Incident Assessment

Incident ID	CIV0244
Location	Shevchenkivs'kyi District, Kharkiv, Kharkiv Oblast
Coordinates	50.0261, 36.2406[1]
Date	03/03/2022 (at the latest)
Time	Not identified

Description of the Events

On 03/03/2022, a photo (S1I1) and a video (S1V1) depicting what appears to be a rocket section embedded into the road surface were posted on social media, with an additional video depicting the same object posted on 22/03/2022 (S2V1). The identified materials indicate that the incident occurred in the vicinity of a cable car.

Key Findings

- Starting 03/03/2022, several visual materials were posted depicting a munition remnant embedded into the road surface with captions indicating that the incident occurred in Kharkiv, Ukraine.
- The munition remnant was subsequently identified as the rocket motor of a 9M55K rocket that is fired by the BM-30 Smerch Multiple Launch Rocket System (MLRS).
- It was not possible to estimate the exact date when the rocket motor impacted the area, as no footage depicting the moment of impact was identified in open sources. The earliest identified source containing visual materials depicting the rocket motor at the scene of CIV0244 was posted 03/03/2022 (Source 1), indicating the latest possible date when the incident could have occurred.
- The possible direction of origin of this 9M55K rocket motor was estimated as north-east.
- On 03/03/2022, the presence of the Russian armed forces was reported within the likely rocket motor's area of origin, but the location of its launch site was not identified.
- No information indicating the presence of armed forces or objects of military nature in the vicinity of the affected area at the time of the incident was identified in open sources.
- The incident may be linked to CIV0195.

Description of Searches

The CIVHARM sheet lists two sources for CIV0244.

[1] https://maps.app.goo.gl/CCLw6M1YaGj5aQKx7

Further online searches using reverse image search and word queries were conducted using Google and Yandex search engines and on social media (Telegram, Twitter, and Facebook) to find any other materials and information related to the incident. Search terms included the general location as well as the specific name of the park.

Searches were limited to time between 24/02/2022 and 23/03/2022, and were conducted in English, Russian, and Ukrainian.

It must be noted that due to the geographical proximity of CIV0244 and CIV0195, which appeared to occur on the same date, some of the findings concerning CIV0195 were used in the course of the present assessment where relevant.

Background Summary of Significant Descriptive Content

Media Reports

1) https://news.obozrevatel.com/society/rossiya-primenyaet-v-ukraine-kassetnyie-boepripasyi-venediktova-nazvala-regionyi-kotoryie-uzhe-postradali.htm[2];
2) https://focus.ua/voennye-novosti/509124-v-oon-poluchili-dokazatelstva-primeneniya-rossiey-kassetnyh-bomb-v-ukraine[3];
3) https://www.ukrinform.ru/rubric-regions/3454014-rf-sbrasyvaet-na-harkov-kassetnye-bomby-s-parasutov-eto-prestuplenie-protiv-celovecnosti.html[4].

NGO Reports

- None identified.

Other

- None identified.

[2] https://news.obozrevatel.com/society/rossiya-primenyaet-v-ukraine-kassetnyie-boepripasyi-venediktova-nazvala-regionyi-kotoryie-uzhe-postradali.htm

[3] https://focus.ua/voennye-novosti/509124-v-oon-poluchili-dokazatelstva-primeneniya-rossiey-kassetnyh-bomb-v-ukraine

[4] https://www.ukrinform.ru/rubric-regions/3454014-rf-sbrasyvaet-na-harkov-kassetnye-bomby-s-parasutov-eto-prestuplenie-protiv-celovecnosti.html

Analysis of Examinable Content

- Source 1[5]: A Telegram post dated 03/03/2022 at 15:09 EET, containing an image (S1I1) and a video (S1V1) depicting a rocket remnant taken at what appears to be the same location.

The munition remnant depicted in S1I1.

[5] https://t.me/truexanewsua/28701

Still frames extracted from S2V1. Left: The munition remnant. Right: The cable car at the scene of the incident.

- Source 2[6]: A Telegram post dated 22/03/2022 at 18:15 EET containing a video (S2V1) depicting the rocket remnant and a location matching those depicted in materials posted by Source 1.

Still frames extracted from S2V2. Top: The munition remnant and the cable car line. Bottom: The munition remnant.

[6] https://t.me/truexanewsua/35644

Questions to Investigate

Where Was the Incident?

The location of the munition remnant was geolocated to Shevchenkivs'kyi District, Kharkiv, at 50.0261, 36.2406[7].

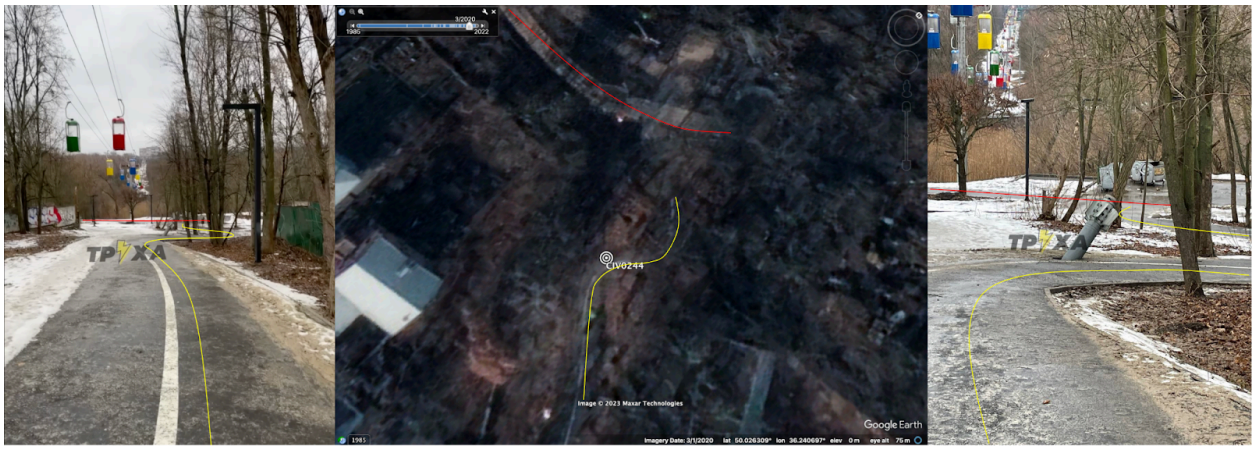
S1I1, S1V1, and S2V1 depict the munition remnant embedded in a public footpath. In the background, several gondolas of different colours are visible, indicating that the incident has occurred in the vicinity of a cable car. Another identifying feature is the white line drawn in the middle of the footpath next to the remnant. A visual comparison of the identified materials with public imagery of the area identified a Google Street View image[8] matching the location of the incident.

Left: The scene depicted in S1I1 with. Right: The same location depicted by a Google Street View image (Credit: Google Maps).

However, images uploaded to Google Street View by users can sometimes be slightly inaccurate, and so a further assessment was conducted. Historic imagery from Google Earth Pro was searched to identify a date on which foliage was not present in order to identify this path more

[7] https://maps.app.goo.gl/CCLw6M1YaGj5aQKx7
[8] https://maps.app.goo.gl/Lguj7n7j7eRDJNqu5

clearly. This identified the exact location where the rocket motor impacted, at a distinct bend just above a flat tarmacked area. While it appears that a tree hides the last section of this path, this is the only location on this tarmacked path where there is such a distinct bend in proximity to the flat tarmacked area. The place impacted by the munition remnant was geolocated to a footpath connecting Gorkiy Park and Kharkiv Botanical Garden.



The footpath (Yellow Line) depicted in S1V1 (Left) and S1I1 (Right), indicated on satellite image of the area taken on 01/03/2020 (Middle) (Credit: Maxar Technologies/Google Earth Pro).

When Was the Incident?

The earliest identified visual materials depicting the incident were posted on Telegram by Source 1[9] in the afternoon on 03/03/2022. While the source does not state that the depicted incident occurred on 03/03/2022, the invasion of Ukraine began on 24/02/2022, making it extremely unlikely that this incident took place before that date. No information indicating that the area was shelled before that date was identified in open sources. As such, it appears likely that the incident likely occurred within the period between 24/02/2022 and 03/03/2022.

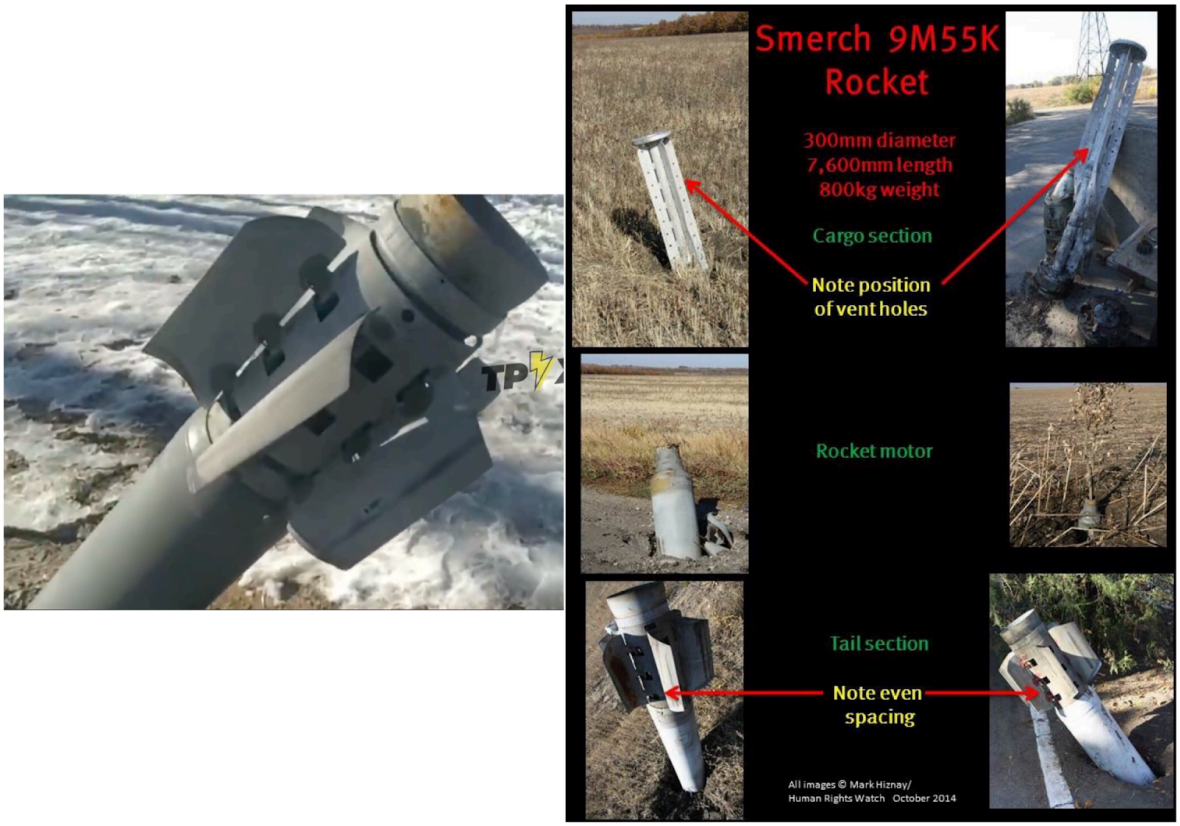
The weather seen in S1I1 and S1V1 appears to be heavy cloud cover with some snow. Although the snow did not appear to be fresh, it was not possible to draw a conclusion with confidence. These conditions could match any date between 01/03/2022 and 03/03/2022.

The exact time of the incident could not be accurately established.

What Kind of Munition Was Used?

A comparison with the reference imagery[10] indicates that the munition remnant at the CIV0244 scene appears to match images of the rocket motor of a 9M55K surface-to-surface cluster munition rocket with a payload of submunitions.

[9] https://t.me/truexanewsua/28701
[10] https://twitter.com/markhiznay/status/562642484938149888?lang=ca



Left: Munition remnant depicted in a still from S2V1. Right: 9M55K reference imagery (Credit: Mark Hiznay/ Human Rights Watch)

It must be noted that this is not a 100% match between the source image and the reference photos. In the source image only two hinge holes on the tail section are seen, while the reference photos include three evenly spaced hinge holes. The third hinge hole is likely no longer visible as the tail stabiliser can shift downwards due to the impact, as can be seen in this video[11] in which 9M55K rocket motors are collected.

[11] https://www.facebook.com/DSNSMYKOL/posts/pfbid0WGtP6dGCcM9PPgVzcPsX2nuEwFTWHUo9XWJSNp3R1HYicikfyaxJ3h6gJMppqxXpl

Still frame from the video[12] depicting a 9M55K rocket motor being collected after the impact. Note how the tail section has been forced down, bending the hinge hole.

When this is taken into account, all details indicate that the munition remnant at question is a 300mm 9M55K rocket.

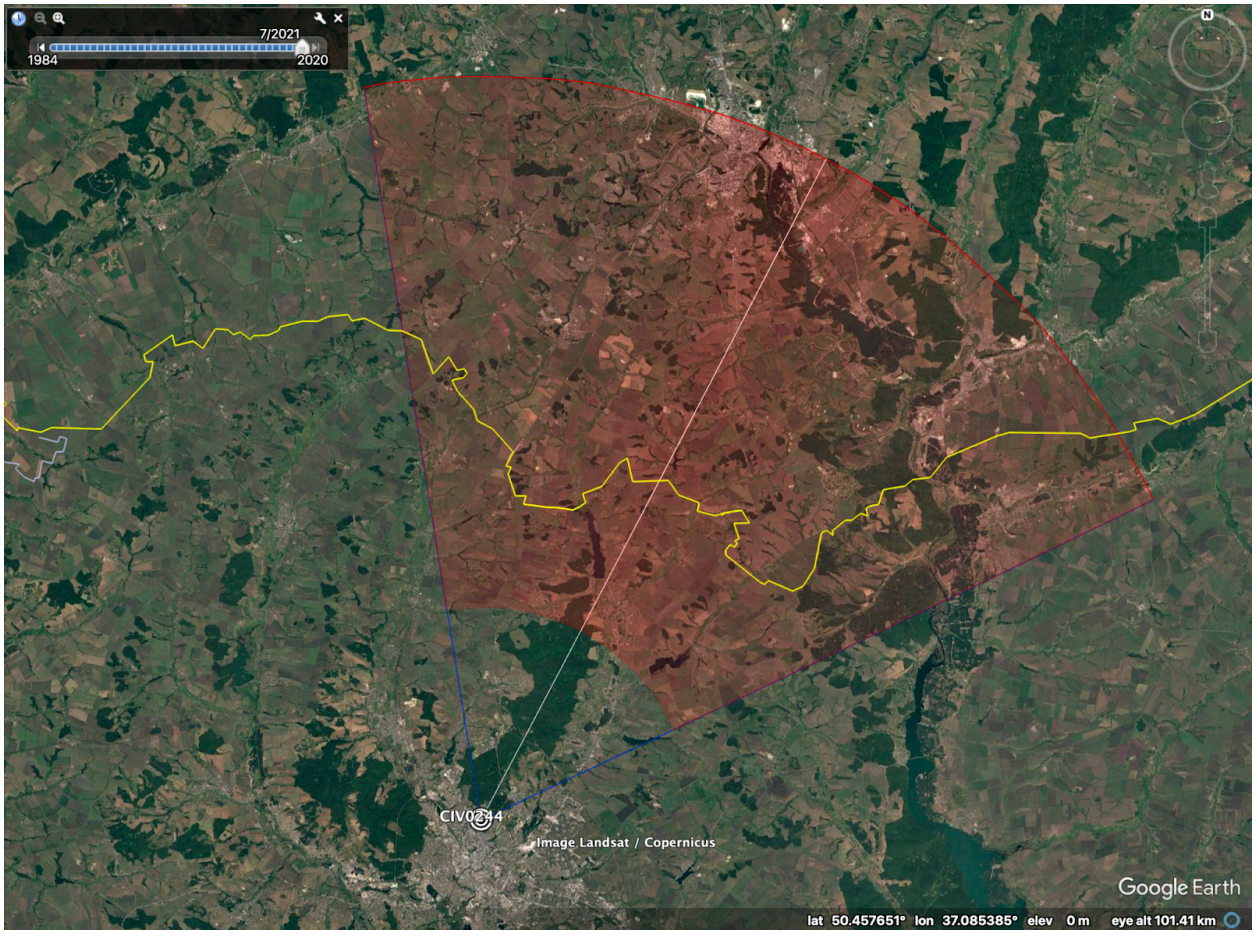
Is There Any Evidence of the Direction the Munition Came from?

A likely direction of origin was assessed by observing the angle of impact of the rocket motor and then overlaying a standardised arc on this direction. This was assessed to be 27 degrees from the north east. While the exact direction of origin was not possible to ascertain, this arc provides a good indicator of the general area of origin.

A 9M55k rockets are fired from a BM-30 MLRS, which, according to Army Recognition[13], has a range between 20 and 70 km. When combined with the arc of the direction of origin, this gives area of origin within which this 9M55K was likely fired.

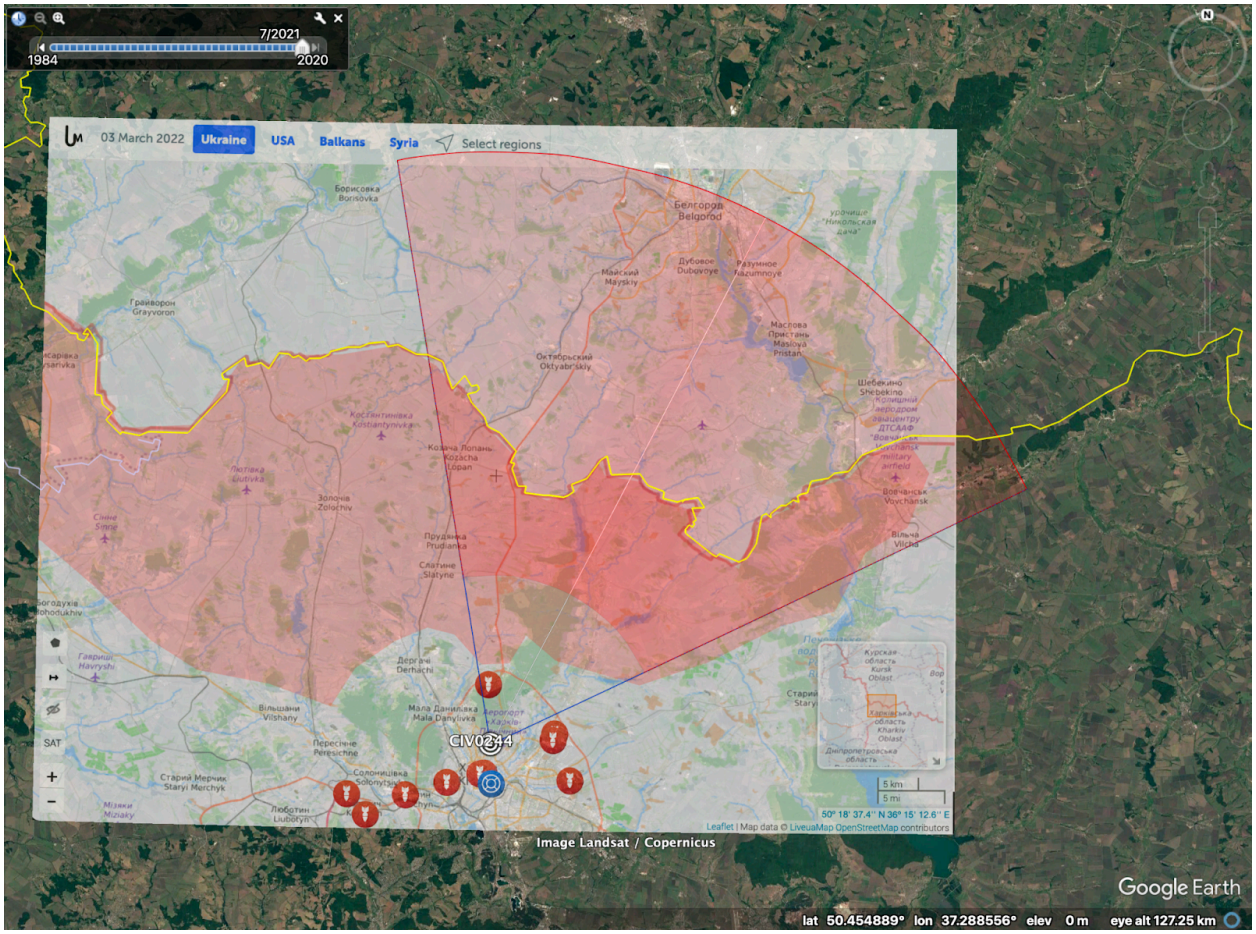
[12] https://www.facebook.com/DSNSMYKOL/posts/pfbid0WGtP6dGCcM9PPgVzcPsX2nuEwFTWHUo9XWJSNp3R1HYicikfyaxJ3h6gJMppqxXpl

[13] https://www.armyrecognition.com/russia_russian_army_vehicles_system_artillery_uk/bm-30_smerch_9k58_300mm_multiple_rocket_launcher_system_technical_data_sheet_information_description.html



Satellite image with an overlay indicating the estimated direction of the munition's origin (White Line), and the 20-70 km area (Red Arc) of its possible origin (Credit: Landsat/Copernicus/Google Earth Pro).

The 20 km - 70 km arcs can be compared to a map of areas that were reported to be under Russian control on 03/03/2022, the earliest reported date of the incident. It should be noted that the areas of control within the graphic below should be regarded as rough.

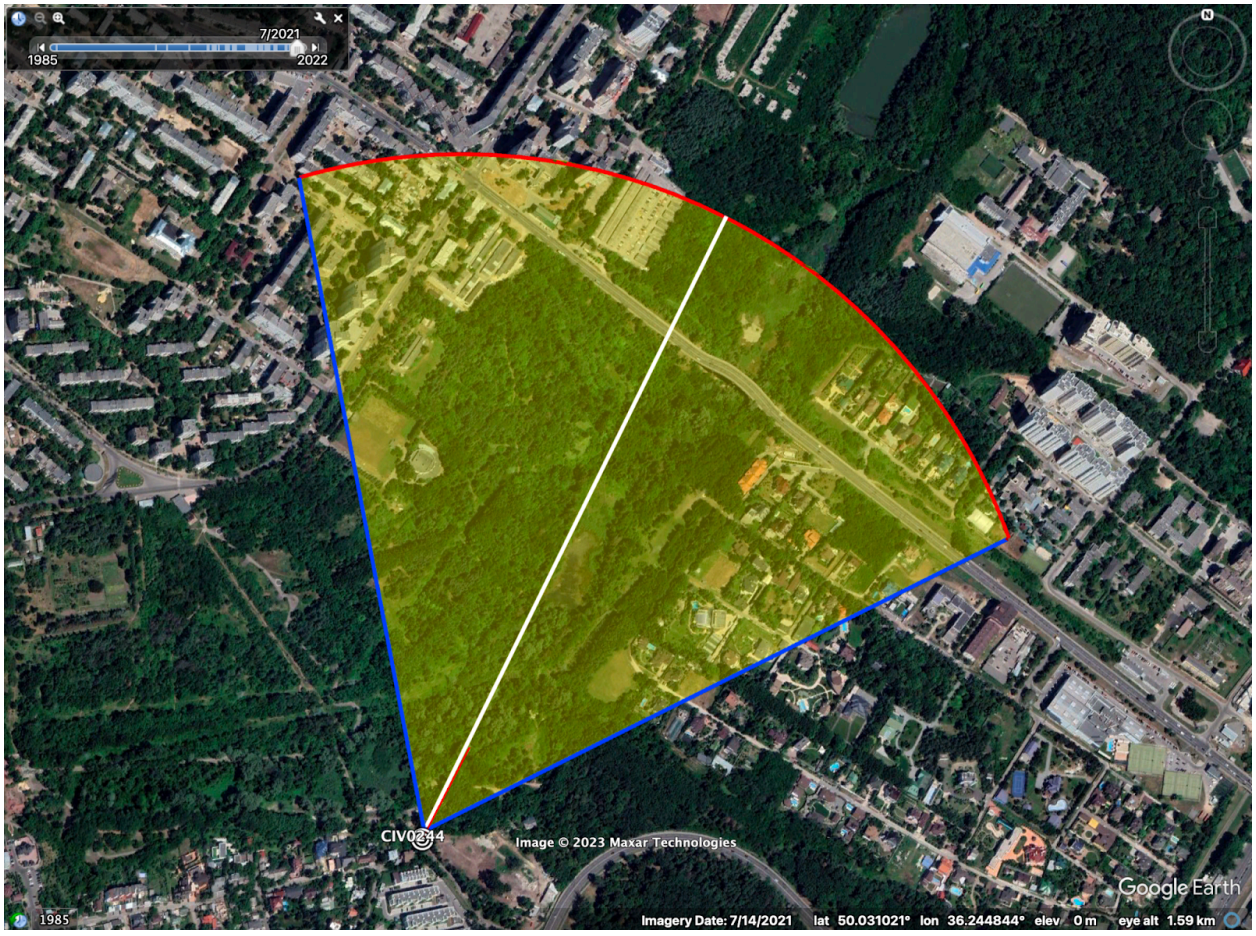


An overlay of the estimated area of the 9M55K rocket origin and the areas with the presence of the Russian armed forces reported on 03/03/2022 (Credit: [Liveuamap](https://liveuamap.com/en/time/01.03.2022)[14]).

Are There Any Indications of What the Location Was Being Used for?

The munition remnant impacted the public footpath linking Gorkiy park to Kharkiv Botanical Gardens, a recreational area. The location is residential in nature and is mostly covered in greenery, with residential buildings located in the vicinity of the scene.

[14] https://liveuamap.com/en/time/01.03.2022



A 1 km arc indicating the possible area of impact of the submunitions carried by the 9M55K rocket (Credit: Maxar Technologies/Google Earth Pro).

Were There Military Structures, Installations, or Other Assets in the Area?

No explicitly military objects were identified through open source research.

A training centre for the Ministry of Internal Affairs of Ukraine was identified on Wikimapia,[15] approximately 1.5 km away from the point of impact, and the Kharkiv State Aircraft Manufacturing Company[16] was identified approximately 1.3 km away from the point of impact.

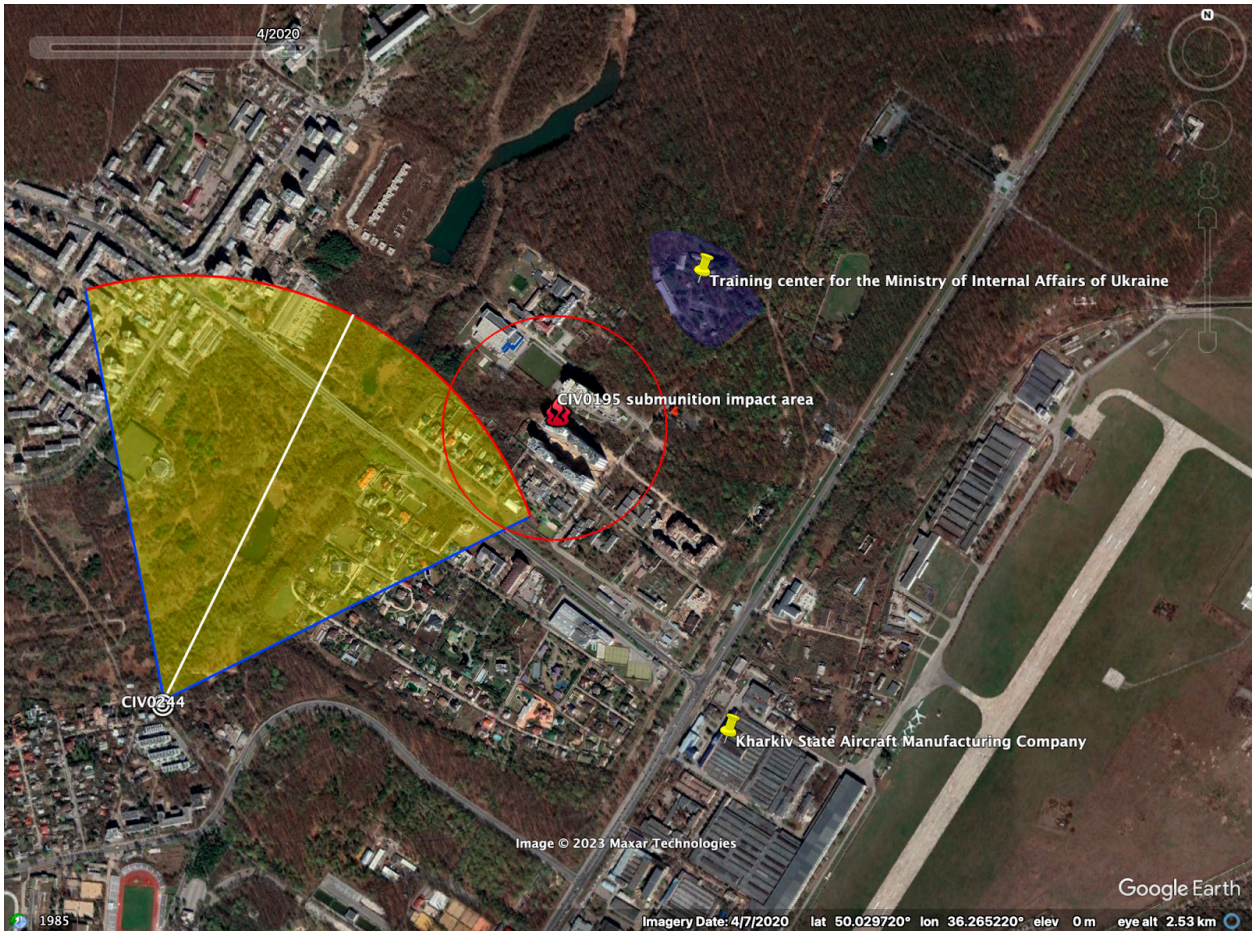
[15] https://wikimapia.org/#lang=en&lat=50.033768&lon=36.260376&z=15&m=w&show=/14195045/ru/%D0%93%D0%B0%D1%80%D0%B0%D0%B6%D0%BD%D1%8B%D0%B9-%D0%BA%D0%BE%D0%BE%D0%BF%D0%B5%D1%80%D0%B0%D1%82%D0%B8%D0%B2&search=kharkiv

[16] https://ksamc.com.ua/about-us

The point of impact of the rocket motor at the scene of CIV0244 (white circle), the training centre for the Ministry of Internal Affairs, and the Kharkiv State Aircraft Manufacturing Company (yellow pins) mapped on satellite imagery (Credit: Maxar Technologies/Google Earth Pro).

Any Other Relevant Information?

It should be noted that CIV0195, in which a residential area was impacted by a cluster munition strike, reportedly occurred on 03/03/2022, the same date when CIV0244 most likely occurred. CIV0244 is located approximately 1 km away from the scene of CIV0195, and is within the margin of error of the standardised direction of origin template.



Comparison of CIV0244 and CIV0195, with one kilometre arc of possible impact drawn from the point of impact of CIV0244 (Credit: Maxar Technologies/Google Earth Pro).

Timeline of the Incident

Between 24/02/2022 and 03/03/2022, a 9M55K tail section impacted the public footpath connecting two parks in the north of Kharkiv.

Statements from Parties of the Conflict

Ukraine

No official statement regarding this specific attack could be identified.

Russia

Kremlin's spokesperson Dmitry denied[17] the use of cluster munitions in Ukraine.

[17] https://www.gazeta.ru/politics/2022/03/01/14589073.shtm

Conclusion

The earliest identified post of the incident is on 03/03/2022, on this day, when the north of Kharkiv experienced heavy shelling. While it was not possible to identify the exact strike this munition remnant relates to, it was possible to identify the possible area of origin, based on the angle at which the remnant embedded itself in the ground. The remnant is identified as the rocket motor of a 9M55K. The location of the incident has been geolocated to a public footpath linking two public parks. The exact area damaged by the submunitions was not identified. It is worth noting that this incident may be related to CIV0195; however, this link could not be confirmed with a certainty.

Further Action

- Conduct further social media and internet searches to identify any relevant footage of the impact.
- Perform further analysis of the link between CIV0195 and CIV0244.
- Obtain and analyse satellite imagery of the location for the relevant period.