

Shelling of Kiyevskiy District, Donetsk, using rifled artillery on September 20, 2015

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Author: Ivan Aleksandrovich Kopyl

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ABBREVIATIONS

NSDC of Ukraine - National Security and Defense Council of Ukraine

UAF - Ukrainian Armed Forces

DEC - District Executive Committee

DPR - Donetsk People's Republic

RTC - Regional Trauma Center

HES - high explosive fragmentation shell

IMB - Independent Mechanized Brigade

SAMBr - separate airmobile brigade

PREAMBLE

In January 2015, there were fierce battles for Donetsk airport. In especially acute moments of confrontation, residential areas of Donetsk were also subjected to shelling.

On January 15, the airport came under the control of the Donetsk People's Republic¹. On January 18, representatives of the National Security and Defense Council of Ukraine announced a decision to start a massive operation to return the old airport terminal, occupied by the rebels, under their control.² The 93rd brigade commander, Oleg Mikats, led the Ukrainian forces.³ On January 20, the UAF made a new attempt to storm Donetsk airport.⁴

On the same day (January 20, 2015), Kievsky District of Donetsk was shelled. One of the shells exploded near the Kievsky DEC public transport stop in Kievsky Avenue⁵.

Other shells also damaged buildings at a distance of up to 500 meters from the stop⁶. The Nursery School No. 204 and the boiler facility next to the building in 10, Politboitsov St. were damaged.

As evidenced by the summary of events over the day, published by the DPR Human Rights Ombudsman⁷, two civilians **were killed** in the area of this incident:

¹ Donetsk airport is completely controlled by the militias [published on 15.01.2015] Vesti.ru website. URL: <https://www.vesti.ru/article/1762554> (accessed on 01.09.2021).

² ATO forces announced the beginning of a massive operation to return the airport [published on 18.01.2015] Vesti.ua website. URL: <https://vesti.ua/donbass/85269-sily-ato-zajavili-o-nachale-massirovannoj-operacii-po-vozvrazeniju-ajeroporta> (accessed on 01.09.2021).

³ Events in Donetsk airport. Timeline. [published on 16.01.2015] Vesti.ua URL: <https://vesti.ua/donbass/85153-sobytaja-v-doneckom-ajeroportu-hronika> (accessed on 01.09.2021).

They gnawed the frozen water, but crashed the enemy. How DAP "cyborgs" desperately fought for Ukraine [published on 26.05.2020] Obozrevatel website. URL: <https://plus.obozrevatel.com/crime/donetskij-aeroport-pervyj-boj-26-maya-i-geroicheskaya-oborona.htm> (accessed on 01.09.2021).

⁴ Post of Yuri Biryukov (Adviser to the President of Ukraine) [published on 20.01.2015] Facebook Social Network. URL: <https://www.facebook.com/yuri.biriukov/posts/1550445968557548?pnref=story> (accessed on 01.09.2021).

The Ukrainian military reported about the tank offensive of the "terrorists" [published on 20.01.2015] Lenta.ru website. URL: <https://lenta.ru/news/2015/01/20/ato/> (accessed on 01.09.2021).

War in Donbass (Donetsk airport on 20.01.2015) [published on 21.01.2015] YouTube Video hosting. URL: https://youtu.be/BZx4pe_MOhg (accessed on 01.09.2021).

⁵ Healthcare professionals: one person killed, eight wounded during the shelling of Donetsk [published on 20.01.2015] RIA News Agency. URL: <https://ria.ru/20150120/1043379811.html?in=t> (accessed on 01.09.2021).

⁶ The Destruction Summary Report of Donetsk and Avdeievka as of January 20 [published on 20.01.2015] Dialog.UA website. URL: https://www.dialog.ua/news/37738_1421742896 (accessed on 01.09.2021).

⁷ Summary Report over the day from 11.00 20.01.2015 till 11.00 21.01.2015 [published on 21.01.2015] VKontakte Social Network. URL: https://vk.com/wall-81256152_109 (accessed on 01.09.2021).

1. a man at a bus stop near the Kievsky Executive Committee,
2. Prud' V.S., born in 1954, 10A, Politboytsov St., an employee of the KMS boiler facility.

In addition, the same source published information about the nine **wounded**:

1. Cheban M.S., born in 1963, injured near the Kievsky DEC bus stop, non-penetrating wounds of the chest, taken to the Kalinin Hospital;
2. Miganov V.N., born in 1969, injured near the Kievsky DEC bus stop, open trauma to the abdomen and chest, taken to the Regional Trauma Center (RTC);
3. Gerasechkin I.V., born in 1963, injured near the Kievsky DEC bus stop, trauma to the abdomen, taken to the RTC;
4. Shulga V.Ya., born in 1941, injured near the Kievsky DEC bus stop, shell fragmentation wound of the right and left tibiae, taken to the RTC;
5. Rybinskaya L.S., born in 1943, injured near the Kievsky DEC bus stop, shell fragmentation wound of the left tibiae, taken to the RTC;
6. Poznyak N.V., born in 1962, 3A, Politboytsov St., shell fragmentation wound of the abdominal cavity, taken to municipal hospital No. 1;
7. Gaidchek G.K., born in 1964, 3, Politboytsov St., shell fragmentation wound of the shoulder and auricle, taken to the RTC;
8. Gaidchek E.B., born in 1969, 3, Politboytsov St., head soft tissue bruise, taken to the RTC;
9. Selegeneva N.S., born in 1949, 3A, Politboytsov St., shell fragmentation wound of the lower jaw, taken to the RTC.

INCIDENT LOCATION

Studies of the photo and video materials published in the media and on the Internet, interviews with the witnesses and the victims of the artillery shelling of Donetsk approximately at 09:30 on 20.01.2015, visits and examinations of the incident scene enabled us to establish seven locations of artillery shell hits (see Fig. 1).

Shell hit 1 (see Fig. 2, Fig. 3, Fig. 4). The shell hit the roof of Nursery School No. 204. Fortunately, the ammunition did not detonate and having broken the roof after a ricochet from the wall, remained lying the shower tray, located in a technical niche. Subsequently, it was disarmed by sappers.

Shell hit 2 (see Fig. 5, Fig. 6, Fig. 7). The shell hit between two technical tanks near the boiler facility, located near the residential building in 10, Politboitsov St. As a result of the projectile detonation, one of the fragments hit the window of the boiler house and inflicted a wound on the boiler facility employer (electrician Vasily Prud'⁸) that was incompatible with life.

Shell hit 3 (see Fig. 8). The shell hit the base of the western wall (closer to the southern end) of the building No. 3 in Politboytsov Street. As a result of the projectile detonation, a through hole was formed in the wall.

Shell hit 4 (see Fig. 9). The shell hit the lawn next to the one-story building in 20A, Politboitsov St. The glazing of nearby buildings was damaged.

Shell hit 5 (see Fig. 10, Fig. 11, Fig. 12). The shell hit the roof of the shopping pavilion next to the Kievsky DEC public transport stop. Civilians who were waiting for public transport at the bus stop were killed and injured.

Shell hit 6 (see Fig. 13, Fig. 14). The shell hit the dividing strip of the road a little to the south of the Kievsky DEC public transport stop.

Shell hit 7 (see Fig. 15). The shell hit the sidewalk near the wall of the building NO. 21 in Kievsky Avenue. The wall and the glazing of the building were damaged.

⁸ 2015.01.20 Donetsk. News at 20:00, Russia 1 TV [published on 20.01.2015] YouTube Video hosting. URL: <https://youtu.be/GRsLwVhuodc> (accessed on 01.09.2021).

WEAPON TYPE

Testimonies and physical evidence

An unexploded shell found at the site of hit No. 1 gives us reason to believe that rifled artillery was used in the case under consideration. Given that during the armed conflict in Donbass, the types of weaponry inherited by the parties from the Soviet Union were used, it can be assumed that 122mm or 152mm artillery was employed.

A video taken on January 20, 2015 at Nursery School no. 204 shows an unexploded shell⁹, lying in an enameled metal shower tray.

We went to this children's institution and asked to inspect the place where the shell hit. The head of the kindergarten said that this building had been renovated after repeated shelling. However, redevelopment (demolition or construction of walls and partitions) was not carried out.

Inspection of the place where the unexploded shell was found made it possible to measure the width of the niche with the detected shell (see Fig. 17). This dimension has remained unchanged (see Fig. 16).

By overlaying the forensic ruler on the photo, it is possible to determine the approximate diameter of the projectile with an error of no more than 10% (see Fig. 18), which approximately equals 150 mm, and the approximate length of the projectile, which is approximately 750 mm (see Fig. 19).

Also in another video, which shows the process of extracting this unexploded projectile by a sapper¹⁰, it is said that this is a 152 mm shell.

The above facts allow us to conclude that on January 20, 2015, Nursery School No. 204 was fired upon from 152mm rifled artillery.

In addition, the fragments found near the boiler facility located not far from the above-mentioned Nursery School also confirm the version of the use of rifled artillery.

⁹ Donetsk. Shelling on 20.01.2015 Kievsky District. 7, Politboitsov St. Nursery School. 152mm [published on 23.01.2015] YouTube Video hosting. URL: https://youtu.be/dMhzZSi4_mk (accessed on 01.09.2021).

¹⁰ Donetsk. Shelling of Nursery School on 20.01.2015 Kievsky District. 7, Politboitsov St. Nursery School. (Part 2) [published on 23.01.2015] YouTube Video hosting. URL: https://youtu.be/dMhzZSi4_mk (accessed on 01.09.2021).

According to a witness named Andrei in the video, “Since 9 o’clock we are under another scheduled shellfire [...] There are dead, there are wounded. The boiler house is covered fully”¹¹.

A woman in another video lists the locations of the hits she knew that occurred that day: “Here a shell hit from the back side of the food store, there was also a shell hit in front of the kindergarten, the boiler house was destroyed, the Kievsky Executive Committee bus stop was also hit, there is no food store completely, we were walking from trauma center - there is a corpse lying...”¹²

Messages about hitting the Kievsky DEC public transport stop began to appear in social networks around 9:30¹³.

Based on the above, it can be argued that the area of Nursery School No. 204 and the Kievsky DEC public transport stop came under fire at the same time.

152mm Artillery

In 2015, the Ukrainian army was armed with the following types of 152mm artillery:

1. 2S19 Msta-S self-propelled howitzer;
2. 2A65 Msta-B howitzer;
3. 2S5 Giatsint-S self-propelled mortar;
4. 2A36 Giatsint-B gun;
5. 2S3 Akatsia self-propelled howitzer;
6. D-20 howitzer.

The characteristics of these guns are similar; however, their firing ranges differ (see Table 1).

¹¹ Effects of the shelling of the Kievsky District, Donetsk by ukrofascists. A boiler worker killed on 20.1.15 [published on 21.01.2015] Moi Mir Social Network URL: https://my.mail.ru/mail/bandukov_rg/video/govoritmoskva/2762.html (accessed on 01.09.2021).

¹² 18+ Donetsk. Shelling of Kievsky District. Not for the faint-hearted! (PSD TV) [published on 21.01.2015] YouTube Video hosting. URL: <https://youtu.be/pca5DPKDEEo> (accessed on 01.09.2021).

¹³ Head check in Donetsk [published on 21.01.2015] VKontakte Social Network. URL: https://vk.com/topic-85329075_31290662?offset=3200 (accessed on 01.09.2021).

It is worth noting that an unexploded shell found in the Nursery School has a cavity in the back, typical of long-range artillery shells (see Fig. 20). Such a cavity is designed to increase the projectile range.

Table 1 – Gunnery range of 152mm artillery being in service at the Ukrainian AF in 2015.

	2C19 Msta-S ¹⁴	2A65 Msta-B ¹⁵	2C5 Giatsint-C ¹⁶	2A36 Giatsint-B ¹⁷	2C3 Akatsiya ¹⁸	D-20 ¹⁹
Minimum HES gunnery range, meters	6,500	6,500	8,600	8,600	4,200	4,600
Maximum HES gunnery range, meters	24,700	24,700	28,400	27,000	17,400	17,410
HES is the most common shell for this mortar, its length with fuse makes	3OF45 (864 mm) ²⁰ 3OF64 (860 mm) ²¹		3OF29 (725 mm) ²²		3OF25 (709 mm) ²³	

In addition, the long-range projectile is longer than its regular counterparts. Unfortunately, the exact dimensions of modern 152 mm projectiles without fuses could

¹⁴ Msta-S SAU. [published on 22.11.2018] Militaryarms.ru website. URL: <https://militaryarms.ru/voennaya-texnika/artilleriya/sau-msta-s/> (accessed on 01.09.2021).

¹⁵ 152mm Msta-B Howitzer (2A65). Gunnery range. Dimensions. Weight. Ammunition. Oruzhie.info website. URL: <http://oruzhie.info/artilleriya/583-msta-b> (accessed on 04.09.2021).

¹⁶ Artillery. Large caliber. Giatsints. [Published on 04.06.2018] Top War Military Review website. URL: <https://topwar.ru/143897-artilleriya-krupnyy-kalibr-giacinty.html> (accessed on 01.09.2021).

¹⁷ The 1976 Soviet 2A36 Giatsint-B 152mm gun - the world's most powerful wheeled, towed artillery system. Gunsfriend.ru website. URL: <https://gunsfriend.ru/152-mm-puska-2a36-giacint-b-1976-goda/> (accessed on 04.09.2021).

¹⁸ 2S3 Akatsiya Self-propelled Howitzer. Military-informant website. URL: <https://military-informant.com/art/2s3-sp-1538262475.html> (accessed on 04.09.2021).

¹⁹ Soviet 152mm Towed Howitzer Cannon D-20. The Third World War (Politico-Military Review). URL: https://3mv.ru/publ/vooruzhenie/sovetskaja_152_mm_buksiruemaja_pushka_gaubica_d_20/21-1-0-12462 (accessed on 04.09.2021).

²⁰ 152-mm rounds of 3VOF58, 3VOF72, 3VOF73 with high-explosive fragmentation projectile 3OF45 Namestnik-1. BOEPRIPASNIK website. URL: http://soviet-ammo.ucoz.ru/index/152_of45/0-171 (accessed on 07.10.2021).

²¹ 152,4-mm rounds of 3VOF96, 3VOF97 and 3VOF98 with high-explosive fragmentation projectile 3OF64 Khrebet-M. BOEPRIPASNIK website. URL: http://soviet-ammo.ucoz.ru/index/152_of64/0-172 (accessed on 07.10.2021).

²² 152,4-rounds of 3VOΦ39, and 3VOF40 with high-explosive fragmentation projectile 3OF29 Bekas. BOEPRIPASNIK website. URL: http://soviet-ammo.ucoz.ru/index/152_of29/0-310 (accessed on 07.10.2021).

²³ 152-Mm rounds of 3VOΦ32, and 3VOF33 with high-explosive fragmentation projectile 3OF25 Grif. BOEPRIPASNIK website. URL: http://soviet-ammo.ucoz.ru/index/152_of25/0-168 (accessed on 07.10.2021).

not be found in open sources, however, the website of the Mechanical Engineering Research Institute named after V.V. Bahirev, that produces these shells, presents sufficiently detailed images to estimate the size of the shells using a scale bar (see Fig. 21).

Our measurements show that the length of the unexploded shell corresponds to the length of the shells used for firing from the 2S19 Msta-S and 2A65 Msta-B howitzers and is about 650 mm. Moreover, the cavity in the rear body is characteristic precisely of the 3OF45 and 3OF64 projectiles.

These facts allow us to conclude that **a 2S19 Msta-S howitzer or a 2A65 Msta-B self-propelled howitzer was used for this attack.**

2C19 Msta-S and 2A65 Msta-B Howitzers

The 2A65 Msta-B and 2S19 Msta-S howitzers that went to Ukraine from the Soviet Union entered in service in 1986 and 1979. The artillery units of both systems (2A64 and 2A65, respectively) have the same design, the only difference is that the 2A64 has an ejector for removing powder gases from the bore after firing a shot.²⁴

The main ammunition load of the 2C19 and 2A65 howitzers includes 3OF45 high-explosive fragmentation projectiles with a maximum gunnery range of 24.7 km, 3OF64 projectiles with improved efficiency, 3OF61 high-explosive fragmentation projectiles with a bottom injection gas generator²⁵.

²⁴ 152-Mm Msta-B (2A65) towed howitzer [published on 23.09.2016] Top War Military Review website. URL: <https://topwar.ru/101092-152-mm-buksiruemaya-gaubica-msta-b-2a65.html> (accessed on 07.10.2021).

²⁵ Savilova L.A. (Ed.) 2C19 TO. Article 2C19. Technical description and operating instructions for calculation. Ufa, 1990, pp. 4-13.

PROBABLE SECTOR OF SHELLING

At shell hit points 3 and 7, trails of the main scatter of fragments are clearly visible, which makes it possible to plot the scheme of fragment dispersion and determine the approximate direction of shelling (see Fig. 25, Fig. 27). In both cases, it can be argued that the shell damaged the western wall of the building, hitting it at an acute angle.

By plotting the hit data on the map, it can be seen that the shelling was carried out in an azimuth of approximately 330 degrees (see Fig. 26 and Fig. 28).

It is worth noting that a single-gun salvo is characterized by the placement of the points of contact of the shells with the surface inside an oval elongated along the shell flight path. Thus, all shell hits that occurred during the shelling under consideration can be grouped into three sectors. They are all elongated in the same direction, coinciding with the flight path determined in the cases with shell hits 3 and 7 (see Fig. 29).

These facts allow us to assert that the shelling was carried out in the direction from north-west to south-east in an azimuth of approximately 330 degrees with an error of plus or minus 15 degrees.

In addition, in cases of shell hits 3 and 7, clear traces of the main scatter of fragments were left on the walls of buildings. This enables to determine the projectile grazing angle. Thus, in both cases the main stream of fragments left a clear mark on the wall, which is located at an angle of about 35 degrees to the surface of the earth (see Fig. 30 and Fig. 31). Knowing that the main stream of fragments is always perpendicular to the tangent to the projectile trajectory²⁶ it is possible to calculate the angle of contact (see

Fig.), which is about 55 degrees. Such an angle of contact is typical for maximum high-trajectory shooting.

In this case, the gun elevation angle should be close to 45 degrees.

²⁶ Artillery. Edited by Marshal of the Artillery M.N. Chistyakov. 5th edn, revised and enlarged. Moscow: Voenizdat, 1953.

The range of 2C19 and 2A65 howitzers when firing the most common types of high-explosive fragmentation projectiles (3OF45 and 3OF64) varies from 6.5 to 24.7 km (see Table 1).

Considering all of the above, we can plot a probable shelling sector on the map. And we obtain the area of Novopokrovskoye-Severnoye-Opytnoye-Avdeievka-Novokalinovo (see Fig. 33).

MILITARY PRESENCE

The events described took place during the final battles for Donetsk airport. An analysis of hostilities in eastern Ukraine during the 2014-2015 winter campaign was published on the website of the Ministry of Defense of Ukraine²⁷.

One of the sections of this document examines the actions of the Ukrainian armed formations during the struggle for Donetsk airport in the second half of January 2015. A map was also published showing the positions of the Ukrainian units (see Fig. 34). While analyzing the events, the Ministry of Defense of Ukraine mentions three artillery units that participated in this operation and were armed with 152mm guns:

1) the 1st battery of the 1st Self-Propelled Howitzer Artillery Division of the 93rd Independent Mechanized Brigade;

2) the 11th battery of the 3rd Self-Propelled Artillery Division of the 26th Artillery Brigade;

3) the 1st Howitzer Artillery Battalion without the 3rd Howitzer Artillery Battery of the 55th Separate Artillery Brigade.

From October 2014 to February 2015, divisions of the 55th SABr carried out artillery shelling in the vicinity of Donetsk airport, firing more than 15 thousand shells²⁸. This unit was armed with Msta-B howitzers²⁹

As for the place from which the Ukrainian artillerymen could have worked, the satellite image dated 21.02.2015 clearly shows the traces of artillery work not far from Avdeievka. In addition, in the release of the Ukrainian TV show Brave Hearts dated October 14, 2015, the battery commander of the 55th SMBr with the San Sanych code name was featured (see Fig. 37). In the course of the plot, he demonstrated the position

²⁷ An analysis of hostilities in eastern Ukraine during the 2014-2015 winter campaign [published on 23.12.2015] Official website of MOD of Ukraine. URL: <https://www.mil.gov.ua/news/2015/12/23/analiz-bojovih-dij-na-shodi-ukraini-v-hodi-zimovoi-kampanii-2014-2015-rokiv--16785/> (accessed on 01.09.2021).

²⁸ History of battles. Heavy artillery for Donetsk airport [published 25.01.2016] Ukrainian Pravda. URL: <https://life.pravda.com.ua/society/2016/01/25/206992/> (accessed on 07.10.2021)

²⁹ 55-th sabr of the UAF, 2014 - 2015 [published on 14.11.2015] LiveJournal Online Journal Service. URL: <https://jerry24-it.livejournal.com/1219095.html> (accessed on 07.10.2021).

just above Avdeievka on the map, from where his unit was firing towards Donetsk³⁰ (see Fig. 38). It was precisely San Sanych who could give a direct order to fire at Donetsk.

Persons in charge

Speaking about other Ukrainian officers responsible for the events described, it should be remembered that the defense of Donetsk airport was commanded successively by three persons:

- from May 26, 2014 to October 3, 2014³¹ - commander of the 3rd Kirovograd Special Forces Regiment, Alexander Trepak (code name: Redit)³²;

- from October 04, 2014 to the end of December 2014³³ – commander of the 1st battalion of the 79th brigade Maxim Viktorovych Mirgorodsky (code name: Mike)³⁴;

- from the end of December 2014 to January 22, 2015³⁵ – commander of the 81st brigade Yevhen Georgiyovych Moysyuk³⁶ (see Fig. 36).

Maxim Mirgorodsky said in his interview to the Argument e-journal: “Artillery was given under my command, the 93rd brigade helped”³⁷. This proves that all operational command, including the command of artillery, was concentrated in the hands of a single person.

³⁰ Brave hearts. Gunners. YouTube Video hosting URL: <https://youtu.be/DFwCG19BArs?t=2295> (accessed on 07.10.2021).

³¹ News from Donetsk and the Region as of January 24, 2016 Battle for Donetsk airport. Unknown details of the ATS most tragic special operation [published on 21.01.2016] Informative Donbass - a guide to the Donetsk Region website. URL: <https://donbass-info.com/content/view/26433/26444/> (accessed on 01.09.2021).

³² Oleksandr Sergiyovych Trepak. Wikipedia Free Encyclopaedia. URL: https://uk.wikipedia.org/wiki/Трепак_Олександр_Сергійович (accessed on 01.09.2021).

³³ News from Donetsk and the Region as of January 24, 2016 Battle for Donetsk airport. Unknown details of the ATS most tragic special operation [published on 21.01.2016] Informative Donbass - a guide to the Donetsk Region website. URL: <https://donbass-info.com/content/view/26433/26444/> (accessed on 01.09.2021).

³⁴ Maxim Viktorovich Mirgorodsky. Wikipedia Free Encyclopaedia. URL: https://uk.wikipedia.org/wiki/Миргородський_Максим_Вікторович (accessed on 01.09.2021).

³⁵ The brigade commander Yevhen Moysyuk about the airport, the Raid and the features of the enemy’s actions [published on 12.02.2016] UKRAINIAN PRAVDA e-journal. URL: <https://www.pravda.com.ua/rus/articles/2016/02/12/7098744/> (accessed on 01.09.2021).

³⁶ Yevhen Georgiyovych Moysyuk. Wikipedia Free Encyclopaedia. URL: https://uk.wikipedia.org/wiki/Мойсюк_Євген_Георгійович (accessed on 01.09.2021).

³⁷ “We hung over them like a sword of Damocles over the heads” [published on 13.01.2016] ARGUMENT e-journal. URL: <http://argumentua.com/stati/my-viseli-nad-nimi-kak-damoklov-mech-nad-golovoi> (accessed on 01.09.2021).

Apparently, this state of affairs remained after the transfer of command to Moysyuk. This fact makes him responsible for the actions of the Ukrainian artillery, which led to the civilians' deaths and injuries during the shelling considered in this investigation.

In addition, commander of the 55th SMBr³⁸ Sergey Evgenievich Brusov was responsible for the actions of his subordinates (see Fig. 39). Brusov is a target of other investigations related to the death of civilians in Donbass.

³⁸ Former commander of the legendary Zaporozhye artillery brigade: The war changed all of us [published on 06.12.2020] News of Zaporozhye. URL: <http://uanews.zp.ua/other/2020/12/06/187816.html> (accessed on 07.10.2021).

CONCLUSIONS

It follows from the above that on January 20, 2015, approximately at 9:30 am, the area around of Nursery school No. 204 and the Kievsky DEC public transport stop in the Kievsky district of Donetsk came under shelling of a 2A65 Msta-B howitzer. 152mm shells flew in the direction from north-west to south-east (azimuth 330 degrees).

As a result of the analysis of news videos and information from the Internet, it was found that the units of the 1st Howitzer Battalion of the 55th Separate Artillery Brigade could be located in the sector from which the shelling was carried out. The direct command of the artillery batteries was carried out by the battery commander of the 55th SMBr with the code name "San Sanych". The commander of the 55th SMBr, Colonel Sergey Evgenievych Brusov undertook the general command of this unit. Also, the operational command of the artillery could be carried out by the commander of the 81st brigade, Yevhen Georgiyovych Moysyuk, who commanded the defense of Donetsk airport at that time.

LEGAL QUALIFICATIONS

Indiscriminate shelling of a densely populated residential area in the 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.

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 he same acts accompanied with an intended murder, shall be punishable by imprisonment for a term of ten to fifteen years, or life imprisonment.

In compliance with **Art. 13 of Additional Protocol II to the Geneva Conventions** of 12 August 1949, concerning the protection of victims of armed conflicts of a non-international character, dated 8 June 1977: “The civilian population as such, as well as individual civilians, shall not be the object of attack. Acts or threats of violence the primary purpose of which is to spread terror among the civilian population are prohibited”.

In compliance with **Rule 71 of Customary International Humanitarian Law** (Volume 1, ICRC, 2006): “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”

“The use of weapons which are by nature indiscriminate is prohibited”.

In compliance with part 2 (c), (e) of **Art. 8 of the Rome Statute**, war crimes also include acts committed in the event of an armed conflict not of an international character and which constitute a serious violation of Art. 3, which is common to the four Geneva Conventions of August 12, 1949, namely, any of the following acts committed against 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:

Part 2 (c) i) violence to life and person, in particular murder of all kinds, mutilation, cruel treatment and torture;

Part 2 (e) i) intentionally directing attacks against the civilian population as such or against individual civilians not taking direct part in hostilities;

Part 2 (e) iv) intentionally directing attacks against buildings dedicated to religion, education, art, science or charitable purposes, historic monuments, hospitals and places where the sick and wounded are collected, provided they are not military objectives.

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ANNEXES

Annex 1



Fig. 1 - The scheme of shelling of the Kievsky district of Donetsk, which happened on January 20, 2015 at about 9:30 (Moscow time).



Fig. 2 – The unexploded shell in Nursery School No. 204, Donetsk³⁹.



Fig. 3 – The hole knocked by the unexploded shell in the roof of Nursery School No. 204, Donetsk⁴⁰.

³⁹ Donetsk. Shelling on 20.01.2015 Kievsky District, 7, Politboitsov St. Nursery School. 152mm [published on 23.01.2015] YouTube Video hosting. URL: https://youtu.be/dMhzZSi4_mk (accessed on 01.09.2021).

⁴⁰ Donetsk. Shelling on 20.01.2015 Kievsky District, 7, Politboitsov St. Nursery School. 152mm [published on 23.01.2015] YouTube Video hosting. URL: https://youtu.be/dMhzZSi4_mk (accessed on 01.09.2021).



Fig. 4 – The trail of a shell hit on the roof of Nursery School No. 204 on the satellite image dated 02.21.2015



Fig. 5 – The technical tank of the boiler house damaged by explosion⁴¹.

⁴¹ Effects of shellfire in Kievsky District. [published on 22.01.2015] YouTube Video hosting. URL: <https://youtu.be/ScoLRGmZMps> (accessed on 04.09.2021).



Fig. 6 – The technical tanks of the boiler house located nearby residential building in 10, Politboitsov St., Donetsk. The shell detonated between the tanks⁴².



Fig. 7 – The body of a boiler house worker who died in the shelling⁴³.

⁴² Kievsky Avenue Today: Burned store, holes in walls and pools of blood [PHOTOES] [published on 21.01.2015] VGORODE website. URL: <https://dn.vgorode.ua/news/sobytyia/249007-kyevskiyi-prospekt-sehodnia-shorevshyi-mahazyn-dyry-v-stenakh-y-luzhy-krovy-foto> (accessed on 01.09.2021).

⁴³ Kievsky Avenue Today: Burned store, holes in walls and pools of blood [PHOTOES] [published on 21.01.2015] VGORODE website. URL: <https://dn.vgorode.ua/news/sobytyia/249007-kyevskiyi-prospekt-sehodnia-shorevshyi-mahazyn-dyry-v-stenakh-y-luzhy-krovy-foto> (accessed on 01.09.2021).



Fig. 8 – A trail from the detonation of a projectile at the wall base of the residential building in 3, Politboitsov St⁴⁴.



Fig. 9 – An artillery shell explosion crater on the lawn next to a one-story building located at 20A, Politboitsov St.⁴⁵.

⁴⁴ Donetsk. 20.01.2015 Kievsky District, 3, Politboitsov St. Shelling of civilians. [published on 23.01.2015] YouTube Video hosting. URL: <https://youtu.be/nfqUw1wwxIE> (accessed on 01.09.2021).

⁴⁵ Donetsk. 20.01.2015 Kievsky District, 20, Politboitsov St. Shelling of civilians. [published on 23.01.2015] YouTube Video hosting. URL: https://youtu.be/_D2iH13jIkI (accessed on 01.09.2021).



Fig. 10 – The shopping pavilion located in the immediate vicinity of the Kievsky DEC public transport stop that was destroyed by a shell hit⁴⁶.



Fig. 11 – The Kievsky DEC public transport stop (left side of the frame) next to the destroyed shopping pavilion (central part of the frame)⁴⁷.

⁴⁶ Kievsky Avenue Today: Burned store, holes in walls and pools of blood [PHOTOES] [published on 21.01.2015] VGORODE website. URL: <https://dn.vgorode.ua/news/sobytyia/249007-kyevskiyi-prospekt-sehodnia-shorevshyi-mahazyn-dyry-v-stenakh-y-luzhy-krovny-foto> (accessed on 01.09.2021).

⁴⁷ Donetsk. 20.01.2015 Kievsky District. Shelling of civilians. [published on 23.01.2015] YouTube Video hosting. URL: <https://youtu.be/MldhD4n5UWs> (accessed on 01.09.2021).



Fig. 12 – The body of a man who was killed next to the Kievsky DEC public transport stop⁴⁸.



Fig. 13 - The shell hit into the median lane a bit south of Kievsky DEC public transport stop⁴⁹.

⁴⁸ 20.01.2015 Urgent! Shelling of Kievsky District. Our correspondents came under fire [published on 20.01.2015] YouTube Video hosting. URL: https://youtu.be/WEEdmmNde_4 (accessed on 01.09.2021).

⁴⁹ Kievsky Avenue Today: Burned store, holes in walls and pools of blood [PHOTOES] [published on 21.01.2015] VGORODE website. URL: <https://dn.vgorode.ua/news/sobytyia/249007-kyevskiyi-prospekt-sehodnia-shorevshyi-mahazyn-dyry-v-stenakh-y-luzhy-krovy-foto> (accessed on 01.09.2021).



Fig. 15 – The shell hit into the base of the wall of the residential building in 21, Kievsky Ave⁵⁰.



Fig. 16 – The technical niche in Nursery School No. 204: on the left - immediately after the shell hit (as of 20.01.2014)⁵¹; on the right – after renovation (as of 20.08.2021).

⁵⁰ Graham Phillips captures terrifying footage of shelling in Donetsk [published on 20.01.2015] Bloknot.ru URL: <https://bloknot.ru/v-mire/gre-m-fillips-snyal-uzhasayushhie-kadry-artobstrela-v-donetske-148645.html> (accessed on 01.09.2021).

⁵¹ Donetsk. Shelling on 20.01.2015 Kievsky District, 7, Politboitsov St. Nursery School. 152mm [published on 23.01.2015] YouTube Video hosting. URL: https://youtu.be/dMhzZSi4_mk (accessed on 01.09.2021).



Fig. 17 – Measuring the width of the technical niche in Nursery School No. 204.



Fig. 18 – Measuring the projectile caliber using a scale ruler.



Fig. 19 – Measuring the length of the unexploded projectile using a scale ruler.



Fig. 20 – The cavity in the rear body of the unexploded projectile⁵².

⁵² Donetsk. Shelling of Nursery School on 20.01.2015 Kievsky District, 7, Politboitsov St. Nursery School (Part 2) [published on 23.01.2015] YouTube Video hosting. URL: https://youtu.be/dMhzZSi4_mk (accessed on 07.10.2021).

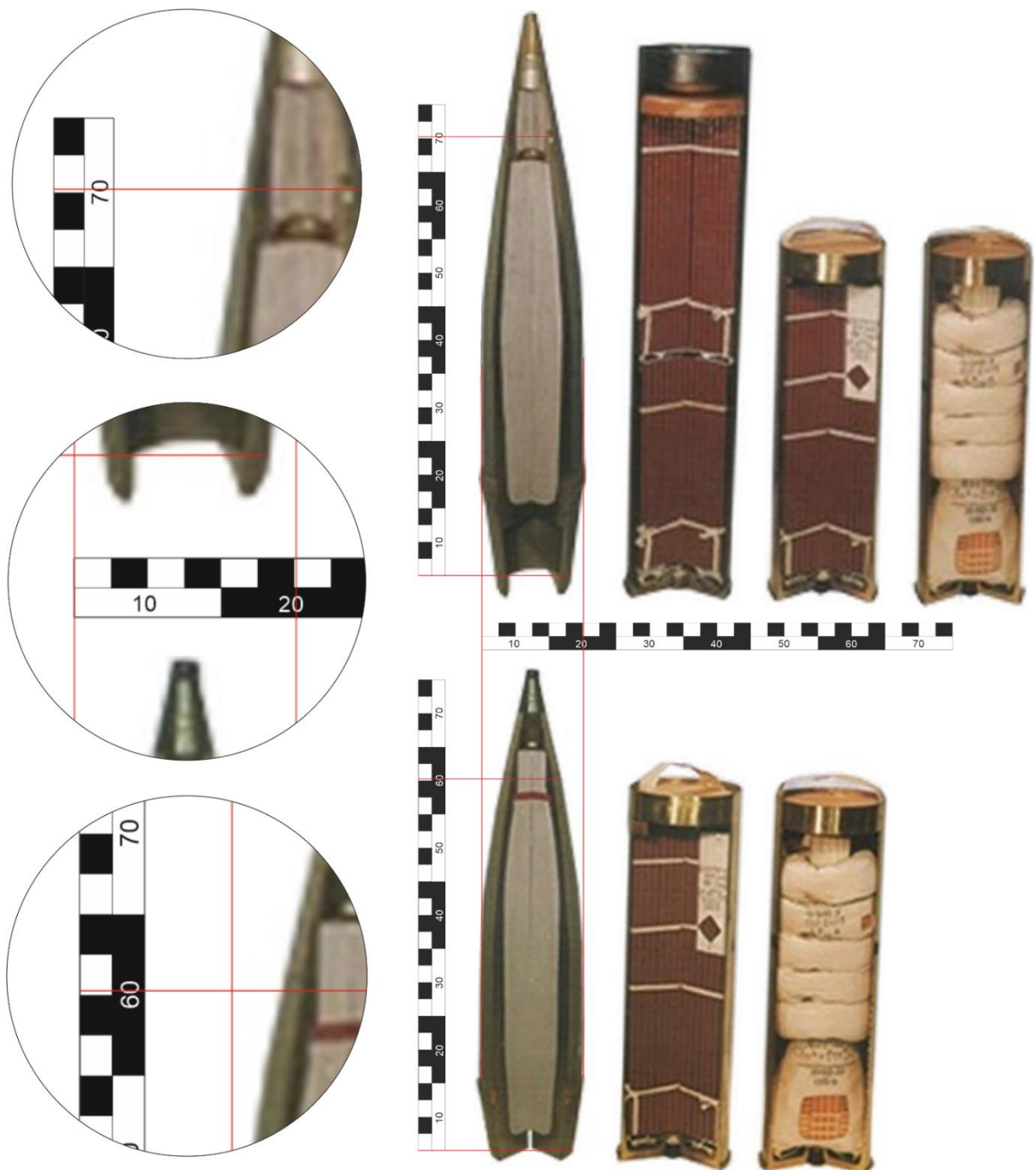


Fig. 21 – Estimating the length of the HES without a fuse using a scale bar: at the top - 3OF64⁵³; at the bottom - 3OF25⁵⁴.

⁵³ 152-mm rounds with high-explosive fragmentation projectile 3OF64. Mechanical Engineering Research Institute named after V.V. Bahirev. URL: <https://nimi.su/produktsiya/vystrely-polevoy-artillerii/152-mm-vystrely-s-oskolochno-fugasnym-snaryadom-3of64/> (accessed on 07.10.2021).

⁵⁴ 152-mm rounds with high-explosive fragmentation projectile 3OF25. Mechanical Engineering Research Institute named after V.V. Bahirev. URL: <https://nimi.su/produktsiya/vystrely-polevoy-artillerii/152-mm-vystrely-s-oskolochno-fugasnym-snaryadom-3of25/> (accessed on 07.10.2021).



Fig. 22 – Shell fragments found near the boiler house not far from Nursery School No. 204, Donetsk⁵⁵.



Fig. 23 – Shell fragments found near the boiler house not far from Nursery School No. 204, Donetsk⁵⁶.

⁵⁵18+ Donetsk. Shelling of Kievsky District. Not for the faint-hearted! (PSD TV) [published on 21.01.2015] YouTube Video hosting. URL: <https://youtu.be/pca5DPKDEEo> (accessed on 01.09.2021).

⁵⁶ Effects of the shelling of the Kievsky District, Donetsk by ukrofascists. A boiler worker killed on 20.1.15 [published on 21.01.2015] Moi Mir Social Network URL: https://my.mail.ru/mail/bandukov_rg/video/govoritmoskva/2762.html (accessed on 01.09.2021).

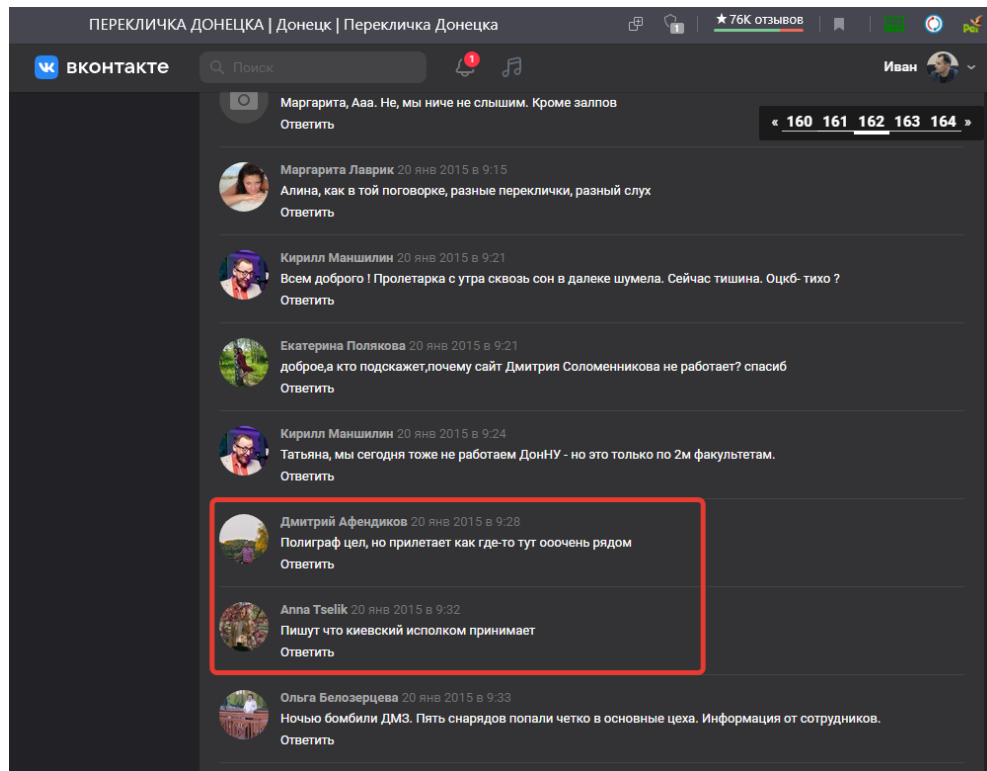


Fig. 24 – Comments on social media about the shelling of Kievsky DEC public transport stop⁵⁷.



Fig. 25 – The fragment scattering pattern at the shell hit 3.

⁵⁷ Head check in Donetsk [published on 20.01.2015] VKontakte Social Network. URL: https://vk.com/topic-85329075_31290662?offset=3200 (accessed on 01.09.2021).

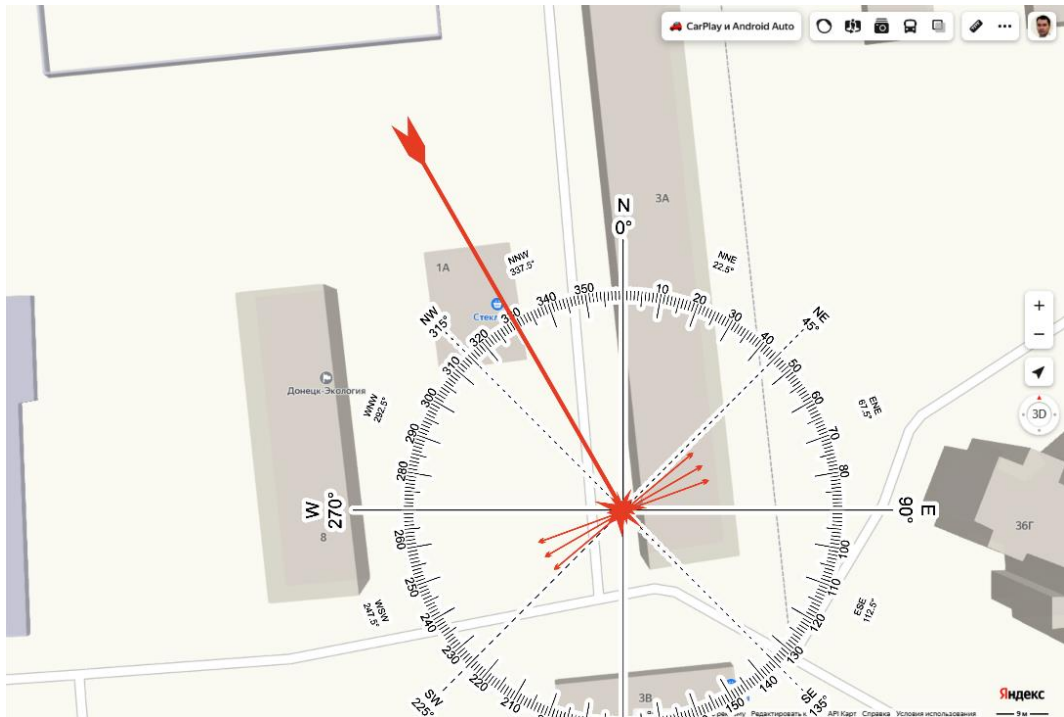


Fig. 26 – The shell flight path pattern. Shell hit 3



Fig. 27 - The fragment scattering pattern at the shell hit 7.

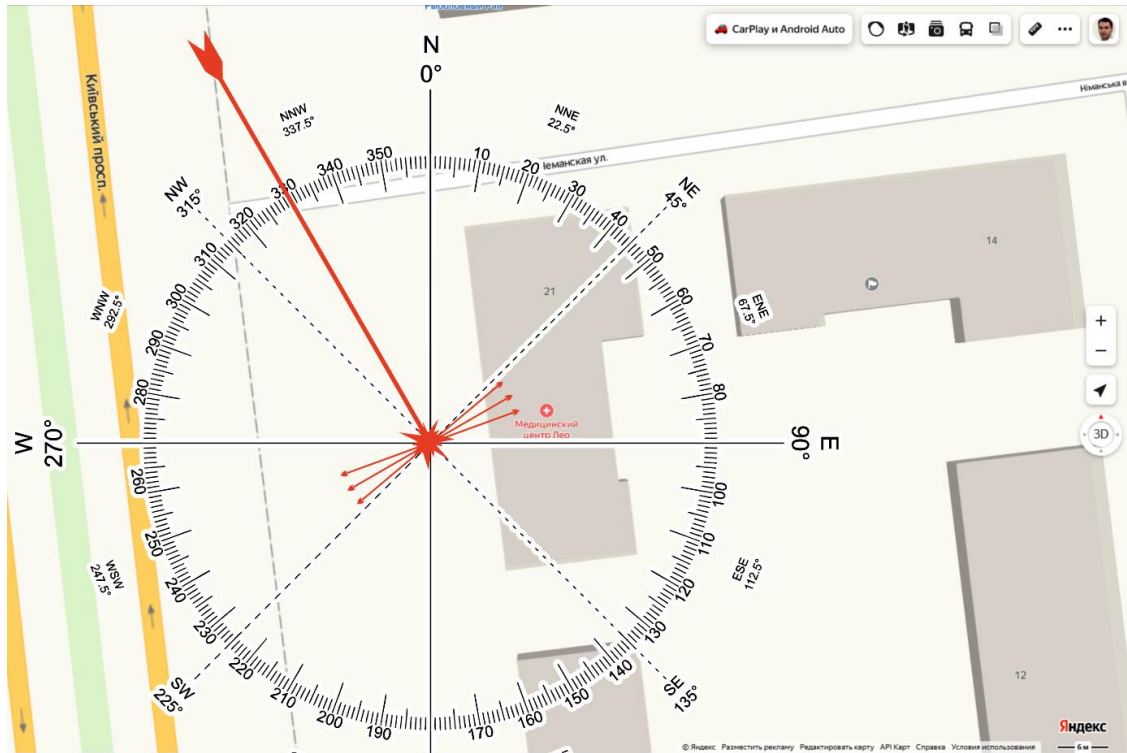


Fig. 28 – The shell flight path pattern. Shell hit 7

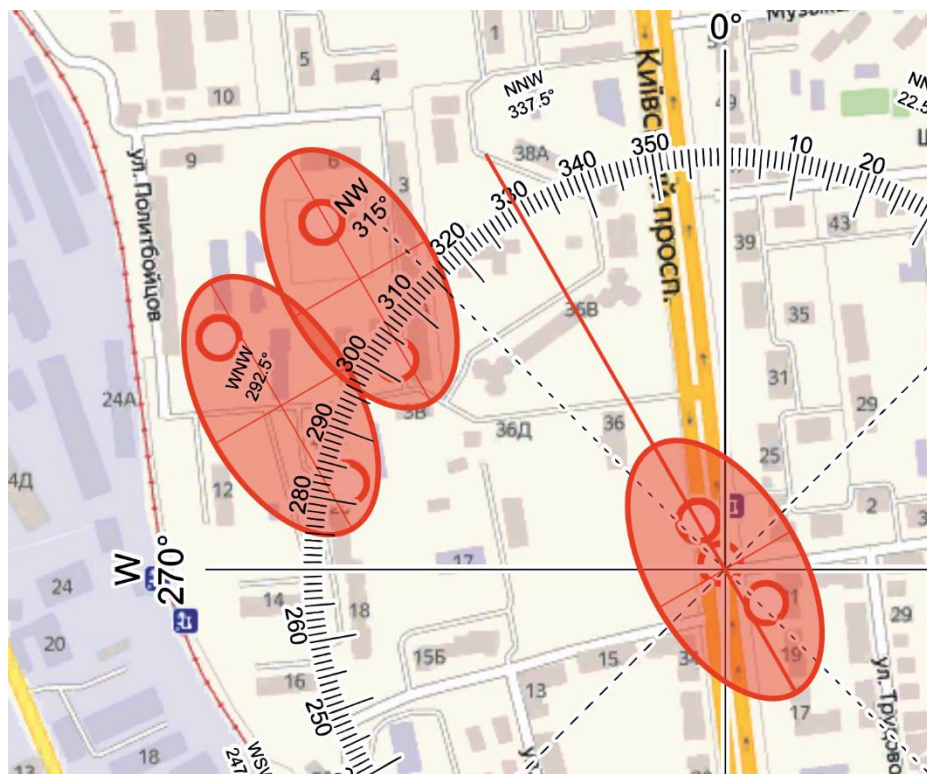


Fig. 29 – Shell hits can be placed in oval sectors that are elongated along the shell flight path.



Fig. 30 – Fragment scattering angle (shell hit 3)⁵⁸.



Fig. 31 - Fragment scattering angle (shell hit 7)⁵⁹.

⁵⁸ Kievsky Avenue. [published on 22.01.2015] LiveJournal Online Journal Service. URL: <https://www.liveinternet.ru/users/rarewolf/post350930823/> (accessed on 01.09.2021).

⁵⁹ Graham Phillips captures terrifying footage of shelling in Donetsk [published on 20.01.2015] Bloknot.ru URL: <https://bloknot.ru/v-mire/gre-m-fillips-snyal-uzhasayushhie-kadry-artobstrela-v-donetske-148645.html> (accessed on 01.09.2021).

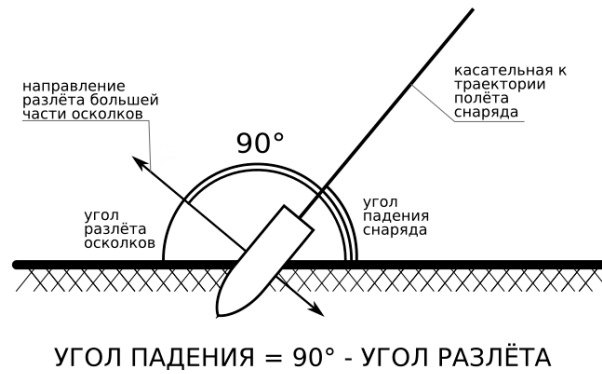


Fig. 32 - Determination of the projectile grazing angle.

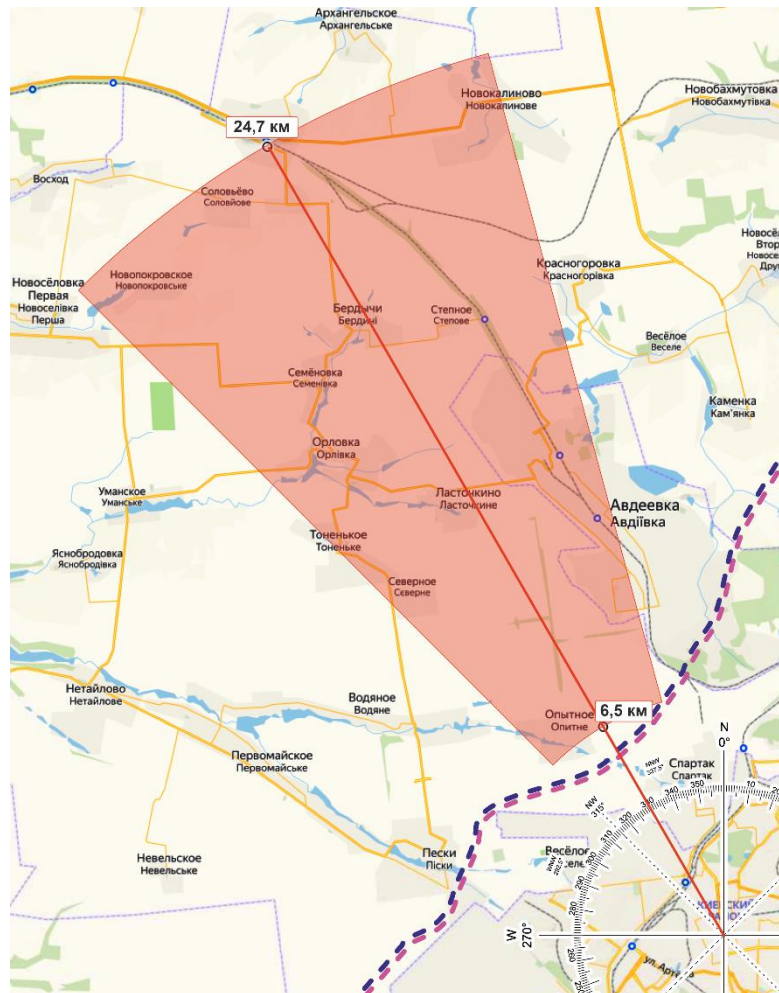


Fig. 33 – The probable sector of shelling.

Мапа 2. Операція з деблокування підрозділів 81 оаеобр в Донецькому аеропорту.



Fig. 34 – Operation map for raising the blockade of the 81st Airmobile Brigade subdivisions.

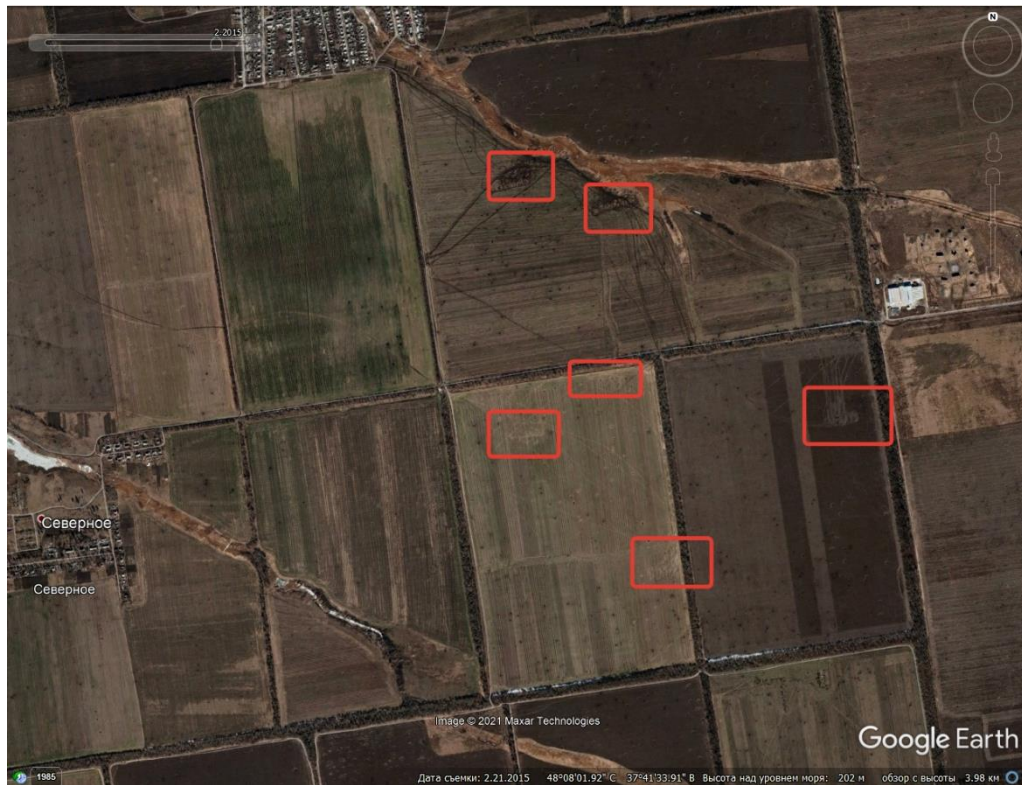


Fig. 35 – Artillery traces in the satellite image dated 21.02.2015.



Fig. 36 – Commander of the 81st brigade Colonel Yevhen Moysyuk⁶⁰.

⁶⁰“We hung over them like a sword of Damocles over the heads” [published on 23.01.2015] ARGUMENT e-journal. URL: <http://argumentua.com/stati/my-viseli-nad-nimi-kak-damoklov-mech-nad-golovoi> (accessed on 01.09.2021).



Fig. 37 - Battery commander of the 55th SBr with a code name San Sanych

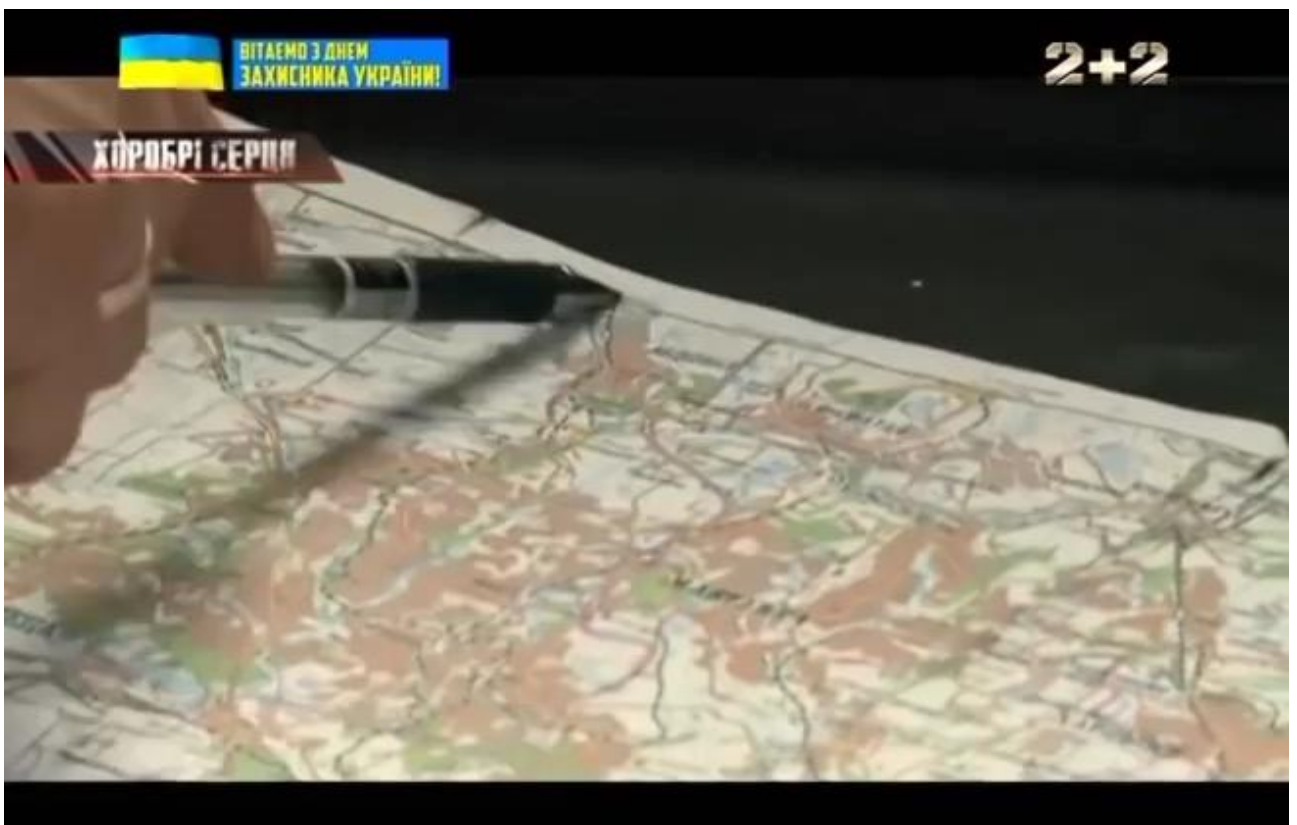


Fig. 38 – 'San Sanych' shows the position of the Ukrainian artillery behind Avdeievka.



Fig. 39 – Commander of the 55th SMBr Sergey Evgenievich Brusov.