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Soviet Defensive Tactics at Kursk, July 1943

by

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Introduction

In his classic work, On War, Carl von Clausewitz wrote, "As we shall show, defense is a stronger form of fighting than attack."¹ A generation of nineteenth century officers, nurtured on the study of the experiences of Napoléon and conditioned by the wars of German unification, had little reason to accept that view. The offensive spirit swept through European armies and manifested itself in the regulations, plans, and mentality of those armies. It also blinded all but a few perceptive observers to the carnage of the American Civil War, the Boer War, and the Russo-Japanese War, all of which suggested that Clausewitz' dictum was perhaps correct. The catastrophe of World War I vindicated Clausewitz and grotesquely mocked those who placed such high hopes in the utility of the offensive.

Post-World War I armies understood well the power of twentieth century technology when harnessed to serve the military. Postwar military views, in general, echoed national political aims. Those nations wedded to maintenance of the political status quo sought to draw upon technology to strengthen military defenses and to deter those who would alter the political condition by use of offensive military power. Conversely, those nations, shackled by the political settlements of World War I or compelled by ideology to seek change, sought to exploit new technologies in order to restore the viability of the offensive to the modern battlefield. Thus the Germans worked surreptitiously on developing blitzkrieg concepts, and the Soviets fixed their attention on achieving deep battle (glubokiy boy).

The events of 1939, 1940, and 1941 in Poland, France, and Russia respectively again challenged Clausewitz' claim of the superiority of the defense and prompted armies worldwide to frantically field large armored forces and develop doctrines for their use. While blitzkrieg concepts ruled supreme, it fell to that nation victimized most by those concepts to develop techniques to counter the German juggernaut. The Soviets had to temper a generation of offensive tradition in order to marshal forces and develop techniques to counter blitzkrieg. In essence, the Soviet struggle for survival against blitzkrieg proved also to be a partial test of Clausewitz' dictum. In July 1943, after arduous months of developing defensive techniques, often at a high cost in terms of men and material, the Soviets met blitzkrieg head-on and proved that defense against it was feasible. The titanic, grinding Kursk operation validated, in part, Clausewitz' views. But it also demonstrated that careful study of force organization and employment and application of the fruits of that study can produce either offensive or defensive victory. While on the surface the events of Kursk seemed to validate Clausewitz' view, it is often forgotten that, at Kursk, the Soviets integrated the concept of counteroffensive into their grand defensive designs. Thus the defense itself was meaningless unless viewed against the backdrop of the renewed offensive efforts and vice versa. What Kursk did prove was that strategic, operational, and tactical defenses could counter blitzkrieg.

Soviet Tactical Defense Prior to Kursk

Soviet victory on the Eastern Front was a product first and foremost of the Soviet defensive effort. Only successful defense could pave the way for offensive victory. Moreover, the development of strategic and operational defenses depended directly on the Soviet ability to stop German offensive action at the tactical level. Soviet development of effective tactical defenses was a long and difficult process. It involved changing the offensive mind-set of Soviet officers. It also entailed the training of a generation of officers capable of ably controlling forces at the tactical level and the fielding of equipment of the type and in the numbers necessary to conduct successful combined arms defense. Development of tactical defense concepts involved a process of education that began in June 1941 and continued throughout the war. The fruits of that education were apparent at Kursk.

The Soviet fixation on offensive forces, concepts, and techniques in the late 1920s and 1930s eclipsed similar work on defense at the strategic, operational, and tactical level. Soviet brainpower and resources focused on the creation of shock armies, mechanized forces, and airborne forces; all those elements critical to achieving strategic offensive success through the conduct of deep operations and deep battle. By the Soviets' own admission, this fixation on the offensive caused them to pay too little attention to strategic (front), operational (army), and tactical (corps and division) level defensive operations, a deficiency vividly evident in 1941.

The 1936 Field Regulation demonstrated the Red Army's attitude toward defense.² Devoting only about twenty pages of a 300-page document to defense, the Soviets described it as a temporary phenomenon designed to economize force, gain time, hold critical areas, or disrupt an advancing enemy, pending a resumption of the all important offense.* The tendency to view the defense as a temporary (and unpleasant) phenomenon forestalled Soviet development of a broad defensive doctrine that addressed such essential questions as requisite strength and integration of numbers and types of weapons necessary to forestall or parry enemy offensive action. The general neglect of defensive training was exacerbated by the ill effects of the military purges on the level of competence within all levels of command.

Within the context of army-level defensive operations, tactical defense in the 1930s involved the organization of covering and shock groups within rifle corps and rifle divisions (see figure 1).** The covering group, consisting of two-thirds of the force, absorbed the energy of enemy

*By contrast, almost one-half of the 1944 Regulation focused on defensive techniques.

**An army defended a sector of 80-100 kilometers.

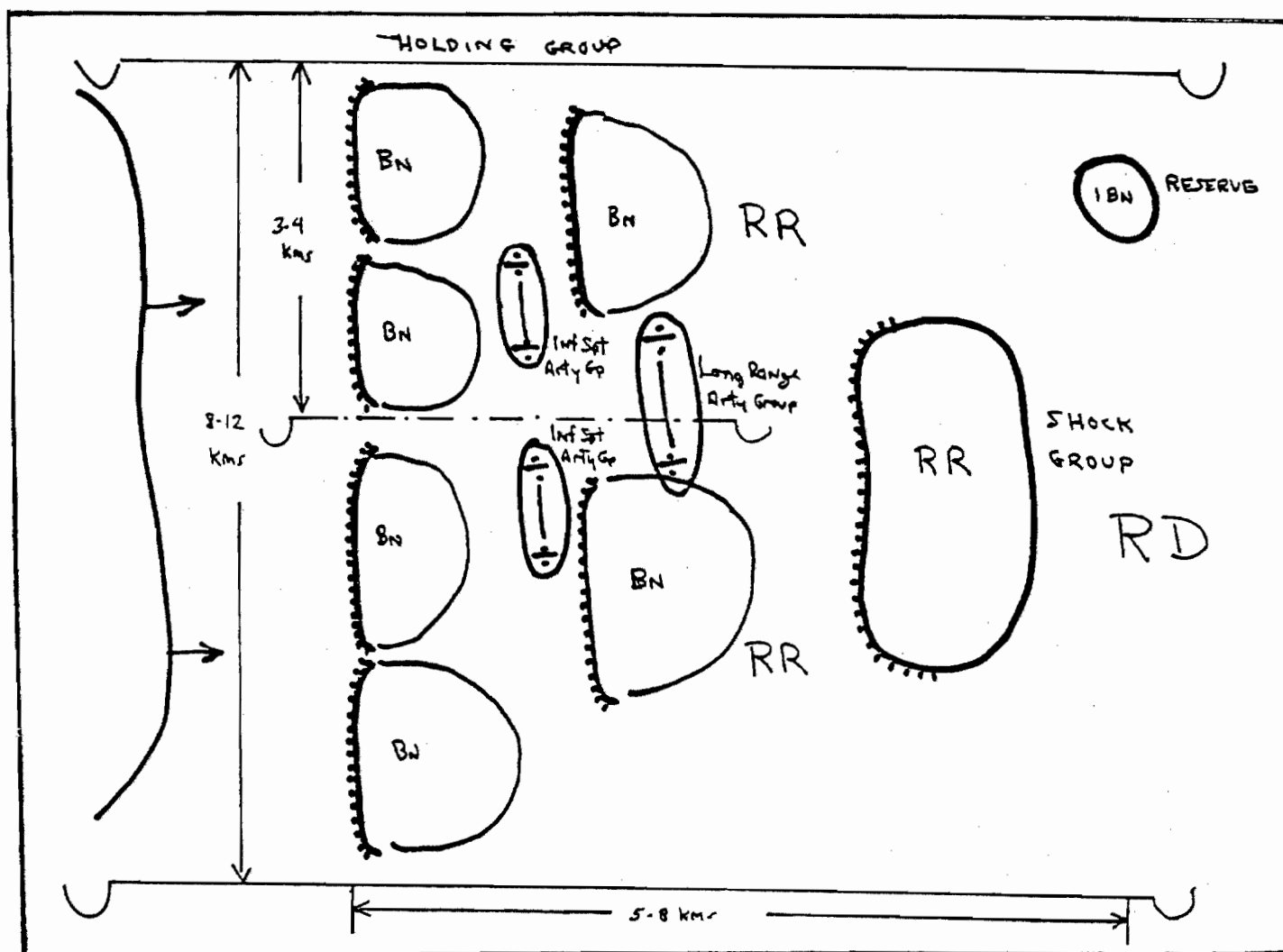


Figure 1. Rifle Division Combat Formation-Defense, 1930

offensive blows, while the shock group (the remaining one-third of the force) launched counterattacks. One-ninth of the force made up a small reserve.³ The tactical defense zone consisted of an engineer-chemical obstacle belt 12 kilometers deep, a combat security belt 1 to 2 kilometers from the forward edge of the main defensive belt, a main defensive belt 6 kilometers deep, and a rear defensive belt 12 to 15 kilometers deep. Within the main defensive belt, a rifle division defended in an 8- to 12-kilometer sector and a regiment on a 3- to 5-kilometer front, each in

two-echelon formation. Individual battalions within the regiments formed the basic defensive region, normally 1.5 to 2.5 kilometers wide and 1.5 to 2 kilometers deep, but, on occasion, in sectors as wide as 5 kilometers. By 1940, it had already become clear that new weaponry had improved the capability of attacking forces, thus the Soviets reduced the division defensive sector to 6 to 10 kilometers. Prewar views on antitank defense mandated the fielding of six to nine antitank guns (a number that proved woefully inadequate in the face of German Army assaults in June 1941) on a front of 1 kilometer integrated into defensive positions to a depth of 3 kilometers.⁴

The general neglect of defensive techniques combined with other problems to cause the disasters of June 1941. After the outbreak of war, Soviet tactics suffered from the same general malaise as strategy and operational art. Understrength rifle divisions (5,000-6,000 men) and rifle brigades (4,500 men) defended in extended sectors (14-20 kilometers) and were forced to deploy in single-echelon defensive formation with a depth of only 3 to 5 kilometers (see figure 2 and table 1).^{*} Small reserves provided little capability for sustained counterattacking, and infantry support artillery groups were weak.

The single-echelon formation was dictated by the limited forces available and wide defensive zones. This resulted in inadequate tactical densities of .5 battalions and three guns and mortars per kilometer of front.⁵ Division defenses were subdivided into battalion defensive regions and company strongpoints that were often noncontiguous and not linked together by interlocking fire. Few of the gaps were covered by fire. In the almost complete absence of antitank defense, engineer obstacles, or trenches, enemy forces could and did penetrate through those gaps into the depth of the defense, thus disrupting the command and control of the division as a whole and its parent rifle corps or army.^{**}

^{*}Rifle brigades were light divisions, consisting of three rifle battalions, an artillery battalion, two mortar battalions, and an antitank battalion. The Soviets created these units in lieu of new rifle divisions on the assumption that they would be easier than the full rifle division for inexperienced Soviet officers to command and control.

^{**}In late summer 1941, the Soviets truncated the size of armies and abolished the rifle corps as a level of command.

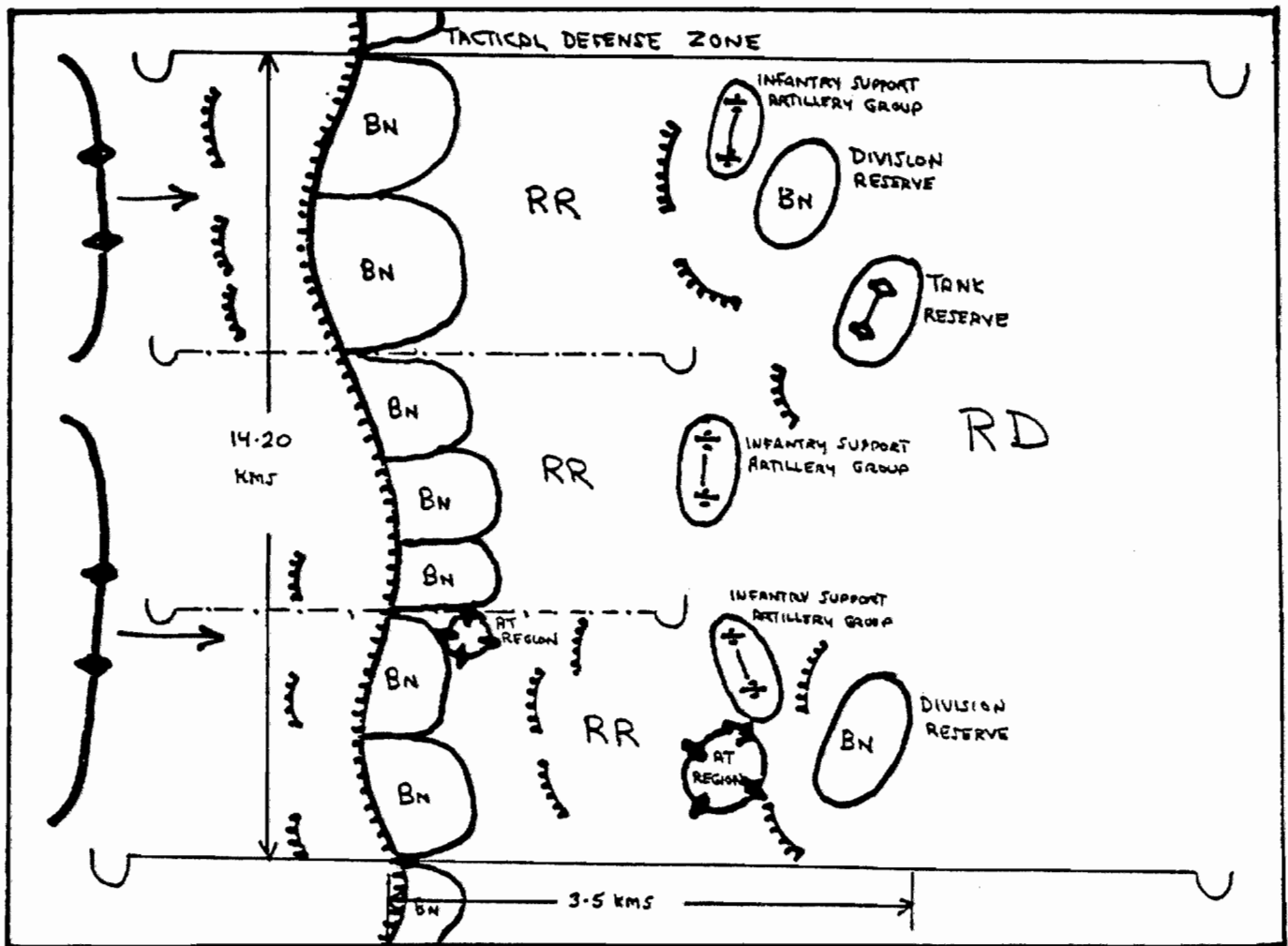


Figure 2. Rifle Division Combat Formation-Defense, 1941

JULY 1941 RIFLE DIVISION

1943 RIFLE DIVISION

3 Rifle Regiments 4 x 76mm)
16 x 45mm) (12 in GRR)
1 Artillery Regiment (20 x 76mm)
(12 x 122mm)
1 Antitank Battalion (12 x 45mm)
1 Sapper Battalion
1 Signal Company
1 Reconnaissance Company
1 Supply Company

strength: 9,380 men (10,670 in GRD)
44 field guns
160 mortars
48 AT guns

1943 RIFLE REGIMENT

3 Rifle Battalions
1 Automatic Weapons Company
(2 in GRRs)
1 Antitank Rifle Company
1 Antitank Battery (6 x 45mm)
1 Artillery Battery (4 x 76mm)
1 Mortar Battery (4 x 120mm)

1943 RIFLE BATTALION

3 Rifle Companies
1 Machine Gun Company (2 in GRB)
1 Antitank Rifle Company
(16 rifles)
1 Mortar Battery (82mm)
1 Antitank Battery (45mm)
1 Antitank Platoon (45mm) (GRB)

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Limited quantities of artillery denied rifle forces adequate artillery support, and awkward use of tanks further inhibited the integrity of the defense. Tank regiments and battalions were supposed to hold separate positions or lines, provide direct fire support for infantry, and conduct counterattacks against penetrating enemy units. In practice, however, Soviet commanders subdivided tank regiments and battalions into small groups and counterattacked from march formation without proper reconnaissance or use of maneuver.⁶ This, plus minimal artillery or air cover for operating armored forces, resulted in heavy tank losses.

By late 1941, battlefield experience slowly produced improvements in Soviet tactical defenses. In October, rifle divisions still operated in wide sectors of up to twenty-four kilometers. Densities of infantry fire were low, thus defensive capabilities were weak. In November, however, as Red Army strength grew and the Soviets began relearning the art of concentration, divisions narrowed their defensive sectors and formed in either one or two echelons of regiments. The single-echelon formation brought maximum firepower to bear on the forward area, but it also denied the commander the ability to reinforce his defenses, shift laterally to meet threats, or launch counterattacks.⁷ Improvements in engineer preparation of defenses began occurring in late 1941. Separate rifle trenches were united by other trenches running along the front and by communication trenches running to the rear, at first within company strongpoints and then within battalion defensive regions. This allowed concealment of gaps and flanks, the integration of antitank and antiaircraft artillery into the defense, and greater ability to maneuver defensive forces. A clearly distinguishable first defensive position resulted.

Increases in manpower and weaponry continued to improve Soviet tactical defenses in 1942 (see figures 3-6). Rifle divisions more frequently created second echelons and began forming tank, antitank reserves, and stronger artillery groups. Rifle regiments and rifle divisions created battalion defensive regions in their second echelons that would soon evolve into the second and third defensive positions of the main defensive belt. Separate rifle foxholes were united by trenches along the front, at first between platoons and then between company and battalion regions. Consequently, tactical densities improved to one battalion and twenty guns and mortars per kilometer of front by the end of the first period of war (November 1942), and antitank defenses achieved densities of two to five guns per kilometer.⁸ Antitank defenses also improved with the creation of networks of antitank strongpoints and the use of mobile engineer reserves to create antitank obstacles during combat.

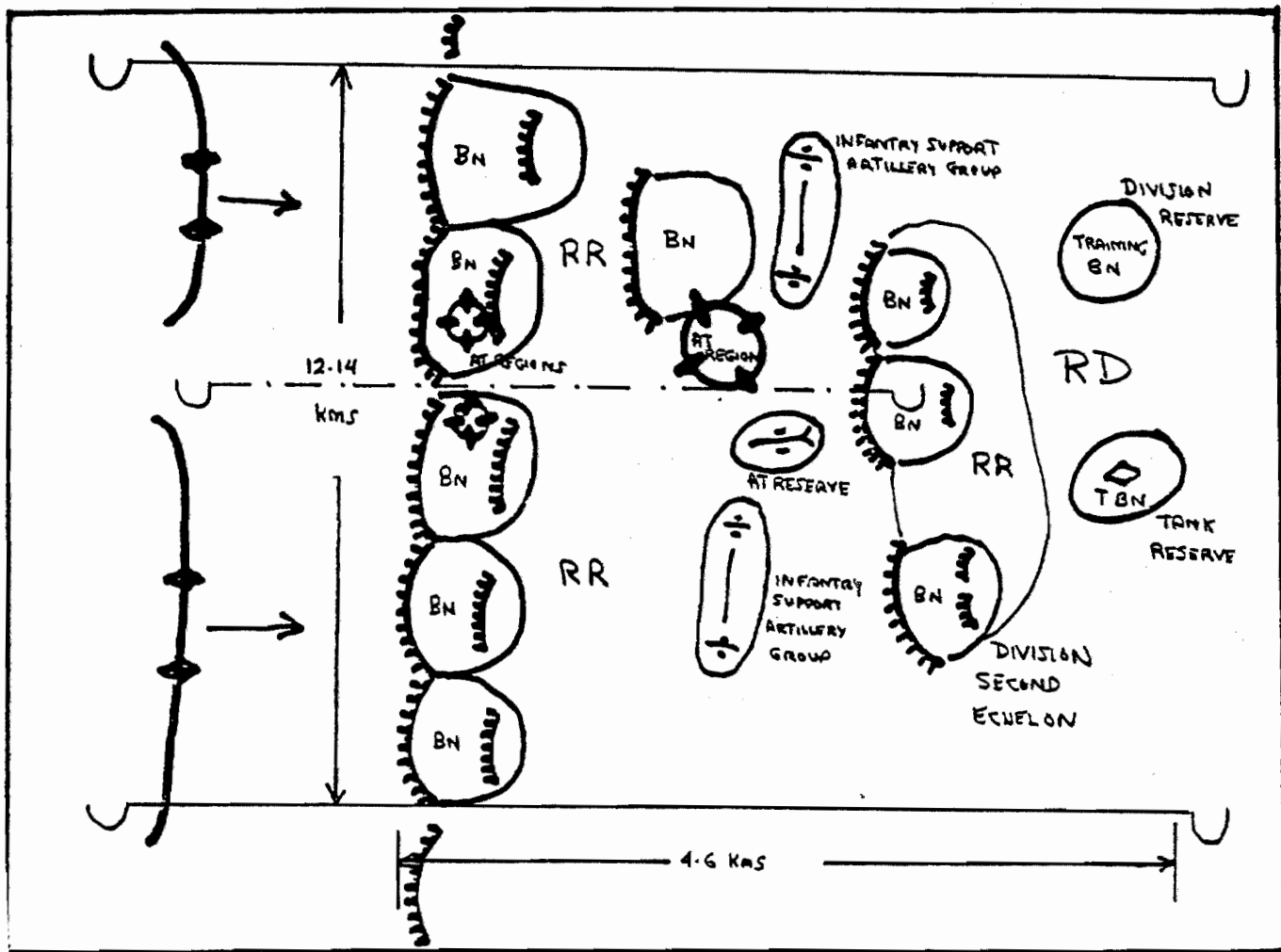
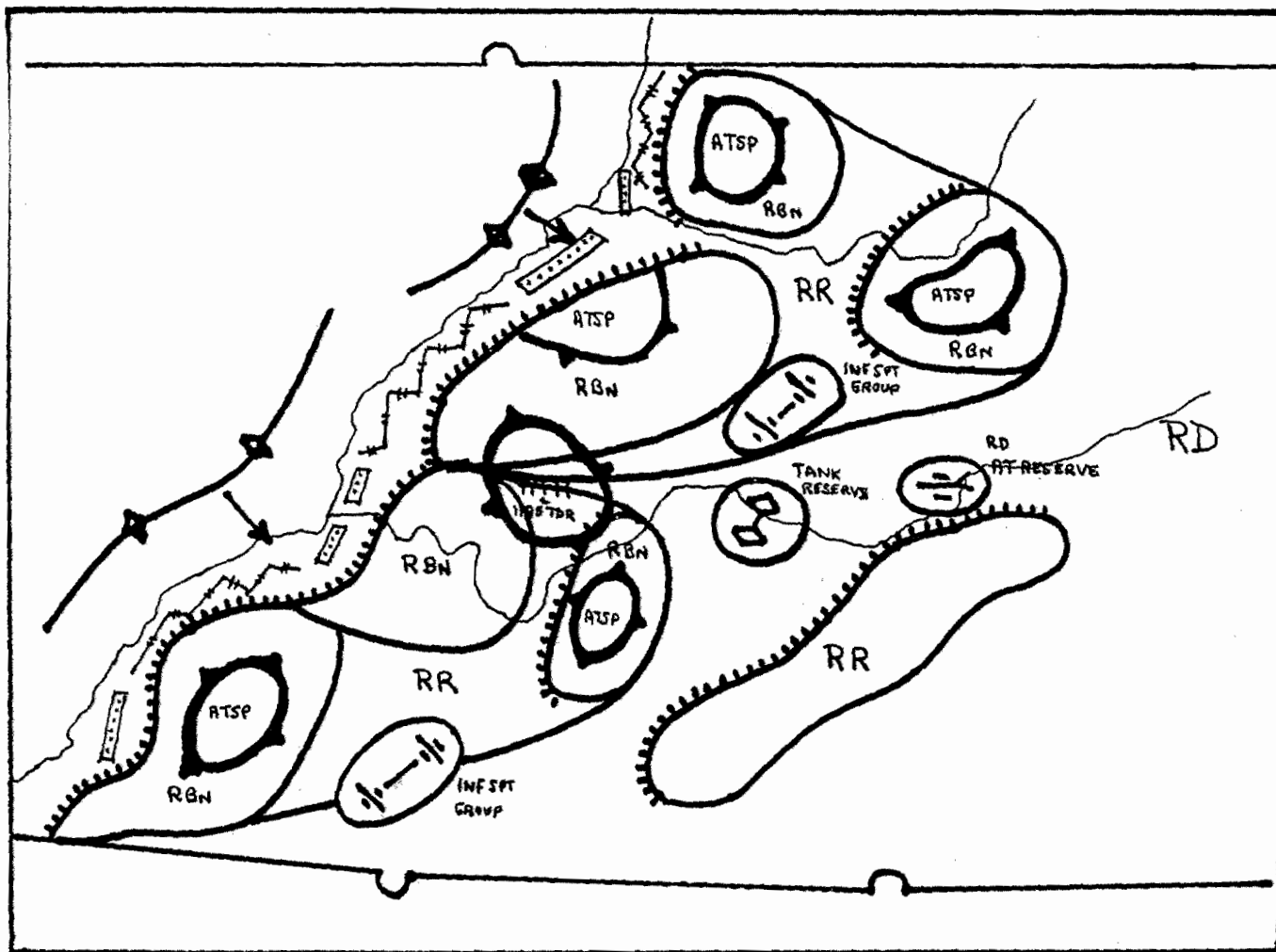


Figure 3. Rifle Division Combat Formation-Defense, 1942



ATSP
Btry. AT guns

Figure 4. Combat Formation Antitank Defense-Rifle Division
Stalingrad, 1942

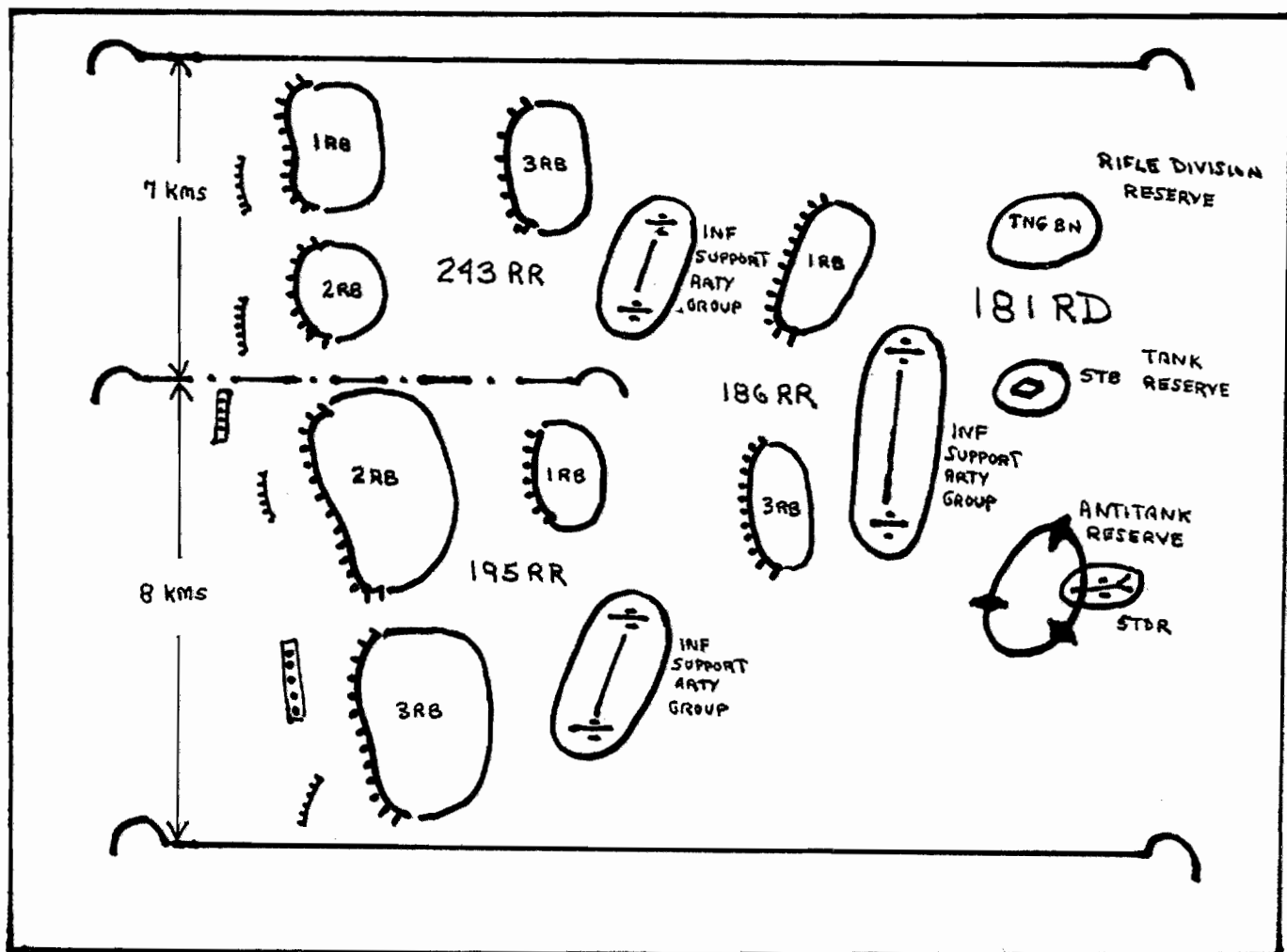


Figure 5. Combat Formation, 181st Rifle Division-Defense Stalingrad Operation

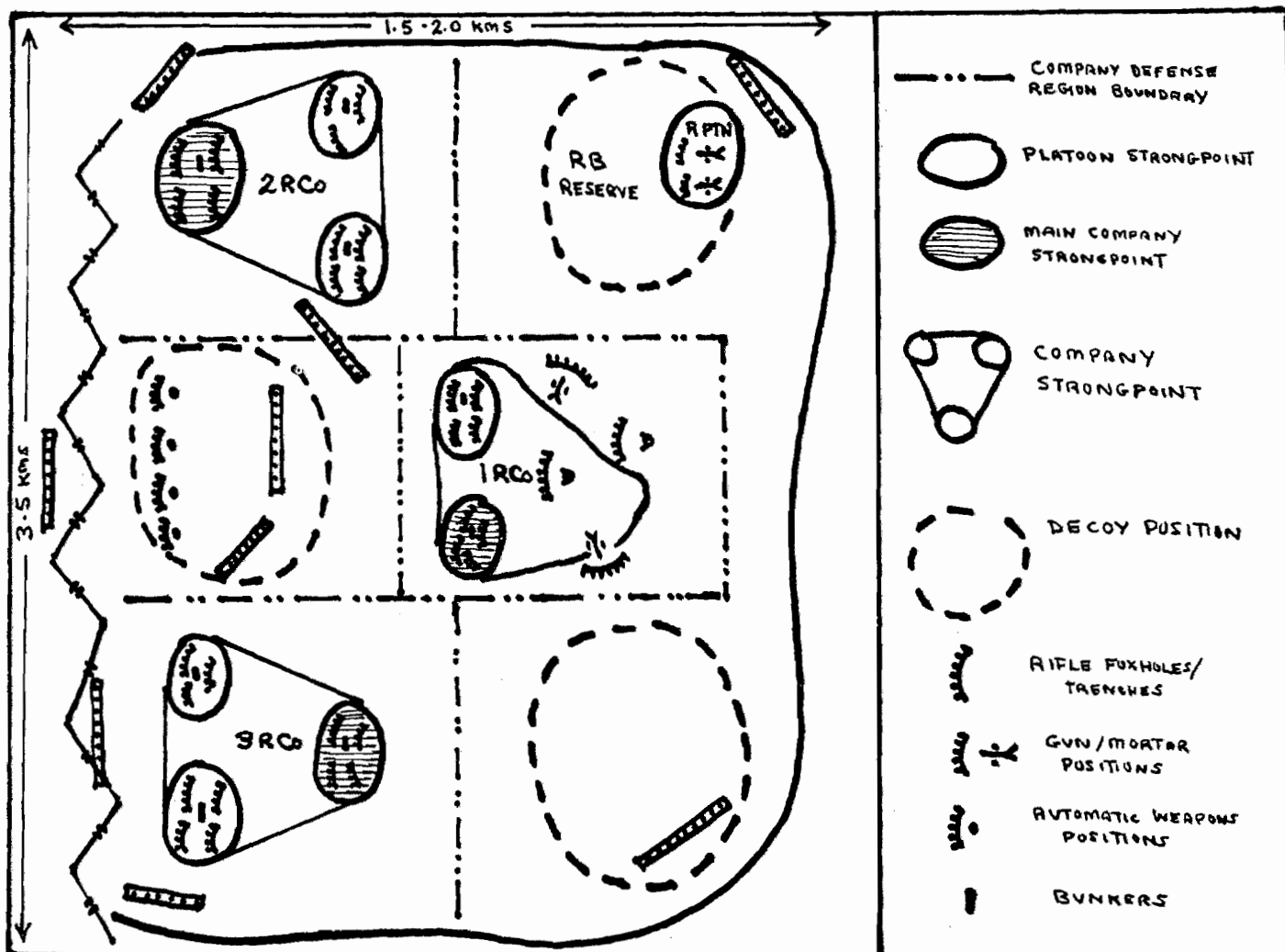


Figure 6. Battalion Defensive Region, Stalingrad

However, full use of defensive engineer preparations and the maturation of antitank defense would not occur until 1943, when experience combined with increased quantities of equipment to produce the prerequisites for such defenses. Throughout the winter of 1942-1943, division defenses remained shallow (one defensive belt) and weak in antitank means, thus producing conditions conducive to such Soviet defeats as occurred in the Donbas in February and March 1943 (see figure 7).

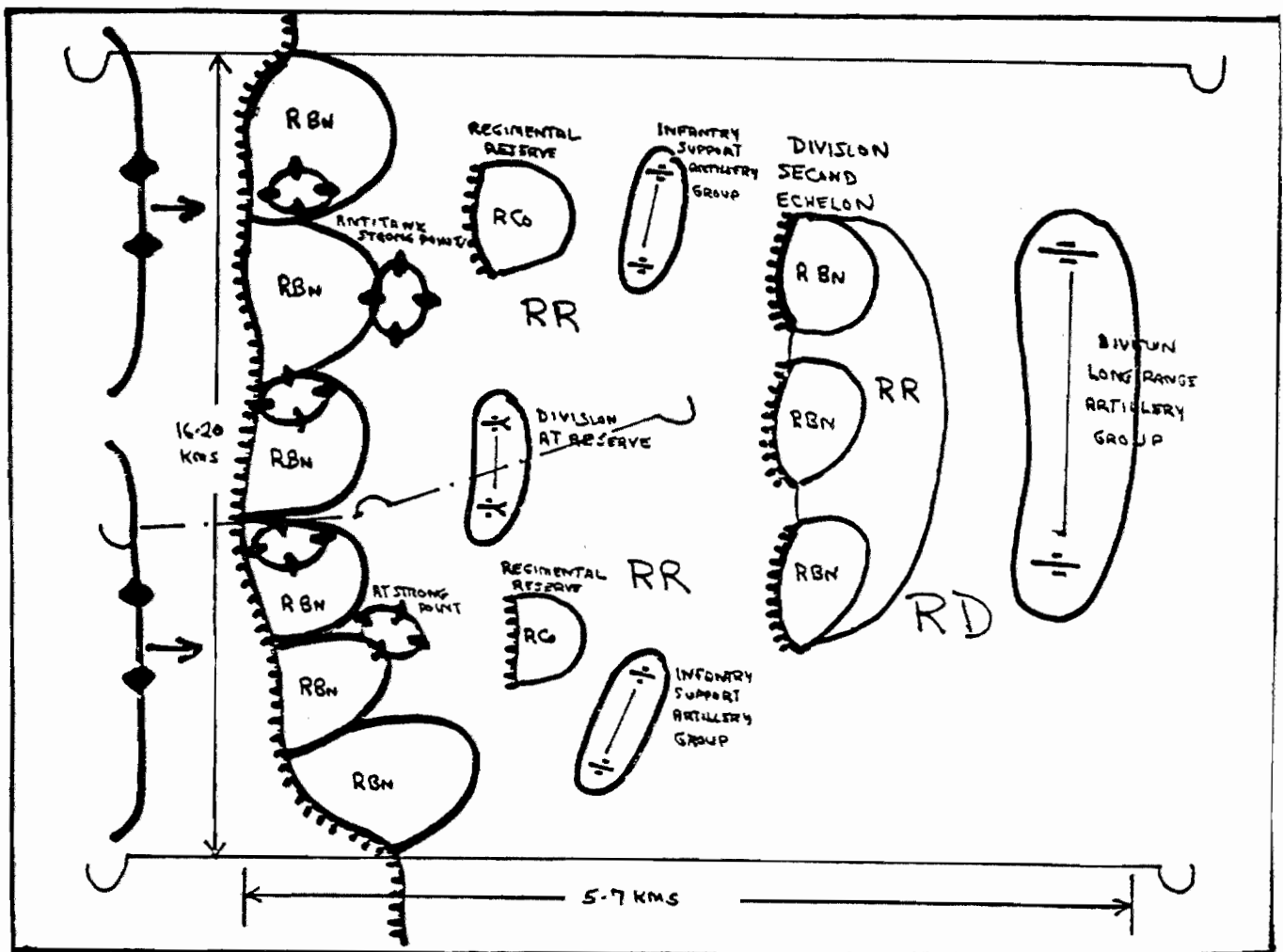


Figure 7. Rifle Division Combat Formation-Defense
Winter 1942-1943

Tactical Defenses in the Summer of 1943

By the summer of 1943, Soviet tactical defenses had evolved from their noncontiguous nature to a dense, deeply echeloned trench defense system, providing greater protection for infantry and a more secure environment for maneuver of forces and fire support weaponry along the front and in the depth of the defense (see figure 8). The width of defensive sectors

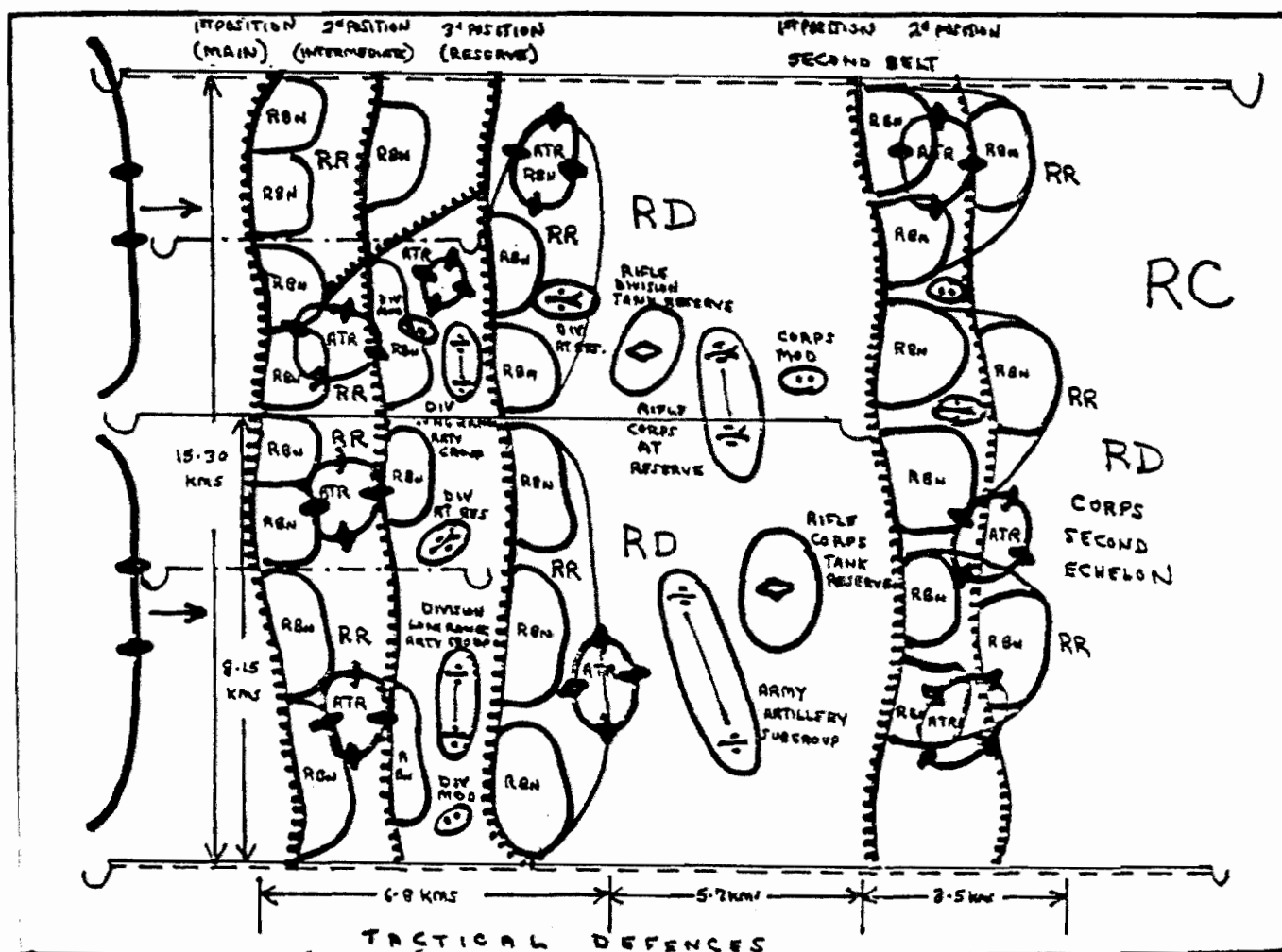


Figure 8. Rifle Corps/Division Combat Formation-Defense
Summer-Fall 1943

decreased, and the depth of the defense increased. A rifle corps normally deployed with two rifle divisions in the first tactical defense belt and one rifle division in the second belt. Rifle divisions defended in one or two echelons of regiments, and rifle regiments in two echelons of battalions supported by artillery groups, antitank strongpoints and regions, artillery antitank reserves, and mobile obstacle detachments. A first-echelon rifle division in a main defense sector normally defended on a front of eight to fifteen kilometers, to a depth of five to six kilometers. On secondary directions, rifle divisions defended sectors twenty-five kilometers wide.⁹

Antitank defenses matured as the Soviets increasingly integrated antitank strongpoints and regions throughout the entire depth of the defense. Separate tank brigades, tank regiments, and self-propelled gun regiments, attached to the rifle division and kept in reserve, delivered counterattacks or reinforced first-echelon rifle regiments by deploying as mobile or fixed firing points. Defense, in general, became more durable and mobile in terms of both rifle units and supporting fires. Above all, integration of all types of units and weapons was more thorough than before. Greater force availability permitted even army- and front-scale counterattacks in support of defending forces.

By the summer of 1943, the rifle corps provided the nucleus of an army's tactical defense (the rifle corps command link was reestablished beginning in late 1942) (see figure 9). Whereas rifle divisions had formed the tactical defense zone in the Moscow and Stalingrad operations, at Kursk the rifle corps performed that function. As a rule the rifle corps at Kursk deployed in two echelons, with two rifle divisions in the first echelon and one in the second echelon. So arrayed, the corps defended to a depth of fifteen to twenty kilometers (three to four times the depth of division defenses at Stalingrad). The corps had no support units. In addition to the rifle divisions, the rifle corps fielded only an antitank reserve, a tank reserve, and a mobile obstacle detachment.

The rifle divisions within the rifle corps normally deployed in two echelons of rifle regiments, with a combined arms and an antitank reserve (see table 1 and figures 10, 11).¹⁰ In addition, divisions formed infantry support artillery groups, a long-range artillery group of two to three artillery battalions, and a mobile obstacle detachment consisting of a sapper company equipped with mines. Some divisions also had tank reserves. For antitank defense, the division formed nine to twelve antitank strongpoints and antitank regions throughout the depth of its combat formation, which, likewise, increased to from five to eight kilometers. The division's defensive sector correspondingly shrunk to a width of six to nine kilometers, increasing tactical densities to .7 to 1.5 rifle battalions, 18 to 30 guns and mortars, and 2 to 4 tanks per kilometer of front.¹¹

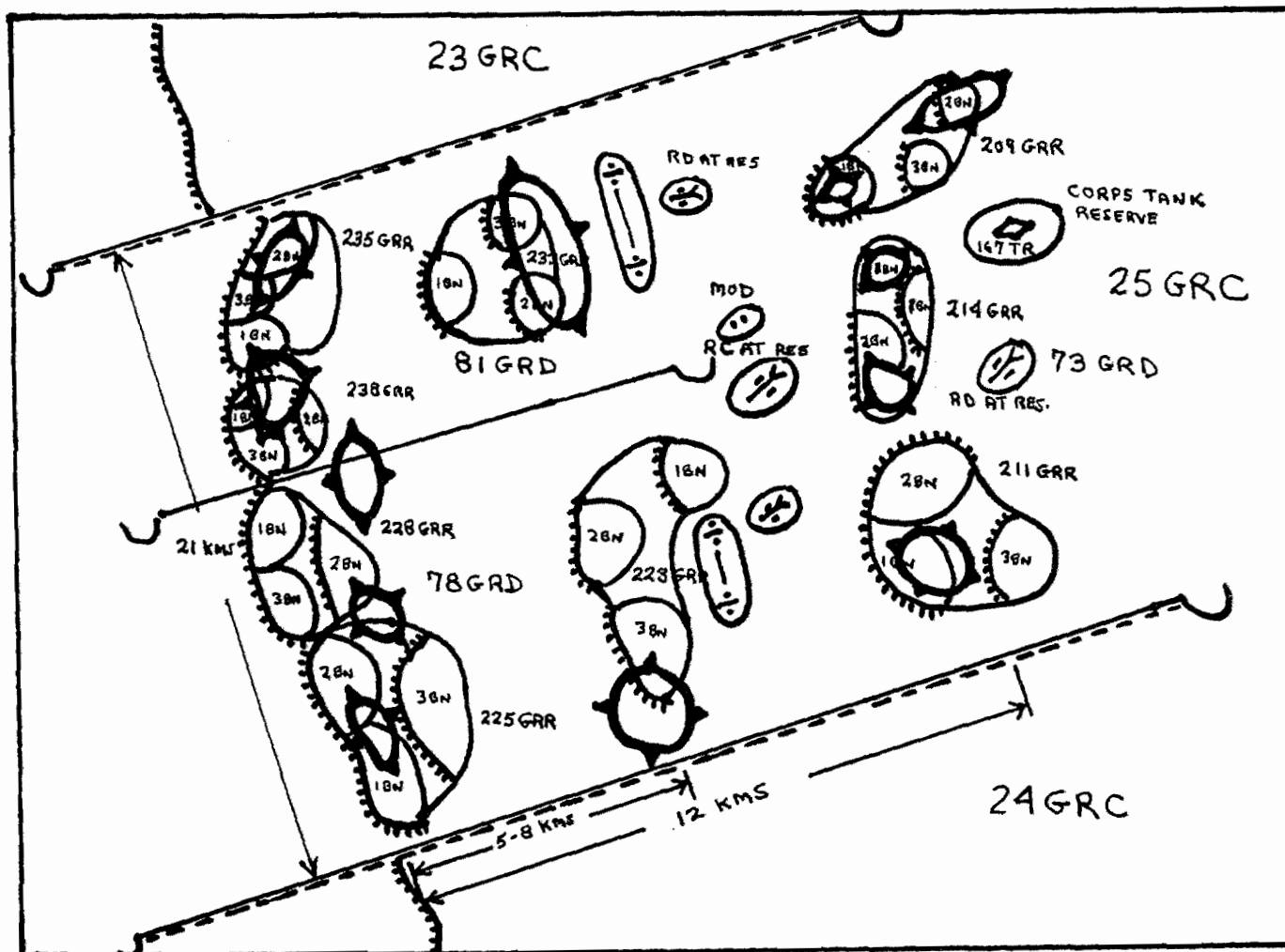


Figure 9. Combat Formation 25th Guards Rifle Corps, 7th Guards Army, July 1943

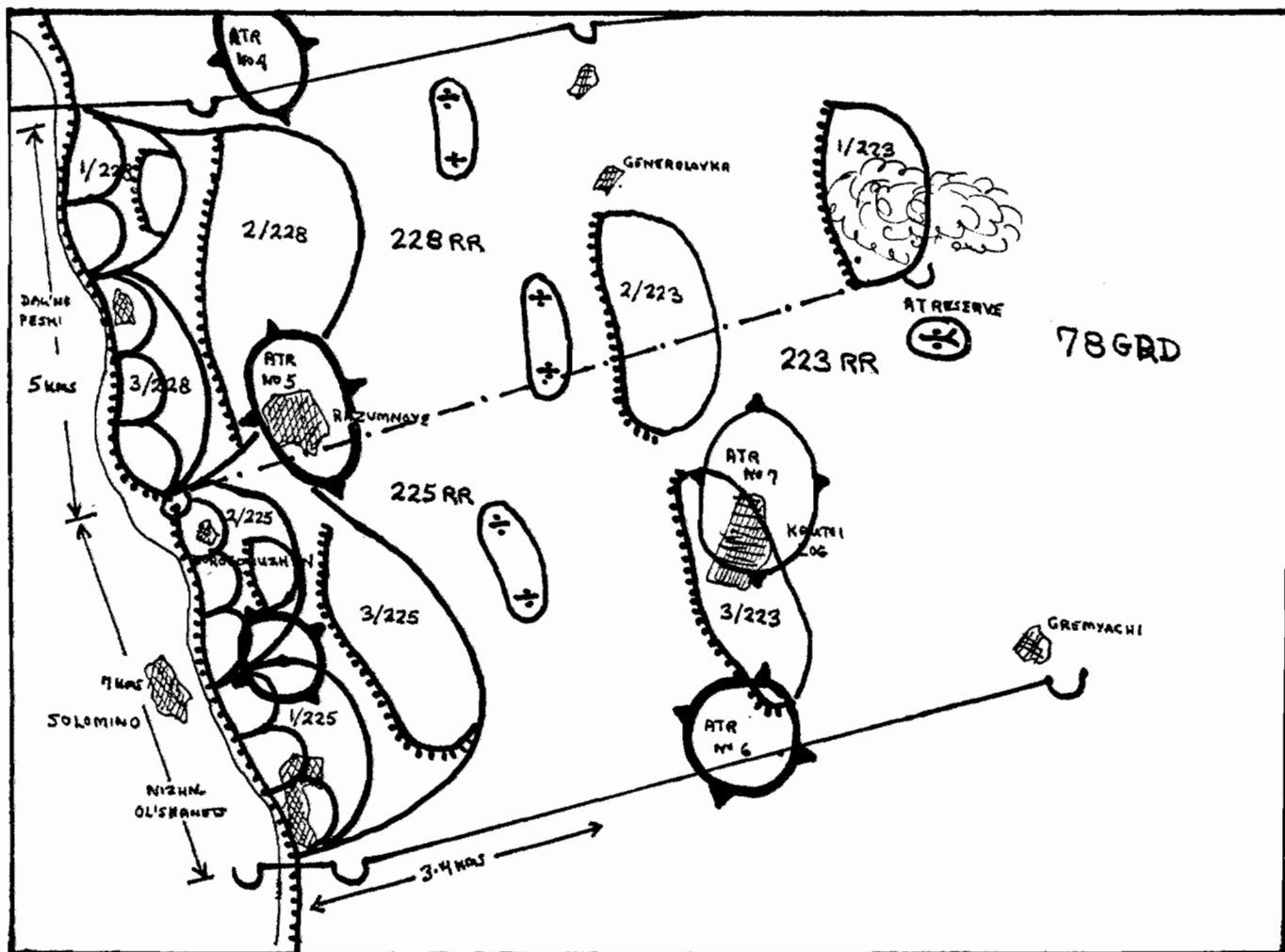


Figure 10. Combat Formation 78th Guards Rifle Division, July 1943

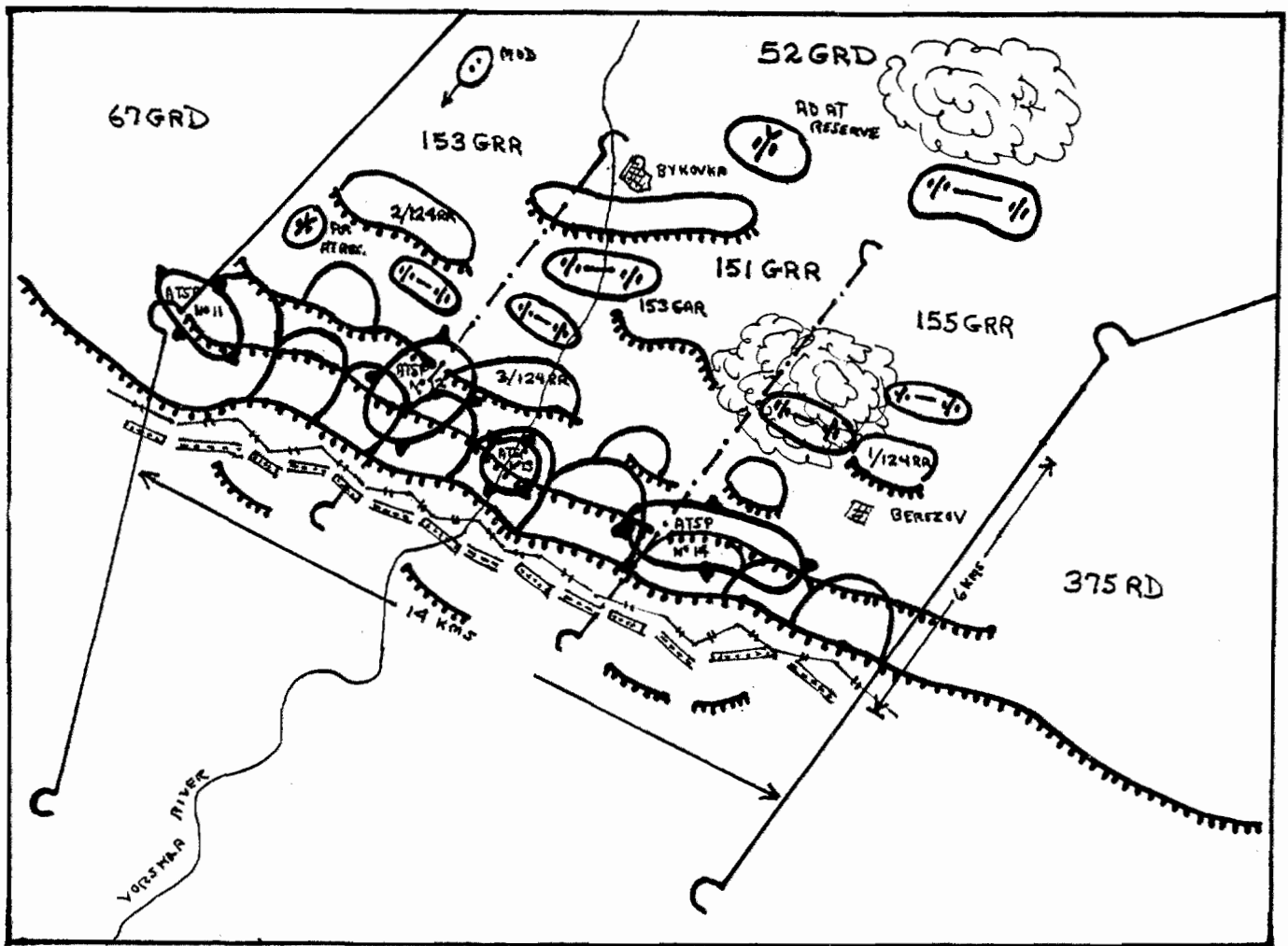


Figure 11. Combat Formation 52d Guards Rifle Division
Kursk, July 1943

Soviet tactical defenses at Kursk included a series of defensive positions and belts occupied by rifle companies, battalions, regiments, divisions, and corps that were linked together by engineer measures and tied in with the supporting fires of antitank and antiaircraft artillery; and tactically employed armored battalions, regiments, and brigades, backed up by infantry and armored operational reserves.

Engineer measures which glued the entire defensive structure together had been mandated by April 1943 Instructions on the Construction of Field Defenses issued by the General Staff on the basis of analysis of war experiences.¹² The instructions required the creation of battalion defensive regions, linked together by elaborate trench systems and laced with antitank defenses, as the basis for each defensive belt.

The tactical defense zone contained two defensive belts.¹³ The first (main) defensive belt consisted of three defensive positions, cutoff positions (switch lines), and artillery firing positions occupied by the rifle corps' first-echelon rifle division. The battalion defensive region (2 kilometers frontage and 1.5 to 2 kilometers depth) provided the basis for the three defensive positions. In turn, the battalion region was subdivided into company and platoon strongpoints.

The first defensive position, designated to engage the enemy in front of the defenses and to absorb the first enemy blows, involved the most thorough engineer preparation (see figure 12). It consisted of two to three trench lines and communication trenches, interspersed with engineer obstacles, and was occupied by the two first-echelon rifle battalions of first-echelon rifle regiments. Infantry and heavy weapons in the second and third trenches, located 150 to 250 meters and 1 to 1.5 kilometers from the first trench respectively, provided covering fires for trenches to their front and gave depth to the battalion defensive region.

The second-echelon rifle battalion of the first-echelon rifle regiment occupied the second defensive position that consisted of one or two trenches, two to three kilometers from the forward edge of the battlefield. Deployed in company strongpoints or in battalion defensive regions, troops of the second defensive position covered those in the first position, contained supporting artillery and tanks, and provided a base from which to launch local counterattacks. Second-echelon rifle regiments of first-echelon rifle divisions manned the third defensive position that was composed of one or two trenches, four to six kilometers from the forward edge of the battlefield. The division reserve formed in the third defensive position or nearby. The third position, although less fortified than the first two, provided a basis for new defense lines against penetrating enemy forces, contained additional fire support, and provided a region from which to launch counterattacks. Cutoff positions, normally running diagonally or perpendicularly to the front, consisted of one or two trenches and served as interior defensive lines or routes for redeployment of forces between sectors. They also covered the flanks of defending units and threatened the flanks of penetrating enemy units.

The second defensive belt, less well prepared by the engineers than the first, was located ten to fifteen kilometers from the first belt. The second-echelon rifle divisions of the rifle corps occupied the second defensive belt and had the mission of preventing enemy units that penetrated the first belt from advancing into the operational rear of the defense. In addition, the second defensive belt covered the maneuver into combat of forces from the rear and provided another base from which to launch counterattacks. The depth of the second defensive belt forced the enemy, after overcoming the first belt, to regroup its forces and disperse its artillery prior to engaging the defenders of the second defensive belt.

The elaborate trench system provided increased security to rifle forces, improved the durability of the defense, and provided for freer maneuver of forces during combat. Engineer preparation of the battlefield also inhibited movement of the enemy, in particular the armored units. Antitank obstacles reinforced the natural barriers available, and liberal use of mines further threatened enemy personnel and tanks alike. A July 1943 Stavka order prescribed the laying of mines to the depth of the defense integrated with defensive fires of the infantry and artillery, with emphasis on main attack avenues into defensive positions.¹⁴ Specifically, the order required that mines be employed in groups of over 100 mines sown six to ten meters apart in unequal rows. The rows themselves were to be fifteen to forty meters apart but not parallel. Accordingly, the minefields at Kursk achieved densities of 1,700 antipersonnel mines and 1,500 antitank mines per kilometer of front.* The highest density of mines was forward of and within the first defensive position. Thus at Kursk, each battalion defensive region of the 25th Guards Rifle Corps (of 7th Guards Army) had an average 1.6 kilometers of barbed wire covering its position, and 1,000 antitank mines emplaced per kilometer of their defensive frontage. On 13th Army's 81st Rifle Division's front, the 1,000 emplaced antitank mines accounted for the destruction or disabling of seventeen of forty enemy tanks which took part in the initial German assault.¹⁵

Artillery of all types and calibers provided resilience to the defense and produced the necessary attrition in enemy forces. Prior to Kursk, an absence of large quantities of artillery, together with Soviet lack of skill in properly integrating artillery into defenses and employing it when under assault, contributed to German success in penetrating Soviet defenses. By July 1943, new regulations, derived from the analysis of war experiences, and the improved skill of Soviet commanders produced more effective use of artillery.

*Four times that of Moscow, and two to five times the amount used at Stalingrad.

Indirect artillery fire, under control of unit commanders at each echelon, was coordinated with the operations of infantry and armor. Rifle corps commanders designated artillery missions and the location of corps and division antitank regions. The rifle division commander organized the fires of divisional weapons covering the areas immediately forward of the forward defense, the depth of the division's defenses, the division's flanks, and in the gaps between units. Regimental commanders controlled regimental artillery support group fires and directed battalion fires covering the gaps in regimental defenses. Battalion commanders coordinated the fires of organic artillery and that of subordinate rifle companies. In addition, divisional artillery participated in the artillery preparation or the counterpreparation fired under army control.¹⁶

Effective use of antitank artillery was critical for a successful defense against blitzkrieg tactics. Before July 1943, Soviet antitank fire had taken a toll of enemy armor but had never halted a major offensive spearheaded by massed armored units. The Soviets used the experiences gathered from numerous failures to create a thorough antitank defense at Kursk and thereafter. The antitank defense was based on the use of deeply echeloned antitank forces integrated into every level of command (see figures 13-15). The majority of antitank units and weapons performed an active role in the defense by occupying antitank regions or strongpoints scattered throughout the defense and massed on likely tank approaches into the defense. Other large antitank forces, supplemented by mobile obstacle detachments, served as antitank reserves at every level of command.^{17*}

*Usually antitank reserves were made up of the following:

At rifle regiment level--two to three antitank guns, up to a platoon of antitank rifles, and an automatic weapons platoon

At rifle division level--a battery or battalion of antitank guns

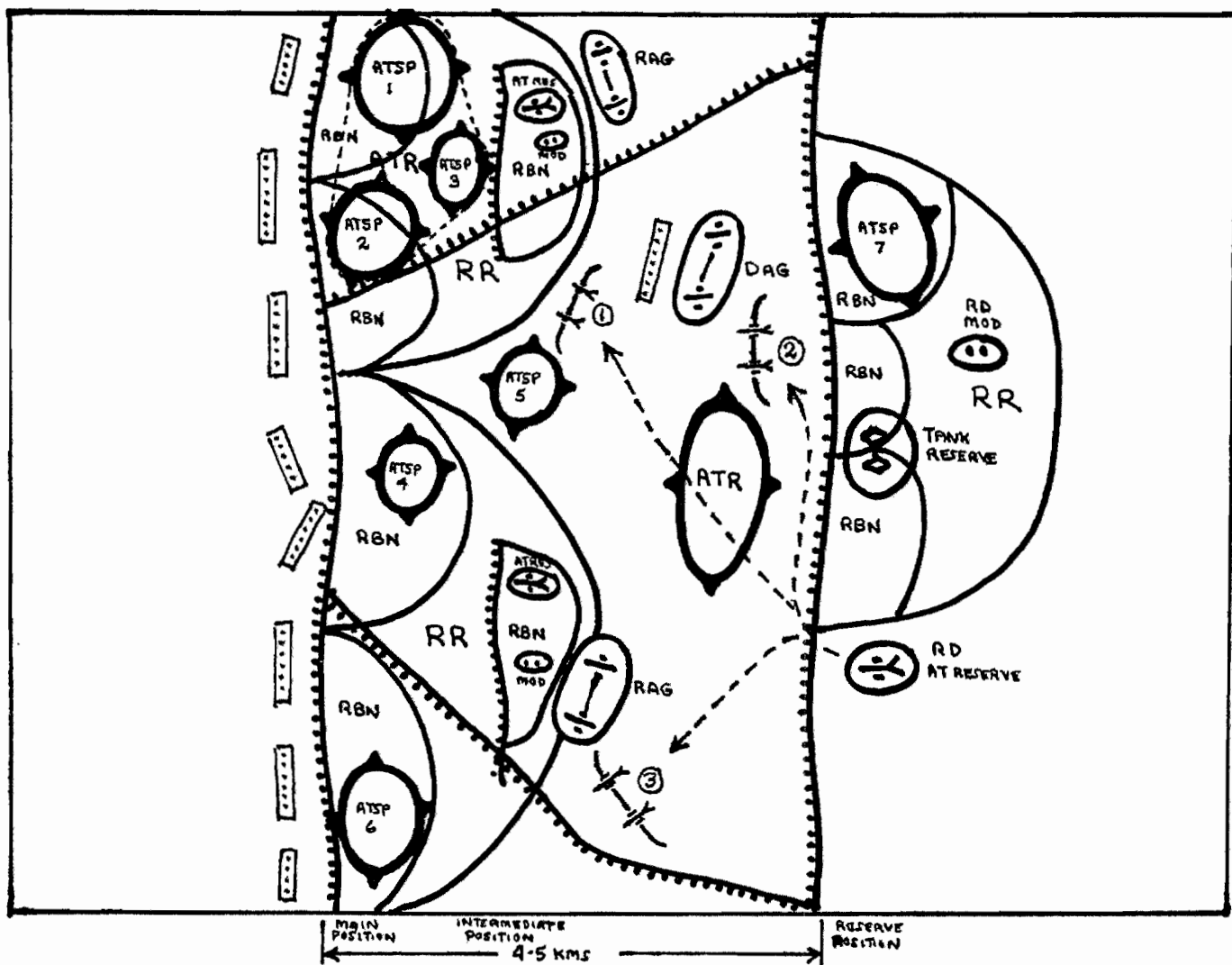
At rifle corps level--an antitank regiment

Mobile obstacle detachments were composed of:

At rifle regiment level--a sapper squad with mines

At rifle division level--two sapper platoons with mines

At rifle corps level--one sapper company with 500 to 700 antitank mines



No. of ATSPs - Th support

RBN - 1 Tn Co
 RR - 3-4 - Tn Bn
 RD - 9-12 - Tn Rgt/Bde

ATR

2-4 ATSP

ATSP Composition

4-6 guns
 AT Rifle Bn
 Sapper Ptn
 2-3 Tns/SPgun

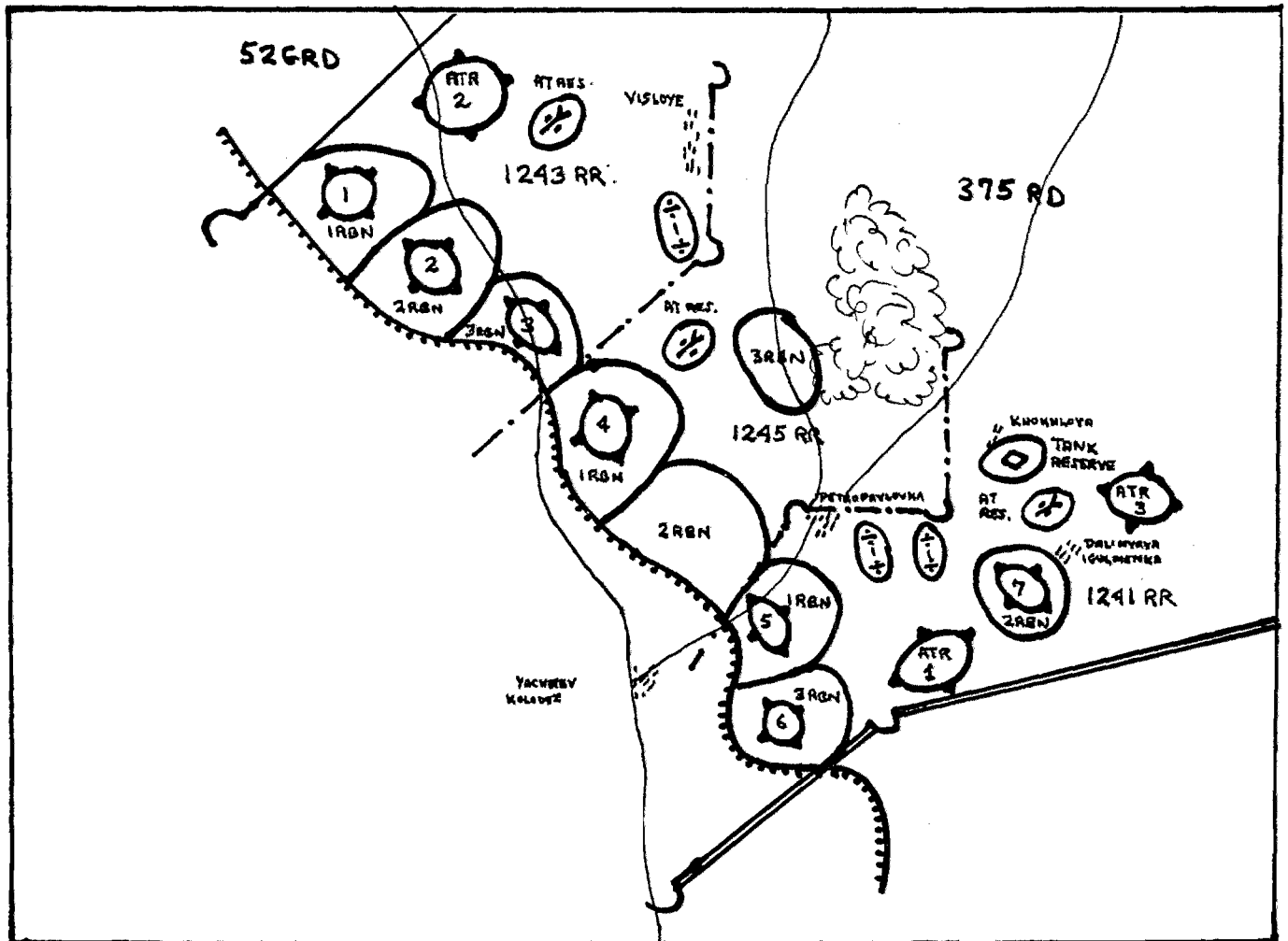
Arty AT Reserve

RR - 2-3 AT guns
 AT Rifle Ptn
 Auto weapons Ptn
 RD - AT gun btry/bn
 RC - TDRgt

MOD

RR - Sapper Squ
 RD - 2 Sapper Ptn
 RC - Sapper Co
 500-700 m

Figure 13. Combat Formation--Antitank Defense--Rifle Division
 Kursk, July 1943



ANTITANK STRENGTH

ATR 1 - 20x76mm, 23 ATAC	ATSP 1 - 8x76mm, 8x45mm, 18 ATAC	5 - 10x76mm, 8x45mm, 27 ATAC
ATR 2 - 4x76mm,	2 - 6x45mm, 18 ATAC	6 - 2x76mm, 4x45mm, 9 ATAC
ATR 3 - 8x76mm	3 - 4x76mm, 1x45mm, 9 ATAC	7 - 12x76mm, 8 ATAC
TANK RESERVE - 61 tanks	4 - 12x76mm, 8x45mm, 22 ATAC	

Figure 14. Antitank Defense, 375th Rifle Division, July 1943

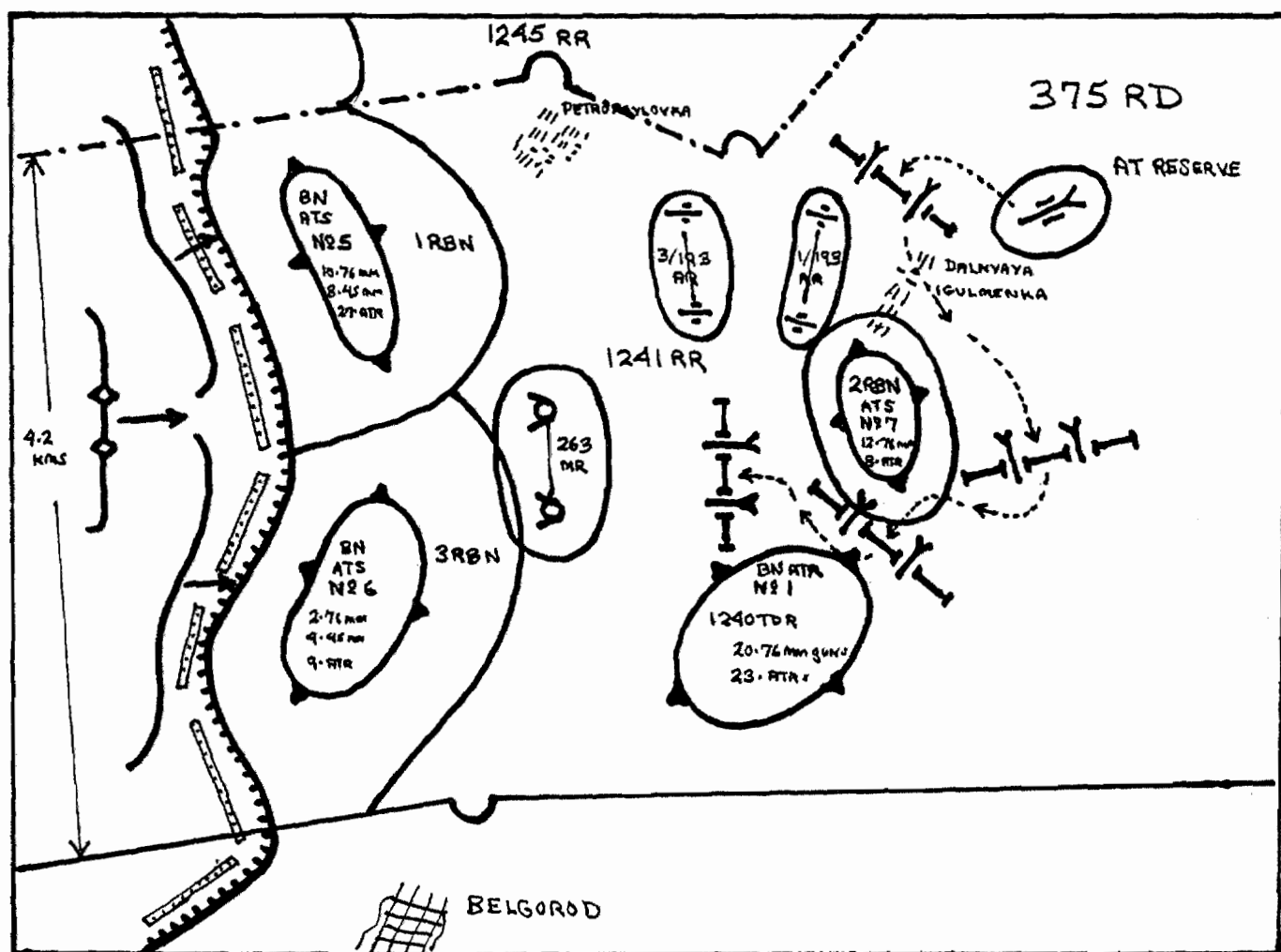


Figure 15. Combat Formation--1241st Rifle Regiment, 375th Rifle Division
Kursk, 5 July 1943

Antitank strongpoints (ATSPs) and antitank regions (ATRs) integrated antitank fire and the fire of infantry and artillery cloaked within the protection of engineer defenses. The ATSPs were formed in company defensive regions and combined their fires with those of rifle company heavy weapons and antitank rifles. An ATSP normally consisted of four to six antitank guns, six to nine antitank rifles, two to three heavy machine guns, and three to four light machine guns. Troops with automatic weapons and sappers with antitank mines supported the antitank gunners of each strongpoint. First-echelon rifle regiments on main attack axes formed three to four ATSPs, while divisions contained from nine to twelve ATSPs. In certain vulnerable regions or where geographically feasible, Soviet commanders

combined the forces of two to three ATSPs into a larger and more durable ATR.¹⁸ In the depth of the defense, rifle divisions and rifle corps created independent ATRs, usually formed around the nucleus of artillery battalions. Virtually all artillery, whether howitzer, gun, rocket, or antiaircraft, participated in antitank defense. In addition, tanks and self-propelled guns in dug-in positions further strengthened the antitank defense. Tanks and self-propelled guns, assigned to first-echelon rifle battalions and rifle regiments in company and battalion strength respectively, integrated their fires with the infantry. In addition, separate tank brigades and tank and self-propelled artillery regiments cooperated in counterattacks by second-echelon rifle divisions or larger armored formations.

Measures for the effective command and control of so large a force improved by the time of Kursk. Commanders worked out all coordination measures "on the ground" with subordinates and carefully discussed the variants in the defensive plan. Command posts of rifle forces and supporting artillery units were collocated to facilitate coordination and control of fires. Each rifle corps and division established a main command post, a reserve command post, and two observation points, and regiments established one command post and observation point, from which to control operations.¹⁹

The two years of defensive combat that the Soviet commanders and troops experienced at the hands of the Wehrmacht had had major effects on Soviet force organization and tactical techniques. In the July 1943 battle at Kursk, the German High Command tested Soviet forces to determine how well they had mastered defensive combat, the results of which would settle once and for all the fate of German fortunes on the Eastern Front.

Strategic and Operational Context

Hindsight has conditioned the contemporary observer to accept the results of the Kursk operation casually, as if they were predestined. The consensus after Kursk was that the German plan had been a disaster simply waiting to occur. That judgment belies the actual situation. Objectively, German Operation Citadel was to be the fifth annual demonstration of the power of blitzkrieg, a demonstration that, since September 1939, had occurred annually in the late spring or summer. Every previous operation of such strategic scale had reaped immediate victory, although in 1941 Germany had not achieved the ultimate goal of the operation and, in 1942, had stretched the operation to its disastrous climax at Stalingrad. If not all of the annual exercises had resulted in strategic success, they all had achieved remarkable operational success in their early and intermediate stages. And who could question the absolute tactical successes the Germans

had achieved early in each operation? Who could possibly have imagined stopping blitzkrieg in its early stages? In 1943, only the Soviets harbored such a hope, yet their own doubts forced them to make immense defensive preparations around Kursk. They were about to attempt something they had never before achieved--namely, stop a German strategic offensive before it had achieved tactical or operational success.

Tactical operations at Kursk were the by-product of months of strategic and operational planning by both sides. On 18 June 1943, after months of debating alternative strategies and reconstructing and reequipping his armored forces, Hitler at last approved the final form of Operation Citadel.²⁰ The offensive, to be launched jointly by Army Groups Center and South against the northern and southern faces of the Kursk bulge, would seek to destroy Soviet forces massed in that bulge, grind up Soviet operational reserves, and perhaps restore the strategic initiative to German hands. German forces would rely upon blitzkrieg tactics and the fielding of technologically advanced equipment (the new Panther and Tiger tanks and Ferdinand assault guns) to provide victory to the numerically smaller German force, just as had been the case in earlier operations.

The German operational plan involved the nearly simultaneous strikes of two large panzer forces against narrow sectors of the Soviet front north and south of Kursk.²¹ The forces designated to strike the dual blows would slash through Soviet defenses, unite near Kursk, and fan out to obliterate Soviet troops and weapons in the bulge. In the north, the 9th Army's XXXXVII Panzer Corps (2d, 6th, 9th Panzer Divisions, 20th Panzergrenadier Division, 6th Infantry Division) would spearhead the attack by advancing south along the rail and highway line to Kursk in order to link up with the 4th Panzer Army forces advancing from the south. The XXXXVI Panzer Corps (7th, 31st, 102d, 258th Infantry Divisions, von Manteufel Group) would cover the XXXXVII Panzer Corps' right flank, and the XXXXI Army Corps (86th, 292d Infantry Divisions, 18th Panzer Division) would cover the assault force's left flank. The 4th and 12th Panzer Divisions and the 10th Panzergrenadier Division would be available to reinforce the attack that would be led by task-organized, battalion-size detachments of Tiger tanks and Ferdinand self-propelled guns. Their task was to gnaw through the Soviet defenses and free the armored divisions to operate in the Soviet operational rear. The heavy armor detachments would precede the advance of medium and light tanks and motorized infantry that would complete the destruction of the Soviet defenses and conduct the exploitation. In total, over 1,200 tanks and self-propelled guns would strike the Soviet positions on a front of less than thirty kilometers.*

*About 900 tanks and assault guns were in units immediately available for combat.

In the south, the 4th Panzer Army and Army Detachment Kempf would strike north and northeast from positions west and south of Belgorod to smash Soviet defenses and link up with 9th Army forces near Kursk. The 4th Panzer Army would deliver its main attack with XXXVIII Panzer Corps (3d, 11th Panzer Divisions, Gross Deutschland Panzergrenadier Division, 167th and 332d Infantry Divisions, Panther Brigade Decker) and II SS Panzer Corps (SS Panzer Divisions Das Reich, Totenkopf, and Liebstandarte Adolf Hitler) advancing abreast north and northeast from positions west of Belgorod. On the 4th Panzer Army's right flank, Army Detachment Kempf would smash Soviet defenses west of Belgorod and push III Panzer Corps (168th Infantry Division, 6th, 7th, 19th Panzer Divisions) either northeast in cooperation with II SS Panzer Corps or eastward toward Korocha. The combined force of the 4th Panzer Army and Army Detachment Kempf's 1,500 tanks and assault guns would complete destruction of Soviet forces south of Kursk.

To receive this German assault, the Soviet Stavka massed the bulk of two fronts (Central and Voronezh) in the Kursk bulge.²² The Central Front arrayed its forces in single echelon along a 300-kilometer front north of Kursk with 60th, 63d, 70th, 13th, and 48th Armies abreast, backed up by 2d Tank Army and two separate tank corps (see map 1). Each combined arms army occupied three defensive belts, with its rifle corps employed in single echelon on secondary approaches and in two echelons on main attack axes (13th Army).^{*} The Voronezh Front deployed four rifle armies (38th, 40th, 6th Guards, 7th Guards) in first echelon backed up by 69th Army, 1st Tank Army, two separate tank corps, and a separate rifle corps (see map 2). Armies occupied the first three defensive belts with a single echelon of rifle corps. Both the Central and Voronezh Fronts created two additional front defensive belts to the rear of the three army defensive belts. The two fronts deployed a total of about 3,300 tanks and self-propelled guns. The Soviets employed their tank units to support rifle units (tank battalions, regiments, and brigades) and to function as operational reserves (tank corps and armies).

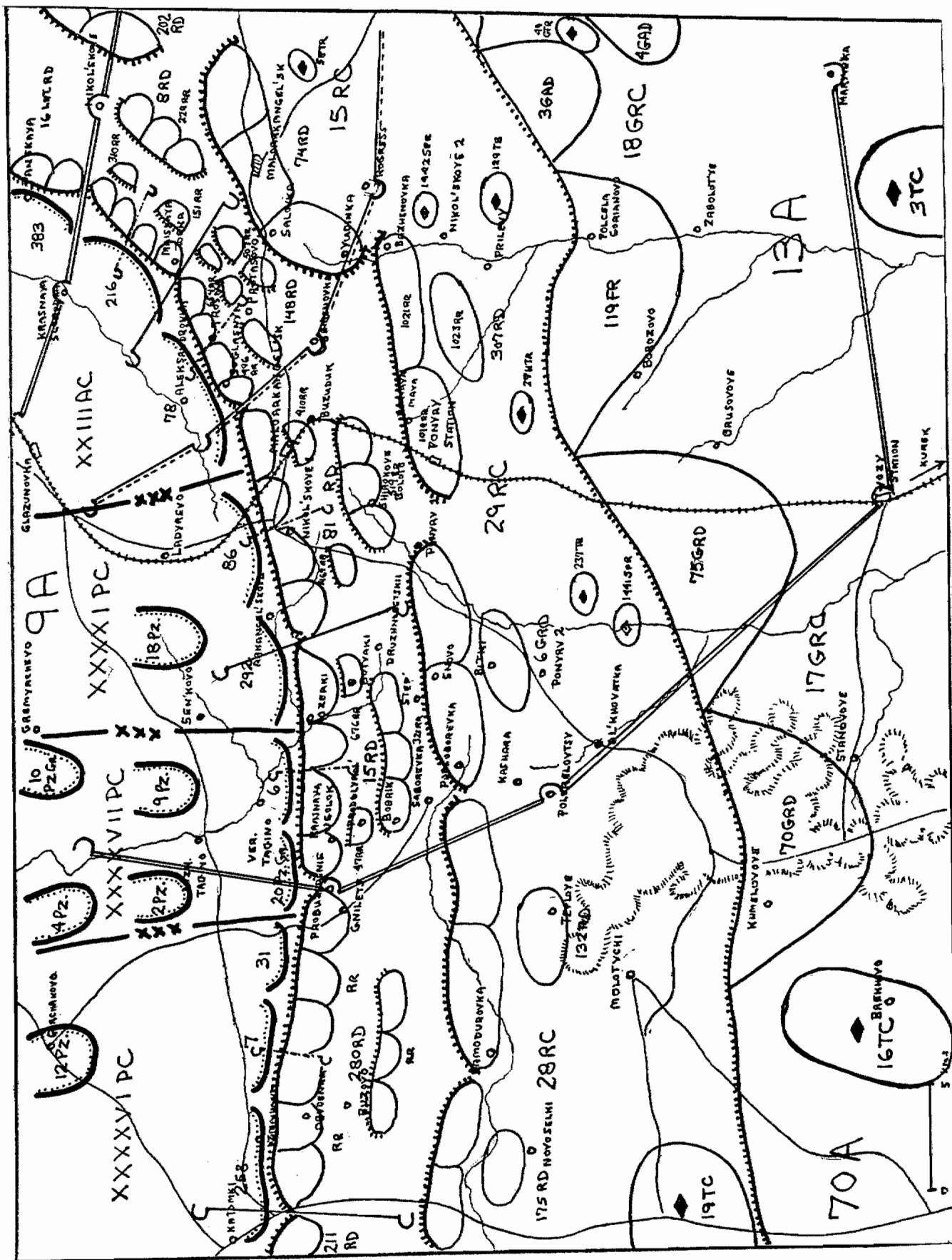
Backing up the Central and Voronezh Fronts was the strategic reserve, the Steppe Front. Consisting of five combined arms armies (27th, 4th Guards, 5th Guards, 53d, 47th), one tank army (5th Guards), three tank corps, three mechanized corps, and three cavalry corps, the Steppe Front, with its over 1,600 tanks, would ensure that no German operational penetration would occur and would provide strength for planned Soviet counterattacks.

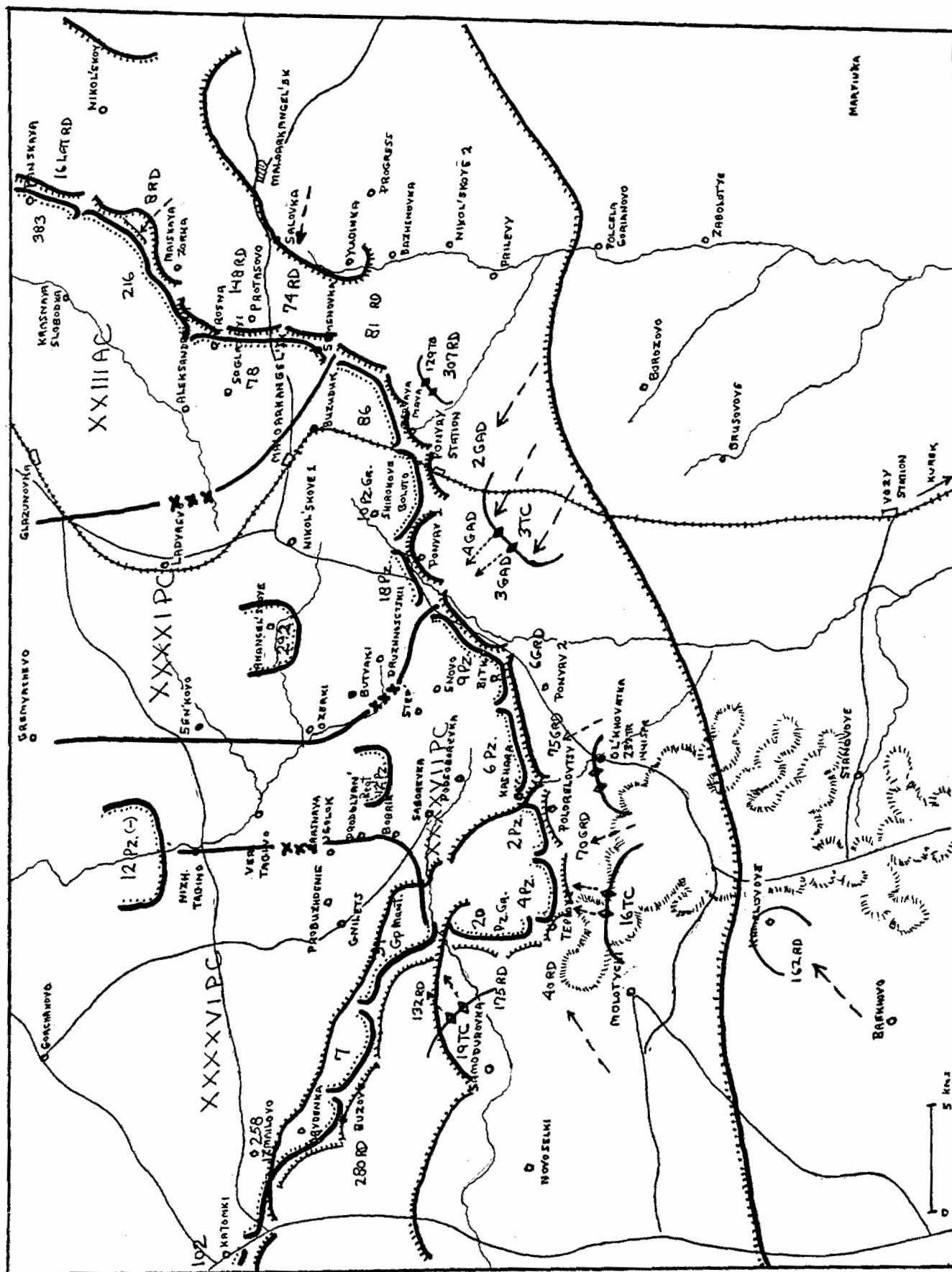
^{*}Rifle corps defended the first two belts, and army defended the third belt.

In fact, Soviet planners integrated two planned counterstrokes into their strategic defensive plans. The first would occur against German forces in the Orel salient north of Kursk while the German offensive was still in progress. The second would strike German forces south of Kursk once the German advance in that region had stalled. Such offensive planning was indicative of the Soviet belief that they could finally defeat a German blitzkrieg operation. Clearly, however, Soviet hopes depended upon their ability to blunt or seriously weaken the German advance at the tactical level.

At 0330, 5 July, undeterred by a massive Soviet counterpreparation fired hours before and by a knowledge of certain Soviet awareness of their plans, German artillery opened fire. About an hour later, the Germans commenced massive armored assaults on Soviet positions north and south of Kursk (see maps 3-6). In the north the German assault struck Lieutenant General N. P. Pukhov's 13th Army deployed in a forty-kilometer sector astride the rail line to Kursk.²³ For seven days, German armored forces and infantry plowed forward through Pukhov's first-echelon rifle corps. By the end of the second day, the Germans had smashed those corps' lead divisions and, by the end of the third day, had driven into the defensive belt occupied by Pukhov's corps' second-echelon divisions deployed between Kashara and Ponyri Station. In a welter of combat, Pukhov committed first his infantry support tank and self-propelled gun regiments and brigades, then his second-echelon rifle corps. The front released to his control the tank corps of 2d Tank Army, and by 7 July, the three corps of that army advanced into the teeth of the German assault. Vicious fighting raged as the Germans threw in fresh forces, first toward Ponyri and then Ol'khovatka, in desperate attempts to slice through the dense mass of infantry supported by a profusion of self-propelled artillery, antitank guns, tanks, and sapper units incessantly sowing new minefields. On 12 July, at a depth of from two to twelve kilometers into the Central Front's defense, the German advance expired from sheer exhaustion just as Soviet guns echoed from the north announcing the commencement of the planned Soviet counteroffensive against German positions around Orel. In the course of seven days, at tremendous cost in lives and material on both sides, the Soviets had denied the Germans their vital tactical penetration in the north. Blitzkrieg had failed in the debris-strewn ground around Ponyri and on the gentle slopes rising south of Teploye. Within two days, the tide of battle rippled back toward the north.

In the south, the 4th Panzer Army's armored fists struck Lieutenant General I. M. Chistyakov's 6th Guards Army deployed northwest of Belgorod, while Army Detachment Kempf thrust into Lieutenant General M. S. Shumilov's 7th Guards Army east of Belgorod (see map 7).²⁴ The massed tanks of XXXXVIII Panzer Corps and II SS Panzer Corps cut deeply into Chistyakov's front despite Soviet employment of antitank reinforcements and by the end of the first day, at considerable cost, penetrated Chistyakov's lead rifle division positions. Late in the day, the front released, to combat,





Map 6. Situation 2100, 12 July 1943.

1st Tank Army and its reserve rifle corps in order to stop the 4th Panzer Army's alarming progress. Southwest of Belgorod, the III Panzer Corps, held up by fierce Soviet resistance east of Belgorod, swung its spearhead southward and cut into Shumilov's first echelon divisions near Razumnoye.

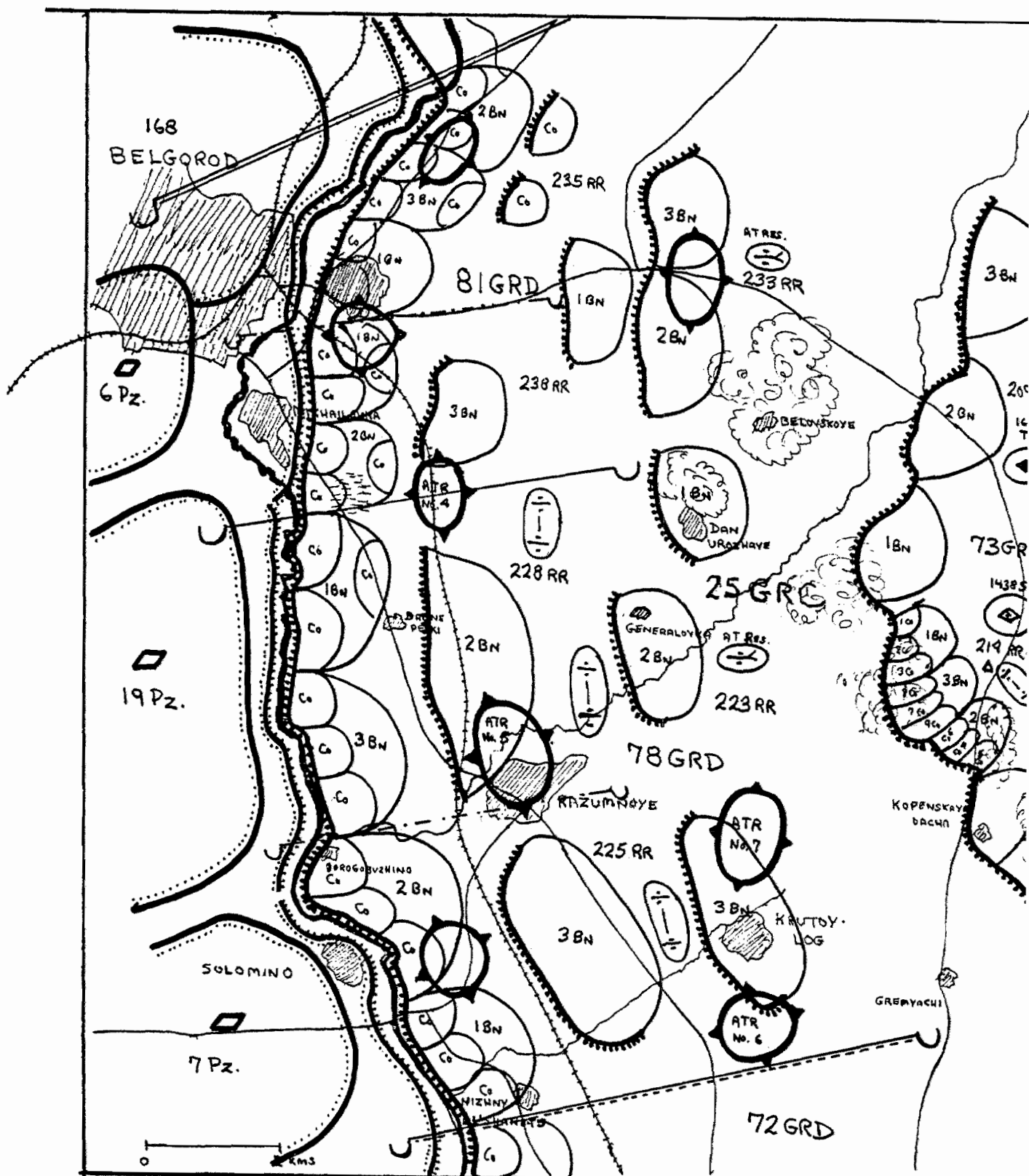
In the ensuing seven days of combat, the 4th Panzer Army penetrated the Soviet tactical defenses along the road north to Oboyan and entered the Soviet operational rear. By 11 July, with the road to Oboyan again blocked by Soviet defenses, the 4th Panzer Army's armored spearhead swung northeast toward Prokhorovka, where it ran into deployed Soviet operational reserves in the form of Lieutenant General P. A. Rotmistrov's reinforced 5th Guards Tank Army. The resulting titanic tank battle around Prokhorovka broke the back of the German assault and ended hopes for German operational and strategic victory. To the southeast, the III Panzer Corps fought its way through Soviet tactical defenses into the operational open before the Prokhorovka battle rendered its advance superfluous. By 13 July, the battle ebbed as the German command slowly withdrew its battered forces southward to new defense positions close to where German forces had jumped off over a week earlier.

In the south, the German advance did penetrate Soviet tactical defenses in two sectors, but as a result it so weakened its offensive power that it could not deal with Soviet operational reserves. The tactical defenses of Soviet rifle divisions and supporting artillery, which on the surface seemed futile, in reality sapped from German armored forces the vigor which they so desperately needed at the decisive battle with Soviet 5th Guards Tank Army. At Kursk, German armor had to fight its way through forces that it previously had simply swept aside. By 12 July, at Prokhorovka, the effects of this combat became apparent.

Tactical Defense of a Rifle Division

A close view of the defensive combat that took place in several of those rifle division sectors illustrates the role the Soviet infantryman, artilleryman, and tanker played in the momentous decision reached at Kursk.

The Soviet 7th Guards Army's 25th Guards Rifle Corps manned defenses in an eighteen-kilometer sector east of Belgorod, along the eastern bank of the Northern Donets River, facing the assault positions of the German III Panzer Corps (see map 8). The Soviet corps commander, Major General G. B. Safiulin, employed two rifle divisions in first echelon and one in second echelon, thus giving a depth of twenty kilometers to his defenses. The 81st Guards Rifle Division, reinforced by a tank regiment, defended east of Belgorod opposite a small German bridgehead at Mikhailovka. The 78th Guards Rifle Division deployed southward along the Northern Donets River in a twelve-kilometer sector centered on the town of Razumnoye. To the rear, the 73d Guards Rifle Division occupied corps' second-echelon defenses on the higher ground east of Krutoy Log.



Map 8. Situation 1900, 4 July 1943.

The 7,854-man 78th Guards Rifle Division consisted of the 223d, 225th, and 228th Guards Rifle Regiments, the 158th Guards Artillery Regiment, the 81st Separate Antitank Battalion, and other support units, and was reinforced by a battalion of the 671st Artillery Regiment and the Army's 4th Antitank Rifle Battalion. Each of the division's regiments had three rifle battalions of three rifle companies apiece. The division commander deployed his forces in two echelons within the main defensive belt, weighted to the right flank with two regiments occupying first-echelon defenses along the east bank of the Northern Donets River, and his second-echelon regiment in positions to the rear around Generalovka and Krutoy Log.²⁵ The division's right flank regiment (228th Guards) deployed in the narrower five-kilometer, right-flank sector north of Razumnoye, with two battalions in the first defensive position and the third battalion in the second defensive position, supported by an artillery battalion of the 152d Guards Artillery Regiment. Reinforced by two antitank rifle companies and two batteries of antitank guns, the 228th Guards Rifle Regiment's mission was to prevent an enemy penetration toward Generalovka and to hold on to its positions. Each battalion defended a front of 2 to 2.5 kilometers, and the regiment formed an antitank region at and north of Razumnoye to cover the boundary, with the regiment on its left flank.

The 225th Guards Rifle Regiment, on the 228th Guards Rifle Regiment's left, defended in a sector of seven kilometers, with two rifle battalions along the Northern Donets River and a third battalion covering Krutoy Log. Supported by one company of antitank rifles, the regiment's battalions defended sectors 3.5 kilometers wide and created an antitank strongpoint at the junction of its two first-echelon rifle battalions.

The 78th Guards Rifle Division's second-echelon 223d Guards Rifle Regiment (less one battalion) occupied defenses extending from Generalovka to Krutoy Log to repel penetrating enemy forces and launch counterattacks. The regiment formed an antitank region on its left flank south of Krutoy Log. One battalion of the 223d Regiment (1st Battalion), supported by a reinforced battery of the 81st Tank Destroyer Battalion, was in division reserve near Dan Urozhaye, and one battery of antitank guns constituted the division's antitank reserve deployed east of Razumnoye. Division forward battalions and companies, supported by division sappers, prepared necessary trenches and barbed wire obstacles. They also prepared all population centers in the first defensive belt for all-around defense.

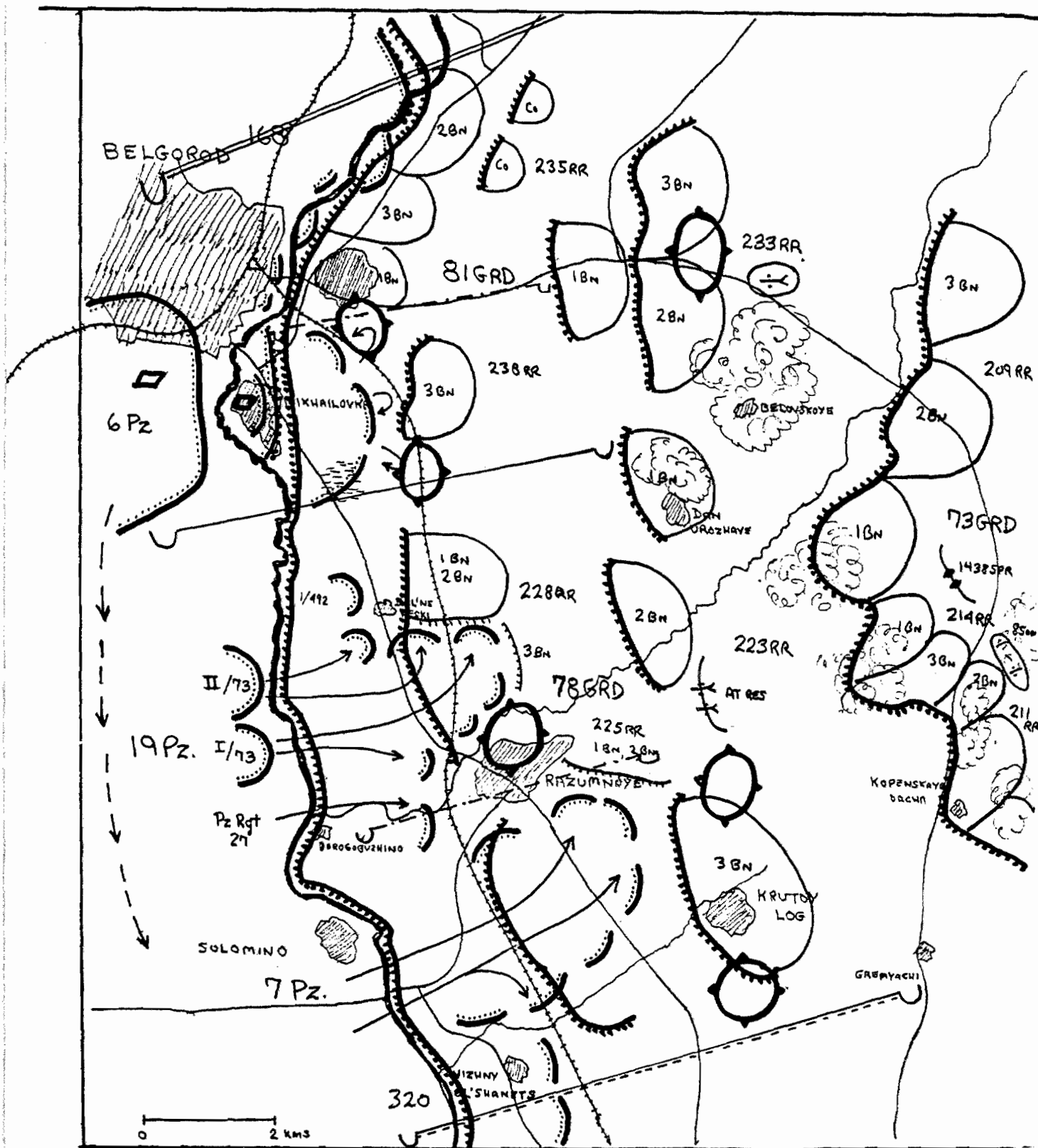
Artillery firing positions of the regimental artillery support groups were located three to five kilometers from the forward edge of the defense, and artillery fire was under the centralized control of the division. The antitank strongpoints each consisted of five to seven antitank guns and a company of infantry. Thus the division's weakest defenses were on the left flank, where the Soviets felt the Razumnoye River would impede German offensive operations. On the right flank, the high concentration of fortified villages and weaponry provided for a stronger defense.

At 0410, 5 July, after a forty-minute artillery and air preparation, German forces of Army Detachment Kempf's III Panzer Corps thrust across the Northern Donets River into the 78th Guards Rifle Division's defensive sector (see map 9).²⁶ The 19th Panzer Division struck division positions from Dalni Peski to Dorogobuzhino, while the 7th Panzer Division advanced from Solomino towards Razumnoye and Krutoy Log--a combined assault force of almost 300 tanks. To the north, the 168th Infantry Division, supported by 6th Panzer Division tanks, sought to break out of the Mikhailovka bridgehead against the 81st Guards Rifle Division under a hail of Soviet artillery fire that hampered bridging efforts, caused the assault to abort, and forced the 6th Panzer Division to shift its offensive efforts southward.

The combined assault of the 19th and 7th Panzer Divisions hit the boundary between the 78th Guards Rifle Division's 228th and 225th Regiments and crushed the forward company's defensive positions covering the eastern bank of the Northern Donets River. At a cost of thirty disabled tanks, the 19th Panzer Division and the 7th Panzer Division overran Soviet positions from Dorogobuzhino to Nizhny Ol'shanets and pushed forward north and south of Razumnoye. The 19th Panzer Division's 27th Panzer Regiment crushed the positions held by the 3d Battalion, 228th Rifle Regiment, and pushed into the second defensive position of the 2d Battalion before being halted, in the evening, by heavy Soviet antitank fire from the antitank region at Razumnoye. Meanwhile, the 7th Panzer Division's spearhead of over 100 tanks overran the positions of 2d Battalion, 225th Rifle Regiment, destroyed the battalion's antitank strongpoint, and pushed against the regiment's 3d Battalion positions south of Razumnoye. The 3d Battalion repulsed the initial German attacks, but German fire then concentrated on the battalion's 1st Machine Gun Company, and by 1800, German forces smashed through the battalion's defenses and advanced toward the Krutoy Log defensive positions of 3d Battalion, 223d Rifle Regiment.²⁷

To slow down the onslaught, the 25th Rifle Corps commander ordered the 443d and 477th Guards Mortar Artillery Battalions to move from their positions supporting the 81st Guards Rifle Division and occupy new positions east of Krutoy Log in order to fire in support of the 78th Guards Rifle Division.* At 2200, from their new positions, the two battalions delivered massed katyusha fire on German tanks and infantry advancing on Krutoy Log, temporarily halting the 7th Panzer Division's advance. Again at 0200, 6 July, the 443d Guards Mortar Battalion broke up an assembly of German armor near Krutoy Log.²⁸

*Soviet guards mortar units were equipped with multiple rocket launchers, the famous katyushas.



Map 9. Situation 1900, 5 July 1943.

By the evening of 5 July, the 78th Guards Rifle Division's defenses were shattered in three sectors. The 228th Rifle Regiment's 1st Battalion defenses held firm near Dalni Peski, and the 2d Battalion and remnants of the 3d Battalion contained the 19th Panzer Division's spearhead just south of Dalni Peski and east of the rail line. However, the 225th Rifle Regiment's right flank was torn apart. The remnants of the 2d Battalion were threatened with encirclement at Razumnoye, and the 3d Battalion desperately held on to its second-echelon positions around Krutoy Log. The regiment's 1st Battalion, with several companies encircled and destroyed, was pushed back from its river defenses. It then joined the right flank of the neighboring 72d Guards Rifle Division in a stubborn withdrawal toward Gremyachiy.

On the evening of 5-6 July, the 25th Rifle Corps commander ordered his second-echelon 73d Guards Rifle Division to reinforce the 78th Guards Rifle Division with one rifle regiment and to hold on to positions at and to the rear of Krutoy Log. The commitment of the corps' second echelon meant that the 7th Panzer Division's advance now had to deal with the 78th Guards Rifle Division's remnants and the fresh 73d Guards Rifle Division. The latter was reinforced by a battery of 85-mm guns and the 1438th Self-Propelled Artillery Regiment that was equipped with 122-mm and some 152-mm guns. Moreover, the Voronezh Front commander ordered a larger assembly of forces in order to deal with the deteriorating situation in the 25th Guards Rifle Corps' sector. He shifted control of the 111th and 270th Rifle Divisions from the 69th Army to the 7th Guards Army; and control of the 94th and 92d Guards Rifle Divisions from the 35th Guards Rifle Corps to the 7th Guards Army.²⁹ All four divisions moved forward to back up the 73d Guards Rifle Division, defending on the road to Korocha.

General Shumilov also created a shock group, containing the 31st Tank Destroyer Brigade, 167th Tank Regiment, 1438th Self-Propelled Artillery Regiment, 262d Gun Artillery Regiment, 309th and 97th Guards Mortar Regiments, and 329th Engineer Battalion, and ordered the group to support the 73d Guards Rifle Division, thus further complicating the 7th Panzer Division's task.

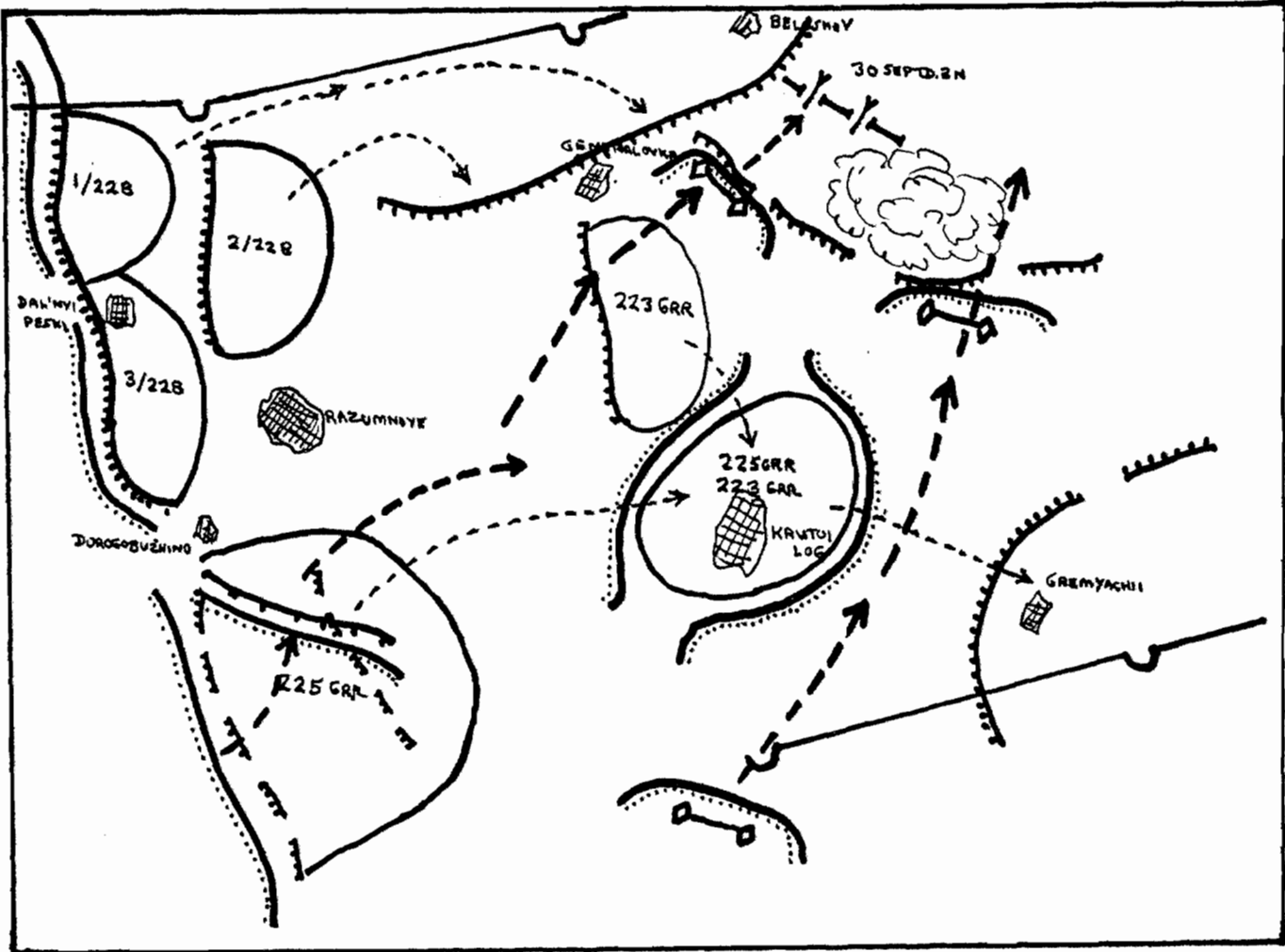
Meanwhile on 6 July, the 78th Guards Rifle Division continued to play out its role of absorbing the initial shock of the German advance (see map 10). After a short artillery preparation, the 19th Panzer Division resumed its assaults on Dalni Peski and the 228th Rifle Regiment's positions north of Razumnoye, while the 7th Panzer Division struck Soviet defenses east of Razumnoye and at Krutoy Log. The 6th Panzer Division, having deployed south from Belgorod in search of suitable crossing sites over the Northern Donets River, by mid-morning crossed the river and advanced into the interval between the 19th and 7th Panzer Divisions. Its commitment to combat increased the tank onslaught through the 78th Guards Rifle Division's positions to over 400 tanks.

By 1200, 6 July, the 19th Panzer Division's 27th Panzer Regiment had fought its way to Generalovka, where the 2d Battalion, 223d Rifle Regiment, halted its progress. Meanwhile, remnants of the 228th Rifle Regiment abandoned Dalni Peski, left one battalion in new defensive positions, and using woods and ravines to cover their movement, swung two battalions into new positions north of Generalovka facing south, and tied into 81st Guards Rifle Division's left flank opposing the 19th Panzer's 73d Panzer Grenadier Regiment (see map 11).³⁰ The German advance destroyed most of the remaining Soviet force in Razumnoye and forced the remnants of the 223d and 225th Rifle Regiments into encirclement at Krutoy Log. As the 6th and 7th Panzer Divisions swept on toward the 73d Guards Rifle Division's positions northwest of Krutoy Log, the two encircled Soviet regiments received orders to break out during darkness before German infantry arrived to seal off their escape. Late on the night of 6-7 July, the regiment's remnants finally reached new defensive lines formed by the 72d Guards Rifle Division near Gremyachiy.

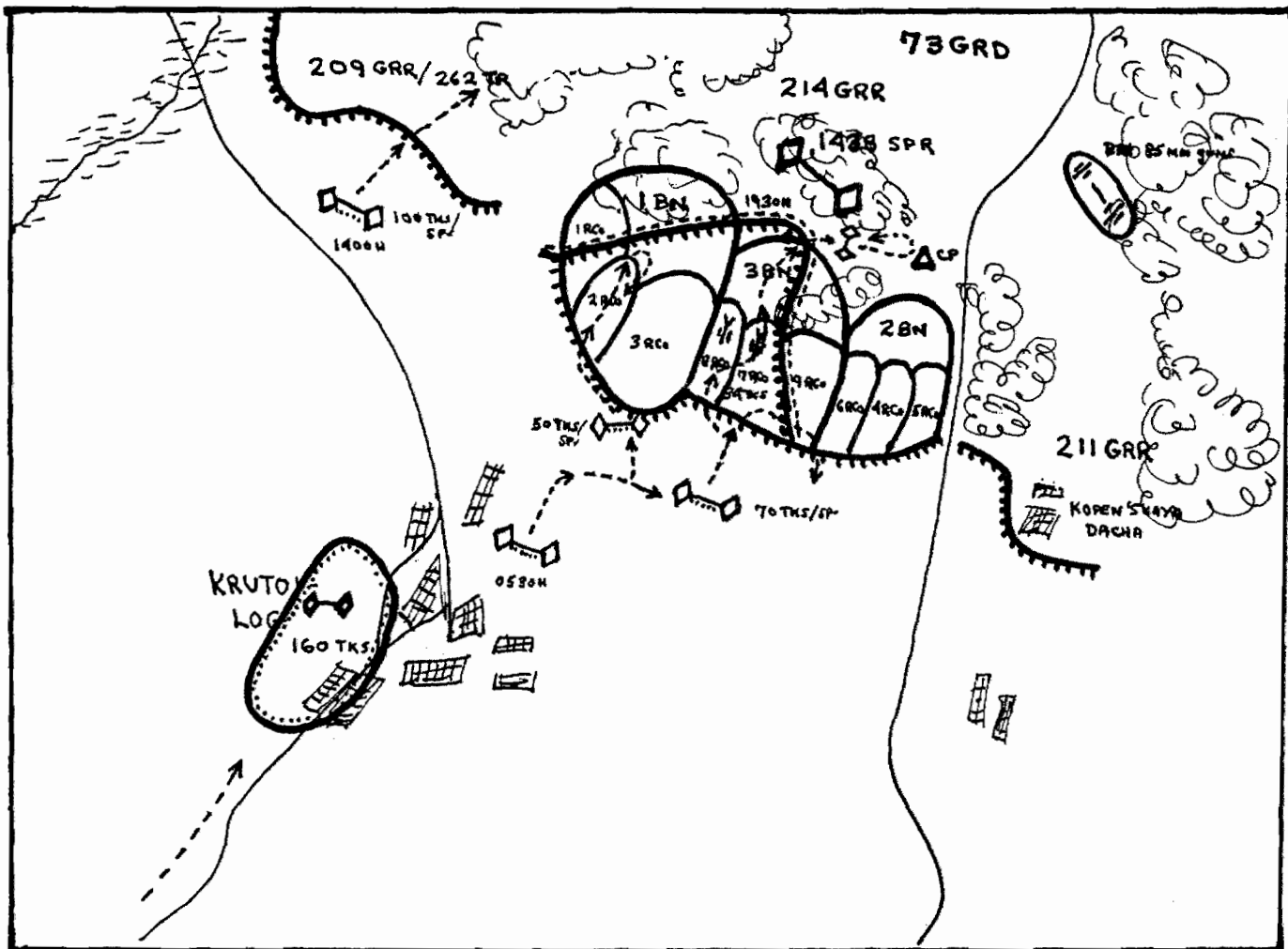
On the afternoon of 6 July, after having dealt with the 78th Guards Rifle Division's defenses, the 6th and 7th Panzer Divisions engaged in heavy combat with the 73d Guards Rifle Division northwest of Krutoy Log (see map 12).³¹ The 7th Panzer Division dented, but did not break, the Soviet defenses and lost heavily in the contest.* At 1400, on the 7th Panzer's left flank, the 6th Panzer Division, with 100 tanks, assaulted and overran the 209th Guards Rifle Regiment's positions on the 73d Guards Rifle Division's right flank and advanced into the depth of the Soviet defenses (see map 13). The 7th Panzer Division soon ended its attacks on the 73d Guards Rifle Division's defenses and moved the bulk of its forces in the wake of the 6th Panzer Division's advance northward.

By the evening of 7 July, the 78th Guards Rifle Division had fulfilled its role in the battle of Kursk--the necessary but unpleasant role of shock absorber for the German assault. The division absorbed the full force of two attacking German panzer divisions and shattered under the blow, but only after two days of heavy combat that exacted a toll, in time and lives, from the two German units and provided the 7th Guards Army with the time necessary to bring new units to bear on the German advance. In a narrow sense, the defense failed, although the Soviets claimed the division disabled about fifty German tanks. In a larger sense, operating as an integral part of the 25th Guards Rifle Corps' defensive plan, the 78th Guards Rifle Division's defense was a greater success. The combined efforts of the more successful 81st Guards Rifle Division and the 73d Guards Rifle Division accounted for roughly a quarter of the German tank strength (100 of 400), slowed the German advance, and ultimately created conditions which prevented the timely linkup of the III Panzer Corps with the II SS Panzer Corps in the Prokhorovka area.

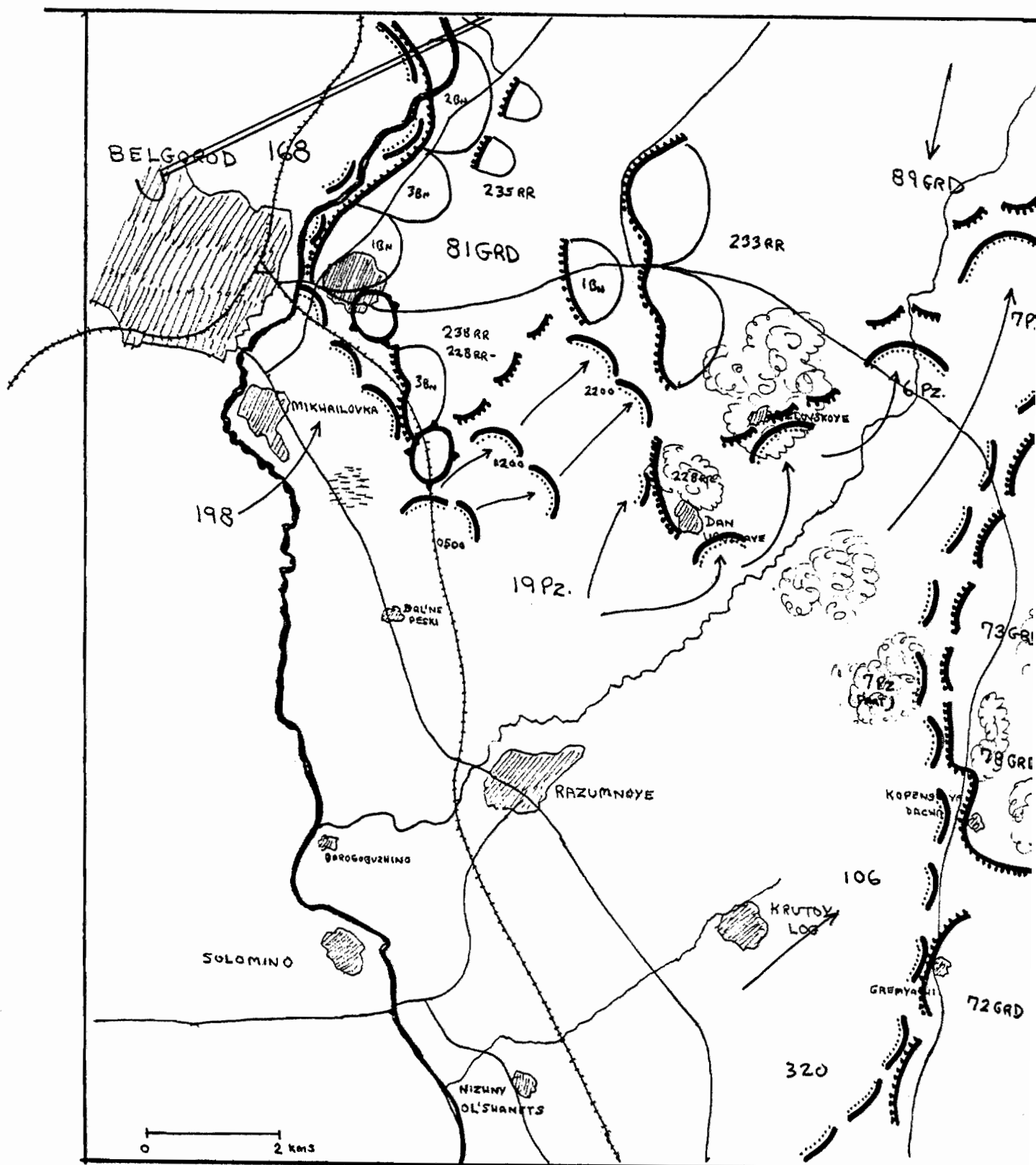
*An estimated fourteen tanks lost on 6 July, and another twenty-five on 7 July.



Map 11. Defensive Maneuver 78th Guards Rifle Division, 6 July 1943.



Map 12. Defensive Combat 73d Guards Rifle Division, 6 July 1943.



Map 13. Situation 1900, 7 July 1943.

The 78th Guards Rifle Division paid a severe price in the operation, with casualties probably amounting to as much as 40 percent of its initial force of over 7,000 men. (Three weeks later, after some reinforcement, the division strength stood at almost 6,000 men.)³²

Tactical Defense of a Rifle Corps

While the 25th Guards Rifle Corps was unable to contain the German tactical penetration southeast of Belgorod, the 29th Rifle Corps of 13th Army conducted a costly, yet more successful, tactical defense against units of the German 9th Army. The 29th Rifle Corps manned the fifteen-kilometer-deep 13th Army tactical defensive zone in a sector nineteen kilometers wide, extending from Probuzhdeniye eastward to just east of the rail line to Kursk, a sector that the German XXXXVII and XXXXI Panzer Corps would attack (see map 3).³³ The corps' first-echelon 15th and 81st Rifle Divisions deployed in the first defensive belt, five to six kilometers deep, while the 307th Rifle Division deployed in the second defensive belt on the right of the 6th Guards Rifle Division, 17th Guards Rifle Corps. Both defensive belts were fully prepared with trenches and engineer obstacles and further backed up by an army defensive belt, twelve to fifteen kilometers to the rear, that was occupied by the 70th and 75th Guards Rifle Divisions of the 17th Guards Rifle Corps.

Colonel V. N. Dzhandzhgava's 15th Rifle Division on the left flank in the 29th Rifle Corps' first echelon defended the first two defensive positions in a sector of nine kilometers, with its 47th Rifle Regiment on the left and the 676th Rifle Regiment on the right. The 321st Rifle Regiment, in second echelon, occupied a third defensive position seven kilometers wide and four to five kilometers to the rear of the first position. The division training battalion was in reserve, and fourteen antitank strongpoints were scattered throughout the division's defensive area.

On the 15th Rifle Division's right flank, the 81st Rifle Division defended a ten-kilometer sector with its 467th Rifle Regiment on the left and the 410th Rifle Regiment on the right in front of Maloarkhangel'sk Station. The 519th Rifle Regiment was in division's second echelon. Ten kilometers to the rear, the 307th Rifle Division defended the second defensive belt with the 1019th Rifle Regiment on the left, the 1021st Rifle Regiment on the right, and the 1023d Rifle Regiment in assembly areas to the rear. Both the 15th and 307th Rifle Divisions earmarked their divisional training battalions as the reserve.

Both first-echelon divisions created antitank reserves from the division antitank battalions and designated sapper platoons equipped with mines as mobile obstacle detachments that they positioned near likely tank avenues of approach. To the rear of the 307th Rifle Division's positions, the

129th Tank Brigade, 27th Heavy Tank Regiment, and 1442d Self-Propelled Artillery Regiment took up positions from which they could deploy forward and provide support in any sector that required it.*

At 0430, 5 July, the Germans began a sixty-minute artillery preparation by approximately 100 batteries against the 13th Army's positions. Five minutes later, Soviet forces responded with a counterpreparation of their own. Simultaneously, more than 200 German aircraft pounded Soviet defensive positions. One hour later, assault elements of the XXXXI Panzer Corps (292d and 86th Infantry Divisions), supported by 18th Panzer Division tanks, struck the 81st Rifle Division's positions and the right flank defenses of the 15th Rifle Division. The bulk of XXXXVII Panzer Corps' assault units from the 6th Infantry Division and the 20th Panzergrenadier Division, supported by the 2d and 9th Panzer Divisions, struck the remainder of the 15th Rifle Division's sector.

The assault elements of the 86th and 292d Infantry Divisions first engaged the security forces of the 410th Rifle Regiment (one reinforced rifle battalion). After disabling or destroying two medium and four heavy tanks, the Soviet battalion was submerged under the onrushing German armor. Remnants of the battalion made their way back to regimental positions where, by now, heavy battle raged. By noon, German assault columns penetrated between the 410th and 467th Rifle Regiments. Soviet divisional artillery fire stripped the accompanying infantry from the tanks and destroyed ten of the tanks. Overall, according to Soviet claims, fifty German tanks and self-propelled guns were destroyed or disabled in the intense fighting by the evening of 5 July.³⁴

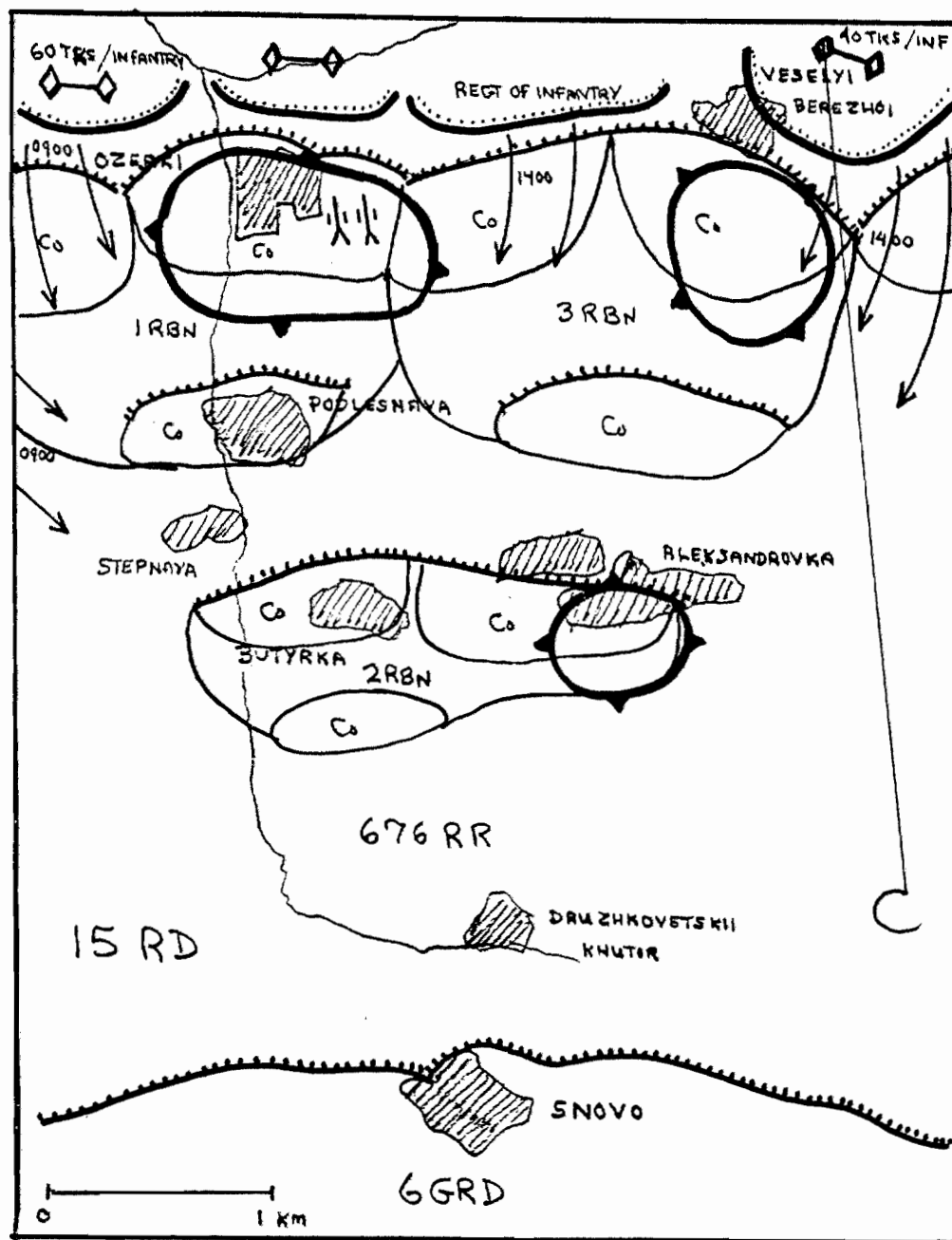
By 1600, German columns had penetrated west of Maloarkhangel'sk Station to the villages of Ochki and Nikol'skoye 1, had encircled the first-echelon battalions of the 467th Rifle Regiment, and had thrust into the regiment's second defensive position. Simultaneously, German forces penetrated into the gap between the 15th and 29th Rifle Corps. The commander of the 81st Rifle Division, Major General A. B. Barinov, at first ordered his second-echelon 519th Rifle Regiment to launch counterattacks and restore the defense. In light of the growing intensity of the German attack, however, Barinov reconsidered and instead ordered his 467th Rifle Regiment to withdraw to new defensive positions under cover of the 519th Rifle Regiment's fires and direct fires from the 9th Artillery Brigade.

*In addition, the 3d Artillery Division supported the 29th Rifle Corps, and each division formed a division artillery group from attached artillery units.

Meanwhile, the German 282d Infantry Division assault groups penetrated the division's defenses west of Shirokoye Boloto, only to be repulsed by direct fire from the 208th Howitzer Artillery Regiment that destroyed eighteen German tanks. While the beleaguered 81st Rifle Division regrouped around the 519th Rifle Regiment's defensive positions, the 13th Army commander dispatched the 27th Guards Heavy Tank Regiment (twenty-three tanks), the 129th Separate Tank Brigade (forty-eight tanks), and the 1442d Self-Propelled Artillery Regiment (sixteen SU-122s) to its assistance. As the reinforcements approached, fifty German tanks, supported by infantry, drove the 410th Rifle Regiment to the rear and occupied part of the division's third defensive positions. At 1900, the Soviet tank and self-propelled gun reserves counterattacked with the 410th Rifle Regiment's remnants, destroyed six German tanks, and restored the 81st Rifle Division's front north of Ponyri Station, which was now anchored on the 519th Rifle Regiment's positions.³⁵

Heavy combat also raged in the 15th Rifle Division's sector. German forces of the 20th Panzergrenadier and 6th Infantry Divisions, with armor support, attacked two hours after the assault units of the XXXXI Panzer Corps. After an artillery preparation at 0800, 100 tanks and self-propelled guns in groups of ten to fifteen, supported by infantry, smashed into Lieutenant Colonel I. I. Kartashev's 47th Rifle Regiment's positions defending Yasnaya Polyana. The heavy bombardment had knocked out two-thirds of Kartashev's gun and antitank positions. This "seriously weakened the defense of the regiment and reduced the morale of its personnel."³⁶ At 0830, sixty German tanks and infantry struck the 47th Rifle Regiment's left flank battalion, whose communications had already been knocked out by the artillery barrage. With its command and control paralyzed, the battalion melted away, thus exposing the left flank of the 15th Rifle Division. The adjacent battalion held its positions until German armor swept into its rear and encircled it. Lacking communication with regimental headquarters, the battalion commander ordered his companies to withdraw through the German armored screen toward Prodolyan'.

By 1000, it was clear to the 13th Army commander, General Pukhov, that the main (and most successful) German attack was in the 15th Rifle Division's sector. Consequently, he shifted the bulk of the 16th Air Army support to that sector. Meanwhile, the 676th Rifle Regiment's first-echelon battalions were increasingly isolated but holding out against German attacks from Arkhangel'skoye (see map 14). The 81st Rifle Division on the 676th Rifle Regiment's right flank had been pushed back toward Ponyri Station. On the 676th's left, the 45th Rifle Regiment had been pushed to the rear in disarray. At 1100, the 676th Regiment's commander, LTC N. N. Onopriyenko, organized his three battalions for all-around defense and waited for the inevitable German onslaught.



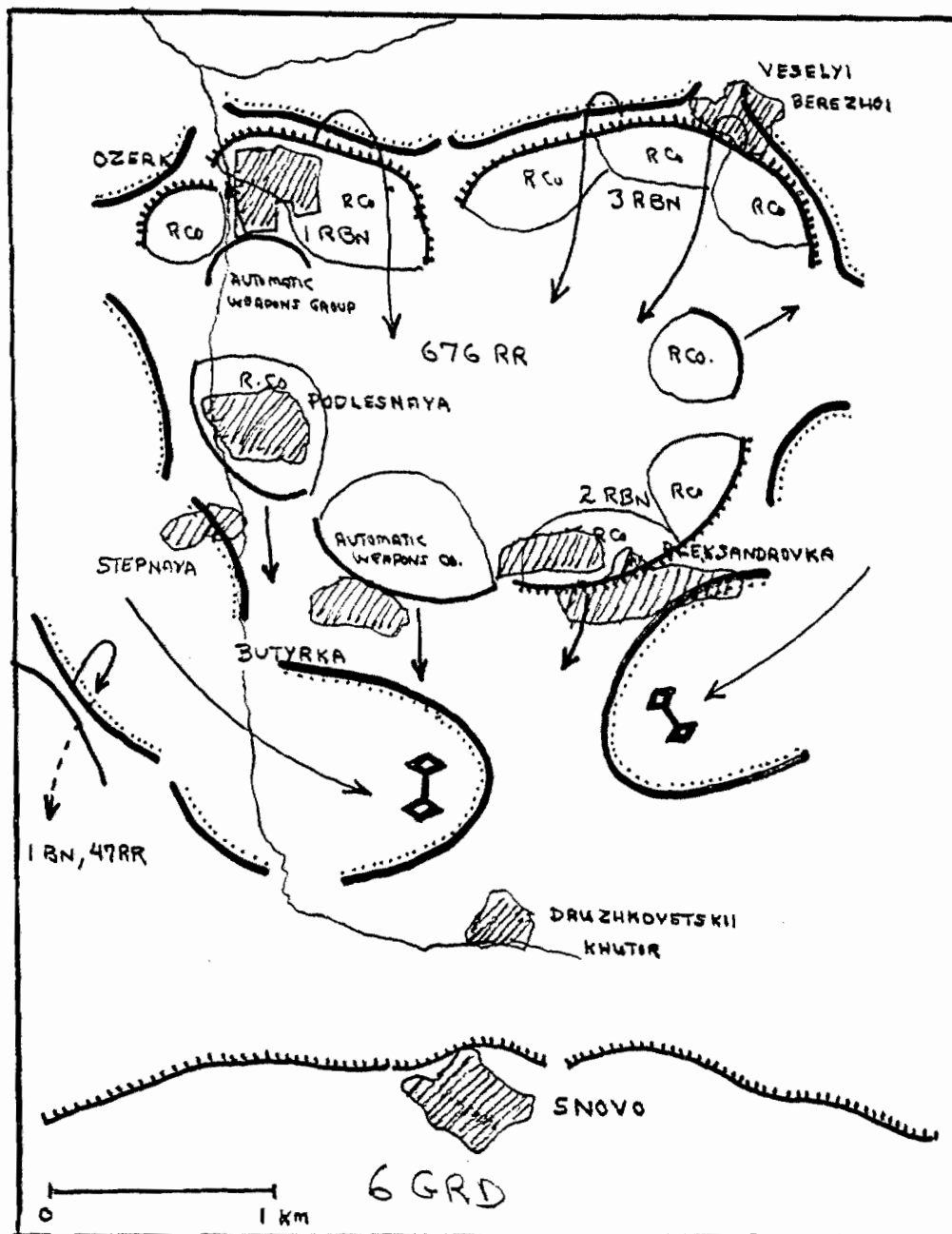
Map 14. Situation 0800-1400, 5 July 1943.

The German assaults began at 1400 by a regiment of infantry attacking from the north and fifty tanks and supporting infantry advancing from the east (see map 15). Contracting its lines into a four-square-kilometer area, the regiment held out, while the 13th Army commander struggled to restore the situation in the 15th Rifle Division's sector. While German forces occupied Prodolyan' and pushed remnants of the 47th Rifle Regiment toward Saborovka, General Pukhov raced reinforcements to the scene. He moved the 237th Tank, 1441st and 1541st Self-Propelled Artillery Regiments, two mobile obstacle detachments, and all available artillery forward in order to stiffen withdrawing 47th Rifle Regiment forces. North of Saborovka, the hastily assembled tank and artillery task force struck lead German elements and, at heavy cost to themselves, halted the Germans, destroying eleven German tanks and three guns. Meanwhile, the 676th Rifle Regiment continued to hold its position and prevented a broader German advance. After nightfall at 2130, the 676th Rifle Regiment's battalions finally withdrew and occupied new positions near Snovo amidst the second defensive belt positions of the 6th Guards Rifle Division (see map 16).

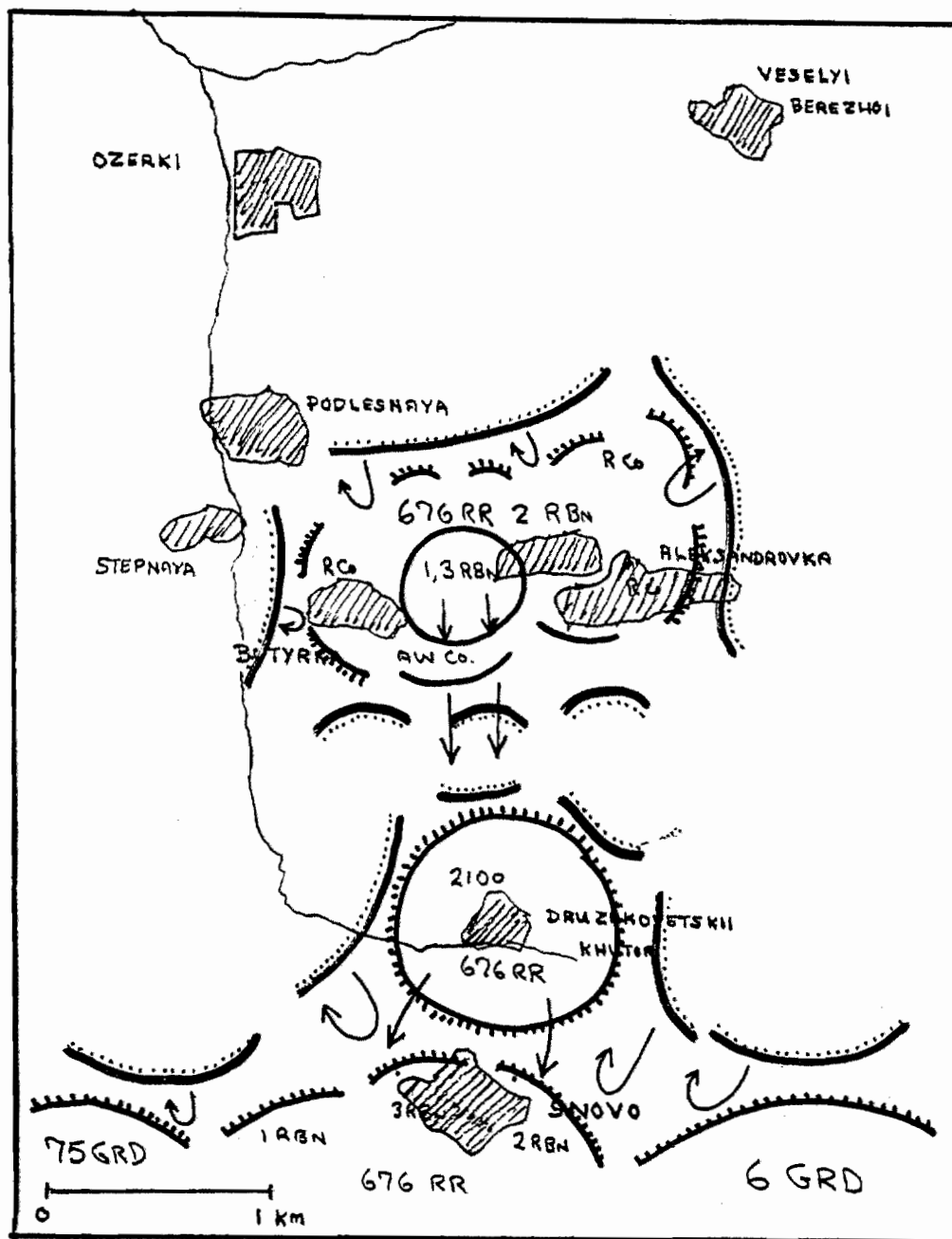
Thus by nightfall on 5 July, German forces of the XXXXVII Panzer Corps had penetrated the 29th Rifle Corps' main defense belt in the 15th Rifle Division's sector, and the XXXXI Panzer Corps had forced the 81st Rifle Division back to its third defensive position north of Ponyri Station, all of this at a cost to the Germans of approximately 110 tanks and self-propelled guns. That evening General Pukhov formed his forces and reinforcements from front for a counterattack on the morning of 6 July. The 16th and 19th Tank Corps of 2d Tank Army and the 17th Guards Rifle Corps, with its subordinate 15th, 148th, and 74th Rifle Divisions, supported by three tank and self-propelled artillery regiments, would conduct the counterattack on a front from Saborovka to Snovo.^{37*} The counterattack, launched at 0400, 6 July, after a ten-minute artillery preparation, ran into the teeth of the German assault and petered out after a one- to two-kilometer gain.** As the front temporarily stabilized, the 81st and 307th Rifle Divisions of the 29th Rifle Corps and their supporting armor had to fend for themselves in their defenses north of Ponyri.

*The 15th Rifle Division had been reassembled in the rear after its retreat on 5 July.

**On the evening of 6 July, the 2d Tank Army's 3d Tank Corps also moved into the Ponyri area. Subsequently, its tanks also served in an infantry-support role.



Map 15. Situation 1400-1800, 5 July 1986.



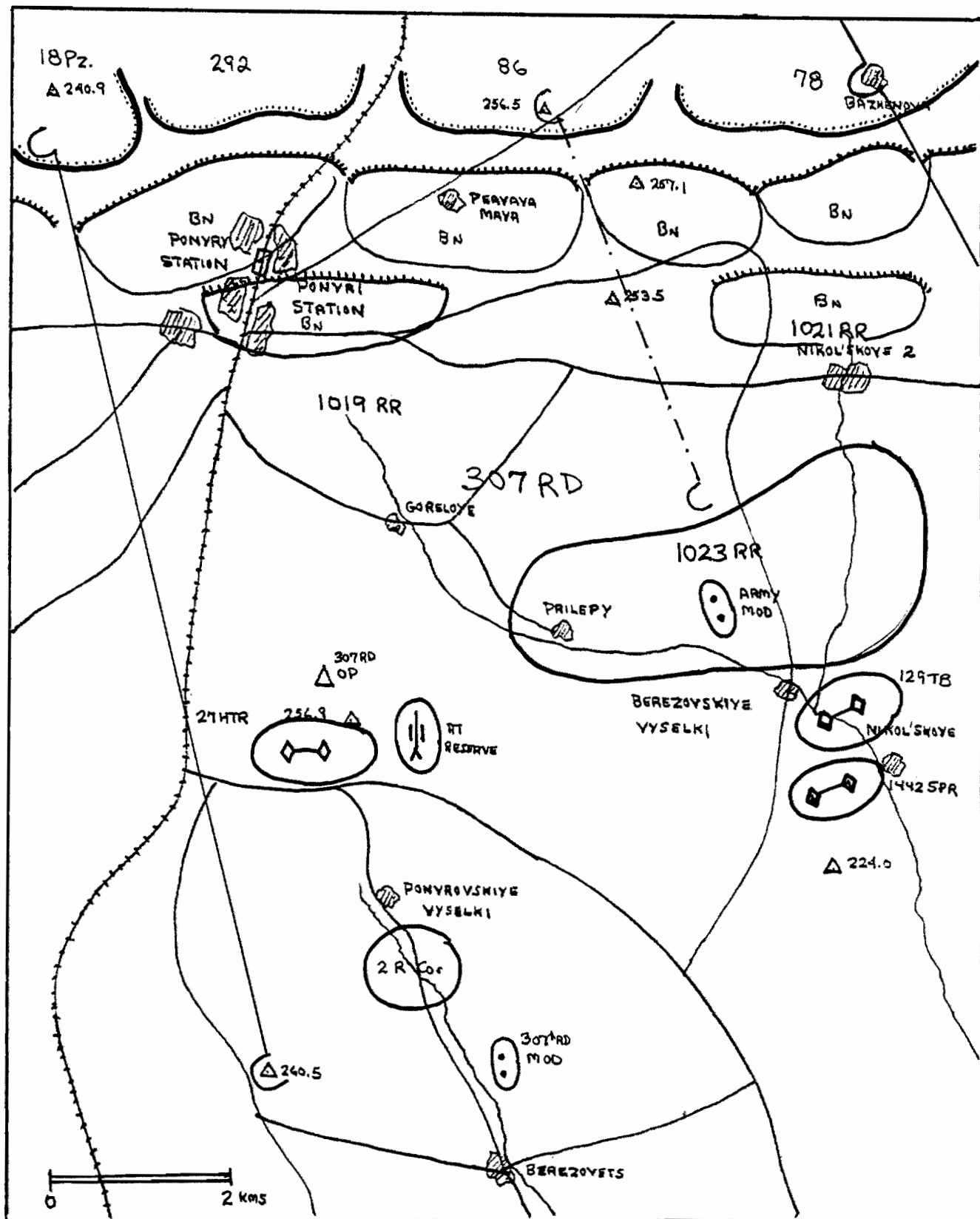
Map 16. Situation 1800, 5 July 1943--0600, 6 July 1943.

On the morning of 6 July, the 81st Rifle Division launched its own unsuccessful local counterattacks while, to its rear, the 307th Rifle Division and the 6th Guards Rifle Division solidified their defenses for the expected renewed German attacks. By 1200, the 81st Rifle Division had run into German armored assault groups; and, supported by the 9th Howitzer and 23d Guards Mortar Brigade, the division slowly withdrew to its starting positions under heavy German fire. By day's end, the Germans had committed the 9th Panzer Division against the 81st Rifle Division's left flank and had driven it back toward Ponyri Station. The 81st Rifle Division, by day's end, was exhausted. Consequently, the 29th Rifle Corps commander ordered it to withdraw through the 307th Rifle Division's positions covering Ponyri Station. Having lost 2,518 men of its original strength of about 8,000, the 81st Rifle Division finally withdrew to reassembly areas having accounted for about seventy destroyed or disabled German tanks in two days of brutal fighting.³⁸ Now it was left to the 307th Rifle Division to defend what remained of the 29th Rifle Corps' tactical defenses.

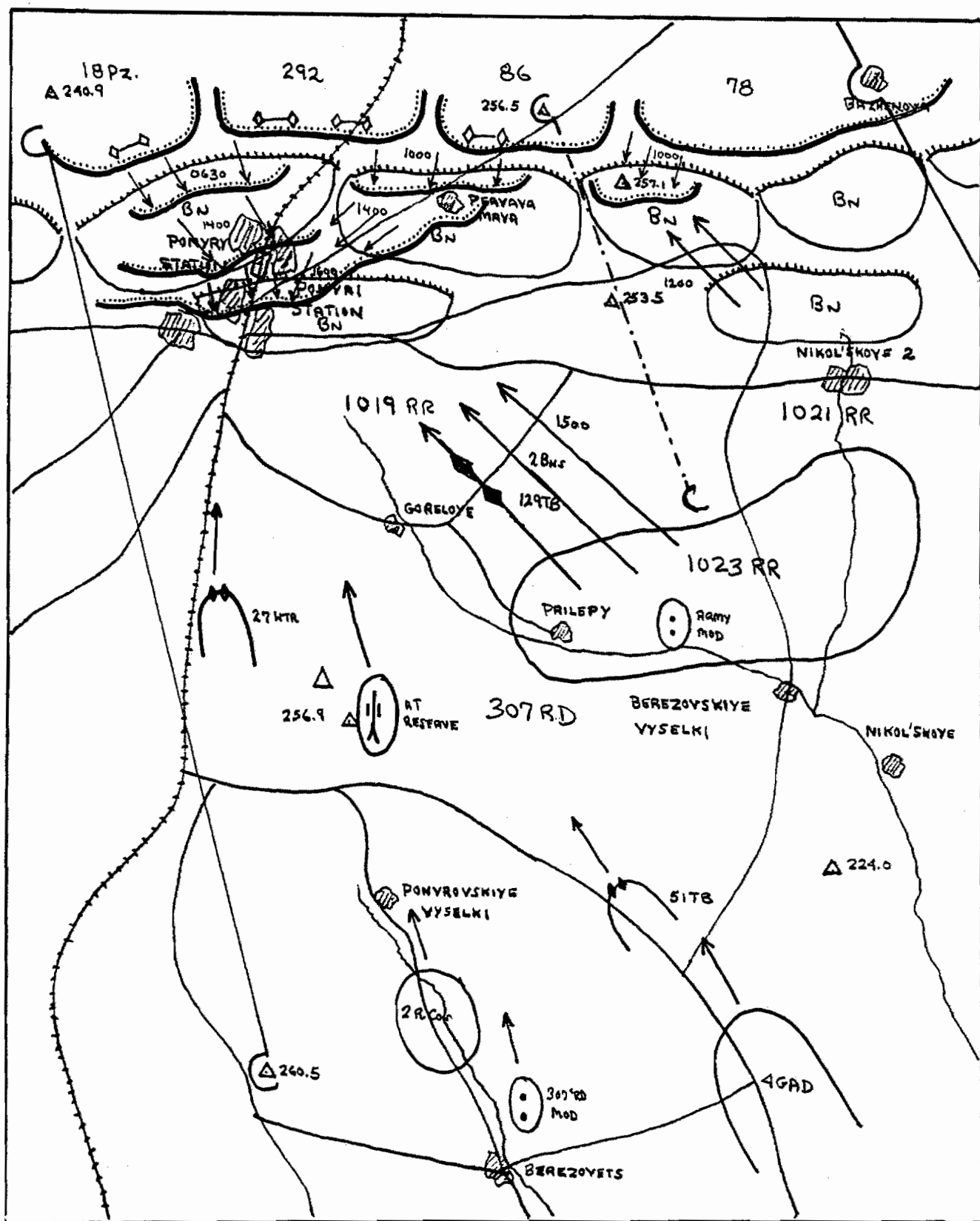
On the night of 6-7 July, the 13th Army commander reinforced the 307th Rifle Division with the 129th Tank Brigade, 1442d Self-Propelled Artillery Regiment, 540th Light Artillery Regiment, and the army mobile obstacle detachment. Pukhov also provided, to the 307th, the fires of the 11th Mortar Brigade, the 22d Guards Mortar Brigade, and the bulk of the 5th Artillery Penetration Division. In addition, he dispatched the 1st Guards Engineer Brigade and 13th Army's antitank reserve, the sixty guns of the 13th Tank Destroyer Artillery Brigade. The 380-gun support for the 307th Rifle Division was the largest amount of artillery put at the disposal of a single rifle division on the defense in the entire war in the east.³⁹ To provide further security for this sector, the Central Front commander positioned the 2d Tank Destroyer Artillery Brigade in firing positions west of Ponyri Station.

At daybreak on 7 July, Major General M. A. Yenshin's 307th Rifle Division was prepared for combat (see map 17). In first echelon on the left, its 1019th Rifle Regiment covered the approaches to Ponyri Station and Pervaya Maya, and on the right, the 1021st Rifle Regiment defended the approaches to hill 257.1 and Nikol'skoye 2. The 1023d Rifle Regiment in second echelon, near and east of Ponyri, cooperated with the 129th Tank Brigade and the corps' mobile obstacle detachment. The 27th Heavy Tank Brigade and the division antitank reserve, backed up by the division reserve of two rifle companies and the division mobile obstacle detachment, deployed to the rear of the 1019th Rifle Regiment behind hill 256.9.

Against this force, the German XXXXI Panzer Corps prepared an assault force of about 200 tanks (see map 18). At 0630, after a short artillery and air preparation, two regiments of the 292d Infantry Division, with 100 tanks and self-propelled guns of the 18th Panzer Division, advanced from hill 240.9 toward Ponyri Station on the 1019th Rifle Regiment's left flank. The Soviets opened up with volleys of katyusha rocket fire, followed by air attacks by bombers and shturmovik attack aircraft. Flame throwers and



Map 17. Situation 0600, 7 July 1943.



Map 18. Situation, 7 July 1943.

exploding minefields, laid overnight by sappers, accounted for twenty-two disabled German tanks. For four hours, the assaults continued as the 1019th Rifle Regiment repelled four separate German attempts to smash through their positions.

By mid-morning the German 86th Infantry Division and the 78th Assault Division joined the fray, and heavy combat churned from Ponyri Station to Pervaya Maya, slowly grinding down the strength of the 307th Rifle Division's first echelon. At 1130, German tanks and infantry finally penetrated Soviet defenses and seized hill 257.1, east of Pervaya Maya on the 1021st Rifle Regiment's left flank. From the reverse slope of the hill, the 1021st Regiment's left flank battalion and the 837th Artillery Regiment's guns, firing directly at German tanks, destroyed twenty-three tanks and halted the German assault. Shortly thereafter, the 1021st Rifle Regiment commander committed his second-echelon rifle battalion to regain the hill. No sooner had it done so, than German forces struck the defensive positions of the 1019 Rifle Regiment at Ponyri Station from two sides. As the assault troops pushed the 1019th Rifle Regiment back, General Yenshin dispatched two battalions of his second-echelon 1023d Rifle Regiment and tanks of the 129th Tank Brigade to counterattack and restore the situation. In five hours of fighting, Ponyri Station changed hands repeatedly, but the Germans still held stubbornly to its northern outskirts.

Heavy German air attacks on Soviet positions at Ponyri and further west at Ol'khovodka were met by equally heavy antiaircraft fire from the 25th Antiaircraft Artillery Division. By nightfall, after renewed assaults by two regiments and sixty tanks, the Germans finally took the northern and central part of Ponyri. German losses were heavy, as were those of the 1019th Rifle Regiment and supporting 540th Light Artillery Regiment that accounted for four heavy tanks before being forced to withdraw from its positions. Small groups of German assault troops infiltrated further south through gaps in the 1019th Rifle Regiment's lines, as the two battalions of the 1023d Rifle Regiment tried in vain to seal the gaps. Battle raged throughout the night, illuminated by the burning buildings of Ponyri.

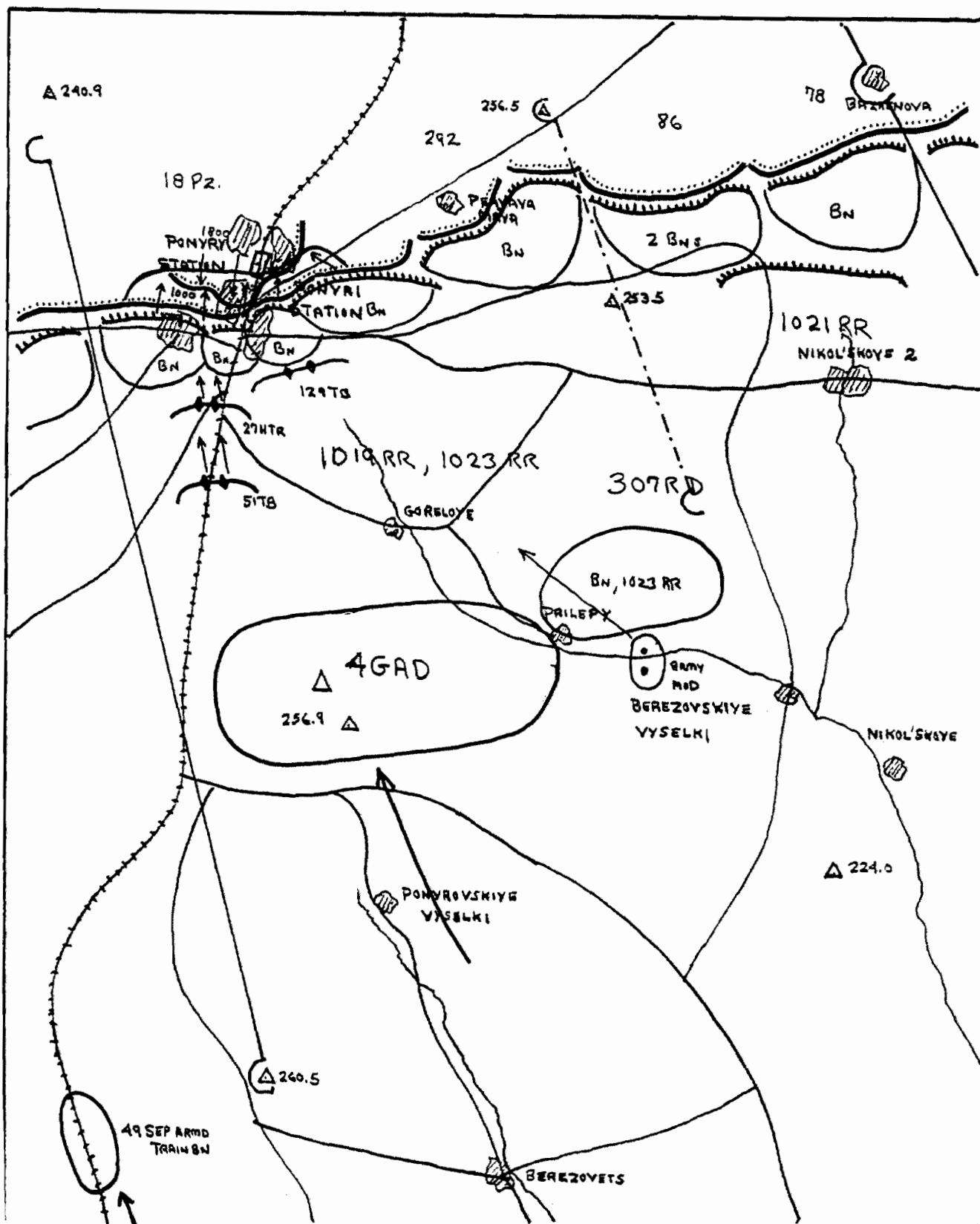
The following day, although the focus of the German assault shifted westward toward Ol'khovodka (where the Germans committed the 4th Panzer Division), the situation remained critical at Ponyri Station. Soviet defenses stiffened a bit overnight, as the 6th Guards Rifle Division of 17th Guards Rifle Corps, on the 307th Rifle Division's left, turned over part of its sector to corps' second-echelon divisions (70th and 75th Guards) and shifted its strength to the right toward Ponyri 1. Just before daybreak, General Pukhov concentrated all of his attentions on the Ol'khovodka and Ponyri Station sectors, and he ordered the 307th Rifle Division to attack at dawn to retake the station. As reinforcements for the division, he dispatched the 51st Tank Brigade and his antitank reserve to cooperate with the, by now depleted, 129th Tank Brigade. Moreover, Pukhov

released the 18th Guards Rifle Corps' 4th Guards Airborne Division to the 29th Rifle Corps' control, and it occupied positions two kilometers to the rear of the 307th Rifle Division's defensive positions. By daybreak, the 49th Separate Battalion of Armored Trains rolled north along the rail line from Kursk to firing positions just south of Ponyri Station (see map 19).

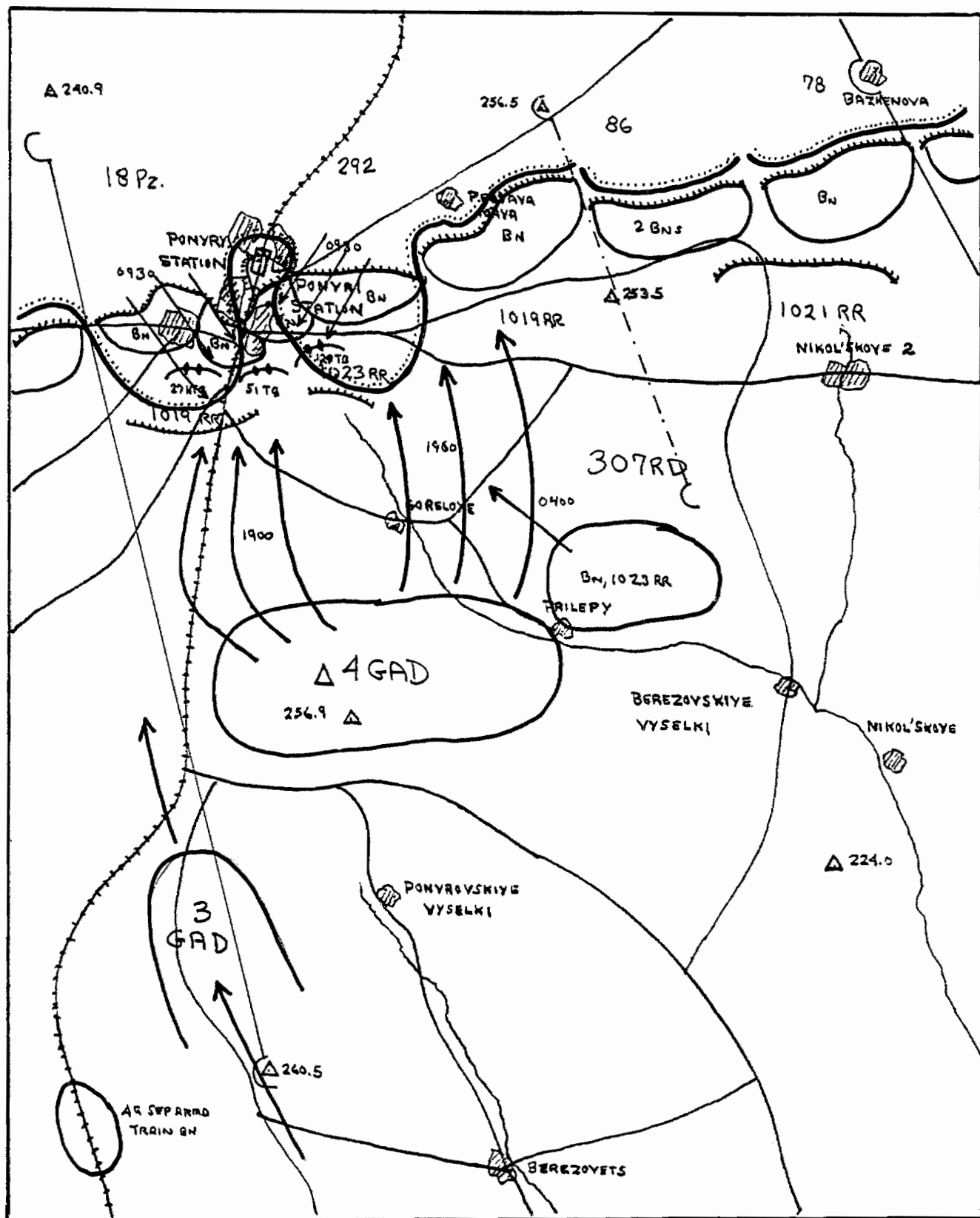
With these reinforcements in place, the 307th Rifle Division's 1019th and 1023d Rifle Regiments, supported by the 51st and 129th Tank Brigades, the 27th Tank Regiment, and a profusion of artillery, began their counterattacks in mid-morning but could not dislodge German forces from Ponyri Station. By 1300, the repeated Soviet attacks had driven German forces from the southern portion of the station and had retaken the water-supply point. Throughout the afternoon, the division held on to the water-supply point in the face of repeated German assaults. At 1800, a fresh German attack retook the water-supply point, but again Soviet counterattacks, covered by fire from the 567th and 1180th Tank Destroyer Regiments, halted the German advance. After nightfall, the seesaw battle continued as the 1019th Rifle Regiment's battalions again seized the water-supply point.

On the night of 8-9 July, General Pukhov sent further reinforcements to assist the 307th Rifle Divisions (see map 20). The 18th Guards Rifle Corps' 3d Guards Rifle Division moved toward the sound of the guns to alleviate a situation that had deteriorated as dawn broke on 9 July. German assaults, early on 9 July, "surrounded the Ponyri defenders with a squall of fire."⁴⁰ By 0930, heavy German attacks again swept over Ponyri, and by 1800, all three battalions of the 1023d Rifle Regiment were surrounded in the central part of the village around the railroad station. At 1900, the 4th Guards Airborne Division attacked along the railroad in an attempt to break the encirclement. After several hours of fighting, the division's troops reached Ponyri Station and the southern edge of Pervaya Maya.

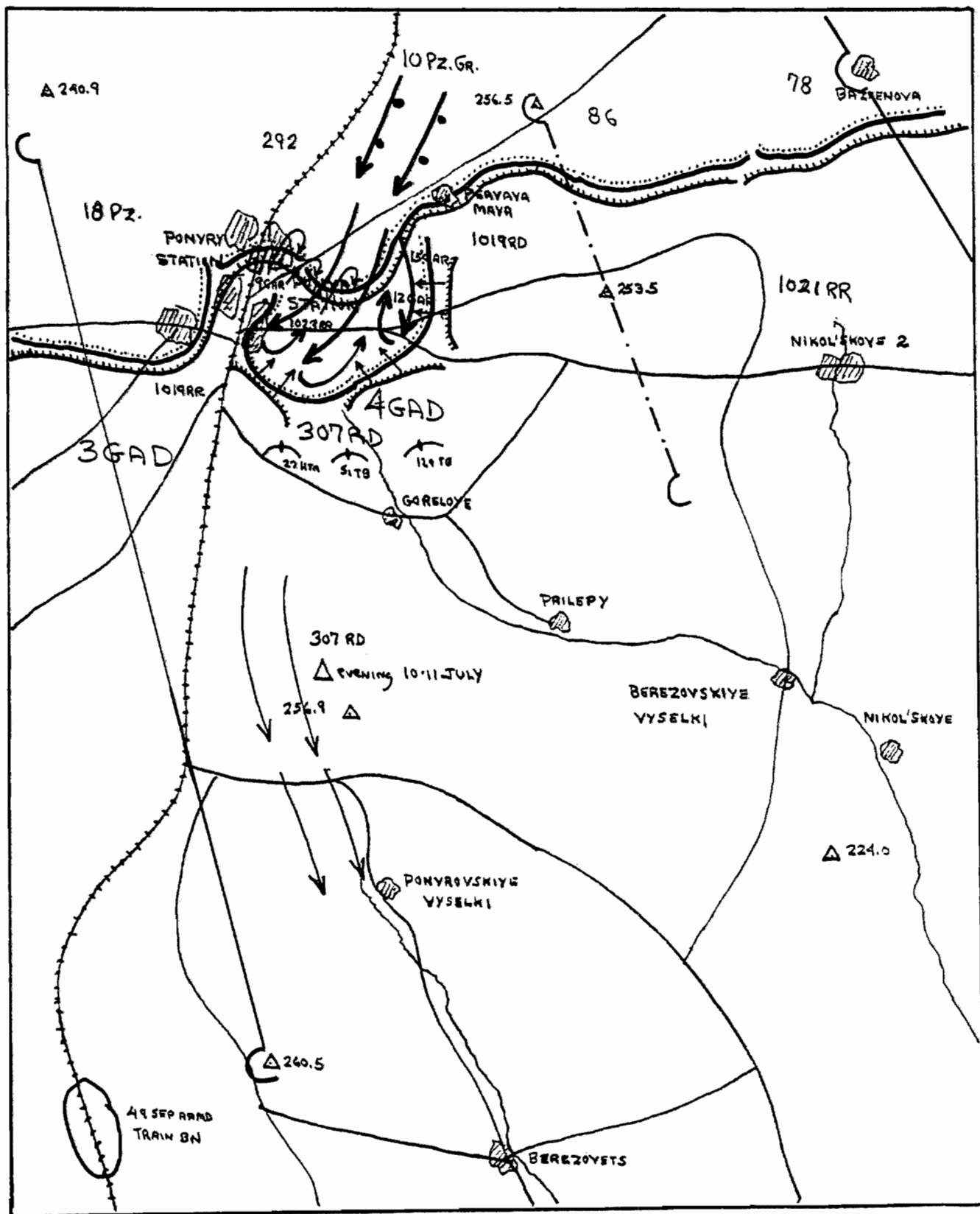
At first light on 10 July, the 307th and 4th Guards Airborne Division resumed their assaults against concentrated German tank, artillery, mortar, and small arms fire, and ran into new assaults by German forces who, by now, were reinforced by the 10th Panzergrenadier Division (see map 21). The German assaults forced the 12th and 15th Guards Airborne Regiments to fall back and pinned the 9th Guards Airborne Regiment and 307th Rifle Division remnants in Ponyri Station. Six hours of heavy fighting raged before the German assault again ebbed. Finally, on the evening of 10-11 July, General Pukhov ordered the exhausted remnants of the 307th Rifle Division to turn over their positions to the 3d and 4th Guards Airborne Divisions and withdraw to the rear. Although German attacks rippled across adjacent sectors, it was clear, by the evening of 11 July, that the German 9th Army's hopes for victory in the Soviet 13th Army's sector were dashed. On the morning of 12 July, the Germans sowed defensive minefields and withdrew their shattered armored units to the rear.



Map 19. Situation, 8 July 1943.



Map 20. Situation, 9 July 1943.



Map 21. Situation, 10 July 1943.

For four days, the 307th Rifle Division had struggled, first alone and then reinforced, to hold onto the 29th Rifle Corps' second defensive belt. It had done so at tremendous cost but had also inflicted major damage on its German opponents.* Its stand at Ponyri Station symbolized, in microcosm, the Soviet defensive effort north of Kursk.

Conclusions

The Soviet strategic and operational effort at Kursk was noteworthy. For the first time in the war, the Soviets showed marked restraint in strategic planning and chose to conduct a strategic defensive operation to wear down German forces and prepare the way for a renewed broad front strategic offensive. To that end, the Soviets conducted a strategic regrouping and concentrated immense forces in the Kursk area, backed up by a strong strategic reserve. Moreover, they incorporated a strategic counteroffensive into their strategic defensive planning. Certainly, the Soviets had numerical superiority strategically, as well as operationally and tactically. But this was not a new phenomenon. At Kursk, however, the Soviets magnified that superiority by their concentration of forces in one strategic sector. Soviet superiority in equipment, at least in numbers, was greater than in the past and important for the outcome of the strategic operation. It attested to growing Soviet production efforts that wholly harnessed the economy to war production. The technological edge in equipment went to the Germans, and they banked upon that technology, combined with greater German experience and military proficiency, to produce victory. Events at Kursk demonstrated the risks involved in placing too much faith in partially tested new weapons systems.

Operationally, the Soviets demonstrated increased maturity at Kursk. Their operational force structure was better developed than in the past, with tank, artillery, and support organizations better suited to the achievement of operational ends.** Their operational formations were deeper, more flexible, and capable of more sustained operations than in the past. And the experiences of Soviet commanders demonstrated an increased capability for planning and conducting combat at the operational level. In particular, the Soviet use of echelonment and functional operational groupings (like the mobile group) gave a new resilience to Soviet operational efforts.

*German casualties at and around Ponyri Station were estimated at 10,700 killed or wounded, and 220 tanks and self-propelled guns and 71 guns/mortars destroyed.

**For example, the tank army and artillery penetration divisions.

However, it was in the tactical arena that Soviet forces had to make the greatest progress if they were to reverse the trends of the past and avoid tactical disasters that, in turn, could produce operational defeat. That progress was apparent at Kursk. It was clear that the tactical proficiency of the Soviet soldier and lower-ranking officer often lagged behind that of his German counterpart--in part because of high manpower attrition and inadequate time for training. However, those who had survived learned, and a generation of more tactically competent company, battalion, and regimental commanders emerged at Kursk. In part, that competence resulted from the systematic collection, analysis, and dissemination of war experiences conducted under the auspices of the General Staff.* Soviet theoreticians studied the faults of previous tactical operations, drafted orders and regulations to correct those faults, and disseminated explanations of those faults through the lower echelons of command. The operational pause of March-July 1943 provided additional time necessary for Soviet commanders to absorb and to apply those lessons learned.

At Kursk, tactical defense was defense in depth. Concentration of forces permitted the establishment of multiple tactical defensive belts and multiple tactical defensive positions within those belts. The new rifle corps organization permitted the extensive echelonment of battalions, regiments, and divisions. Whereas, in the past, German forces had to penetrate the defenses of two regiments and perhaps a second-echelon division to overcome the tactical defenses, at Kursk they were faced with penetrating the defensive positions of three divisions, each arrayed in two-echelon formation, before reaching the operational rear. In addition, Soviet concentration measures constricted defensive sectors to further increase the density of the defense in terms of battalions, tanks, guns, and mortars per kilometer of front.

Extensive employment of engineer resources permitted erection of increasingly elaborate fortifications and obstacles that further improved the durability and survivability of the defense. The use of mobile engineer forces to install a wide range of new obstacles resulted in greater flexibility in the defense during combat.⁴¹

At Kursk, tactical defense was combined arms defense. Increased production of armaments of all types and calibers and the integration of those weapons into every level of command increased the firepower of the defense. Improved coordination procedures resulted in tactical interlocking of fires that made penetrating the defense an even more deadly process. In particular, the Soviets created specialized weapons units to satisfy specific tactical functions (such as mobile obstacle detachments, artillery groups, antitank reserves). Most important, the Soviets created functional

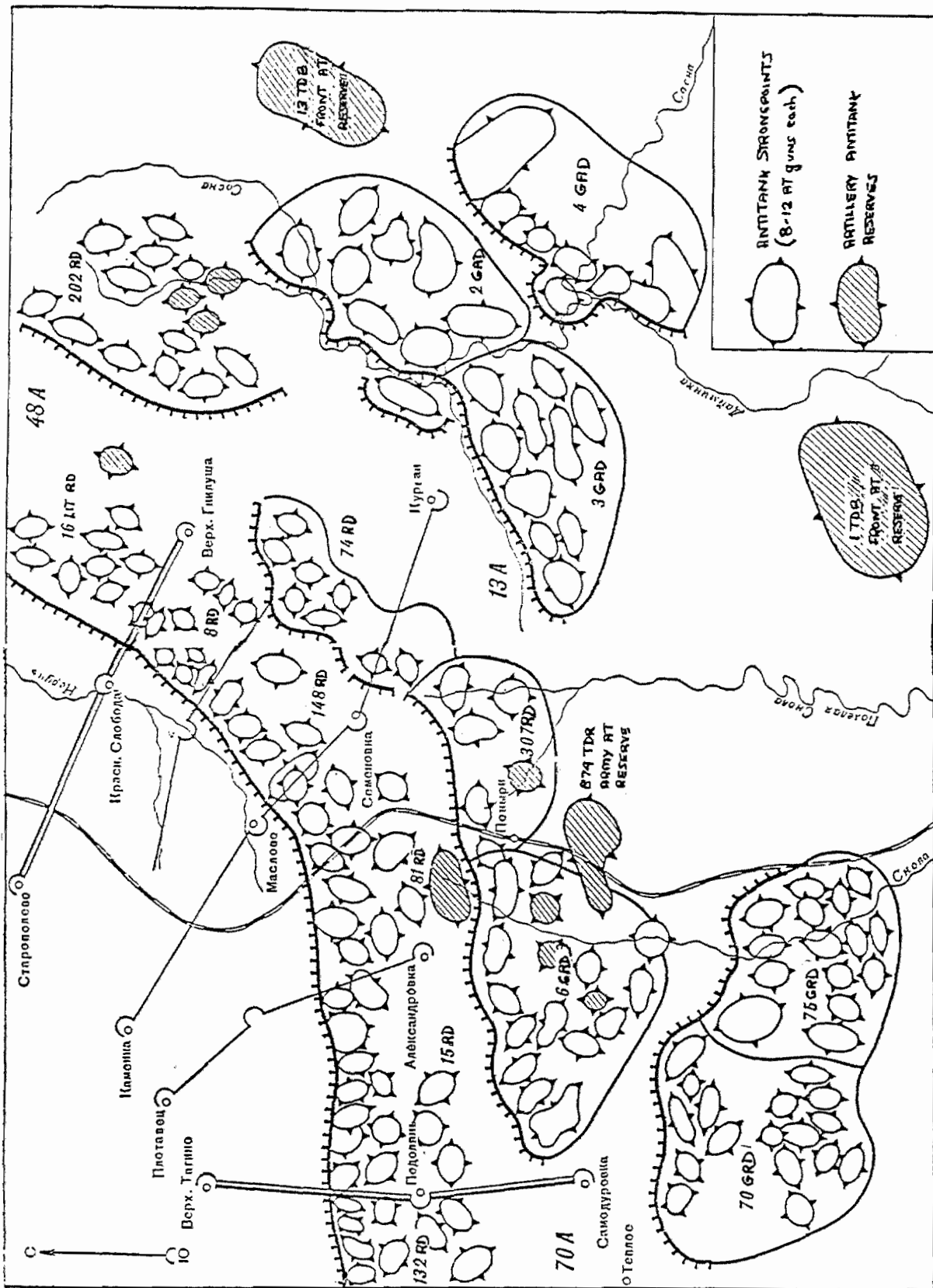
*In accordance with a General Staff Directive of November 1942.

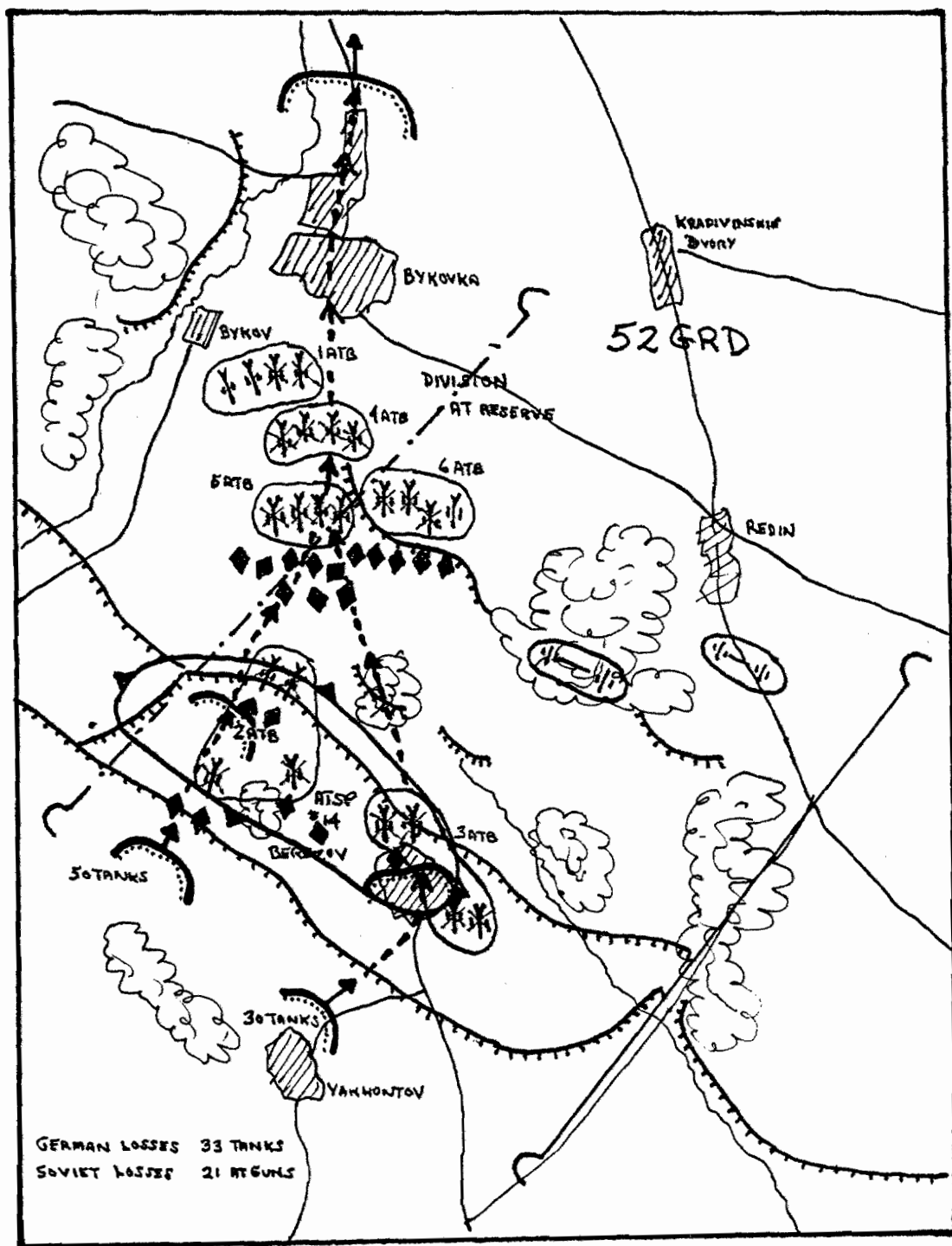
combined arms groupings to conduct the critical function of antitank defense. The antitank strongpoints and regions integrated infantry, artillery, and sometimes tank fire, and placed that fire on the most likely armored approaches into the defenses. The greater numbers of these antitank "fortresses" arrayed in depth increased the quality and lethality of the defense (see map 22). Even when a rifle division defense was crushed, it generally took longer than in previous years and exacted a higher cost from the attackers. For example, the German XXXXVIII Panzer Corps penetrated the defenses of the 67th and 52d Guards Rifle Divisions in just over one day. However, the antitank support made attacking German units pay a high price in lost armored vehicles (see map 23).⁴² Likewise, the 78th Guards Rifle Division's defense delayed the German III Panzer Corps for two critical days east of Belgorod.

At Kursk, tactical defense integrated armored forces to a higher degree than before, thus providing an even greater risk to advancing infantry. Most rifle divisions defending on main attack axes had tank and self-propelled artillery battalions, regiments, or even brigades in support. They integrated armor into the antitank strongpoints and regions and into the battalion and regimental positions. Other armored elements constituted tank reserves at rifle-division and rifle-corps levels, which cooperated with second-echelon rifle regiments or rifle divisions in launching incessant counterattacks. In especially threatened sectors, larger operational armored units (tank corps and even tank armies) dug in to reinforce tactical defenses.*

At Kursk, tactical defense was more active defense. The Soviets had urged increased activity (aktivnost') by forces at all levels in previous orders and regulations. Aktivnost' meant increased tenacity and flexibility at all levels--an unwillingness to give up when threatened, bypassed, or encircled--and a doggedness that gave a defense an additional intangible quality of strength. Such was the case at Kursk. German accounts repeatedly noted the tenaciousness of defenders and the resulting high cost paid by German units trying to overcome the defenses. A veteran of the 6th Panzer Division noted that Soviet individual soldiers and small units continued to fight even when penetrated and bypassed. They struck like packs of dogs and nipped at the Germans incessantly from the flanks and the rear.⁴³ The combined efforts of hundreds of such men and units wore down the spirit and combat capability of even the best German unit.

*This was not recommended in Soviet regulations. It perhaps was indicative of the lack of faith of the High Command and fronts in the ability of commanders to control these relatively new operational units effectively in maneuver warfare.





Map 23. Antitank Defense--52d Guards Rifle Division, 5 July 1943.

Thus at Kursk, tactical defense was more successful against a major German offensive effort than it had been at any time earlier in the war. The deeply echeloned infantry in well-constructed defenses that were laced with antitank weapons, supported by an improving array of armor and artillery, and backed up by operational and strategic reserves, exacted an awful toll on attacking German units. In some regions, the defense broke (as in the Belgorod sector), and in some places it bent (as on the Korocho axis), but in many places it stood and held (at Ponyri). But in all places it wore down German forces to such an extent that, when necessary, operational and strategic reserves could restore the situation.

When the week of combat around Kursk had ended, the perceived infallibility of blitzkrieg was destroyed, along with the future hopes of the German Army for victory or even stalemate in the east. From July 1943, it was the German Army that would have to learn the lessons of successful defense if it was to survive. Kursk thus restored the credibility of Clausewitz' dictum on defense that events of the previous five years had cast into disrepute.

Careful reading of Clausewitz' concept of defense is revealing. He stated:

The defensive form of warfare is intrinsically stronger than the offensive . . . it should be used only so long as weakness compels, and be abandoned as soon as we are strong enough to pursue a positive object. When one has used defensive measures successfully, a more favorable balance of strength is usually created; thus the natural course in war is to begin defensively and end by attacking.⁴⁴

In July 1943, the Soviets followed Clausewitz' prescription. Kursk made clear that a well-planned, articulate defense, using carefully structured forces, could deal effectively with the most potent and proven of offensive concepts. Moreover, it could provide a suitable prelude to the conduct of successful offensive operations as it did in the late summer and autumn of 1943, if not 1944 and 1945 in general.

Kursk stands like an object lesson to those who would stand in awe and fear of current offensive threats. Kursk announced to the world that for every offensive theory, there is a suitable defensive one available to those who devote the requisite thought necessary to develop it.

NOTES

1. Carl von Clausewitz, On War, translated and edited by Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), 84.
2. Vremennyy polevoy ustav RKKA, 1936 (temporary Field Regulation of the Red Army, 1936) (Moskva: Voenizdat, 1937) translated by U.S. Army War College, 1937.
3. A. A. Stokov, ed. Istoriya voennogo iskusstva (a history of military art) (Moskva: Voenizdat, 1966), 321.
4. Vremennyy polevoy ustav, 120-121; L. Kozlov, "Sovershenstvovaniye protivotankovoi oborony strelkovykh soedinenii" (The perfection of the antitank defense of rifle formations) Voenno-Istoricheskiy Zhurnal, March 1971, 32.
5. Stokov, 391.
6. N. Kh. Bagramyan, ed. Istoriya voyn i voennogo iskusstva (a history of war and military art) (Moskva: Voenizdat, 1970), 153.
7. I. Sazonov, "Razvitiye takticheskoy oborony v Velikoy Otechestvennoy voine" (The development of the tactical defense in the Great Patriotic War) VIZh, September 1968, 16. The 1942 tactical field regulation of the Red Army incorporated lessons learned in 1941 and early 1942. It abolished the older concept of shock groups and holding groups, recognized defensive operation as "a normal part of modern warfare," and required that defense be stubborn, active, antitank in nature, and deep. However, the Soviets could not meet all of those conditions until mid-1943. The 1944 Field Regulation answered the needs described in the 1942 regulation and was even more specific in describing how defenses should function.
8. L. Kozlov, "Sovershenstvovaniye . . .," 33.
9. Stokov, 429; Sazonov, 21-23.
10. A. Bazhenov, "Razvitiye taktiki oboronitel'nogo boya po opytu Kurskoi bitvy" (The development of the tactics of defensive battle from the experience of the Kursk battle) VIZh, June 1983, 34.
11. Ibid., 36.
12. Sazonov, 22.

13. Bazhanov, 36-38; variations discussed in A. I. Radzievsky, ed., Taktika v boevykh primerakh (diviziya) (Tactics by combat example (division)) (Moskva: Voenizdat, 1976), 184-185.
14. Sazanov, 23-24.
15. Ibid., 24.
16. Bazhenov, 40; for details see K. S. Kolganov, Razvitiye taktiki sovetskoi armii v gody Velikoi Otechestvennoi Voyny (1941-1945 gg.). (The development of Soviet Army tactics in the years of the Great Patriotic War (1941-1945)) (Moskva: Voenizdat, 1958), 352-57. Kolganov provides statistics as well on virtually every category of defensive combat.
17. L. Kozlov, 38-40.
18. Ibid.
19. Bazhenov, 41-42.
20. For Hitler's order mandating Operation "Citadel" and the German planning process, see Kriegstagebuch der OKW 1940-1945, Vol. III, 1425; E. Ziemke, Stalingrad to Berlin: The German Defeat in the East (Washington, DC: Office of the Chief of Military History, United States Army, 1968). 124-25.
21. "The Zitadelle Offensive" MS #T-26 Historical Division Headquarters, United States Army, Europe, Foreign Military Studies Branch Appendix, No. 4; J. Engelmann, Zitadelle: Die Grosste Panzerschlacht im Osten, 1943 (Citadel: The greatest tank battle in the east, 1943) (Friedberg, FRG, Podzun-Pallas-Verlag), 55-60.
22. G. A. Koltunov, B. G. Solov'yev, Kurskaya bitva (The Kursk Battle) (Moskva: Voenizdat, 1970), 48-56.
23. The best general descriptions of combat at Kursk from the Soviet perspective are found in Koltunov, 101-80; Kurskaya bitva (The Kursk Battle) (Voronezh: Tsentral'no-Chernozemnoye Khizhnoye Izdatel'stvo, 1982), John Erickson, The Road to Berlin (Boulder, Colorado: Westview Press, 1983), 87-112, and unit histories of those Soviet armies which took part in the operations.
24. See also "Breakthrough of a Panzer Corps through deeply echeloned Russian defenses during the battle of Kursk in July 1943" MS #D-258 Headquarters, European Command, Office of the Chief Historian.
25. Radzievsky, Taktika . . . (diviziya), 200-202.

26. A. I. Radzievsky, ed., Taktika v boevykh primerakh (polk) (Tactics by combat example (regiment)) (Moskva: Voenizdat, 1974), 255-56; Koltunov, 141-42; A. Krull, Das Hannoversche Regiment 73: Geschichte des Panzer- Grenadier Regiments 73 (The Hannoverian Regiment 73: The history of Panzer Grenadier Regiment 73) (Hannover: Regimentskameradschaft, undated), 290-304.
27. Koltunov, 142.
28. P. B. Bragunsky, N. S. Popel'nitsky, M. G. Usenkov, Taktika artillerii v boevykh primerakh (podrazdeleniya i chasti) (Tactics of artillery in combat examples (subunits and units)) (Moskva: Voenizdat, 1977), 185-86.
29. V. Nazarov "Muzhestvo i masterstvo v oborone" (Courage and skill in the defense) VIZh, 47-52, details the combat of 73d Guards Rifle Division.
30. Radzievsky, Taktika . . . polk, 255-56.
31. Nazarov, 49-52; Koltunov, 150-51.
32. "Kurskaya bitva v tsifrakh" (The Kursk battle in figures) VIZh July 1968, 79-81.
33. M. A. Kozlov, ed. V plameni srazhenii: boevoi put' 13-i armii (In the flames of battle: the combat path of 13th Army) (Moskva: Voenizdat, 1973), 90-91; Kolganov, 281, 294; A. A. Radzievsky, ed., Armeiskie operatsii (Army operations) (Moskva: Voenizdat, 1977) 184-88; Koltunov, 107-10 all cover aspects of the 29th Rifle Corps' defense.
34. M. M. Kozlov, 101.
35. Ibid., 102-3.
36. Ibid., 104. For the 676th Rifle Regiment defense, see Bazhenov, 42.
37. Koltunov, 115-16. For 2d Tank Army's role at Kursk, see F. I. Vysotskii, et al, Gvardeiskaya tankovaya (Guards Tank) (Moskva: Voenizdat, 1963) 29-42.
38. M. M. Kozlov, 110-12.
39. Ibid., 113-14. See also M. A. Yenshin "Na oborone Ponyrei" (At the defense of Ponyri) Kurskaya bitva, 238-45. Yenshin commanded the 307th Rifle Division at Kursk.
40. M. M. Kozlov, 120; for the airborne division's involvement, see D. S. Sukhorukhov, Sovetskiye vozdušno-desantnye (Soviet airborne troops) (Moskva: Voenizdat, 1980), 186-88.

41. See details of the engineer preparations of the defense in A. D. Tsirlin, et al, Inzhenernye voiska v boyakh za sovetskuyu rodinu (Engineer forces in battles for the Soviet fatherland) (Moskva: Voenizdat, 1970) 153-76. According to Tsirlin, there were 6,000 mines on 13th Army's front which accounted for 98 destroyed German tanks on the first day of battle. On 6 July, the eight mobile obstacle detachments of 13th Army sowed 9,000 additional mines which cost the Germans 88 tanks and self-propelled guns on the second day of battle. The following day, 8,000 new mines accounted for 93 tanks more. In all, throughout the battle sappers laid 35,000 antitank and 4,000 antipersonnel mines which destroyed or disabled 420 German tanks and assault guns. In the German 4th Panzer Army's and Army Detachment Kempf's areas, mines took a toll of 355 German tanks and 30 assault guns.
42. For the 67th Guards Rifle Division's actions, see G. Kovtunov "Na Ognennoi duge" (On an arc of fire) VIZh, July 1981, 57-63. The best description of artillery fire support at Kursk and the work of antitank regions is in K. P. Kazakov, Vsegda s pekhotoi vsegda s tankami (Always with the infantry, Always with the tanks) (Moskva: Voenizdat, 1969), 129-62.
43. From a conversation with retired Oberst Helmut Ritgen, who was a company officer of the 6th Panzer Division during the fighting at Kursk.
44. Carl von Clausewitz, 358.