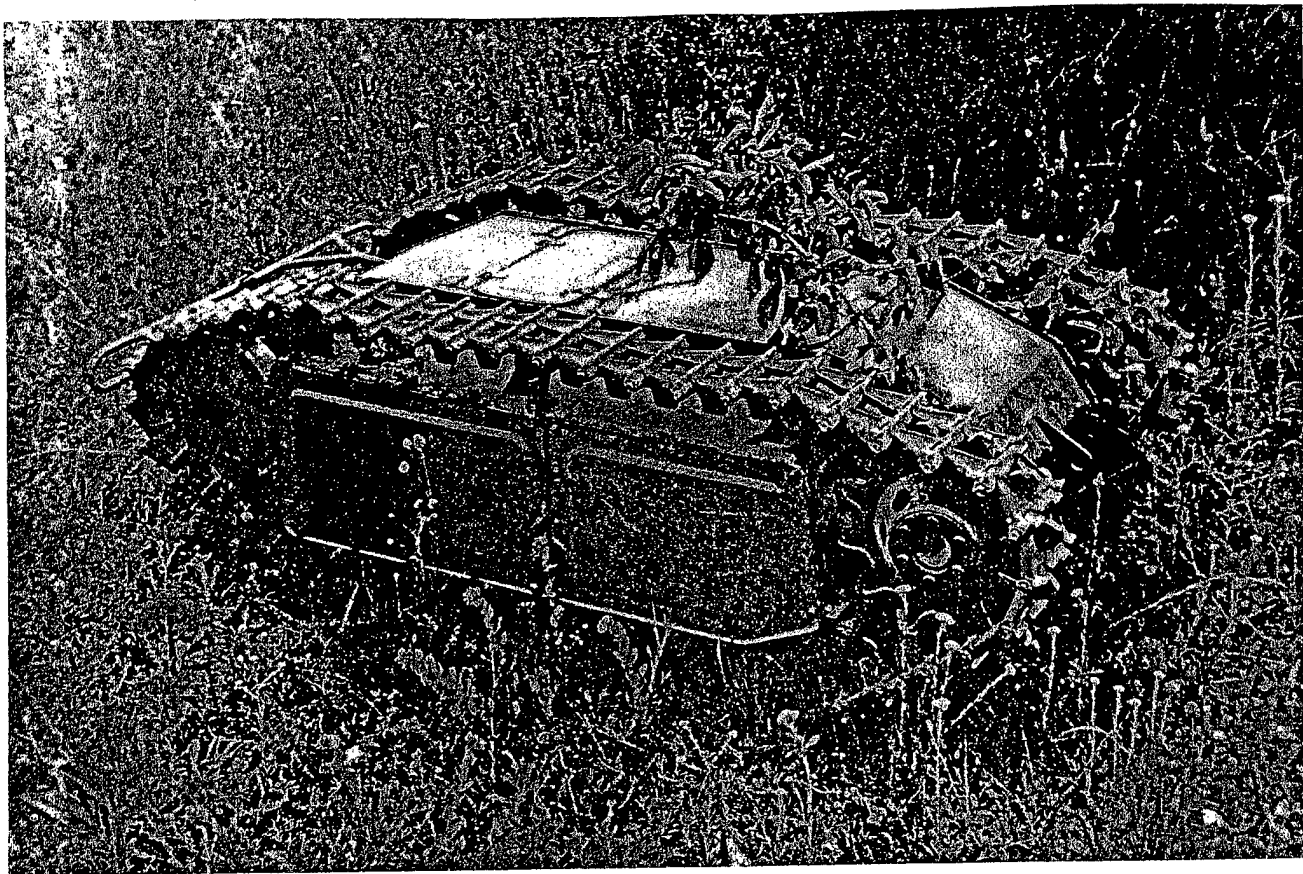


Figure C-3. Goliath (Sd.Kfz.302) with Electric Motor³

3. Jentx, op. cit., p. 9.



Figure C-4. Goliath (Sd.Kfz.303a) with Gasoline Engine⁴
(Note air scoop on top to cool the engine)

4. Ibid., p. 10.



Figure C-5. Electromagnetic Mine Detector⁵
(These were not very useful at the Battle of Kursk
because of the magnetic soil)

5. Riebenstahl, Horst, German Combat Engineers in World War II: A Photo Chronicle, Atglen, PA, Schiffer, 1998, p. 60.



Figure C-6. German Soldiers Using Long Mine Probes⁶
(The long mine probes were most useful in rear areas)

6. Ibid., p. 146.



Figure C-7. German Soldiers Using Short Mine Probes⁷
(Under combat conditions the Germans used only the lower section
of the mine probes, or bayonets)

7. Ibid., p. 146.

APPENDIX D

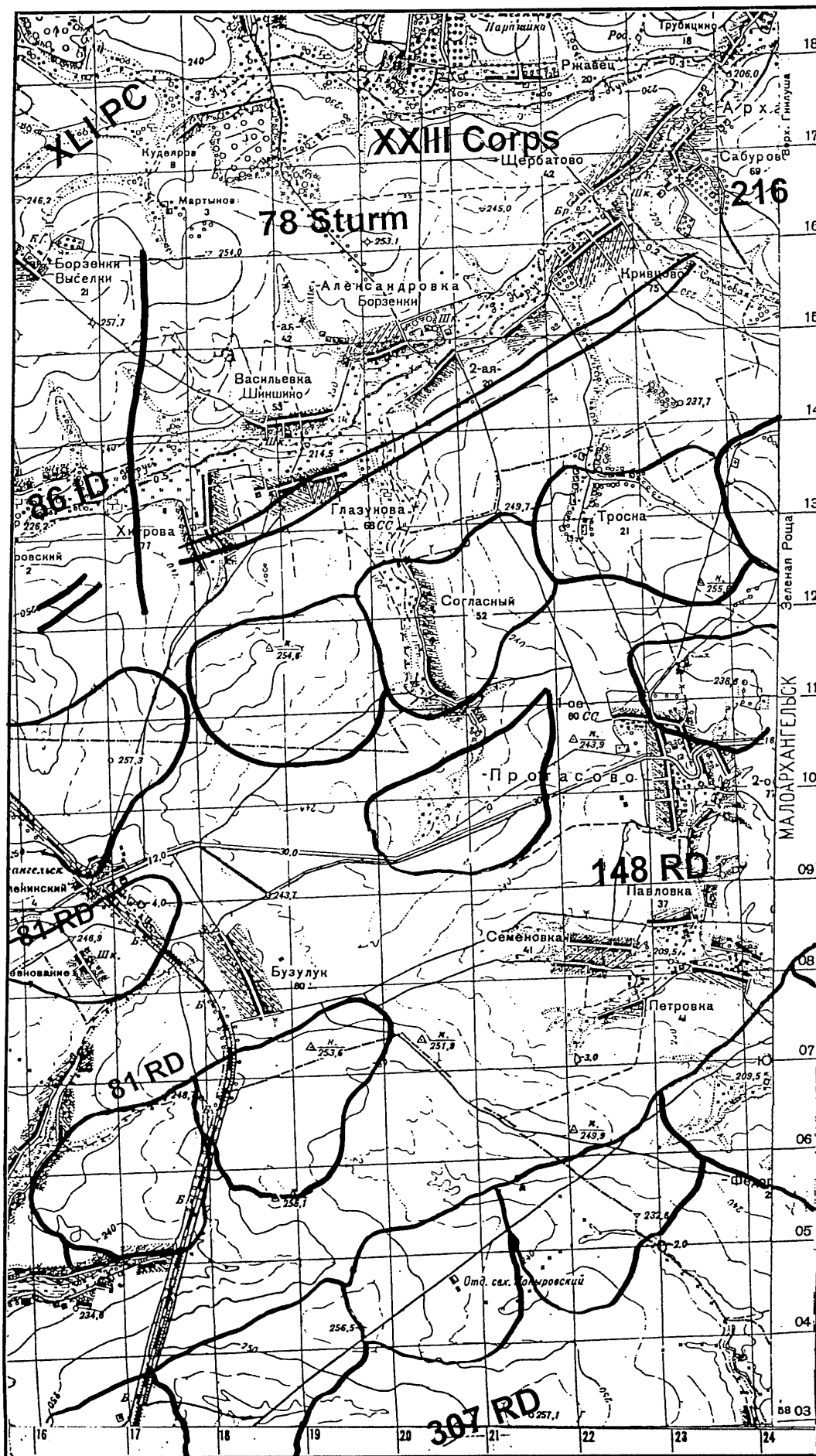
MAPS

The Map Room of the Library of Congress in Washington has a complete set of 1:50,000 scale maps of the Kursk battlefield. This is the 1940 Series produced by the Red Army General Staff and used during the battle. Precisely how the Library of Congress acquired the maps would be an interesting story, since the Soviets considered all such maps as classified documents. Some of the sheets have CIA stamps, and some are marked with the Soviet symbols for guns.

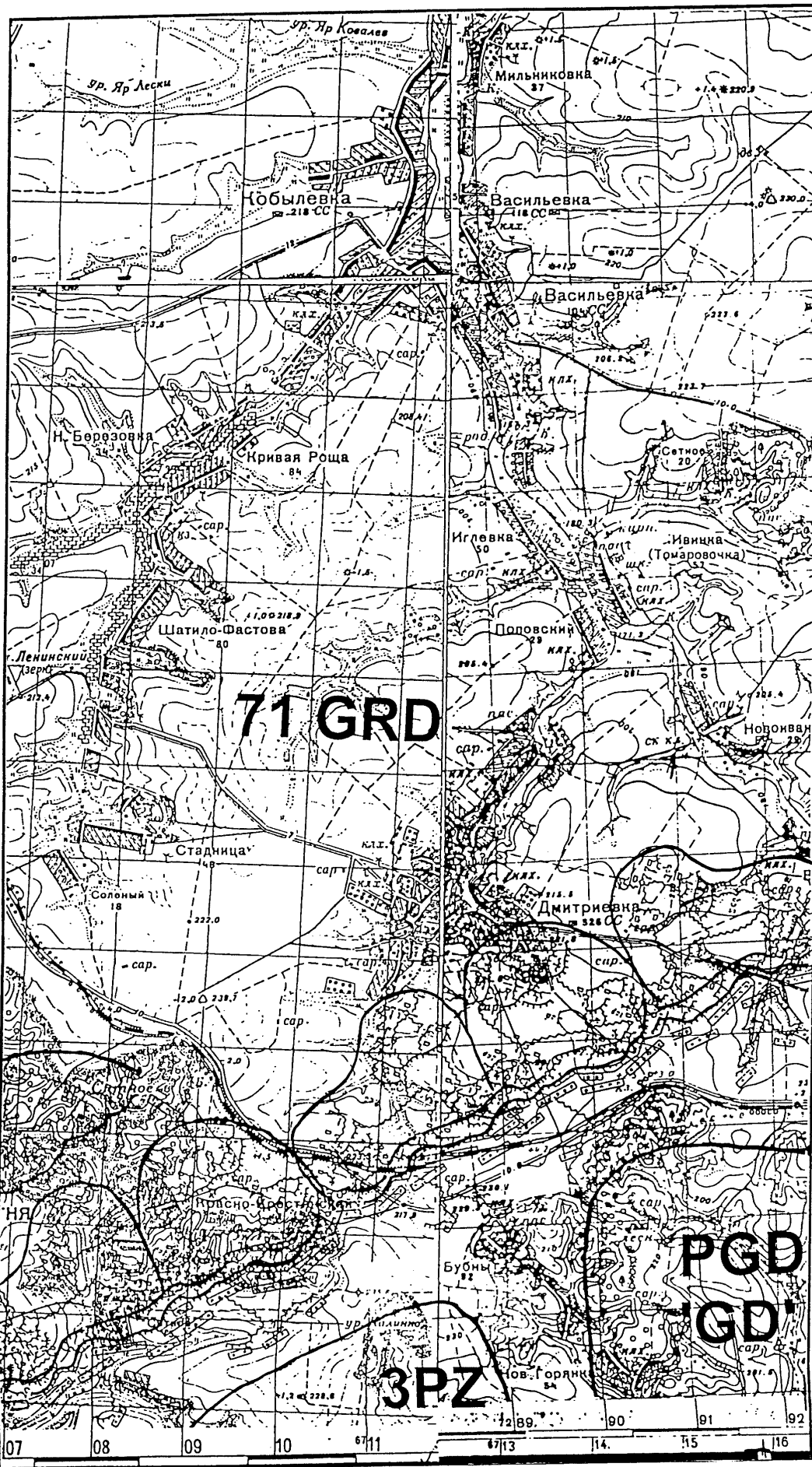
The BRTRC Analysts purchased a copy of the maps and mounted them on the walls of a conference room. The section covering the area of the fighting on the north face of the salient occupies one wall and that for the south face another wall. Then the Analysts posted the positions of the Soviet and German positions on July 5, 1943, showing Battalion Defense Positions. Then the Analysts used the maps almost continuously during the preparation of the study. The maps were of great assistance -- is really not possible to write seriously on military history without constant reference to detailed maps.

Obviously it is not possible to include coverage of the entire battle in this detail in the study. As an example, however, this Annex includes detailed maps of three critical areas:

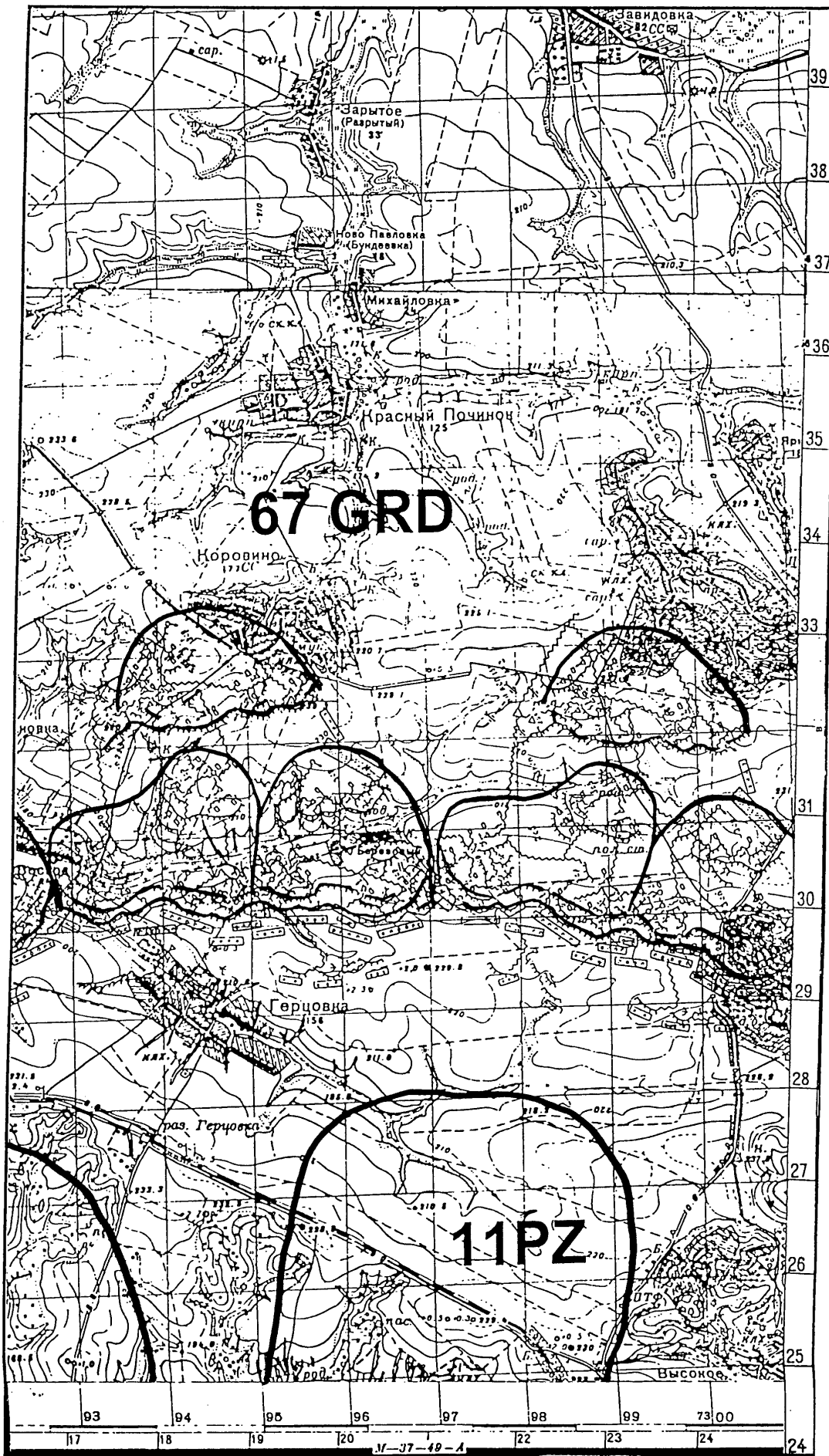
- Map 1. North Face of Salient: Area of the Attack of 78th Sturm Division of XXIII Corps on First Defensive Belt
- Map 2. South Face of Salient: Area of the Attack of XLVIII Panzer Corps on 6th Guards Army.
- Map 3. South Face of Salient: Area of the Great Tank Battle at Prokorovka (Meeting Engagement of II SS Panzer Corps and 5th Guards Tank Army on July 12, 1943).



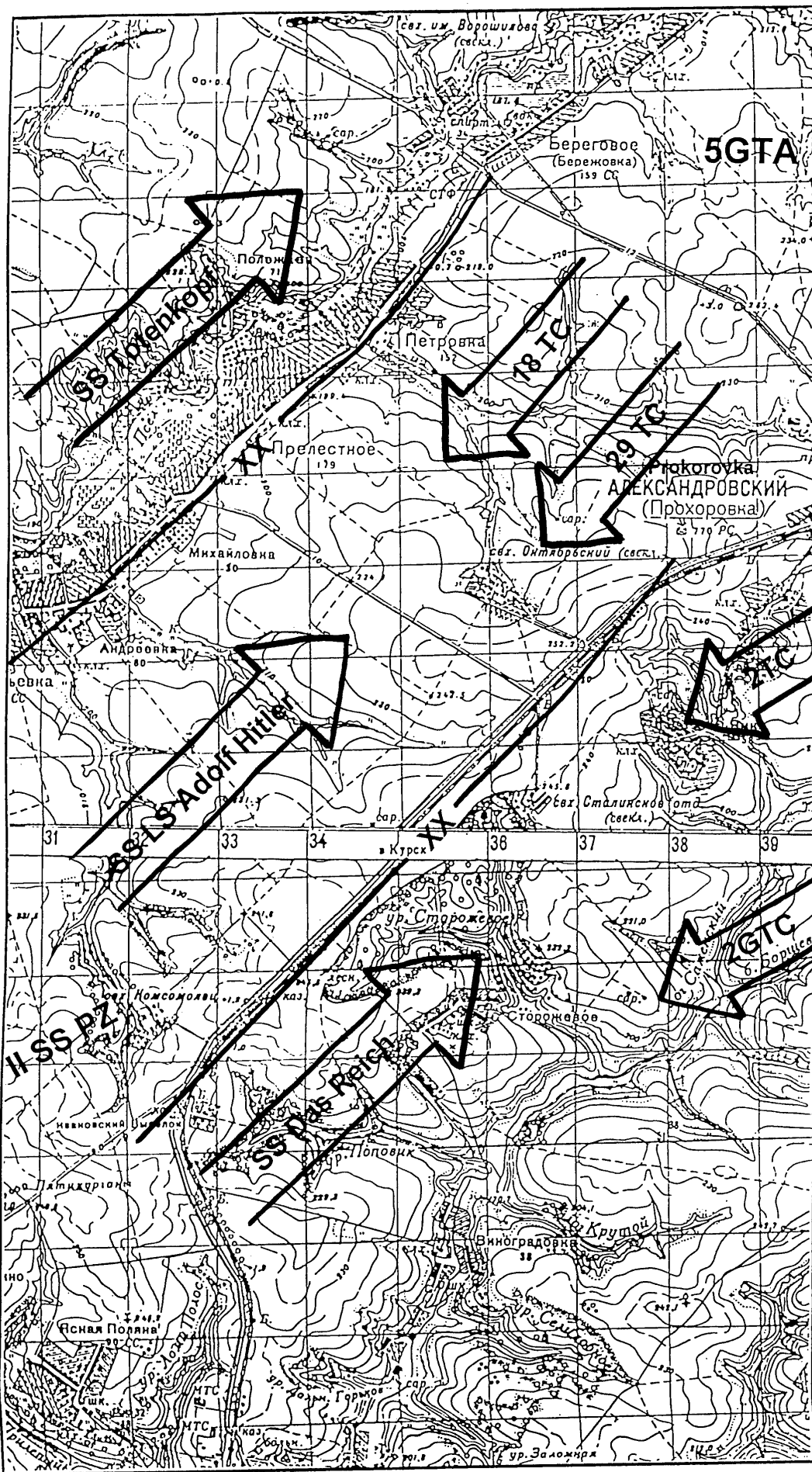
Map 1. North Face of Salient: Area of the Attack of 78th Sturm Division of XXIII Corps on First Defensive Belt.



Map 2. South Face of Salient: Area of the Attack of XLVIII Panzer Corps on 6th Guards Army.



Map 2 (Continued). South Face of Salient: Area of the Attack of XLVIII Panzer Corps on 6th Guards Army.



Map 3. South Face of Salient: Area of the Great Tank Battle at Prokhorovka
 (Meeting Engagement of II SS Panzer Corps and 5th Guards Tank Army on July 12, 1943).