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CENTRAL INTELLIGENCE AGENCY WASHINGTON, D.C. 20505

26 August 1975

MEMORANDUM FOR: The Director of Central Intelligence

SUBJECT

: WARSAW PACT JOURNAL: The Organization and Conduct of a Ground Forces and Aviation Operational-Tactical Exercise with Field

Firings and Bombings

- The enclosed Intelligence Information Special Report is part of a series now in preparation based on articles from a SECRET Soviet publication called Information Collection of the Headquarters and the Technical Committee of the Combined Armed Forces. This article describes the TUNDZHA-72 combined exercise held in Bulgaria with the participation of certain Romanian ground and air elements. The exercise included such problems as combined long-distance marches, the crossing of a forward security zone and breakthrough of a fortified area, reconnaissance, and night combat actions. The emphasis was on field firings and bombings, which were conducted at various stages of the exercise, on unfamiliar terrain, and involved motorized rifle, tank and artillery units, and aviation. Three diagrams represent a fortified zone, a fortified area and a combat situation. This journal is published by Warsaw Pact Headquarters in Moscow, and it consists of articles by Warsaw Pact officers. This article appeared in Issue No. 5, which was published in 1973.
- 2. Because the source of this report is extremely sensitive, this document should be handled on a strict need-to-know basis within recipient agencies. For ease of reference, reports from this publication have been assigned the Codeword

William E. Neuson Deputy Director for Operations

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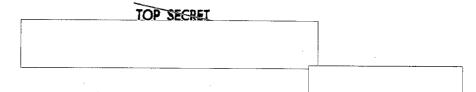
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The Organization and Conduct of a Ground Forces and Aviation Operational-Tactical Exercise with Field Firings and Bombings

Colonel General A. Semerdzhiyev
First Deputy Minister of National Defense of the
People's Republic of Bulgaria and Chief of the General
Staff of the Bulgarian People's Army

A decisive factor in the successful combat training of troops and naval forces is their training in the field, in the air, and at sea. This important problem is given great consideration in the Bulgarian People's Army.

It is sufficient to state that such operational-tactical exercises as PLISKA-68, MARITSA-69, FRAKIYA-70, PRESLAV-71 and TUNDZHA-72, which greatly contributed to the improvement of the training of commanders, staffs and troops, have been conducted over the past several years. Each of them, as a rule, was carried out according to a single operational-tactical concept. An instructive, complex, dynamic situation characteristic of modern combat actions against a strong, technically equipped enemy was established.

The main distinguishing features of the exercises which were held are: the thoroughness of their preparation; the participation of a large number of forces and means of the Ground Forces, Navy, Air Defense Forces and Air Forces; and the conduct of mobilization assemblies, field firings by motorized rifle, tank, artillery, antiaircraft artillery and flamethrowing units and subunits, firings and bombings by front aviation, and firings by naval forces against sea, ground and air targets.

An extensive system of tasks was also worked out by the ground forces, aviation, and the navy; this promoted an increase in their field, air and sea training.

Similar practice makes possible the successful performance of all tasks allocated to the troops during a modern combined-arms battle and operation. The results of the operational-tactical exercise TUNDZHA-72, which we held in August 1972, and which is discussed below, also attest to this.

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The exercise theme covering the main problems of preparing and conducting an army offensive operation in the initial period of war, which includes the breakthrough of a fortified zone, the assault crossing of a water obstacle, and the subsequent transition to the use of nuclear weapons, was determined in accordance with the specific features of the theater of military operations. The main goal was to increase the level of both the combat readiness of the troops and their control organs, and the combat effectiveness of units and large units in conducting combat actions with the use of coventional means of destruction and nuclear weapons.

This exercise was an instructive example of the organization of joint actions of the ground forces and <u>front</u> aviation of the Bulgarian People's Army. Through combined efforts, it made possible the better resolution of the problems of cooperation and control between units and large units having different purposes.

The headquarters of an army, three motorized rifle divisions and one tank brigade at full strength, two separate motorized rifle battalions, six large units and units subordinate to the army, four staffs of combined-arms large units, seven aviation regiments, control organs of the border troops, and also one operations group of a mechanized division of an army of the Socialist Republic of Romania participated in this exercise.

The following problems were worked out during the exercise: the organization and conduct of combined marches over great distances; the preparation of a departure position for an offensive on extremely rugged, mountainous-wooded terrain; the crossing of a forward security zone and the breakthrough of a fortified area without the use of nuclear weapons; the repulsing of a counterstrike of the operational reserves while simultaneously going over to the use of nuclear weapons and committing large units of the second echelon to the engagement; the reconnaissance of nuclear mine obstacles and the seizure and destruction of them; the traversing of zones having high levels of radiation; the assault crossing of water obstacles; etc.

Along with this, in order for the actions of the troops to approximate combat conditions to the maximum extent and to verify the practicality of operational-tactical calculations and the ability to control troops under the difficult conditions of a modern battle, field firings were conducted at various stages of the exercise. A motorized rifle regiment at full strength, three motorized rifle battalions, a tank battalion, 18 artillery battalions, seven aviation regiments and one separate aviation squadron participated in these firings. A tactical missile was launched, also.

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With the participation of aviation and artillery, one motorized rifle battalion carried out a field firing at night.

Field firings during operational-tactical exercises of the Bulgarian People's Army have become a standard occurrence. They are carried out at various stages of an exercise in accordance with the situation which is developing and the tasks which are being accomplished by the troops.

A large amount of organizational work by the exercise directing staff, the formation commanders (commanders) and their staffs preceded the conduct of an exercise incorporating field firings and bombings.

The necessary materials were worked out <u>five months</u> before the start of the exercise. This established conditions favorable to the complete and more thorough planning of the exercise and to the productive and purposeful work of the directing staff.

After the development of the concept, the director of the exercise, Minister of National Defense and General of the Army Dobri Dzhurov, conducted reconnaissance in the area to make a final and precise determination of the areas in which it was intended to work out the primary training problems and to execute field firings. During this reconnaissance the main issues of the concept and plan for the exercise were clarified, primarily: the departure position areas for the offensive; the simulated line for the state border; the tasks of large units and units of the covering force; the planned lines of troop deployment, of the forward edge of the fortified zone, for the conducting (repulsing) of counterattacks, and of the introduction of large units of the second echelon; and also the sectors for assault crossings of the Maritsa River, the landing areas for operational and tactical airborne landings, etc. The areas for conducting field firings and bombing were chosen with particular care.

As a result of the reconnaissance it was possible to finally clarify, form and approve the concept and plan for conducting the exercise; then the operational and tactical missions of the sides, the graphic and textual plans for conducting the exercise, the operational directives and battle orders, the plans for the branch arms, the calculations on the movement of units and large units into the departure area and their return to the garrisons, and plans for training the umpires and for conducting field firings, were worked out in one month with the help of officer-representatives of the branches of the armed forces, branch arms, and special troops.

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The concept and graphic plan were entered on large-scale maps with all the necessary tables. This gave them great graphic clarity and facilitated their use.

Special large-scale maps and also an overall diagram of the layout of training targets were prepared for each episode or main training problem which was worked out in conjunction with field firings.

The assistant director with a group of generals and officers planned and organized the field firings. For each tactical exercise employing field firings there were separate plans drawn up, which covered the following points: the theme; the training goals and what should be worked out; the operational-tactical situation in which a field firing was to be executed; the diagram of the layout of the training targets; the calculation of ammunition; the procedure for conducting the firing; the diagram of neutral communications; and the measures to ensure safety.

Field firings were conducted on unfamiliar terrain and in accordance with the nature of troop actions in order to achieve a high level of instruction during the accomplishment of fire missions. After a detailed working out of the plans, the exercise deputy director for combat training reconnoitered all areas where firings were to be carried out together with the main responsible individuals who had been assigned to organize the firings. The following were specified in detail during reconnaissance: the depth and width of firing areas; the base lines; the lines for opening and ceasing fire for each type of weapon; the location and nature of the actions of the enemy represented by targets and mockups; targets for the use of aviation; the number of and procedure for designating targets, and safety measures; the procedure for illuminating the terrain during night firings; and the number of firing area guard posts, their location and tasks.

In addition, the procedure, time, the forces and means for the preparation of field firing areas, and the time limits for setting up the layout of training targets and for training fire umpires were specified. In each separate case the impending tasks of our troops and also the actual combat capabilities of the enemy were considered in solving the problem of the number, type, and location of targets.

The directing staff gave great consideration to the implementation of measures connected with field firings. The reason for this is that the exercise areas do not always contain the required number of firing ranges on which field firings and bombing can be carried out at any time of the

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year. It therefore is necessary each time to select and ready special sectors of the terrain (base lines) in the zone of operations of the troops.

To establish conditions necessary for the working out of the main training problems which were stipulated by the concept and clarified during reconnaissance, considerable preparation work was carried out in the entire training area: 13 posts for directing combat actions were prepared; more than 28 kilometers of cross-country routes were built; fords were constructed from reinforced concrete components; approximately 40 kilometers of simulated state border were built; etc.

Particular attention was given to the preparation of a fortified zone, codenamed 'Frakiya', which was similar in preparation to the probable enemy's existing fortified zones both in the distance from the state border and the configuration of the terrain, and in the number of deployments and the nature of the strong points and installations in the zone. (Figure 1). The following were constructed in the sector of troops who were operating realistically: six simulated company strong points; 21 machinegum pillboxes having one embrasure each; nine machinegum pillboxes with two embrasures each; eight permanent type emplacements for guns; 290 meters of antitank ditches of varying sizes; 2,950 meters of simulated antitank ditches; 1,700 meters of simulated post obstacles in three rows; 2,100 meters of two and four-row barbed wire; 3,200 meters of wire fence; 3,600 meters of antitank mine fields; 88 artillery emplacements containing gun mock-ups; etc. (Figure 2).

Platoon and company strong points were prepared for carrying out field firings. The layout of the training targets was set up to completely conform to the grouping and type of actions of the probable enemy. For this purpose, up to 75 percent of the targets used were pop-up targets while the rest were moving targets. In some field firing areas sleeve targets (parachute targets) were readied for the purpose of firing at low-flying air targets. To complicate the situation or, when necessary, to introduce changes into the plan for the tactical exercise, in accordance with the actions of subunits and units and with the decisions of their commanders several auxiliary (reserve) targets were set up for the planned firings unit. The depth of the kilometers; it was 15 to 16 kilometers for a motorized rifle regiment. Aviation targets were designated by mock-ups of guns, tanks, and antiaircraft means, and by trenches which were constructed in the depth of the enemy defense to ensure safety during bombings. Altogether approximately 1,200 targets and

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mock-ups of various types were set up and prepared in the zone of operations of the troops.

Special range teams prepared areas in which a field firing was planned. Radio-controlled systems were widely used in setting up target fields. They assured the fulfilment of various tactical and fire missions by branch arms in accordance with the requirements of the firing courses.

Thus, all preparatory measures were performed in advance and according to the given plan; this contributed to the high quality in the working out of training problems.

For the purpose of checking the state of combat readiness, operational-tactical exercises, as a rule, begin with a combat alert reveille for the troops. Exercise TUNDZHA also began with an alert reveille of the staffs and troops and their movement out into the exercise area. After the decision was made upon the tactical missions and the operational directive, the staffs and the troops began preparation of an operation. At the same time,...

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...an offensive with field firing, with the task of neutralizing and subsequently seizing the strong points of the first line. Aviation conducted firing and bombing against the reserves and enemy artillery positions located immediately beyond the strong points of the first line.

Firings by artillery and aviation subunits were carried out during the preparatory fire for the attack, while firings by motorized rifle and tank subunits were conducted at the end of the preparatory fire and during the offensive. Thus, close cooperation among assault groups, support artillery and aviation was established.

After the breakthrough of the fortified zone and the development of the offensive into the depth, a field firing was conducted by one more reinforced motorized rifle battalion, the artillery of a motorized rifle division and two artillery regiments from the army artillery. This was done on the basis of the tactical situation which developed when the second echelon of the division was committed to the battle.

The exercise plan provided for the conduct of the battle under night conditions, also.

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In order to realistically work out the problems of the transition of units and subunits from day to night combat actions: a field firing was conducted by a reinforced motorized rifle battalion and four artillery battalions; the field launch of one tactical missile was carried out; and six squadrons of fighter-bomber aviation conducted firing and bombing. One fighter-bomber aviation squadron bombed enemy targets at twilight. During these firings problems of supporting advancing troops at night with artillery and aviation were worked out.

With the development of combat actions in the operational depth of the enemy defense, a tactical situation was set up in which a reinforced motorized rifle regiment, the majority of the artillery of an army (12 artillery battalions) and four fighter-bomber aviation regiments could carry out a field firing (Figure 3). Problems concerning cooperation and fire control of a motorized rifle regiment and the artillery of an army, and also concerning the control of the combat actions of aviation when firings and bombings are conducted by entire subunits, were solved during this firing. Simultaneous (group) firing and bombing by an aviation squadron of 12 aircraft were performed for the first time in our army. From indirect fire positions, tank subunits fired to their maximum ranges over the heads of the advancing motorized rifle subunits. After the preparatory fire for the attack, the artillery provided fire support for the offensive by means of successive concentrations of fire.

With the development of the offensive in the depth of the enemy defense, field firings were conducted by artillery, aviation, and motorized rifle, tank and antiaircraft subunits to support the commitment of large units of the second echelon to the engagement, the assault crossing of water obstacles, and the landing of tactical airborne landing forces.

The appropriate large unit (unit) commanders exercised direct control of the tactical exercises which included a field firing. Characteristically, the trainees did not know which unit or subunit would take part, from which line to fire and which type of firings would be carried out. Diagrams of the layout of the training targets together with the calculations for ammunition and targets were also delivered to the commanders of firing subunits and units during combat actions when their subordinates were at the firing line.

So that the trainees could solve problems of reconnoitering the enemy, the enemy was represented by realistically operating staffs, units and subunits and also by small teams which simulated nuclear attack means, artillery at fire positions, control posts, etc. The coordinates of the

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elements of the opposing side's battle disposition and of the simulated targets were determined beforehand by a monitoring organization specially established in the exercise directing staff. A map of the targets together with a list of their coordinates was drawn up; it served as the basis for appraising the trainees' activities when they reconnoitered the enemy and planned the fire of the rocket troops and artillery.

In order to evaluate the effectiveness of reconnaissance aviation, various means of enemy nuclear attack, command posts and other important installations -- the coordinates of which had been determined in advance -- were simulated on three lines. Along with this, realistically operating troops of the opposing side also served as targets for aviation reconnaissance.

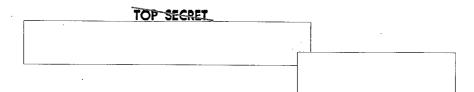
To a considerable extent, the methods enumerated above for monitoring and evaluating the activities of recommaissance organs made possible an increase in the effectiveness of these organs.

Serious consideration was given to the deployment, preparation and control of artillery fire. A small organization, which monitored the determination of the coordinates of fire positions, the laying of artillery on the base line, the performance of ballistic and technical preparation, and the suitability of the preparation of basic data, was established for this purpose. By comparing the data from the monitoring organization with the trainees' decision, an evaluation of fire control, including an appraisal of the trainees' actions also on those lines on which field firings were not conducted, was made.

All trainees were disciplined by these new systematic methods. For each tactical exercise employing the field firing of a motorized rifle battalion, approximately 220 targets were used, and more than 3,000 cartridges, 12 shells for the RPG-7 antitank grenade launcher, 256 different caliber artillery and tank shells, 172 aerial bombs and 984 shells for aircraft armament were expended; for a tactical exercise including the field firing of a tank battalion, approximately 150 targets and more than 1,600 cartridges and 88 100-millimeter shells and 42 122-millimeter shells were expended.

At a tactical exercise including the field firing of a motorized rifle regiment, 524 targets and more than 8,000 cartridges, 51 grenades for the RPG-7 antitank grenade launcher, 28 rounds for the SPG-9 recoilless gum, 476 artillery and tank shells, 280 aerial bombs, 1,380 shells for aircraft armament, 240 free rockets and two guided missiles were used.

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The firings conducted during the exercise TUNDZHA-72 by motorized rifle, tank and artillery units and subunits and by aviation demonstrated the increased organizational abilities of the commanders and staffs at various levels, the high combat cohesiveness, the field training, and the psychological preparation and toughening of personnel. Close cooperation between the ground forces and aviation was implemented during the field firings. Motorized rifle and tank subunits advanced to 300 meters from the point at which our artillery shells exploded. Furthermore, during fire support, subunits successfully negotiated various obstacles, areas of destruction and contaminated areas; this complicated the situation and approximated combat conditions to the maximum extent.

The experience of the field firings which were conducted again confirmed that training must correspond completely to the principle 'Teach the troops that which is essential in a war'.

A relatively small group directed the operational-tactical exercise, but the structure of the directing staff assured sufficient efficiency and flexibility of operation.

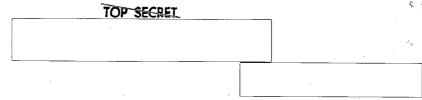
A conference was held toward the end of each day. At this conference each officer responsible for a group reported for several minutes on progress in the training of staffs and troops. Tasks for the following day were assigned to them after the reports had been completed. The exercise directing staff and the operations group were relocated from one observation post to another by helicopters or passenger vehicles, depending on the situation.

Beginning in the evening a group of eight to ten officers who had set up communications with the troops and had prepared the map were sent in advance to the observation posts.

The experience of this exercise confirms that it is advisable to control combat actions from sheltered field posts which have been prepared in areas in which the plan calls for the working out of the main training problems by the troops.

During combat actions, the exercise director usually heard a report from the formation commander (large unit commanders) when a difficult situation arose. As a rule, the reports on the decisions of the army commander and large unit commanders, with the exception of the army commander's decision for the conduct of an offensive operation, were heard in the field. The director devoted particular attention to the

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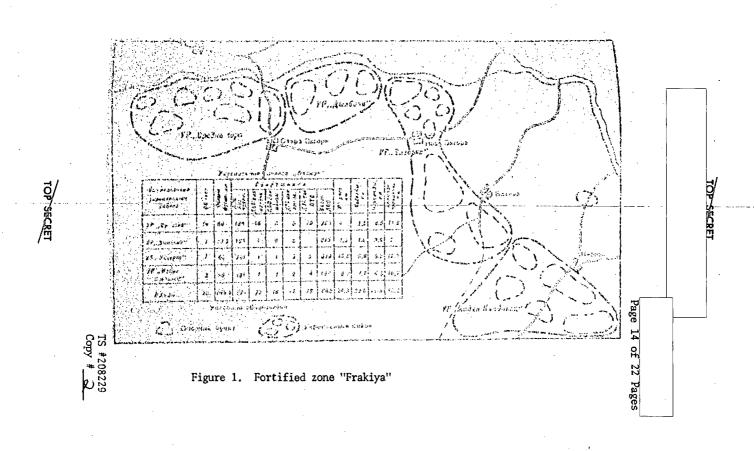


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organization of the battle on the terrain and to the thorough training of the troops for combat actions.

The operational-tactical exercise TUNDZHA-72 made possible the accumulation of valuable experience concerning the training of commanders, staffs, and troops to conduct exercises which include field firing on unfamiliar terrain. The study and use of this experience in training personnel will facilitate a further increase in the methodological skill of the commanders and staffs of the Bulgarian People's Army.

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Key to Figure 1

УР "СРЕДНА ГОРА^{!!}

FORTIFIED AREA "SREDNA GORA"

уР "ДЫЛБОКА"

FORTIFIED AREA "DYLBOKA"

СТАРА ЗАГОРА

STARA ZAGORA

YP "3ACOPKA"

FORTIFIED AREA "ZAGORKA"

НОВА ЗАГОРА

NOVA ZAGORA

БОТЕВО

BOTEVO

ИН3080

INZOVO

УР "МЕДЕН КЛАДЕНЕЦ"

FORTIFIED AREA "MEDEN KLADENETS"

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STRONG POINT

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FORTIFIED AREA

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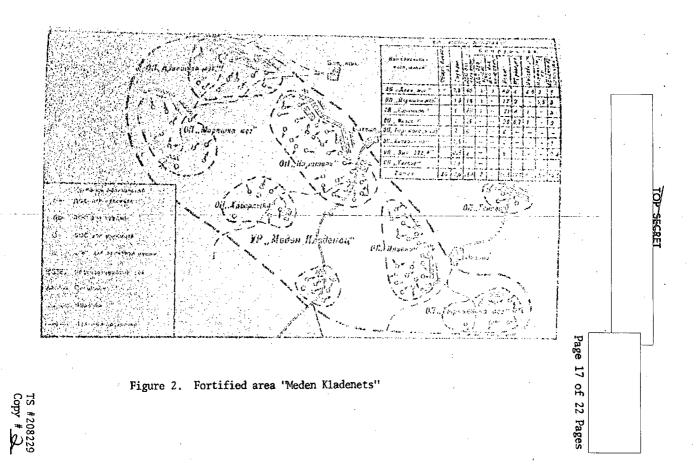
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Fortified zone "Frakiya"

Overall length of front in kilometers	Permanent type emplacements for machineguis	Permanent type emplacements for guns	Permanent type emplacements for mortars	Permanent type emplacements for antiaircraft artillery	Permanent type emplacements for antitank guns	Total permanent	Antitank ditches in kilometers	Post obstacles in kilometers	Pyramids in kilometers	Barbed wire in kilometers
60	168	16	6	3	10	203				
60	168	16	6	3	10	20.3				
60	168	16	6	3	10	20.3	ł	1		
			1	[10	203	4	2.5	5.5	11.5
13.5	195	5	8	5	•	213	1.5	1.5	3.5	2
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30	131	1	1	2	4	139	5.7	7.7	4.6	16.2
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Legend, Figure 1

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Key to Figure 2

ОП "ДРЕМШИНА МОГ"

STRONG POINT "DREMSHINA MOG"

OT "MAPAWHA MOT"

STRONG POINT "MARASHNA MOG"

БОТЕВО

BOTEVO

ON "KAPATERE"

STRONG POINT "KARATEPE"

ОП "ХАСАРЛЫНА"

STRONG POINT "KHASARLYNA"

УР "МЕДЕН КЛАДЕНЕЦ"

FORTIFIED AREA "MEDEN KLADENETS"

OF "TEHEBO"

STRONG POINT "TENEVO"

OF "MH30BO"

STRONG POINT "INZOVO"

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INZOVO

OF "TIOPUMEHUHA MOF"

STRONG POINT "TYURIMENINA MOG"

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PERMANENT TYPE EMPLACEMENT FOR A MACHINEGUN

0

PERMANENT TYPE EMPLACEMENT FOR A GUN

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PERMANENT TYPE EMPLACEMENT FOR A MORTAR

0

PERMANENT TYPE EMPLACEMENT FOR AN ANTIAIRCRAFT GUN

ANTITANK DITCH

11111

PYRAMIDS

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POST OBSTACLES

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BARBED WIRE

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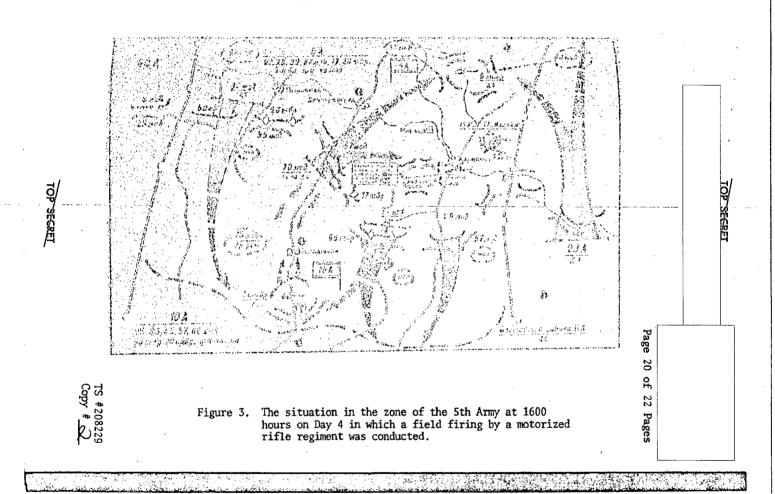
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Fortified Area 'Meden Kladenets"

Fortified Area 'Meden Kladenets'' Names of										
	٠.			Structur	es	,	<u> </u>	ļ		i
defensive installations	Overall length of the front in kilometers	Depth	Permanent type emplacements for machineguns	Permanent type emplacements for guns	Permanent type emplacements for mortars	Total	Antitank ditches in kilometers	Post obstacles in kilometers	Pyramids in kilometers	Rarbed wire in kilometers
Strong Point						r				
'Dremshina mog''	-	1.5	46	1	1	48	4	2.4	1	5
Strong Point								 		
'Marashna mog''	-	1.2	16	1	-	17 .	2	-	2.5	3
Strong Point "Karatepe"		1	70	1	-	71	6	1		5
Strong Point "Inzovo"	•	1	20	-	-	20	6.7	1		2
Strong Point										
"Tyurimenina mog"	-	2	6	-	•	6	-	-	-	-
Strong Point										
''Khasarlyna''	•	1.5	4	-	-	4	-	•	-	1
Strong Point										
'Height 222.4"	.	0.5	2	-	-	2	-	-	-	0.5
Strong Point 'Tenevo'	•	1.5	-	-	-	-	-	-		-
TOTAL	30	2.0	164	3	1	168	18.7	4.4	3.5	16.5
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Key to Figure 3

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50A

50TH ARMY

32МСД

32ND MOTORIZED RIFLE DIVISION

5TH ARMY

27, 28, 32, 77МСД, 17, 26ТБР, 5АРБР, АРМ. ЧАСТИ

27TH, 28TH, 32ND, 77TH MOTORIZED RIFLE DIVISIONS; 17TH, 26TH TANK BRIGADES; 5TH ARMY MISSILE BRIGADE;

ARMY UNITS

43МСД

43RD MOTORIZED RIFLE DIVISION

5A

5TH ARMY

90МСД

90TH MOTORIZED RIFLE DIVISION

8МСД

8TH MOTORIZED RIFLE DIVISION

26МСД

26TH MOTORIZED RIFLE DIVISION

50MA

50TH MECHANIZED DIVISION

32МСД

32ND MOTORIZED RIFLE DIVISION ON DAY 4

20T5P

20TH TANK BRIGADE

ДИМИТРОВГРАД

DIMITROVGRAD

35MCJ

35TH MOTORIZED RIFLE DIVISION

МСД

MOTORIZED RIFLE DIVISION

27МСД

27TH MOTORIZED RIFLE DIVISION

МАРИЦА

MARITSA

18.00 Д4

70TH MOTORIZED RIFLE DIVISION AT 1800

HOURS ON DAY 4

17T6P '

17TH TANK BRIGADE

51MCIT

51ST MOTORIZED RIFLE REGIMENT

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Key to Figure 3, continued

63MCIT 63RD MOTORIZED RIFLE REGIMENT 32ND MOTORIZED RIFLE REGIMENT 32MCП 2МСБ 2ND MOTORIZED RIFLE BATTALION ХАРМАНЛИ KHARMANLI 32MCIT 32ND MOTORIZED RIFLE REGIMENT JIOBUMELL LYUBIMETS 70TH MOTORIZED RIFLE DIVISION, FRONT ΦP. PE3 65M5P 65TH MECHANIZED BRIGADE 77МСД 77TH MOTORIZED RIFLE DIVISION ON DAY 5 29TH MOTORIZED RIFLE DIVISION 29МСД 57TH MOTORIZED RIFLE DIVISION **57МСД** МСП MOTORIZED RIFLE REGIMENT 23RD ARMY ON DAY 3 23A 10A 10TH ARMY МСП MOTORIZED RIFLE REGIMENT 10TH ARMY 25TH, 35TH, 45TH, 57TH, 60TH MOTORIZED RIFLE DIVISIONS; 36TH TANK BRIGADE; 10TH ARMY MISSILE 25, 35, 45, 57, 60MCД, 36ТБР, 10АРБР, АРМ. ЧАСТИ BRIGADE: ARMY UNITS БЛИЖАЙШАЯ ЗАДАЧА 5А IMMEDIATE TASK OF THE 5TH ARMY ON DAY 5

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