Shelling of the city of Donetsk using BM21 Grad MLRS on November 28, 2023

Donetsk 15.12.2023

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ABBREVIATIONS

UAF – Ukrainian Armed Forces

DPR – Donetsk People's Republic

LoC – Line of Contact

SMBr – Separate Mechanized Brigade

UAF – Ukrainian Armed Formations

PREAMBLE

November 2023 saw the end of the unsuccessful offensive attempt by the Ukrainian armed formations (UVF), which began on June 4[1]. The initiative on the battlefield passed to the armed forces of the Russian Federation. In the area of the Donetsk agglomeration, active offensive operations began in Avdeyevka[2] and Maryinka[3] directions.

During the Avdeyevka offensive operation, Ukrainian artillery positions were suppressed to the north and west of the city. Donetsk was shelled primarily from this direction[4]. Advancement in the Maryinka direction was much slower, and here Ukrainian artillery retained the ability to shell the western districts of the city.

On November 28, 2023, the pressure of Russian artillery on the UAF increased significantly, and offensive actions were carried out. Crushing and intense artillery duels were heard in the Avdeyevka, Maryinka and Ugledar directions[5].

At approximately 11:00 a.m., the Azotny microdistrict in the Kuibyshevskiy district of Donetsk was subjected to artillery shelling using MLRS[6]. As a result of

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[1] Ukraine's counter-attack (2023) (last updated on 04.12.2023) WikipediA The Free Encyclopaedia URL: https://ru.wikipedia.org/wiki/Контрнаступление_Украины_(2023)#cite_note-2 (accessed on 14.12.2023)

[2] AVDEYEVKA - TWO MONTHS OF BATTLE (BRIEF RESULTS) (published on 14.12.2023) "Armchair Warrior" Yandex-Dzen Channel. URL: https://dzen.ru/a/ZXV47glxh1EgZW7B (accessed on 14.12.2023)

[3] Battle of Marinka (2022–present) (last updated on 01.12.2023) WikipediA, The Free Encyclopedia. URL: https://en.wikipedia.org/wiki/Battle_of_Marinka_(2022–present) (accessed on 14.12.2023)

[4] Investigations and Analytics. "Verum" Project. URL: https://proekt-verum.org/analitics (accessed on 15.12.2023).

[5] AGS_Operational data summary (published on 28.11.2023) AGS_Donbass Telegram Channel. URL: https://t.me/Ags_Donbass/225921 (accessed on 14.12.2023)

[6] AGS_Operational data summary (published on 28.11.2023) AGS_Donbass Telegram Channel. URL: https://t.me/Ags_Donbass/196126 (accessed on 14.12.2023)

the incident, **five civilians got injuries of varying severity**: men born in 1970, 1953, 1999, 2000, and a woman born in 1956.[7]

Damage was also recorded at 16 addresses:

- Comprehensive Secondary School No. 46 of Donetsk located in Valeriya Arsenova St.;

- Municipal Clinical Hospital No. 23 of Donetsk located in Tselinogradskaya St.;

- *Skazka* food store located at 60th Anniversary of the USSR St.

- *Petrovich* food store located at 60th Anniversary of the USSR St.

- 48, Buturlinovskaya St., a direct shell hit in a private residential house;

- 17, Valeriya Arsenova St., a direct shell hit in a multi-apartment residential building;

- 13, 15, 16A, 18, 19, Valeriya Arsenova St., multi-apartment buildings were damaged.

- 39, 41, Ostrovskogo St., multi-apartment buildings were damaged.

- 3, 7, Semionova-Tyan-Shanskogo St., multi-apartment buildings were damaged.

- 34, Ostrovskogo St., a private residential house was damaged[8].

[7] The operational lines of the DPR JCCC as of November 28 at 14:00 received information about civilian casualties in the cities of the Republic (published on 28.11.2023) The DNR in JCCC Telegram Channel: facts of Ukraine's war crimes. URL: https://t.me/DNR_SCKK/17773 (accessed on 14.12.2023)

[8] Records of the shelling effects in the Kuibyshevskiy district of Donetsk at 10:53 on 28.11.2023 (published on 29.11.2023) The DNR in JCCC Telegram Channel: facts of Ukraine's war crimes. URL: https://t.me/DNR_SCKK/17805 (accessed on 14.12.2023)

INCIDENT LOCATION

Having visited the incident locations, talked with witnesses and analyzed information from open sources, we were able to record 10 shell hits, which appeared after the shelling of the Azotny microdistrict at approximately 11:00 a.m. Moscow time on November 28, 2023.

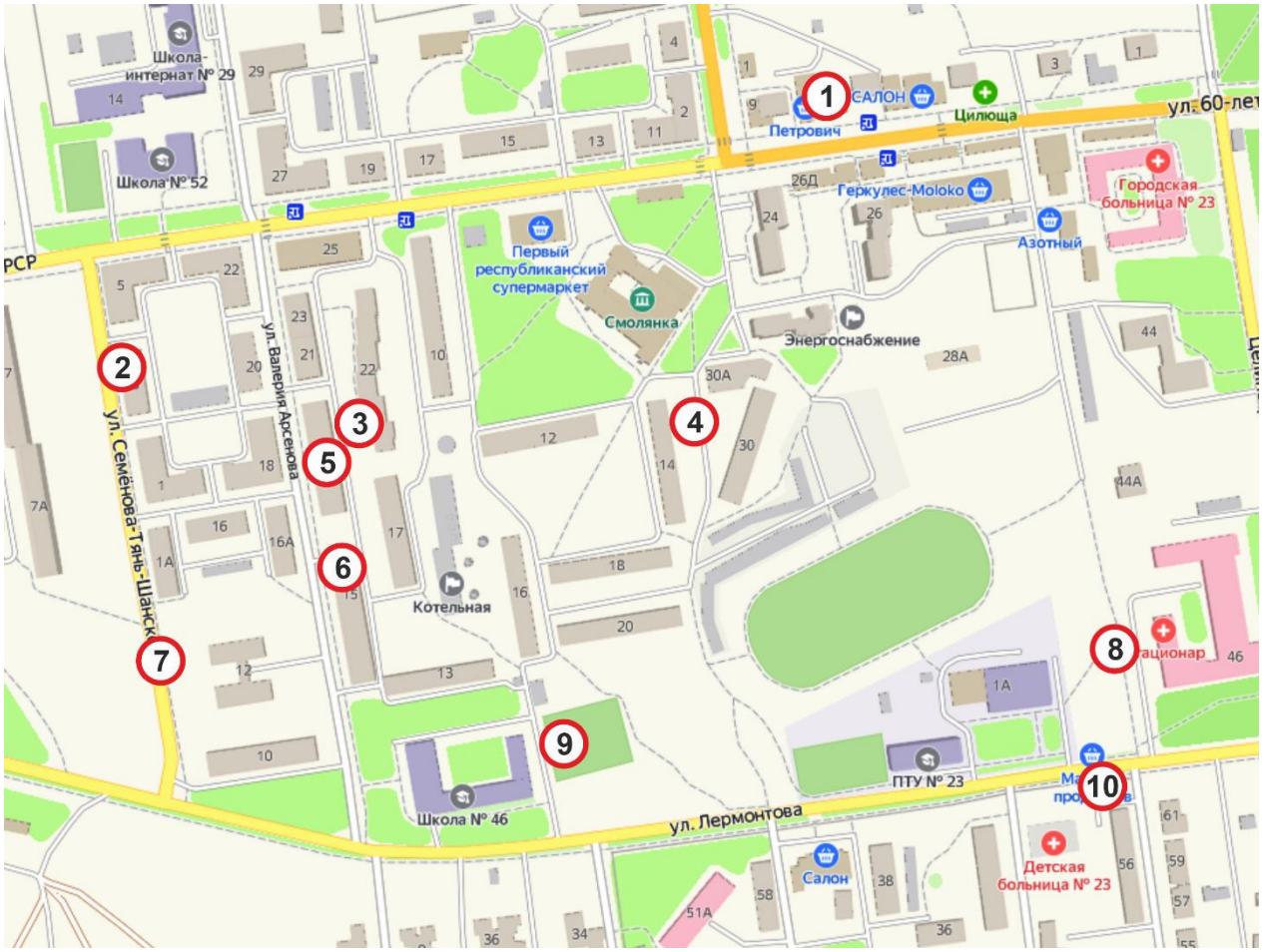

Fig. 1 - Scheme of artillery shelling of the Azotny microdistrict on November 28, 2023 at approximately 11:00 a.m. Moscow time.

Shell hit 1 A rocket hit the roof of the *Petrovich* food store, located at 7, 60th anniversary of the USSR St. The warhead detonated in the north-western part of the building above the store warehouse, causing significant damage to the roof. The remains of the rocket engine penetrated the roofing and finished their motion, being stuck in the concrete floor of the warehouse.

Fig. 2 - On the left - a hole punched by a rocket in the roof of the Petrovich food store; on the right - the remains of the rocket engine of an MLRS projectile in the warehouse of the Petrovich food store.

Fig. 3 - Destruction of the roof of the Petrovich food store, view from the street.

Shell hit 2 The rocket hit the base of the window opening in the ground floor which was second from the north-western corner of the residential building at the address: 3, Semionova-Tyan-Shanskogo St. The detonation of the warhead destroyed the window and part of the wall and caused significant damage to the living premises.

Fig. 4 - The traces of the projectile hitting in the residential building at 3, Semionova-Tyan-Shanskogo St.

Shell hit 3 The rocket hit the soft soil on the left side of the fourth entrance of residential building at 22, Valeriya Arsenova St., forming an ellipse-shaped crater about 30 cm deep, 0.5-1 m in diameter; destroying the glazing of the building with a blast wave and leaving fragmentation damage on the façade and treetops.

Fig. 5 - A crater caused by a rocket hit at the entrance to residential building at 22, Valeriya Arsenova St.

Shell hit 4 The rocket hit the soft soil behind the first entrance of residential building No. 14 in 60th Anniversary of the USSR Street, forming an ellipse-shaped crater about 10 cm deep, 0.5-1 m in diameter and a characteristic cylindrical depression down to 30 cm deep and about 12 cm in diameter; destroying the glazing of the building with a blast wave and leaving fragmentation damage on the façade.

Fig. 6 - A crater in the soft soil between residential buildings No. 30 and No. 14 in 60th Anniversary of the USSR Street.

Shell hit 5 The rocket hit the junction of the sidewalk and the basement wall of the residential building located at 19, Valeriya Arsenova St., leaving multiple damage to the façade and a trapezoidal hole on the wall, with the lower base about 20 cm long, the upper base about 30 cm long and about 40 cm high.

Fig. 7 – A hole on the wall of the residential building located at 19, Valeriya Arsenova St.

Shell hit 6 The rocket hit the roof of the residential building at 15, Valeriya Arsenova Street, leaving a hole in the roof with a diameter of up to 1 m at the corner apartment in the north-western part of the building on the fifth floor, and a hole in the ceiling between the fourth and fifth floors with a diameter of 0.3-0.6 m.

Fig. 8 - The hole in the ceiling of an apartment on the top floor of the residential building located at 15, Valeriya Arsenova St.

Shell hit 7 The rocket hit the asphalt roadway along Semyonova Tyan-Shanskogo Street, south of the residential building No. 1A, leaving an oval-shaped depression in the asphalt with a diameter of 30-60 cm, and multiple fragmentation grooves located to the west, and north-west of the main crater up to 5 cm wide, 10 cm long and 3 cm deep.

Fig. 9 - A crater on the asphalt road surface in Semionova-Tyan-Shanskogo St.

Shell hit 8 The rocket hit the soft soil north-west of the southern wing of the pulmonary department of hospital No. 23, located at 26, Tselinogradskaya St., leaving fragmentation damage to the façade of the building and treetops, and a hole in soft soil, being up to 15 cm in diameter and 0.5 m deep.

Fig. 10 - Shell hit to the west of hospital No. 23

Shell hit 9 The rocket hit the asphalt-paved sports ground of secondary school No. 46, located at 5, Lermontova St., leaving an oval-shaped depression in the asphalt with a diameter of 30-60 cm, and multiple fragmentation grooves located to the west, and north-west of the main crater up to 5 cm wide, 10 cm long and 3 cm deep.

Fig. 11 - A crater to the west of secondary school No. 46.

Shell hit 10 The rocket hit the soft soil north-west of the residential building No. 56 in Dobronravova Street, damaging a water pipe and leaving multiple damage to the façade of the building and treetops. The water utility services promptly repaired the damage to the water supply system, which did not allow us to examine the impact crater; however, at the excavation site, projectile debris were discovered at a depth of about 1 m.

Fig. 12 – Shell hit at 56, Dobronravova St.

WEAPON TYPE

Projectile debris

The rockets of the MLRS Grad family have a unique shape of holes for attaching the stabilizer blades to the body, and of the blades themselves. Other types of MLRS have rectangular mounting holes, in contrast to the shaped holes of the MLRS under consideration. The same applies to the rounded shape of the stabilizer blades, which differs from the straight or sharp angles on other types of MLRS used during battles in Ukraine.

Moreover, the same holes can be seen on the remains of the unexploded Grad projectile found near Krasnohorovka (Fig. 13) and on the drawing of the 9K51 Grad MLRS projectile stabilizer unit (Fig. 14).

Fig. 13 – The remains of the 9K51 Grad MLRS projectile found near Krasnohorovka on 28.08.2016.[9]

[9] Militants fired Krasnohorovka with Grad MLRSs in the Donetsk Region – Joint Centre for Control and Coordination. Public TV. URL: https://hromadske.ua/posts/boiovyky-obstrilialy-z-hradiv-krasnohorivku-na-donechchyni-stskk (published on 28.08.2016).

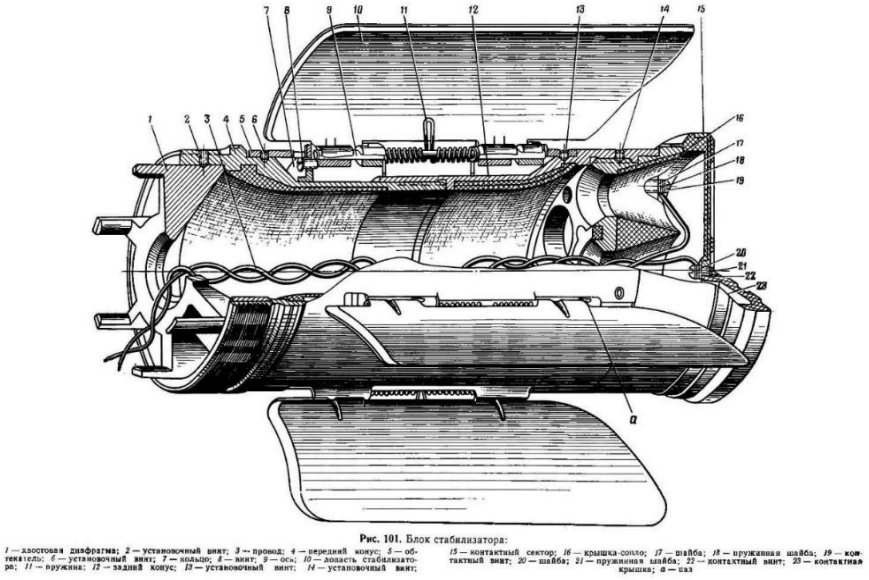

Рис. 101. Блок стабилизатора:

1 — хвостовая диафрагма; *2* — установочный винт; *3* — провод; *4* — передний конус; *5* — обтекатель; *6* — установочный винт; *7* — кольцо; *8* — винт; *9* — ось; *10* — лопасть стабилизатора; *11* — пружина; *12* — задний конус; *13* — установочный винт; *14* — установочный винт; *15* — контактный сектор; *16* — крышка-сопло; *17* — шайба; *18* — пружинная шайба; *19* — контактный винт; *20* — шайба; *21* — пружинная шайба; *22* — контактный винт; *23* — контактная крышка; *а* — паз

Fig. 14 - The drawing of the 9K51 Grad MLRS projectile stabilizer unit from the book BM-21 GRAD[10].

There were holes of a specific shape on the remnants of the rocket part of the MLRS projectile found at the site of the shell hit 1. These holes located at the point of fin attachment to the body are characteristic specifically for MLRS shells of the “Grad” family.

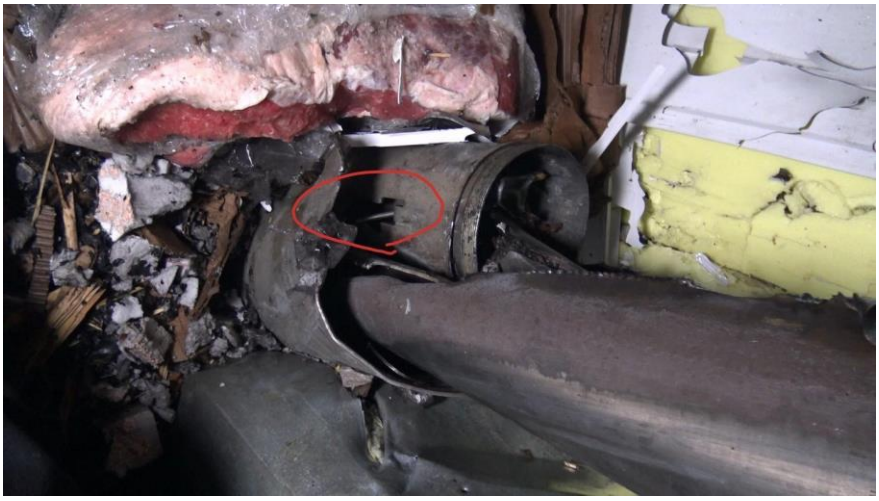

Fig. 15 - Holes at shell hit 1, characteristic of rockets of the Grad MLRS family.

[10] Gun in Russia – BM-21 GRAD, Russian motor books, 2002. 37 p.

Based on the results of an inspection of the incident location under consideration, the JCCC representatives presented the remains of a rocket engine of an MLRS projectile with the same characteristic holes.

Fig. 16 – The fragment of the rocket engine of the MLRS projectile presented by the JCCC representatives[11].

In addition, stabilizer blades characteristic of MLRS projectiles of the Grad family were found at shell hits 5, 6, and 8.

[11] Records of the shelling effects in the Kuibyshevskiy district of Donetsk at 10:53 on 22.09.2023 (published on: 29.11.2023) The DNR in JCCC Telegram Channel: facts of Ukraine's war crimes. URL: https://t.me/DNR_SCKK/17791 (accessed on 20.12.2023)

Fig. 17 - Remains of the MLRS rocket stabilizer blades discovered: top left - shell hit 5, top right - shell hit 6, bottom - shell hit 8.

Also, a remnant of the rocket engine casing of a jet projectile was found at shell hit 6, having a diameter of about 12 cm in its non-deformed part. This can be seen in the photo when comparing the length of my boot (31 cm) and the remnants of the rocket engine.

Fig. 18 – Remnant of the rocket engine casing of the projectile, found at the site of shell hit 6.

There is the marking “R-02-15-02” on the remains of the rocket engine housing found at the site of shell hit 5.

Fig. 19 - Marking found on the remains of the rocket engine casing (shell hit 5).

The JCCC representatives also presented one of the fragments of the rocket projectile, which bears the marking “VC2-51-09A”.

Fig. 20 - A fragment of an MLRS rocket with marking on it, discovered by the JCCC representatives.

The above gives us grounds to assert that during the shelling in question, MLRS of the Grad family was employed. The Latin letters used to mark the

projectiles suggest that these rockets were produced in one of the countries of Eastern Europe.

122-mm MLRS projectiles produced in Eastern Europe

The plant for the production of MLRS projectiles of the Grad family passed to the European Union together with the Czech Republic and Slovakia, which were part of the socialist camp before the collapse of the USSR. Serbia is another state in Eastern Europe that has such capacities It is not a member of the European Union, but has the status of a candidate member, which also allows it to be included in the list of states falling under the influence of this association.

Information on the supply of MLRS rockets to Ukraine was announced on February 23, 2023 at a joint press conference in Prague by Czech Minister of Defense Jana Černochová and Chief of the General Staff of the Czech Armed Forces, Lieutenant General Karel Řehka[12]. They claimed that the supplies included both military assistance from the Czech Ministry of Defense itself, and supplies from companies and enterprises of the Czech defense industry, paid for by third countries, various donations, and by the Ukraine itself. According to the data presented at the press conference, among other things, 12 MLRSs (apparently 122-mm RM-70) and 4,900 rockets for them were transferred to Ukraine.

Information about the transfer of MLRS missiles produced in Slovakia to Ukraine was announced by the Minister of Defense of the state back in June 2022. The official claimed that Slovakia transferred five Soviet-designed military

[12] Ministryně obrany informovala o detailech odtajněné vojenské pomoci Ukrajině (published on 23.02.2023) Ministerstvo obrany Ceske republiky URL: https://mocr.army.cz/informacni-servis/zpravodajstvi/ministryne-obrany-informovala-o-detailech-odtajnene-vojenske-pomoci-ukrajine-242316/ (accessed on 20.12.2023)

helicopters of the Mi series and thousands of Grad multiple launch rocket systems to Ukraine[13].

In April 2023 «Reuters» News Agency published an article[14] with reference to secret US documents leaked online, claiming that the Serbian authorities agreed to supply weapons to Ukraine and could even have already done so.

A month earlier, a scandal occurred after information was published online about the supply of Serbian-made missiles to Ukraine[15].

There is information about the supply to Ukraine of 122-mm shells for MLRS produced in other countries. They simply sent everything they could find in the warehouses of Western bloc countries.

However, Czech and Serbian shells are most interesting to us, because these countries have advanced further than others in terms of modernizing projectiles of this caliber.

Thus, the brochure of the Slovak military company MSM Group[16] presents the characteristics of the two types of missiles they produce.

[13] Slovaks give Mi helicopters, Grad rockets to Ukraine (published on 16.06.2022) Reuters News Agency. URL: https://www.reuters.com/world/europe/slovaks-give-mi-helicopters-grad-rockets-ukraine-2022-06-16/ (accessed on 20.12.2023)

[14] Exclusive: Leaked U.S. intel document claims Serbia agreed to arm Ukraine (published on 12.08.2022) Reuters News Agency. URL: https://www.reuters.com/world/leaked-us-intel-document-claims-serbia-agreed-arm-ukraine-2023-04-12/ (accessed on 20.12.2023)

[15] HOW DID SERBIAN-MADE MISSILES GET INTO UKRAINE?! (published on 03.03.2023) MEETING POINT on NTV. URL: https://vk.com/video-188737940_456243786?list=c7b3201142a08b697a (accessed on 20.12.2023)

[16] 122-mm HE rockets “GRAD” for 122 mm MLRS. “MSM GROUP” URL: https://www.msm.sk/en/products/defence/ammunition/rockets/122-mm-he-rockets-grad-for-122-mm-mlrs/ (accessed on 20.12.2023)

Technical data:	"GRAD Original"	„GRAD Extended range"
Caliber	122 mm	122 mm
Lenght	2,875 mm	2,875 mm
Operation Temperature	-30 ÷ +50 °C	-30 ÷ +50 °C
Total Mass	66 kg	69 kg
Warhead Mass with Fuse	19.1 kg	19.1 kg
Propellant Mass	20.45 kg	27.3 kg
Burning Time	2.0 s	2.7 s
Max. Velocity	690.6 m/s	1,100 m/s
Time of Flight	76 s	126 s
Maximum Range	20.3 km	40.2 km

Fig. 21 - Characteristics of 122-mm rockets produced in Slovakia.

In turn, the specification from the Serbian company "Engine Development & Production" also presents a similar specification[17]. But these data already include the characteristics of the three types of missiles they produce.

TECHNICAL CHARACTERISTICS	"GRAD" ORIGINAL	"G-M"	"G-2000"	Units
Caliber	122	122	122	mm
Length	2875	2875	2875	mm
Temperature range	-30 ÷ +50	-30 ÷ +60	-30 ÷ +60	°C
Total mass	66	68.7	69.0	kg
Warhead mass with fuse	19.1	19.1	19.1	kg
Propellant mass	20.45	25.8	27.3	kg
Burning time	2.0	2.5	2.7	s
Total motor impulse	39700	52700	62800	Ns
Specific motor impulse	1941	2042	2300	Ns/kg
Max. Velocity at X_e	690.6	915	1100	m/s
Top of the Trajectory at X_e	7100	11100	17800	m
Time of Flight at X_e	76	96	126	s
Elevation	50.0	50.0	56.9	°
Range (X_e)	20.3	27.5	40.2	km
CEP at max. range	1.27	0.96	0.96	%

Fig. 22 - Characteristics of 122-mm rockets produced in Serbia.

To summarize, it can be argued that the countries of Eastern Europe produce and keep in stock three types of MLRS missiles of the Grad family: the classic Grad missile with a range of 20.3 km, the G-M missile with a range of 27.5 km and the G-2000 missile with a range of 40.2 km.

[17] R122 mm G-2000/G-M (published on 08.04.2023) "Edepro Serbia" URL: https://web.archive.org/web/20131205081809/http://www.edepro.com/?page_id=51 (accessed on 20.12.2023)

DETERMINATION OF THE SHELLING SECTOR

As for the direction from which the shelling considered in our investigation was carried out, we went to the site and determined the shelling direction using shell crater method[18].

Craters formed on soil and asphalt surfaces were identified as the second-type ones, i.e., from explosions of shells that came into contact with the surface at a high striking angle.

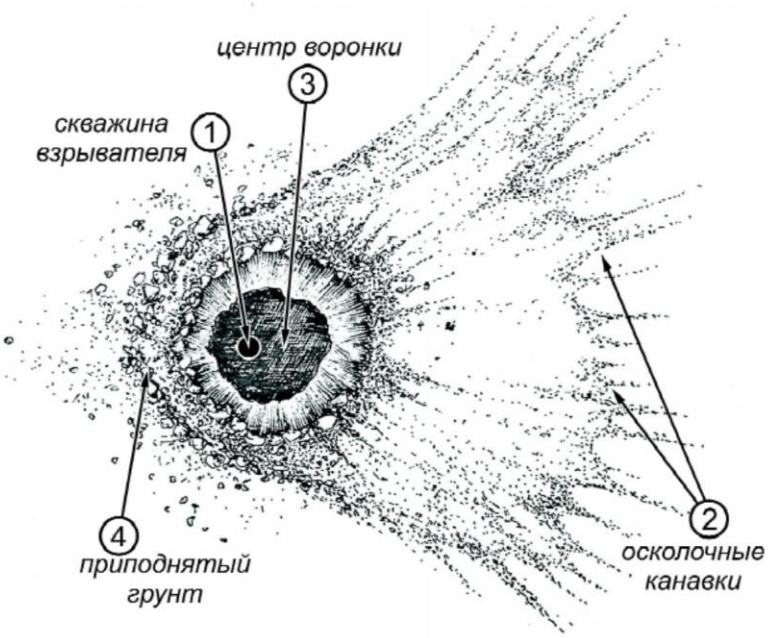

Fig. 23 – Signs of the second-type crater (produced by the projectile that hit the surface at a high striking angle).

Based on the above properties, we determined the shelling direction in cases of shell hits 4, 7, 8 and 9. A compass of a “Doogee V20” mobile phone and a magnetic compass were used for the determination.

[18] ANALYSIS OF CRATERS FORMED BY HIGH EXPLOSIVE SHELLS. Public Commission for recording and investigating war crimes. URL: https://vk.com/doc-95389776_437108837?hash=fYx0432c8WaG61fr4xpjvCb2u3xVmt5UfIYXSHuq7vT&dl=GAWpyFaIt13HV2ne7SnsaUJAGcUlKFXNJjEtu5fyj0D&api=1&no_preview=1 (accessed on 20.12.2023)

Fig. 24 – Shelling direction determination in the case of shell hit 4.

Fig. 25 – Shelling direction determination in the case of shell hit 7.

Fig. 26 – Shelling direction determination in the case of shell hit 8.

Fig. 27 – Shelling direction determination in the case of shell hit 9.

Relying on the measurements made, for the purposes of this investigation we determine the shelling direction as oriented from west-north-west to east-south-east along an azimuth of 280 degrees with a possible error of plus or minus 15 degrees.

Guided by the shapes of the craters, and the measurements in case of shell hit 8, we can judge that the shelling was carried out from a distance close to the maximum. Thus, based on the firing tables for the Grad MLRS[19] we can state that the minimum shelling distance is 10 km.

According to the characteristics of the MLRS missiles of the Grad family transferred to Ukraine by Eastern European countries, the maximum distance is 40.2 km.

Fig. 28 – Determining the angle of impact with a horizontal surface at the site of shell hit 8

[19] At the request of fellow artillerymen: Firing tables for their formidable guns. (published on 10.04.2023) “Two Majors” Telegram Channel. URL: https://t.me/dva_majors/12785 (accessed on 20.12.2023)

Based on the information described above, we mapped the shelling sector and the line of combat contact according to the map published on the LostArmor website[20].

Fig. 29 – The sector from which the artillery shelling of the Azotny microdistrict was carried out.

[20] Map of the Special Military Operation in Ukraine. (published on 20.12.2023) LostArmor Military-analytical portal. URL: https://lostarmour.info/map (accessed on 20.12.2023)

MILITARY PRESENCE

According to the map published on September 2, 2023 in the USA RIOTS Telegram Channel[21] it is clear that the sector we have designated is in the area of responsibility of the 59th Separate Mechanized Brigade of the Ukrainian Ground Forces.

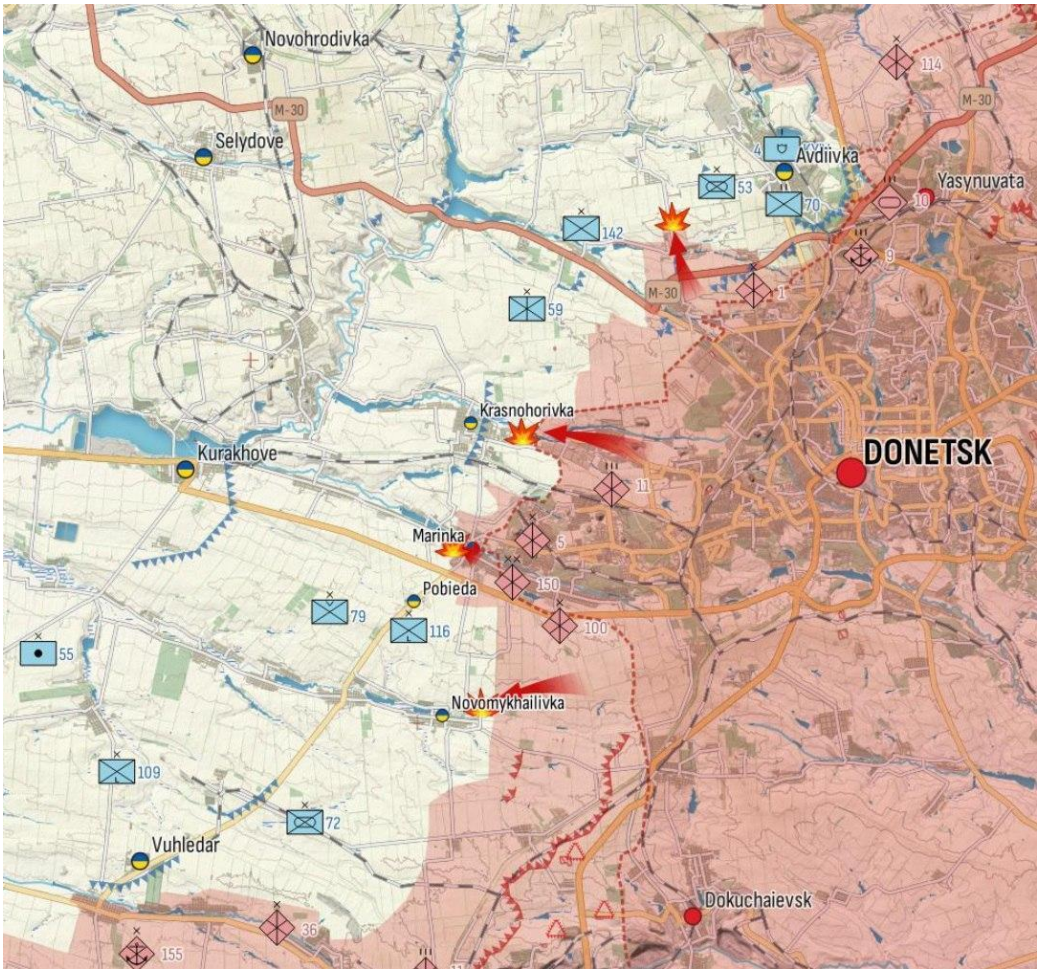

Fig. 30 - Map of the combat situation in the Donetsk direction as of September 2, 2023.

[21] Maps as of the evening of September 2 (published on 04.09.2023) USA RIOTS Telegram Channel. URL: https://t.me/usariots/11617?single (accessed on 04.09.2023)

The 59th Motorized Brigade of the Ukrainian Ground Forces

Fig. 31 – Brief information about the UAF 59th SMBr on the pages of "Wikipedia".

On December 8-20, 2014, the formation of the brigade began in accordance with the General Directive of the Ministry of Defense and the General Staff of the UAF dated 08.12.2014[22]. The brigade received the flag during the celebration of Ukraine's Independence Day in 2015.

The brigade's garrison is located in the city of Haisyn, the Vinnytsia Region, military town No. 100 (funds of the 31st aviation training center, military unit A3769, disbanded in 2013). Deployment position of two battalions is in the town of Podolsk, the Odessa Region, on the funds of the former 90th training center of the automobile troops.

[22] 59th Motorized Brigade (Ukraine) (published on 12.12.2015) Ukrainian Military Pages, URL: https://www.ukrmilitary.com/2015/03/59.html (accessed on 20.12.2023)

This unit has a rocket battery armed with Grad MLRS[23]. The story of the Ukrainian TV channel “hromadske” about the work of the BM-21 “Grad” MLRS crew of the 11th battalion of the 59th separate motorized infantry brigade in the Avdeyevka direction was published on November 16, 2023 in the telegram channel of this unit[24]. In the video, one of the gunners says that they are working from a distance of 18 kilometers in the direction of Peski, i.e., just in the sector we are interested in.

Fig. 32 – Brief information about the UAF 59th SMBr on the pages of “Wikipedia”.

Thus, the combatants from the 59th Mechanized Infantry Brigade of the Ukrainian Ground Forces are responsible for the artillery shelling under consideration.

[23] 59th Motorized Brigade (Ukraine) (published on 06.07.2023) Wikipedia. URL: https://ru.m.wikipedia.org/wiki/59-я_отдельная_мотопехотная_бригада_(Украина) (accessed on 20.12.2023)

[24] Here is a video report by "hromadske" TV about the work of the artillery unit of the BM-21 Grad MLRS of the 11th battalion of the 59th separate motorized infantry brigade in the Avdeyevka direction. (published on 16.11.2023) 59 Brigade|Heroes of Ukraine Telegram Channel. URL: https://t.me/ompbr59/607 (accessed on 20.12.2023)

Persons in charge

Vadim Sukharevskiy has been the commander of the 59th SMBr of the Ukrainian Ground Forces since February 2022[25]. From the very beginning of the war in Donbass, this man used to achieve his goals by any means necessary. Thus, it was Sukharevskiy who first gave order to fire on people in Slavyansk on April 13, 2014. Eyewitnesses describe what happened as follows:

"The commander of the 3rd company of the 80th air mobile brigade, Sukharevskiy (call sign Barsuk), came into the vicinity of Semyonovka in an armored personnel carrier. At that time, it was customary for local civilians to organize something like anti-war actions for uninvited guests – they came out to the moving Ukrainian military columns, as if trying to block their passage. Of course, the military did not intend to run down the civilians, and suspended the movement. And then, when the locals left, the movement resumed. But Sukharevskiy was not going to wait for the protesters to leave, and "fired a burst" at people several times with his submachine gun (according to other sources, with a light machine gun). Several people were mown down by the bursts of machine-gun fire»[26]

UAF Colonel Vadim Olegovich Sukharevskiy[27] is personally responsible for the actions of combatants from the 11th battalion of the 59th SMBr of the Ukrainian Ground Forces. In addition, he could have given the order to launch an artillery strike on the Azotny microdistrict in the city of Donetsk.

[25] The photo shows the legendary commander of the 59th separate motorized brigade Vadym Sukharevskiy (published on 21.10.2022) Glavred - Ukraine's Telegram News. URL: https://t.me/glavredinfo/51198?single (accessed on 20.12.2023)

[26] The killer who started the war. Versia Online Newspaper. URL: https://versia.ru/ukrainskij-morpex-vadim-suxarevskij-pervym-otkryl-ogon-po-mirnym-lyudyam-v-slavyanske (accessed on 20.12.2023)

[27] Vadim Olegovich Sukharevskiy (published on 14.04.2023) WikipediA URL: https://uk.m.wikipedia.org/wiki/Сухаревський_Вадим_Олегович

Fig. 33 - UAF Colonel Vadym Sukharevskiy (right) together with Deputy Minister of Defense of Ukraine Anna Malyar (left).

CONCLUSIONS

As follows from the above, on November 28, 2023, at approximately 11:00 a.m. (Moscow time), the Kuibyshevskiy district of Donetsk, in particular, the "Azotny" residential microdistrict, came under artillery fire from the Grad MLRS using missiles manufactured in Eastern Europe. The shells flew in a direction from west-north-west to east-south-east (azimuth 280 degrees, error making ± 15 degrees).

All shell hits fell on densely populated residential areas of the city and led to damage to civilian objects, death and injury to civilians. Thus, the principles of selectivity and proportionality were violated.

As a result of the analysis of news videos and information from the Internet, it was found that the 11th battalion of the 59th separate motorized brigade named after Yakov Handzyuk, armed with the Grad MLRS, could be located in the shelling sector. The command of the 59th SMBr of Ukrainian Ground Forces is exercised by Colonel Vadim Olegovich Sukharevskiy. Precisely he is responsible for the actions of his subordinates from the 11th battalion. In addition, he could have given the order to launch an artillery strike on the Azotny microdistrict in the city of Donetsk.

LEGAL QUALIFICATIONS

Indiscriminate shelling of a densely populated residential area inthe town of Makeyevka, in which civilians were killed and injured, is a crime for which responsibility is provided by the norms of national legislation of Ukraine and by the norms of international law.

The acts described above first of all violate the principle of **proportionality,** which declares as prohibited "*attacks which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated*".

This principle is enshrined in **Article 51(5)(b)** and is repeated in **Article 57** of **Additional Protocol I** to the 1949 Geneva Conventions. It is also recognized as **rule 14 of customary international humanitarian law** and applies to both international and internal armed conflicts.

Moreover, the acts in question can be qualified as **indiscriminate attacks**.

Article 51(4) of Additional Protocol I to the 1949 Geneva Conventions expressly prohibits indiscriminate attacks and reckons the following among them: "*(a) those which are not directed at a specific military objective; (b) those which employ a method or means of combat which cannot be directed at a specific military objective; or (c) those which employ a method or means of combat the effects of which cannot be limited as required by this Protocol*".

In compliance with **Rule 71 of Customary International Humanitarian Law**: "*States must never make civilians the object of attack and must consequently never use weapons that are incapable of distinguishing between civilian and military targets*"

In compliance with **Art. 3 common to all Geneva Conventions of August 12, 1949,** extending its effect to all types of armed conflicts, "*persons taking no*

active part in the hostilities, including members of armed forces who have laid down their arms and those placed 'hors de combat' by sickness, wounds, detention, or any other cause, shall in all circumstances be treated humanely, without any adverse distinction founded on race, colour, religion or faith, sex, birth or wealth, or any other similar criteria".

To this end, violence to life and person, in particular murder of all kinds and mutilation, are prohibited inter alia with respect to the above-mentioned persons.

In compliance with **Art. 438 of the Criminal Code of Ukraine**, for "... *use of methods of the warfare prohibited by international instruments, or any other violations of rules of the warfare recognized by international instruments consented to be binding by the Verkhovna Rada (Parliament) of Ukraine, and also giving an order to commit any such actions*", shall be punishable by imprisonment for a term of eight to twelve years, and if the same acts accompanied with an intended murder, shall be punishable by imprisonment for **a term of ten to fifteen years, or life imprisonment**.

REFERENCES

Sources used in the text

1. Ukraine's counterattack (2023) (last updated on 04.12.2023) WikipediA. The Free Encyclopedia URL: https://ru.wikipedia.org/wiki/Контрнаступление_Украины_(2023)#cite_note-2 (accessed on 14.12.2023)
2. AVDEYEVKA - TWO MONTHS OF BATTLE (BRIEF RESULTS) (published on 14.12.2023) "Armchair Warrior" Yandex-Dzen Channel. URL: https://dzen.ru/a/ZXV47glxh1EgZW7B (accessed on 14.12.2023)
3. Battle of Marinka (2022–present) (last updated on 01.12.2023) WikipediA. The Free Encyclopedia URL: https://en.wikipedia.org/wiki/Battle_of_Marinka_(2022–present) (accessed on 14.12.2023)
4. Investigations and Analytics. "Verum" Project. URL: https://proekt-verum.org/analitics (accessed on 15.12.2023).
5. AGS_Operational data summary (published on 28.11.2023) AGS_Donbass Telegram Channel. URL: https://t.me/Ags_Donbass/225921 (accessed on 14.12.2023)
6. AGS_Operational data summary (published on 28.11.2023) AGS_Donbass Telegram Channel. URL: https://t.me/Ags_Donbass/196126 (accessed on 14.12.2023)
7. The operational lines of the DPR JCCC as of November 28 at 14:00 received information about civilian casualties in the cities of the Republic (published on 28.11.2023) The DNR in JCCC Telegram Channel: facts of Ukraine's war crimes. URL: https://t.me/DNR_SCKK/17773 (accessed on 14.12.2023)
8. Records of the shelling effects in the Kuibyshevskiy district of Donetsk at 10:53 on 28.11.2023 (published on 29.11.2023) The DNR in JCCC Telegram Channel: facts of Ukraine's war crimes. URL: https://t.me/DNR_SCKK/17805 (accessed on 14.12.2023)
9. Militants fired Krasnohorovka with Grad MLRSs in the Donetsk Region – Joint Centre for Control and Coordination. Public TV. URL: https://hromadske.ua/posts/boiovyky-obstrilialy-z-hradiv-krasnohorivku-na-donechchyni-stskk (published on 28.08.2016).
10. Gun in Russia – BM-21 GRAD. Russian motor books 2002. 37 p.

11. Records of the shelling effects in the Kuibyshevskiy district of Donetsk at 10:53 on 28.11.2023 (published on 29.11.2023) The DNR in JCCC Telegram Channel: facts of Ukraine's war crimes. URL: https://t.me/DNR_SCKK/17791 (accessed on 20.12.2023)

12. Ministryně obrany informovala o detailech odtajněné vojenské pomoci Ukrajině (published on 23.02.2023) Ministerstvo obrany Ceske republiky URL: https://mocr.army.cz/informacni-servis/zpravodajstvi/ministryne-obrany-informovala-o-detailech-odtajnene-vojenske-pomoci-ukrajine-242316/ (accessed on 20.12.2023)

13. Slovaks give Mi helicopters, Grad rockets to Ukraine (published on 16.06.2022) Reuters URL: https://www.reuters.com/world/europe/slovaks-give-mi-helicopters-grad-rockets-ukraine-2022-06-16/ (accessed on 20.12.2023)

14. Exclusive: Leaked U.S. intel document claims Serbia agreed to arm Ukraine (published on 12.08.2022) // «Reuters» URL: https://www.reuters.com/world/leaked-us-intel-document-claims-serbia-agreed-arm-ukraine-2023-04-12/ (accessed on 20.12.2023)

15. HOW DID SERBIAN-MADE MISSILES GET INTO UKRAINE?! (published on 03.03.2023) MEETING POINT on NTV. URL: https://vk.com/video-188737940_456243786?list=c7b3201142a08b697a (accessed on 20.12.2023)

16. 122 mm HE rockets "GRAD" for 122 mm MLRS. "MSM GROUP" URL: https://www.msm.sk/en/products/defence/ammunition/rockets/122-mm-he-rockets-grad-for-122-mm-mlrs/ (accessed on 20.12.2023)

17. R122 mm G-2000/G-M (published on 08.04.2023) "Edepro Serbia" URL: https://web.archive.org/web/20131205081809/http://www.edepro.com/?page_id=51 (accessed on 20.12.2023)

18. ANALYSIS OF CRATERS FORMED BY HIGH EXPLOSIVE SHELLS. Public Commission for recording and investigating war crimes. URL: https://vk.com/doc-95389776_437108837?hash=fYx0432c8WaG61fr4xpjvCb2u3xVmt5UfIYXSHuq7vT&dl=GAWpyFaIt13HV2ne7SnsaUJAGcUlKFXNJjEtu5fyj0D&api=1&no_preview=1 (accessed on 20.12.2023)

19. At the request of fellow artillerymen: Firing tables for their formidable guns. (published on 10.04.2023) "Two Majors" Telegram Channel. URL: https://t.me/dva_majors/12785 (accessed on 20.12.2023)

20. Map of the Special Military Operation in Ukraine (published on 20.12.2023) LostArmor Military-analytical portal. URL: https://lostarmour.info/map (accessed on 20.12.2023)

21. Maps as of the evening of September 2 (published on 04.09.2023) USA RIOTS Telegram Channel. URL: https://t.me/usariots/11617?single (accessed on 04.09.2023)

22. 59th Motorized Brigade (Ukraine) (published on 12.12.2015) Ukrainian Military Pages, URL: https://www.ukrmilitary.com/2015/03/59.html (accessed on 20.12.2023)

23. 59th Motorized Brigade (Ukraine) (published on 06.07.2023) Wikipedia. URL: https://ru.m.wikipedia.org/wiki/59-я_отдельная_мотопехотная_бригада_(Украина) (accessed on 20.12.2023)

24. Here is a video report by "Hromadske" TV about the work of the artillery unit of the BM-21 Grad MLRS of the 11th battalion of the 59th separate motorized infantry brigade in the Avdeyevka direction. (published on 16.11.2023) 59 Brigade|Heroes of Ukraine Telegram Channel. URL: https://t.me/ompbr59/607 (accessed on 20.12.2023)

25. The photo shows the legendary commander of the 59th separate motorized brigade Vadym Sukharevskiy (published on 21.10.2022) Glavred - Ukraine's Telegram News. URL: https://t.me/glavredinfo/51198?single (accessed on 20.12.2023)

26. The killer who started the war. Versia Online Newspaper. URL: https://versia.ru/ukrainskij-morpex-vadim-suxarevskij-pervym-otkryl-ogon-po-mirnym-lyudyam-v-slavyanske (accessed on 20.12.2023)

27. Vadim Olegovich Sukharevskiy (published on 14.04.2023) WikipediA URL: https://uk.m.wikipedia.org/wiki/Сухаревський_Вадим_Олегович

Additional Sources

1. Shelling effects in the Azotny microdistrict of the Kuibyshevskiy district of Donetsk (published on 29.11.2023) The DNR in JCCC Telegram Channel: facts of Ukraine's war crimes. URL: https://t.me/DNR_SCKK/17801.

2. Ukrainian nationalists shelled residential areas of Donetsk (published on 28.11.2023) Izvestia Telegram Channel. URL: https://t.me/izvestia/153580.

3. More than 10 Ukrainian missiles hit the Azotny microdistrict in Donetsk. There are wounded - at least one is in serious condition. (published on 28.11.2023) Mash in Donbass Telegram Channel. URL: https://t.me/mash_donbass/5067

4. At least 11 enemy missiles hit a market in Donetsk - at least two people were wounded (published on 28.11.2023) Readovka Telegram Channel. URL: https://t.me/readovkanews/70047

5. Video More than five people were wounded during shelling of Donetsk (published on 28.11.2023) WarGonzo Telegram Channel. URL: https://t.me/wargonzo/16738

6. One of the Grad shells fired by the UAF pierced the roof of a residential building in Donetsk. As a result of the Ukrainian strike on the Azotny microdistrict, five people were wounded (published on 28.11.2023) RIA News Telegram channel. URL: https://t.me/rian_ru/222984

7. Shelling effects in the Kuibyshevskiy district, Azotny microdistrict (published on 28.11.2023) Aleksey KulemZin Telegram Channel. URL: https://t.me/kulemzin_donetsk/24427

8. Grad MLRS shelling effects in the Kuibyshevskiy district of Donetsk, Azotny microdistrict (published on 28.11.2023) War through the Journalist's Eyes Telegram Channel. URL: https://t.me/WarInMyEyes/5707?single

9. Consequences of the shelling of the Kuibyshevskiy district of Donetsk by Ukrainian militants (published on 28.11.2023) The DPR Online Telegram Channel. URL: https://t.me/dnronline/113163

10. A Ukrainian projectile hit an apartment where there were children (published on 28.11.2023) Donetsk News Agency Telegram Channel. URL: https://t.me/dan_dnr/17046

11. More consequences of the shelling of the Kuibyshevskiy district, Donetsk, which resulted in casualties (published on 28.11. 2023) Typical Donetsk Telegram channel. URL: https://t.me/itsdonetsk/117543

12. Damage in the fifth and sixth entrances (published on 28.11.2023) "Operative chat. Shellings" Telegram chat. URL: https://t.me/c/1651193279/48740/150309