

# Incident Assessment

Incident ID	CIV1655
Location	520th Microdistrict, Saltivskiy District, Kharkiv, Kharkiv Oblast
Coordinates	<a href="#">50.0122, 36.3369</a> <sup>1</sup>
Date	28/02/2022
Time	Before 13:57 EET

## Description of the Events

Some time before 13:57 EET on 28/02/2022, what appear to be two cargo sections of 9M55K rockets impacted into the 520th Microdistrict in Kharkiv city. Due to their physical proximity (approximately 200 metres from each other) and likely date of occurrence, they have both been included in this incident. The impact location of their payload could not be identified with a high level of confidence, but given the proximity, direction of origin, and date, it appears likely that they may be connected to the incident CIV0077, which occurred that morning approximately 2.5 km to the north-west.

## Key Findings

- On 28/02/2022, what appear to be two cargo sections of 9M55K rockets impacted Kharkiv;
- As far as could be ascertained, nobody was killed or injured by these impacts;
- The direction of origin of Cargo Section 1 was roughly north-east, but it was not possible to assess the direction of origin of Cargo Section 2;
- Given the proximity, timing, and assessed direction of origin, these cargo sections may be connected to CIV0077, where submunition impacted, and CIV0075, CIV1654, CIV0093, CIV0464, where rocket motors impacted.

## Description of Searches

Searches were conducted on Twitter, Facebook, Google, and Yandex, primarily using geographic search terms, such as the name of the sub-district where the cargo sections were photographed. These searches were carried out in Russian, Ukrainian, and English and were limited to the dates around the time of the incident.

Example search query: “Садівничий кооператив until:2022-03-05 since:2022-02-26”.

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<sup>1</sup> <https://maps.app.goo.gl/NzpTULuVAC9MnJB39>

Additionally, other sources of information were consulted. Telegram channels associated with Kharkiv were reviewed, and conflict mapping applications, which map events in conflict, were also consulted.

## Background Summary of Significant Descriptive Content

No significant descriptive content could be identified specifically regarding this incident.

## Analysis of Examinable Content

Two relevant pieces of examinable content were identified.

Source 1, Video 1 (S1V1): A [Twitter post](#)<sup>2</sup> of a video depicting what appears to be a cargo section of some form (Cargo Section 1) embedded in the ground next to a residential building, posted at 10:49 EET 28/02/2022. Geolocated to: [50.0122 36.3369](#)<sup>3</sup>.



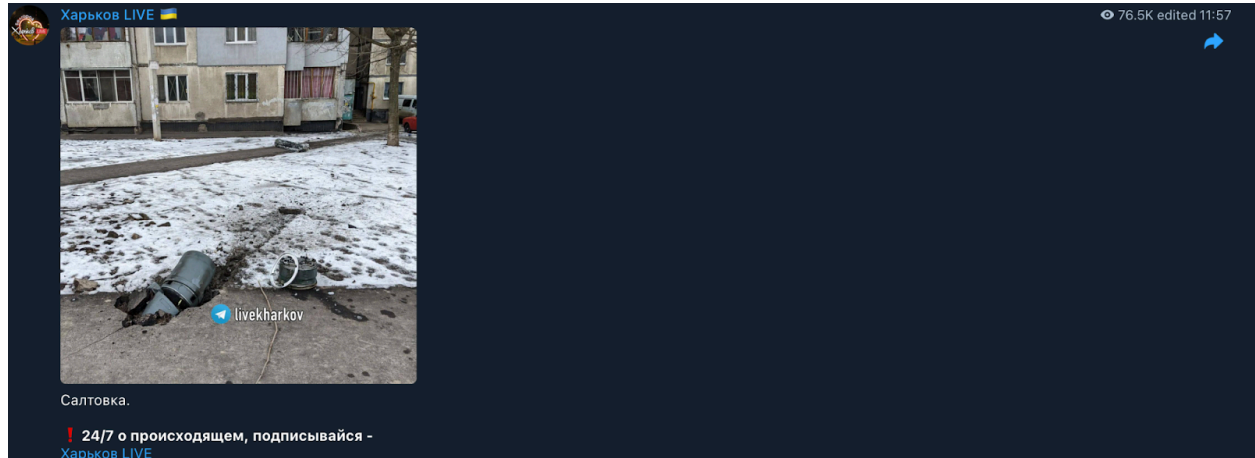
*N.B. timestamp is in UTC.*

<sup>2</sup> [https://twitter.com/den\\_hauzer/status/1498218894716243969](https://twitter.com/den_hauzer/status/1498218894716243969)

<sup>3</sup> <https://maps.app.goo.gl/NzpTULuVAC9MnJB39>



Source 2, Image 1 (S2I1): A [Telegram post](#)<sup>4</sup> from a private Telegram channel depicting what appears to be a cargo section (Cargo Section 2) partially embedded in the ground, posted at 13:57 EET on 28/02/2022. Geolocated to: [50.0131, 36.3398](#)<sup>5</sup>.



*N.B. timestamp is in UTC.*

## Questions to Investigate

### Where Was the Incident?

This incident contains two relevant locations for Cargo Section 1 (S1V1) and Cargo Section 2 (S2I1).

#### a) Cargo Section 1 (S1V1)

Cargo Section 1 was geolocated to [50.0122 36.3369](#)<sup>6</sup>. This post contained an address, implying it was the location where the event took place. This address was given as “улица Гвардейцев Широнинцев 53а” (*In English: Gvardeytsev Shironintsev 53a*). This was used as the starting point for the search. Other possibly matching areas in the district of Saltivskiyi were also identified and included in the search. The exact location was eventually identified as being near the given address using a combination of details seen within S1V1, including the layout of buildings.

<sup>4</sup> <https://t.me/c/1006836030/28000>

<sup>5</sup> <https://maps.app.goo.gl/vKURojiPetLgJB9o7>

<sup>6</sup> <https://maps.app.goo.gl/NzpTULuVAC9MnJB39>

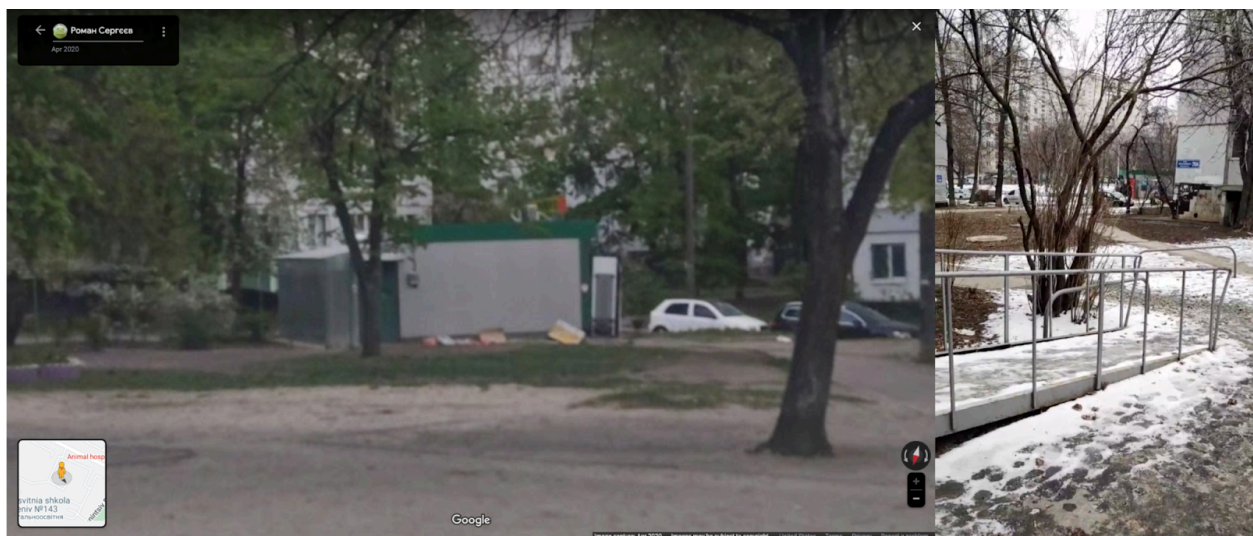


Top: Composite panoramic of stills from S1V1. Bottom: Satellite imagery taken over the affected area, dated 14/07/2021 (Credit: Maxar Technologies / Google Earth Pro).  
 Numeration from left to right: (1) The edge of a building; (2) A stall with a green hoarding; (3) A single large tree immediately next to the end of a building with projecting bay windows; (4) The end of a building without bay windows. Note: The graphics do not represent the totality of the matching features.





*Left: Note the green painted doorways visible in both [Google Street View](#)<sup>7</sup> of this location (Credit: Google). Right: The same type of doorways visible in S1V1. Note: Different buildings in Saltivka use different colours for their entranceways.*



*Left: Note the green hoarding of the building to the north-west of the point of impact, visible in [Google Street View](#)<sup>8</sup>. N.B. This view is from the north looking south (Credit: Google). Right: the same hoarding visible in S1V1.*

<sup>7</sup> <https://maps.app.goo.gl/XaymCaxSAQrNaYJ5A>

<sup>8</sup> <https://maps.app.goo.gl/RucsmNUEzbFWaWF7>





*Top: The sloped entryway (Pink Line) as seen in S1V1. Bottom: The same entryway as seen in the [Google Street View](#)<sup>9</sup> image (Credit: Google).*

It is also possible to see a children's playset in Google Street View at this location, consistent with that seen in S1V1. The inconsistency between the colours of the pillars and the gable roofs of this playset depicted in S1V1 and the Google Street View image is likely due to a new paint job done since December 2019, when the latter was uploaded. Additionally, it should be noted that the Google Street View image depicts the northern side of this playset, while the video in S1V1 depicts the southern side, which may further explain the difference between their colours.

<sup>9</sup> <https://maps.app.goo.gl/FnLke3jakbsX7uqV9>



*Left: The playset as seen in the Google Street View image dated December 2019 (Credit: Google). Right: The same playset as seen in S1V1. While some of the colours on the playset are different, they may have been repainted between December 2019 and 2022.*

Despite the above mentioned inconsistency regarding the colours of the playset, the investigator still considers the geolocation to be a match based on the presence of additional details, such as 1) the coloured entrances; 2) the position and colour of the small building to the north-west; 3) the sloped entrance; 4) the position of the playset, and its spatial layout. Finally, there are many other smaller details depicted in S1V1 that are consistent with the details in the identified location depicted in Google Street View images and satellite imagery, such as the architectural design of the residential buildings and the position of trees, fences, and concrete poles.

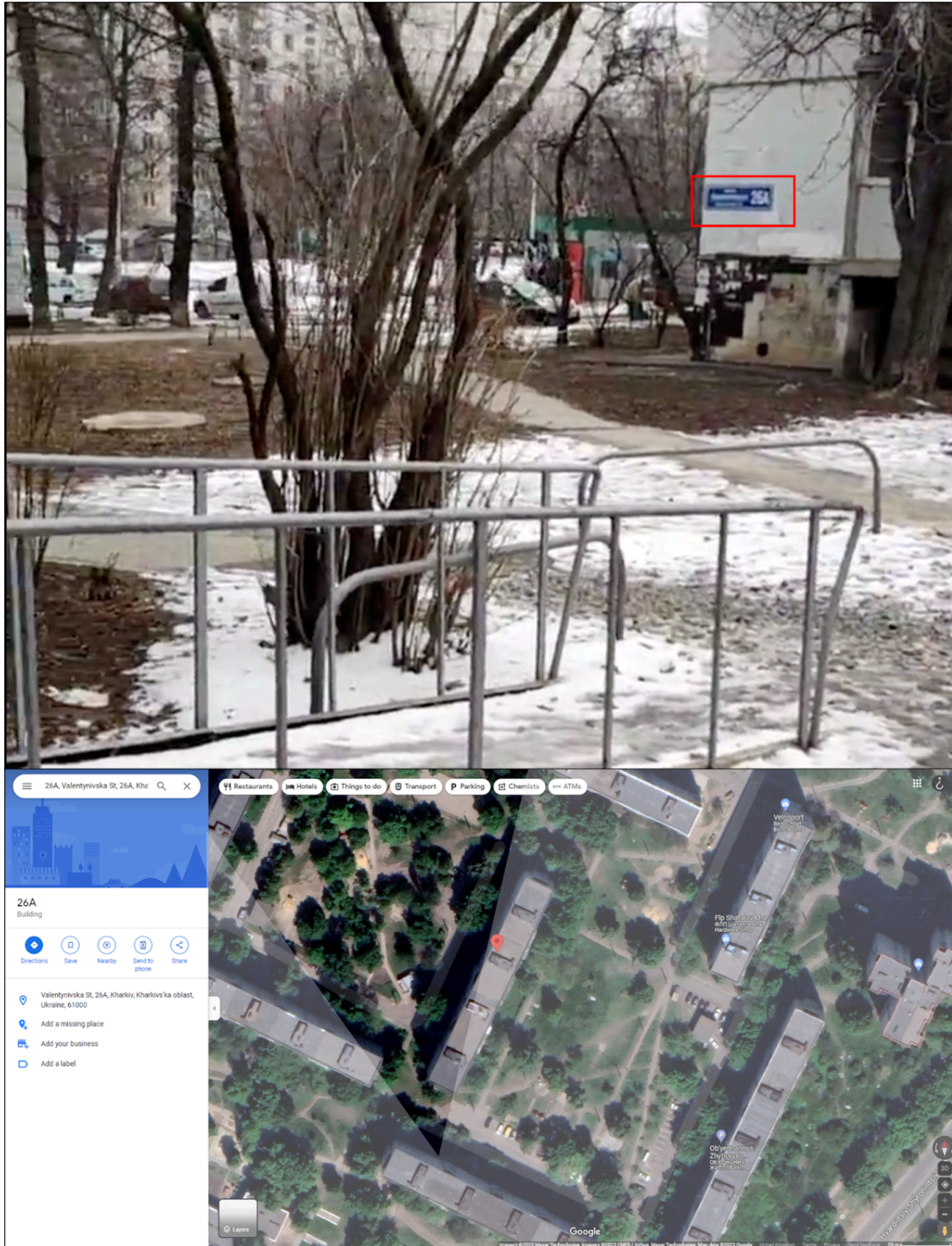
Ultimately, it is also possible to see “26A” on a blue plaque on the building opposite where S1V1 was filmed. This matches on both [Google](https://maps.app.goo.gl/LTaPu8TBzLojJenw5)<sup>10</sup> and [Yandex](https://yandex.com/maps/147/kharkiv/house/valentynivska_vulytsia_26a/Zo8YdQRnSEoBQFtqfXxwc3RgBA==/?ll=36.337316%2C50.012835&utm_campaign=morda&utm_medium=com&utm_source=yandex&z=18.54)<sup>11</sup> to the corresponding building.

<sup>10</sup> <https://maps.app.goo.gl/LTaPu8TBzLojJenw5>

<sup>11</sup>

[https://yandex.com/maps/147/kharkiv/house/valentynivska\\_vulytsia\\_26a/Zo8YdQRnSEoBQFtqfXxwc3RgBA==/?ll=36.337316%2C50.012835&utm\\_campaign=morda&utm\\_medium=com&utm\\_source=yandex&z=18.54](https://yandex.com/maps/147/kharkiv/house/valentynivska_vulytsia_26a/Zo8YdQRnSEoBQFtqfXxwc3RgBA==/?ll=36.337316%2C50.012835&utm_campaign=morda&utm_medium=com&utm_source=yandex&z=18.54)



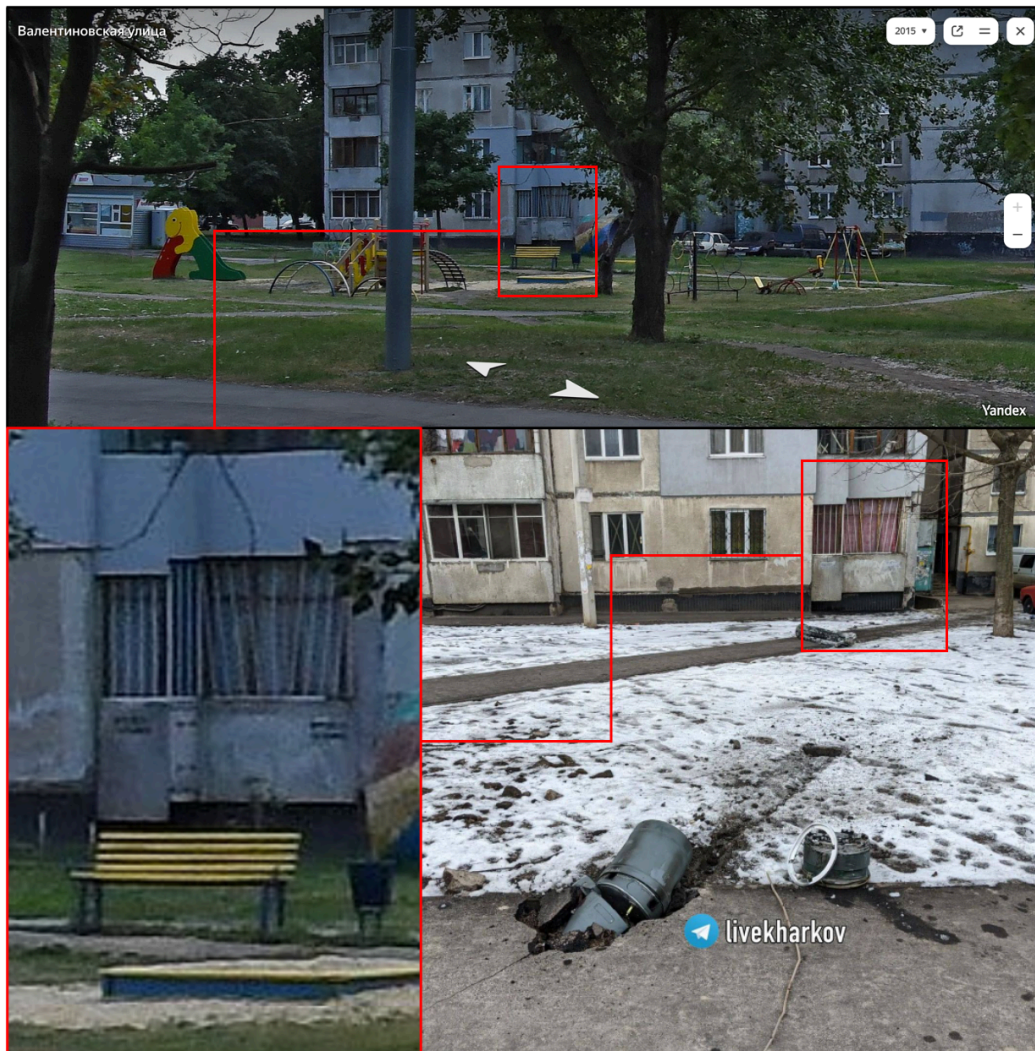


*Top: A blue plaque with “26A” (Red Rectangle) visible in S1V1. Bottom: The matching number of the residential building indicated on Google Maps near the incident marked with a Red Pin showing S1V1 point of view and the building marked as being “26A Valentynivska St” (Credit: Google Maps).*



## b) Cargo Section 2 (S2I1)

Cargo Section 2 was geolocated to [50.0131, 36.3398](#)<sup>12</sup>. The distinct construction of the right-hand corner of the building formed the basis for a search of the neighbourhood in the Saltivskiy District. Very few buildings in this area have an offset of the type seen in S2I1. Each one of those buildings was identified and geolocated using satellite imagery and a visual examination of images from Google Street View and Yandex Panoramas.



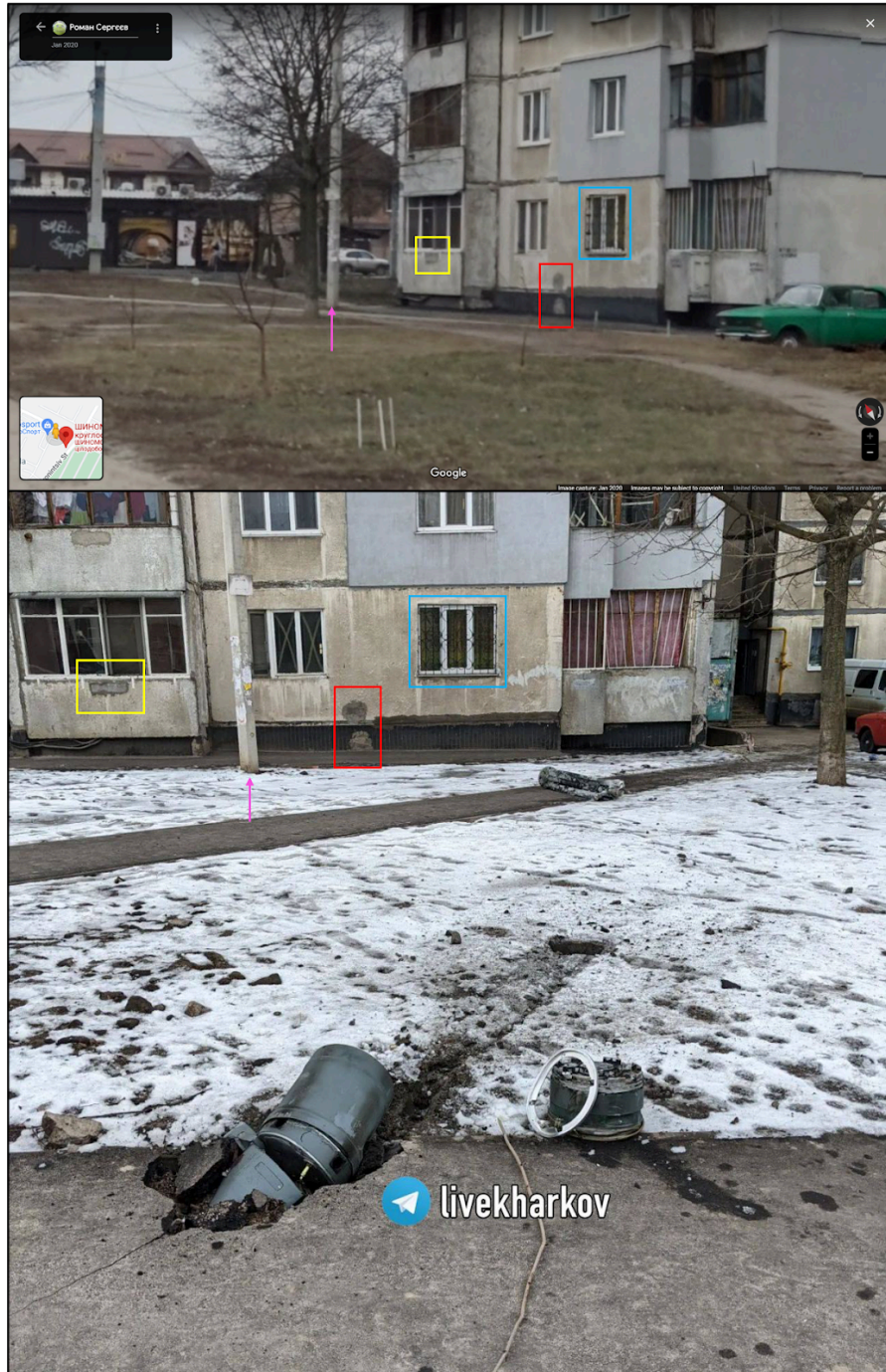
*Bottom Right: The combination of straight and diagonal details in the window (Red Rectangle) depicted in S2I1. Top and Bottom left: Consistent features depicted in the [Yandex Panoramas](#)<sup>13</sup> image (Credit: Yandex).*

<sup>12</sup> <https://maps.app.goo.gl/vKURojiPetLgJB9o7>

<sup>13</sup>

<https://yandex.com/maps/geo/kharkiv/1445680235/?l=sat%2Cstv%2Csta&ll=36.340074%2C50.013262&panorama%5Bdirection%5D=173.972509%2C-2.777778&panorama%5Bfull%5D=true&panorama%5Bpoint%5D=36.339560%2C50.013763&panorama%5Bspan%5D=37.053593%2C15.000000&z=17>





*Top: Discolorations and marks' shapes on the wall (Yellow and Red Rectangles), the grill on the window (Blue Rectangle), and what appears to be a concrete pole (Pink Arrow) indicated in the [Google Street View](#)<sup>14</sup> image from the identified location (Credit: Google). Bottom: The same details as seen on S2I1.*

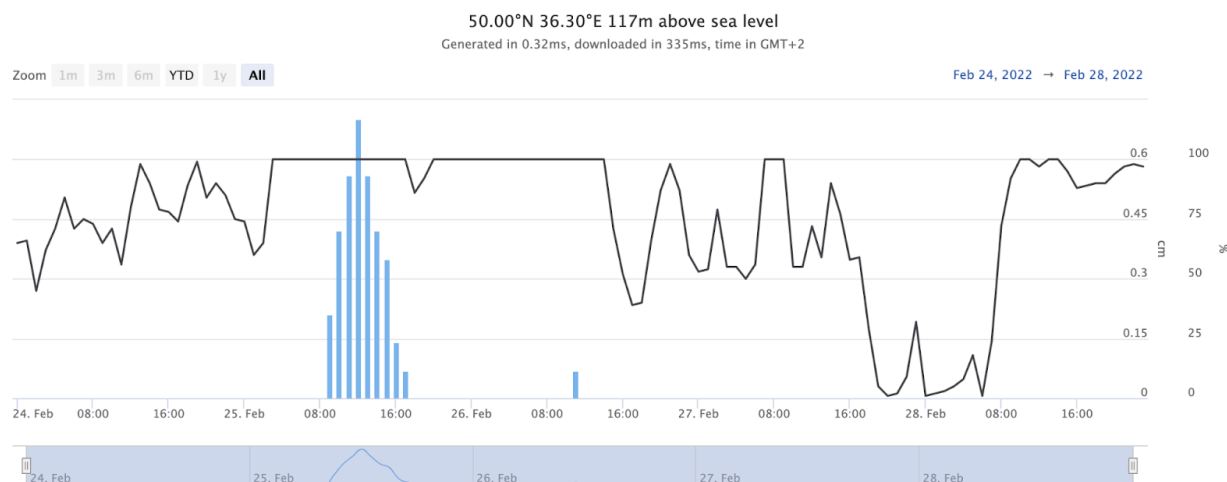
Given the matching nature of all of the elements outlined above, the investigator considers these geolocations to be accurate.

<sup>14</sup> <https://maps.app.goo.gl/K8vybHwM1joFDqUa9>

## When Was the Incident?

### a) Cargo Section 1 (S1V1)

S1V1 was posted at 10:49 EET on 28/02/2022, representing the latest possible time and date this incident could have occurred. The lack of snow on the munition and what appears to be fresh earth displaced by the munition suggest that it impacted the scene after the last snowfall, which occurred on 26/02/2022. The weather conditions seen in S1V1, with heavy cloud cover and melted, trampled snow, could be consistent with both 27/02/2022 and 28/02/2022. The investigator considers it more likely that this event occurred on 28/02/2022 due to this being the date S1V1 was posted.



*Weather reported in Kharkiv on 24/02/2022-28/02/2022. The line represents the percentage of cloud cover. The bars represent snowfall. The high percentage of cloud cover on 28/02/2022 reportedly started at approximately 08:00 EET, as per the line (Credit: [OpenMeteo](https://open-meteo.com/)<sup>15</sup>).*

There is no indication about the time this event occurred except for the time of posting of S1V1. If this incident did occur on 28/02/2022, this would mean that it happened prior to 10:49 EET.

### b) Cargo Section 2 (S2I1)

S2I1 was posted at 13:57 EET on 28/02/2022, representing the latest possible time and date this incident could have occurred. Similar to Cargo Section 1, the lack of snow on the munition itself and what appears to be fresh earth scattered on top of the snow, likely displaced by the munition, suggest it impacted the scene after the last snowfall. The sky is not visible in S2I1; however, there are no clear shadows, suggesting an overcast day. The weather and old snow seen on the ground in S2I1 are consistent with the weather conditions reported on both 27/02/2022 and 28/02/2022. The investigator considers it more likely that this event occurred on 28/02/2022 due to this being the date S2I1 was posted.

<sup>15</sup> <https://open-meteo.com/>

## Who and What Was Present?

The 520th Microdistrict, where both cargo sections impacted, is a residential area, with a Montessori school named [“World of Discovery”](#)<sup>16</sup> (*In Russian*: “Мир открытий”) located less than 100 metres to the south west of the impact site. To the east, across a road, there is a [horticultural co-operative](#)<sup>17</sup>. The wider vicinity is a mixture of residential and commercial areas.

No indication of any permanent military presence was identified at this location. However, it should be noted that there is no contemporaneous satellite imagery available.

## What Kind of Munition Was Used?

Both munition segments depicted in S1V1 and S2I1 are consistent with cargo sections from 9M55K rockets.

### a) Cargo Section 1 (S1V1)

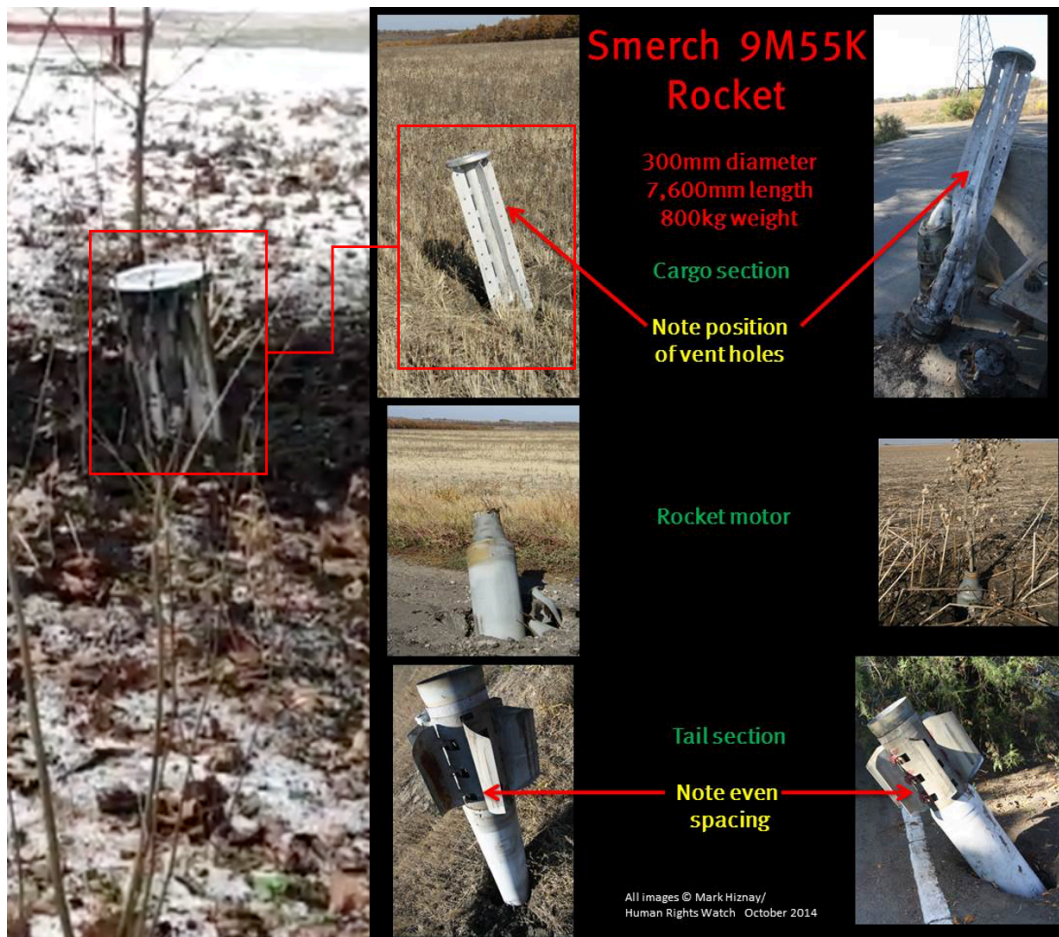
Although it is not possible to see the full section of the fragment seen in S1V1, the general size, as well as what appear to be holes in the fin, but no holes in the bursting tube, indicate that this fragment is consistent with cargo sections used in 9M55K rockets.

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<sup>16</sup> <https://goo.gl/maps/PfGTgrCHQWV89X8X9>

<sup>17</sup> <https://maps.app.goo.gl/BtnV4rPD8Y8Hrv6R7>





*Left: The object (Red Rectangle) depicted in a still frame from S1V1. Left: the reference imagery of Smerch 9M55K Rockets' sections (Credit: [Mark Hiznay / Human Rights Watch](https://twitter.com/MarkHiznay/status/1497741893479841797?s=20)<sup>18</sup>).*

## **b) Cargo Section 2 (S2I1)**

The fragment seen in S2I1 also appears to be a 9M55K cargo section. The details of the actual cargo compartment are difficult to assess due to the lower quality of the image. However, the nose section is clearly visible and appears to match that of a 9M55K [identified](https://armamentresearch.com/9m55k-cargo-rockets-and-9n235-submunitions-in-syria/)<sup>19</sup> in Syria.

<sup>18</sup> <https://twitter.com/MarkHiznay/status/1497741893479841797?s=20>

<sup>19</sup> <https://armamentresearch.com/9m55k-cargo-rockets-and-9n235-submunitions-in-syria/>



*Cargo Section 2 as seen in S2I1.*





*Middle: Elements of a cargo section seen in S2I1 (Middle). Top and bottom: Images of 9M55K identified in Syria depicting matching elements (Credit: [Armament Research Services](https://armamentresearch.com/9m55k-cargo-rockets-and-9n235-submunitions-in-syria/)<sup>20</sup>).*

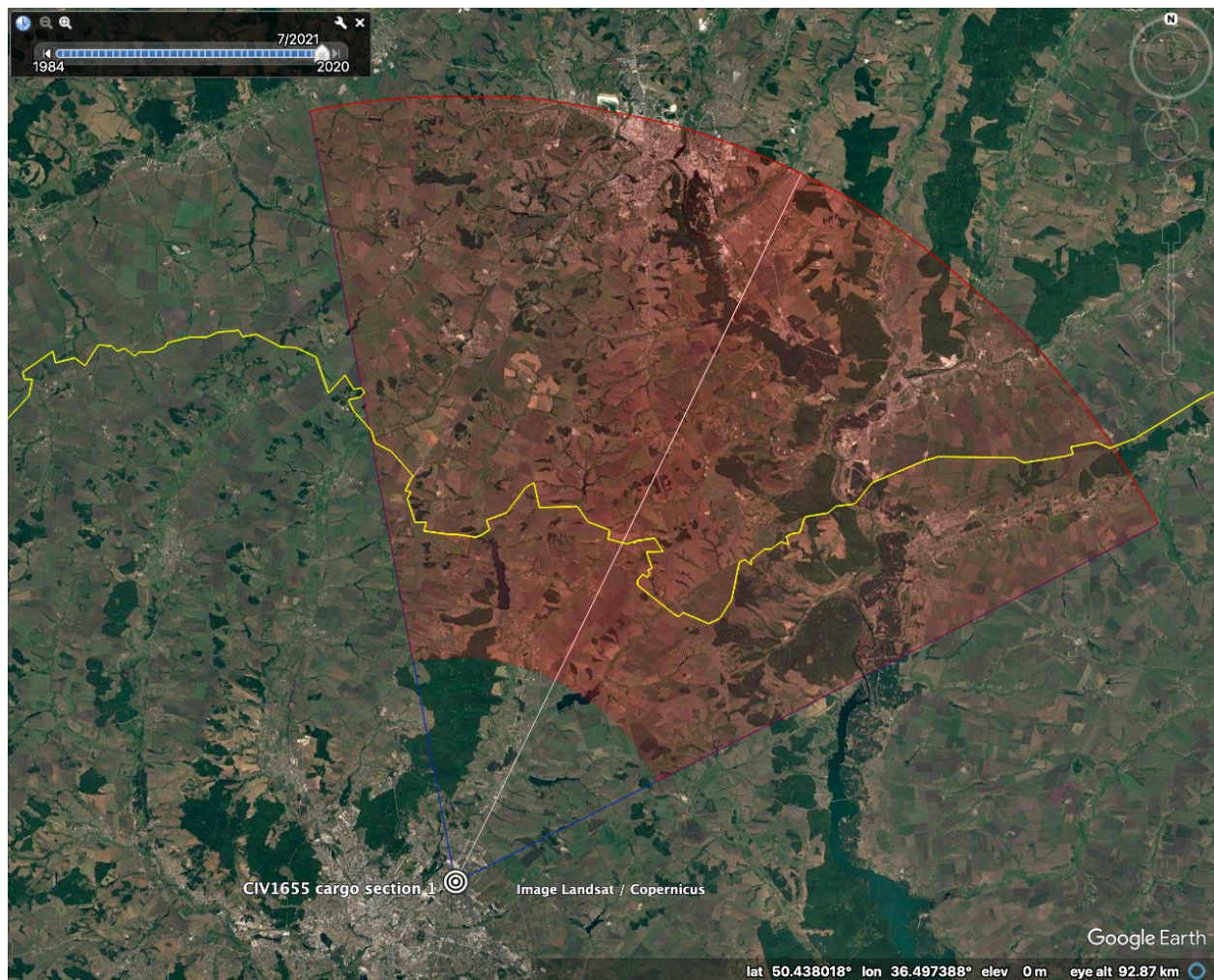
<sup>20</sup> <https://armamentresearch.com/9m55k-cargo-rockets-and-9n235-submunitions-in-syria/>



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

### a) Cargo Section 1 (S1V1)

Cargo Section 1 can be clearly seen in S1V1. The investigator assessed it as pointing at a right angle away from the wall to its south, giving the direction of origin as roughly 26 degrees from north. A standardised arc template was applied to this direction of origin, based on the maximum range of 70 km and minimum range of 20 km of a [BM-30 Smerch](#)<sup>21</sup> used to fire 9M55K rockets. This arc represents an estimated area from which the munition likely originated.



*Assessed area of origin for Cargo Section 1 marked in Red (Credit: Landsat/Copernicus/Google Earth Pro).*

<sup>21</sup>

[https://www.armyrecognition.com/russia\\_russian\\_army\\_vehicles\\_system\\_artillery\\_uk/bm-30\\_smerch\\_9k58\\_300\\_mm\\_multiple\\_rocket\\_launcher\\_system\\_technical\\_data\\_sheet\\_information\\_description.html#:~:text=The%20minimum%20range%20is%2020%2C000,maximum%20range%20is%2070%2C000%20m.](https://www.armyrecognition.com/russia_russian_army_vehicles_system_artillery_uk/bm-30_smerch_9k58_300_mm_multiple_rocket_launcher_system_technical_data_sheet_information_description.html#:~:text=The%20minimum%20range%20is%2020%2C000,maximum%20range%20is%2070%2C000%20m.)

## **b) Cargo Section 2 (S2I1)**

The manner in which Cargo Section 2 has impacted the ground makes estimation of its origin difficult. The positions of the tip and the carrier sections appear to indicate that the section arrived from a north-easterly direction and that the cargo section continued on its trajectory after separating from the tip. There is also a clear witness mark to the impact of the main part of the cargo section, indicating it impacted side on. One explanation for this could be that that cargo section impacted and then rotated with the ground as the axis, resulting in the witness mark. However, the orientation of the remains of the tip indicates the direction of origin as being from a south-westerly direction.

Due to the limited amount of available information, it was not possible to conclusively confirm whether Cargo Section 2 originated from the north-east or south-west direction, and, therefore, the direction of origin was not applied to Cargo Section 2.

## **Timeline of the Incident**

Likely on 28/02/2022, but possibly on 27/02/2022, two cargo sections impacted the 520th Microdistrict, Saltivskiy District of Kharkiv. Cargo Section 1 must have impacted before 10:49 EET on 28/02/2022, while Cargo Section 2 must have impacted before 13:57 EET on 28/02/2022.

## **Statements from Parties of the Conflict**

### **Ukraine**

No statements regarding this specific incident were identified.

### **Russia**

No statements regarding this specific incident were identified.

## **Conclusion**

Likely on 28/02/2022 but possibly on 27/02/2022, what appear to be two cargo sections from 9M55K rockets impacted the 520th Microdistrict, Saltivskiy District of Kharkiv. No military infrastructure could be identified in the area at the estimated time of the incident. The impact location of the submunitions could not be identified with confidence, but given the proximity, estimated direction of origin for the cargo section, and estimated timing of the incident, it appears likely that CIV1655 may be connected to CIV0077, where submunitions impacted on 28/02/2022 approximately 2.5 km to the north-west, and CIV0075, CIV1654, CIV0093, and CIV0464, where rocket motors were reported to have impacted on 28/02/2022.



## **Further Action**

Assess if CIV1655 is connected to CIV0075, CIV1654, CIV0093, CIV0464, and CIV0077.