

Incident Assessment

Incident ID	CIV0522
Location	5 Shevchenka Street, Merefa, Kharkiv Oblast
Coordinates	49.8065, 36.0709 ¹
Date	The exact date of the incident could not be confirmed, but it likely took place on or before 22/03/2022 and possibly on 20/03/2022
Time	Unknown

Description of the Events

On 22/03/2022 three pictures showing remnants of a rocket near a suburban household were posted on [Telegram](#) (“the Incident”). Specifically, there are two pictures of a tail section embedded into the sidewalk next to the fence of the household and one picture of a rocket motor lying on the ground. The Investigator was not able to identify any other publicly available posts or reports of attacks near the town of Merefa on 22/03/2022, the date when the Incident was posted on Telegram. The closest attack in time to this date was an attack on Merefa, which reportedly happened on 20/03/2022.

Key Findings

- On 22/03/2022 at 16:45 EET three images were posted depicting rocket remnants which had reportedly impacted in Merefa, approximately 30 km southwest from Kharkiv.
- The rocket fragment appears to be at least one motor of a 9M55K rocket.
- The incident was geolocated to [49.8065, 36.0709](#)², which corresponds to the address: 5 Shevchenka Street, Merefa, Kharkiv Region, Ukraine, 62472.
- No military objects were identified in the possible area of impact.
- The exact area of impact of the submunitions was not identified.
- The exact launch area was not identified; however, it is possible to identify the general direction of origin.

Description of Searches

The CIVHARM sheet lists a single source for this incident which is a post ([Source 1](#)³) on a Telegram channel named “Труха ⚡ Україна”. After this post was collected, this channel began requiring admin approval to access. A publicly archived version of the post can be viewed⁴ via the “The Wayback Machine” (www.web.archive.org).

¹ <https://maps.app.goo.gl/6j8NETW2VYeTnFfy5>

² <https://maps.app.goo.gl/6j8NETW2VYeTnFfy5>

³ <https://t.me/truexanewsua/35618>

⁴ <https://web.archive.org/web/20220710054845/https://t.me/truexanewsua/35618>



A screenshot of a Telegram post (Source 1).

The Telegram post consists of three images of the rocket remnants accompanied by a description “Мерефа сьогодні. Харьковская область”, which translated to English means: “Merefa today. Kharkiv region”.

Searches for more information on the Incident, including more pictures, videos, etc., of possible strikes were conducted for the three days prior to the date of the initial post in the area of Merefa in three languages: English, Ukrainian and Russian. These searches led to more information on Youtube, Twitter and Telegram. Specifically, two videos of shellings in Merefa on 20/03/2022 were identified, which were posted and reposted on various social media. These videos were subsequently analyzed and geolocated (where possible).

Searches were carried out using terms related to the place of the Incident (i.e., Merefa, Kharkiv region), as well as terms related to shelling/strike/explosion/rocket/bombing, military, and munition near Merefa on both Yandex and Google search engines.

Background Summary of Significant Descriptive Content

Media Reports

- None identified.

NGO Reports

- [Intense and Lasting Harm](#)⁵ - the Human Rights Watch Report of on Cluster Munition Attacks in Ukraine.

Other

- None identified.

Analysis of Examinable Content

- [Source 1](#)⁶: Telegram – three images (S1I1, S1I2 and S1I3) of a rocket remnant posted on 22/03/2022 at 16:45 EET. Two images (S1I1 and S1I2) depict a rocket tail section stuck in the ground near what appears to be a residential building, while the third image (S1I3) depicts a rocket motor on the ground.



A Telegram post containing three images labeled as S1I1, S1I2 and S1I3, respectively.

⁵ <https://www.hrw.org/ru/news/2022/05/11/end-cluster-munition-attacks-ukraine>

⁶ <https://web.archive.org/web/20220710054845/https://t.me/truexanewsua/35618>

S1I1 and S1I2 depict what appears to be a suburban type of area. In the left foreground corner of S1I1 an asphalt covered sidewalk separated by grass from the tile covered entrance to the household is clearly visible. In the middle of S1I1 there is the tail section of a rocket embedded on the ground near the left edge of the tiles and adjoined to the fence. The fence is dark brown and is missing one section in the middle of it. A fence stretches from the middle right side of the picture to top left. The fence starts on the left with the smaller entrance gate followed by the part with the missing section of the fence, which is further followed by a wider gate (likely a car entry gate). This wide gate is further followed by two sections of the fence and subsequently adjoins the garage. The garage is further adjoined to the fence of the next household. There is also an electricity pole visible next to the neighboring household fence.



S1I1 depicting a munition remnant.

S1I2 depicts the same household and the same rocket tail section embedded near the fence but opens the view to the street where the household is located. Specifically, there is a tree in front of the house neighboring the household where the rocket remnant embedded. This tree is bypassed by the asphalt covered sidewalk. There is a concrete electricity pole next to the tree, followed by one more double-legged electricity pole down the street. At the top left part of the image there is a house which seems to be located perpendicular to the street where the rocket remnant is embedded. The location of this house provides grounds to indicate that there is a T section down the street.



S1I2 depicting a munition remnant.

S1I3 depicts another remnant, a rocket motor lying on the ground, where no other objects are visible. It was not possible to tell whether this rocket motor belong to the same rocket as the tail section embedded in the ground, and it was not possible to confirm its geolocation.



S1I3 depicting a munition remnant.

- [Source 2](#)⁷: A Youtube video (S2V1) posted on 20/03/2022, providing a vertical format view footage from a street camera of sparks and sounds of explosions.



A still from S2V1.

- [Source 3](#)⁸: A video (S3V1) posted on Telegram on 20/03/2022 at 22:30 EET, containing footage from a street camera of sparks and sounds of explosions. According to the video's time stamp, it appears to be taken on 20/03/2022 between 20:31:55-20:32:33 ETA.

⁷ <https://www.youtube.com/shorts/SvGEcTuh4oE>

⁸ <https://t.me/truexanewsua/35068>



Труха ⚡ Україна



В Мереве сильный обстрел! Смотреть со звуком. Харьковская область.

О разрушениях и пожарах пока нет официальной информации.

A Telegram post containing S3V1 with a time stamp from 20/03/2022.

- [Source 4](#)⁹: A video (S4V1) posted on Telegram on 20/03/2022 at 22:36 EET, showing dark sky and sparks of light, as well as loud sounds of explosions.



A Telegram post containing S4V1.

⁹ <https://t.me/merefavoina/59>

Questions to Investigate

Where Was the Incident?

The location of the tail section was geolocated by a peer researcher to the following coordinates: [49.8067, 36.0714](https://maps.app.goo.gl/XQnTiVjM949ZBczm7)¹⁰. These coordinates correspond to the address: 5 Shevchenka Street, Merefa, Kharkiv Region, Ukraine, 62472. Google Maps provides a street view of this location, although the street view is dated from 2015. However, S1I2 depicts specific objects which confirms that the geolocation is correct (e.g., roof of the neighboring house, a curved tree and curved sidewalk, a sequence of electricity poles, a perpendicular house which makes T street cross section).

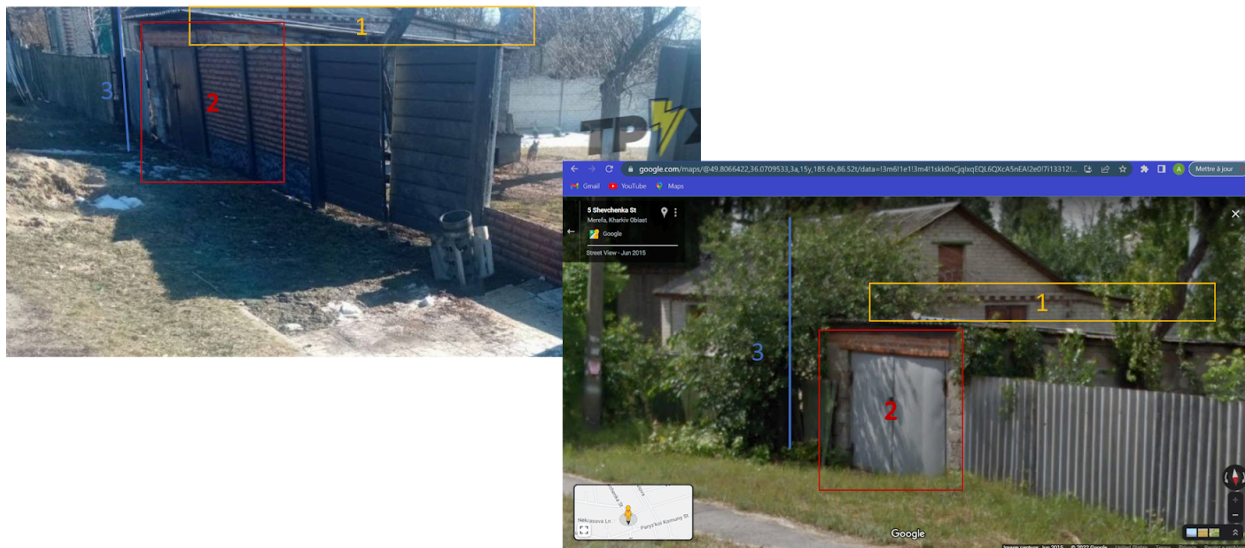


Left: S1I2 depicting the munition remnant, and the following features marked: 1) Top of the house; 2) Electricity pole; 3) Rear electricity pole; 4) Roof of the neighbouring house. Right: A screenshot from [Google Street View](https://maps.app.goo.gl/hxhwKrUN9QBSwGYu5)¹¹ showing the same features (Credit: Google).

Moreover, a closer inspection of the Google Street View of the same household and comparison to S1I1 provides for more matches: a distinctive corrugated pattern on the building visible over the top of the garage; a garage, although its doors appear to have been changed; and an electricity pole near the neighboring fence

¹⁰ <https://maps.app.goo.gl/XQnTiVjM949ZBczm7>

¹¹ <https://maps.app.goo.gl/hxhwKrUN9QBSwGYu5>



Left: S1I1 depicting the munition remnant, and the following features marked: 1) Top of the house; 2) Garage; 3) An old electricity pole. Right: A screenshot from [Google Street View](https://www.google.com/maps/@49.8066422,36.0709533,3a,15y,185.6h,86.52t/data=!3m1!1e1!1m1!1s0x4e0c0c0c0c0c0c0c:626a5e4a2e07113121)¹² showing the same features (Credit: Google).

Considering the matching objects from the images of the Incident and objects observed on the Google Street View at the provided address, it can be concluded that the Incident took place right near the fence of the household located at the address 5 Shevchenka Street in Merefa, Kharkiv region, Ukraine.

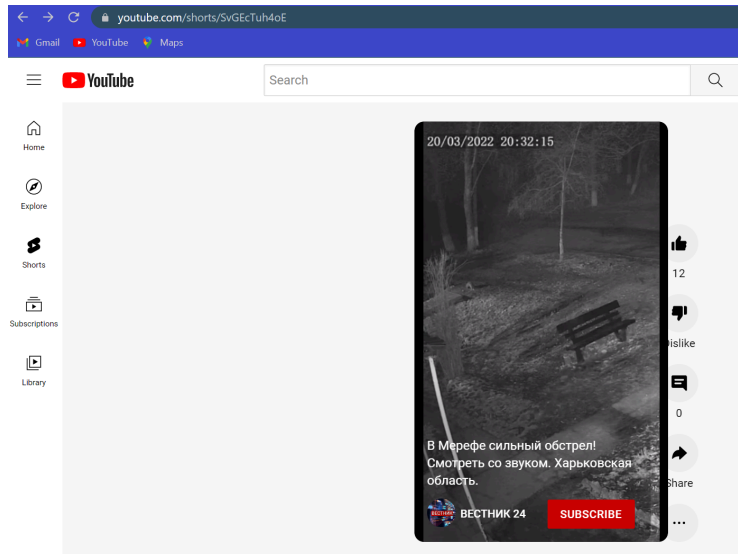
When Was the Incident?

The earliest identified post regarding this incident is Source 1, which was posted at 16:45 EET on 22/03/2022. However, the post description does not directly claim the Incident occurred on 22/03/2022. Considering that no reports or mentions of any similar incident could be identified in Merefa, Kharkiv region on 22/03/2022, the Investigator checked for reports on the same area 3 days prior. This search led to a video (S2V1) posted on Youtube by user “БЕЧНИК 24”¹³.

S2V1 was posted on 20/03/2022. The video appears to be footage from a surveillance camera. The description provided for this video in Russian is translated into English as follows: “Heavy shelling in Merefa! Watch with sound on. Kharkiv region.” This video provides for limited vision of the surroundings and the camera is steady, so the image focuses on a single viewpoint throughout the video.

¹² <https://maps.app.goo.gl/hxhwKrUN9QBSwGYu5>

¹³ <https://www.youtube.com/shorts/SvGEcTuh4oE>

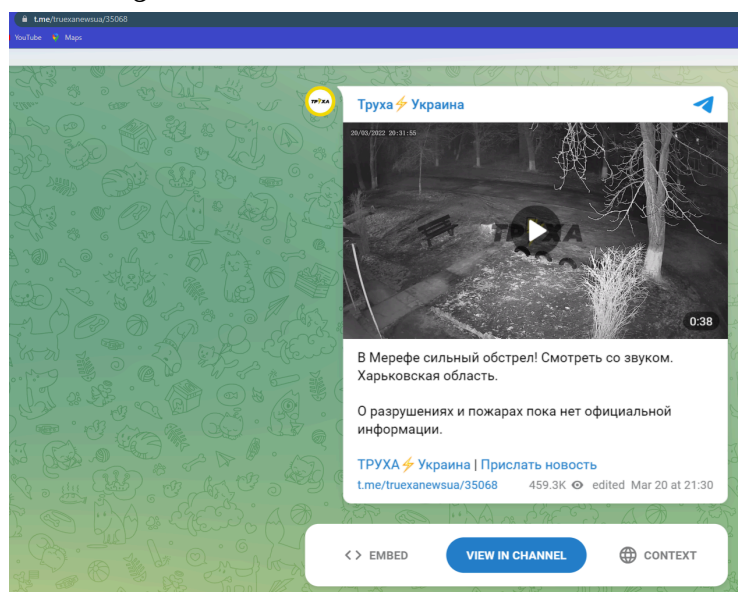


A screenshot from a Youtube channel containing S2V1.

Copy and pasting the video description into the search line of Youtube led to four more posts replicating the same video. All four videos appeared to be exactly the same and none of the posts provided any comments with additional information from the viewers. However, three other posts from the user “ВЕСТНИК 24” provided for a widescreen footage, including more details of surroundings, which might allow to geolocate the place where the video was made.

The aforementioned three videos have the same watermarks on them, saying: “TP ⚡ XA”, which is the name of the digital media organization sharing various content related, *inter alia*, to the war in Ukraine on several platforms, including Telegram, Twitter, etc.

A search of the original video on Telegram channel of “TP ⚡ XA” led to a post¹⁴ with almost the same description as S2V1 (it extended to one more sentence, which is translated into English as follows: “There is no official information about devastations and fires yet.”). This video was posted on 20/03/2022 at 22:30 EET.



¹⁴ <https://t.me/truexanewsua/35068>

A post on Telegram channel containing S3V1. Note that the Telegram time stamp is depicted in ECT.

The video's length is 00:38 seconds. During the whole period of the video the camera is steady and the initial image of what seems to be a courtyard of the residential building does not change.



A still from S3V1 taken at 00:03 depicting the courtyard.

The image of the courtyard depicts the following features:

1. In the foreground there is a clear path to what appears to be a roofed entrance into the building.
2. On the left side of the path there is a bench with a back, on the right side there are three car tires half dug into the ground one after another on what may be a flowerbed in front of the residential building. There is also a bush and a tree in the same flower bed.
3. The path leads from the entrance of the building to the road. The road appears to have a hard, asphalt-covered surface. The area between the flowerbed and the road seems to be muddy with wheel marks.
4. Behind the road a row of five trees is clearly visible followed by what appears to be a multi-story residential building behind them and to the right. The building appears to be at least three floors high. The number of windows (at least nine windows visible) spread horizontally along the building implies that the building most likely has more than one entrance.
5. On the left-hand edge of the building in the background there is an alley of trees and a road or a path through it.



A screenshot of S3V1 enlarged, brightened and cropped for better view of the objects in the background. Circles indicating windows/floors and number of trees along the road. Note the vertical orange line indicating the side of the building.

Starting from the 00:08 in the video, a whistling sound can be clearly heard, followed by numerous explosions. The explosions can be observed as sparkles of light on the top left side of the screen. Considering that the branches of the trees are steady, as well as the lack of any sound of broken glass or any other damage of the objects visible on the footage, it can be concluded that the explosions are taking place in some distance from the street camera, and thus there is no impact within the immediate area of the camera.

It is noteworthy that high-rise buildings or even buildings with more than two floors and more than one entrance are rather rare for towns like Merefā. The satellite view of Merefā provided by Google Earth showed that there are only a few buildings in the town and its vicinity that would have three or more floors. Among those there is only one matching the criteria of: 1) being in front of another building; 2) being separated by a road; 3) having a row of at least five trees in front of it; 4) having a path, road or alleyway through the trees at its edge.



Two satellite images from Google Earth Pro of the same building that has more than three floors. The image to the left is from 2018 and reveals a row of five trees, a road and an alley. The image to the right is from 2017 and reveals the number of floors and the alley (Credit: Google/Maxar Technologies).

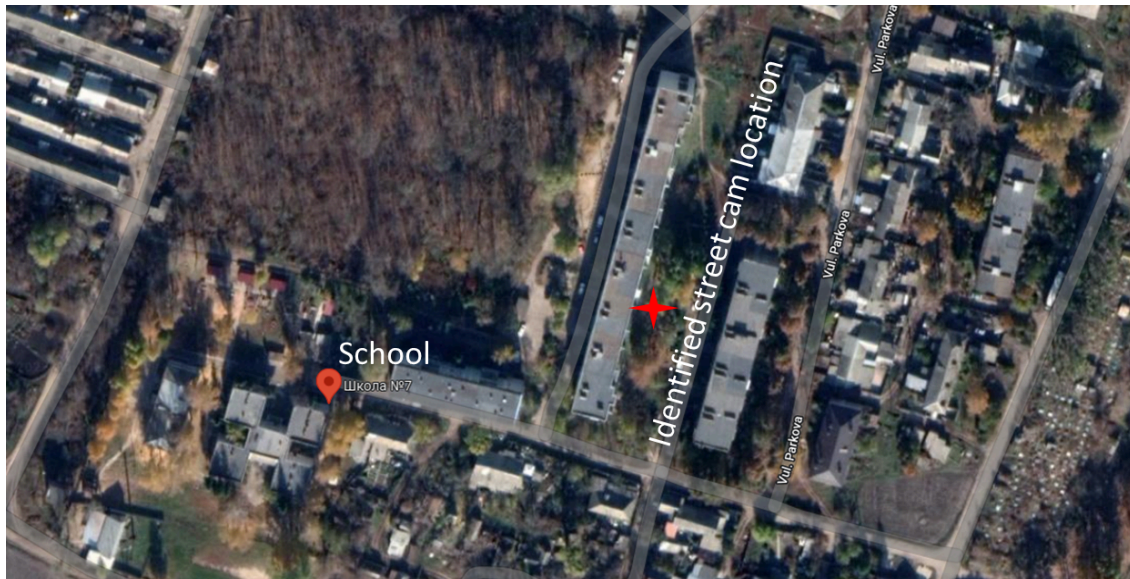


Top: A still from S3V1 (cropped and enlarged). Bottom: Google Earth Pro view of the building which is seen on street cam footage (Credit: Google/Maxar Technologies).

The geolocation of the street camera appears to be: [49.7762, 36.0252](https://maps.app.goo.gl/codzg9dkUcctYDuF6)¹⁵.

Note: Although the name of the location of the identified building is Selektiinne, not Merefa, the Investigator checked how addresses are written in the same area, e.g., the school neighboring the identified building.

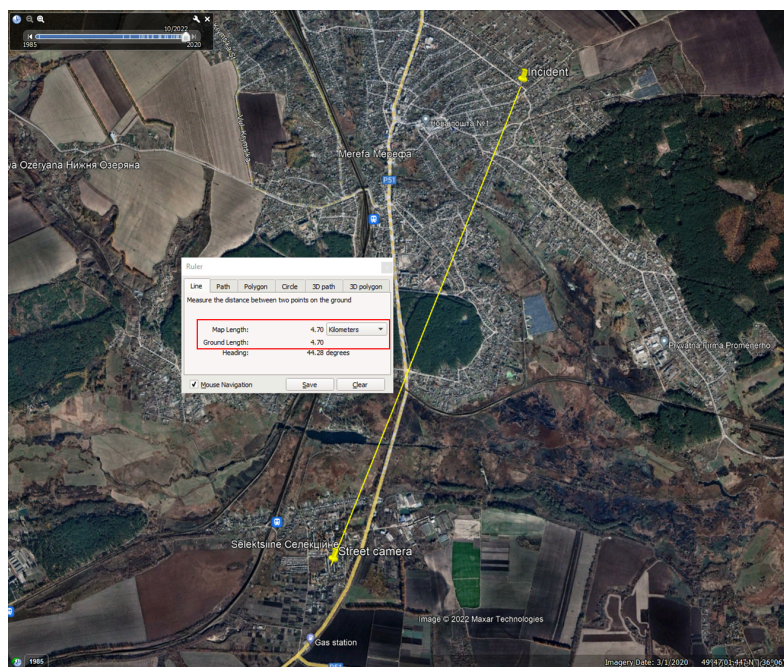
¹⁵ <https://maps.app.goo.gl/codzg9dkUcctYDuF6>



Satellite imagery from Google Earth Pro of the area near the building seen on S3V1 marked with the red star and neighboring school (location marker) (Credit: Google/Maxar Technologies).

It appears that the Ukrainian web sources for information regarding schools provides the school address as follows: “Україна, Харківська область, Харківський район, м.Мерефа, с-ще Селекційне, вул. Овочівників, 43”¹⁶, which translates into English as follows: Ukraine, Kharkiv oblast, Kharkiv District, Merefa town, Seleksiine settlement, 43 Ovchinnikov Street.

Furthermore, the street camera faces north-east, which is in the direction of Merefa town. The identified geolocation of the street camera is situated 4.7 km from the place of the Incident.



A screenshot of satellite imagery from Google Earth Pro showing the distance (in red rectangle) between the street cam location and the location of the Incident (Credit: Google/Maxar Technologies).

¹⁶ <https://kh.isuo.org/ru/schools/view/id/4815>

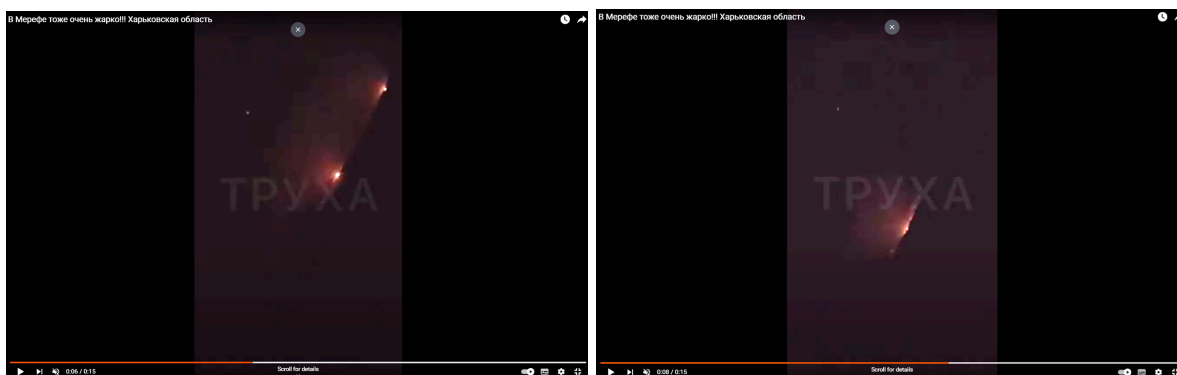
Although the distance from the camera appears to be quite far from the location of the Incident, it cannot be concluded that this footage is not relevant to the Incident. As previously noted, the explosions seen in the footage appear to be some distance away from the camera, which would place them in the vicinity of the town of Merefa proper.

The cadence of the detonation sounds, along with the sparkles of light visible on the video give grounds to believe that there was a series of explosions in the area of Merefa. These explosions appear to be consistent with a cluster munition strike, although this could not be concluded with confidence.

Furthermore, S4V1 contains a description “В Мерефе тоже очень жарко!!! Харьковская область”, which translates into English: “It is very hot in Merefa too!!! Kharkiv oblast” and indicates the date of the video as 20/03/2022.

This video provides footage of a series of explosions visible in the dark sky. The video is in a vertical format with a limited possibility to view anything in the area of explosions.

Several stills from this footage at the moment of the explosion reveals the appearance of other objects on the video by the light of the detonations. The right hand side of the screen appears dark throughout, indicating the video was filmed either from behind an obstacle, e.g., building, or, more likely, the horizon is rotated and appears to not be horizontal, but rather diagonal across the screen.



Screenshots of S4V1 at 00:06 seconds and at 00:08 seconds, at the moments when sparks from the explosions lighten the background.

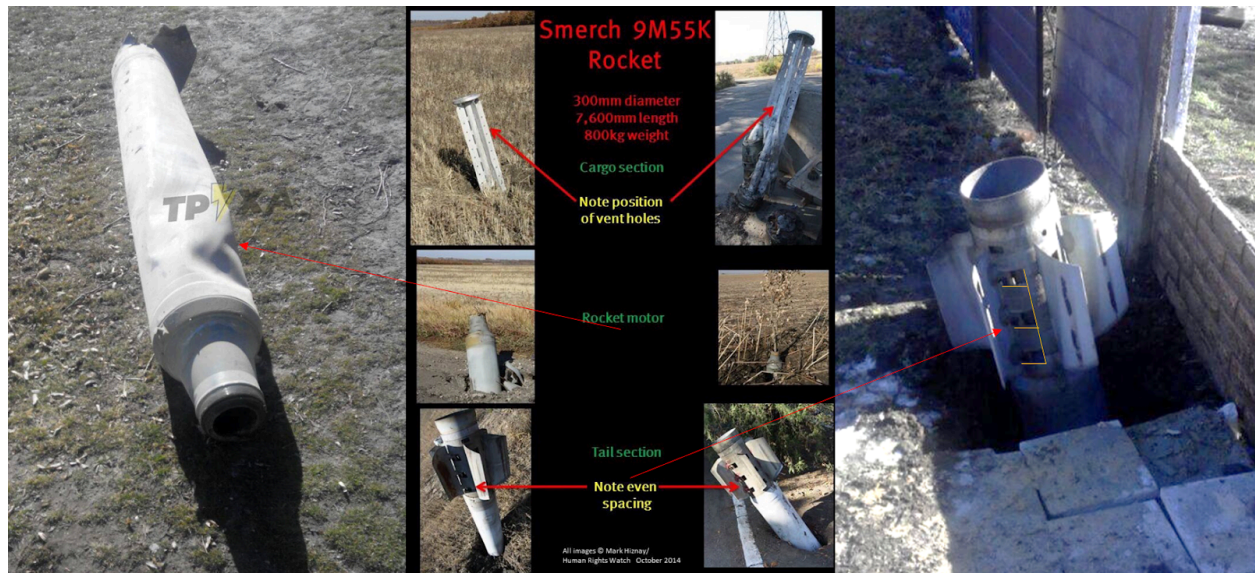
Identical was posted by another user on Youtube on 20/03/2022. However no more details or other information on the event was mentioned. Although the level of detail in S4V1 does not allow to establish the area where it was taken, it still gives grounds to believe that a series of explosions took place at the area of Merefa, Kharkiv region at that date.

Although Source 1 was posted on 22/03/2022, it does not make a clear claim about the exact date of the Incident, only stating “today”. This could imply that either the incident happened “today” or the image was taken “today”.

However, other user generated content gives us grounds to believe that on or before 20/03/2022 the town of Merefa came under attack, possibly by cluster munitions. As such it is possible that the rocket remnants seen in Source 1 are from this attack, although this could not be confirmed.

The time of the Incident could not be accurately established. However, if this Incident was a result of an attack on Merefa on 20/03/2022, it is likely that it took place just after 20:30 EET, as indicated by the CCTV timestamp on S3V1, although this could not be independently verified.

What Kind of Munition was Used?



Left: An image of a rocket motor from S1I3. Middle - a [reference card](#)¹⁷ from the official Twitter page of the Human Rights Watch Associate Arms Director. Right: An enlarged image of a rocket tail section as depicted by S1I2.

The conical end of the rocket motor depicted in the picture on the left matches other photos of a 9M55K rocket. The right image clearly matches the distinct tail section of a 9M55K rocket.

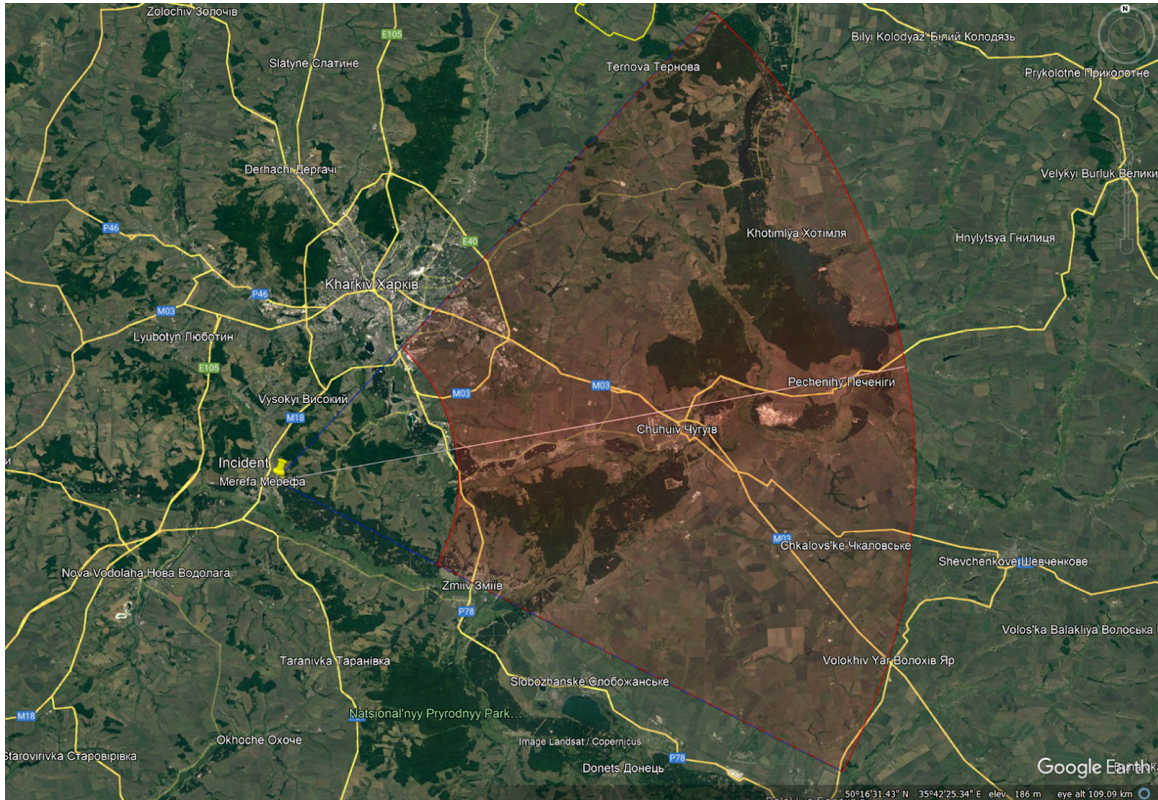
Is There Any Evidence of the Direction the Munition Came from?

Based on the angle of the rocket motor as observed in S1I1, the investigator made an assessment of the likely direction of origin. This was assessed as being on a bearing of 82 degrees from north from the point of impact.

A 9M55k rocket, according to the [Army Recognition](#) website¹⁸, has a range of 20 to 70 km. When combined with the arc of direction of origin, this gives us an area of origin within which this 9M55K was likely fired.

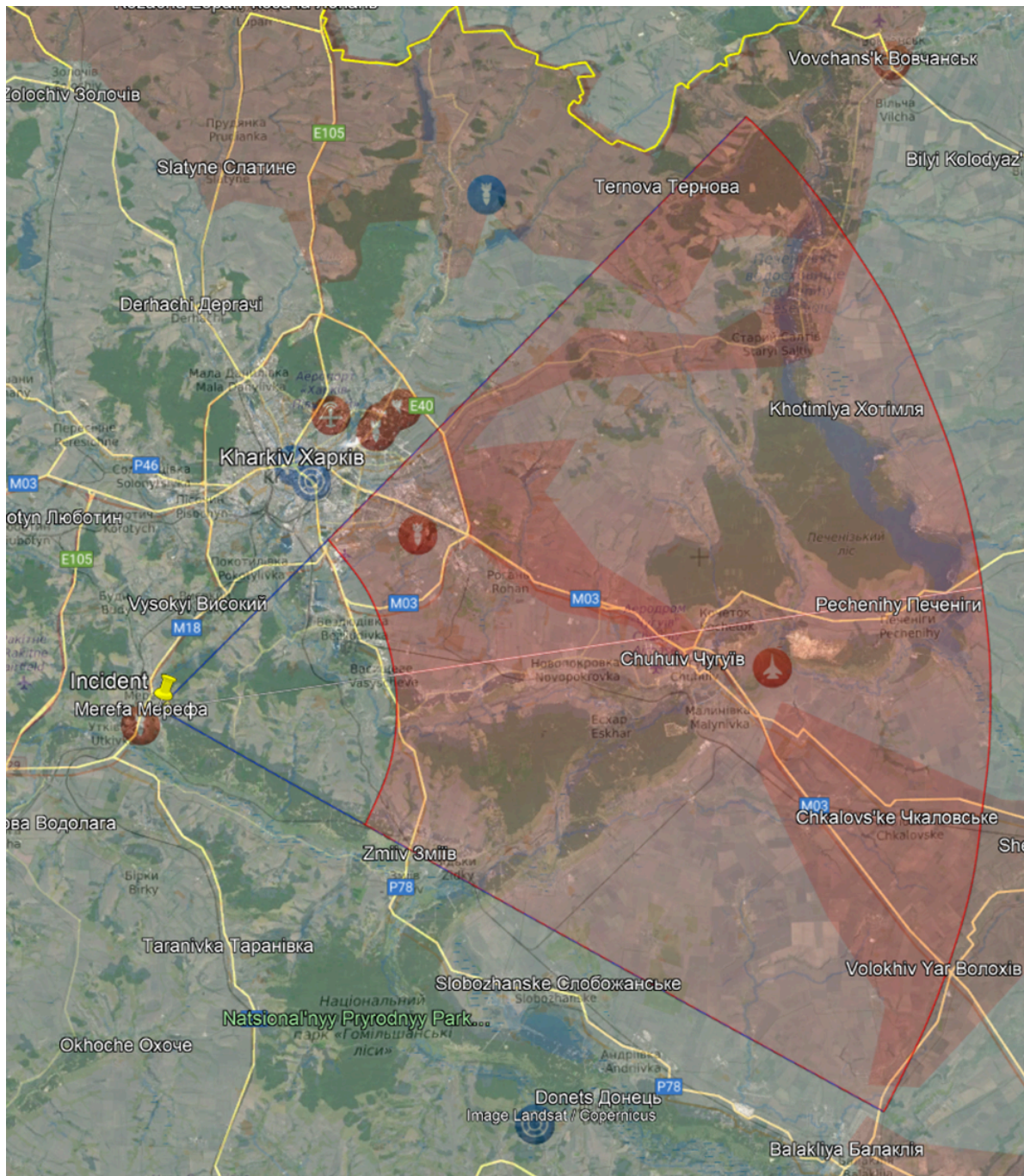
¹⁷ https://twitter.com/MarkHiznay/status/1496719886009126912?s=20&t=YjisQbzIfzMFdp_ozOoKw
¹⁸

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



A screenshot of a satellite image of the area from which this attack was likely to have originated from, with 20 km and 70 km arcs drawn (Credit: Google/Maxar Technologies).

The 20 km - 70 km arcs can be compared to a map of areas which were reported to be under Russian control on 20/03/2022 (the earliest identified reported event near the area of the Incident). It should be noted that the areas of control within the graphic below should be regarded as rough.



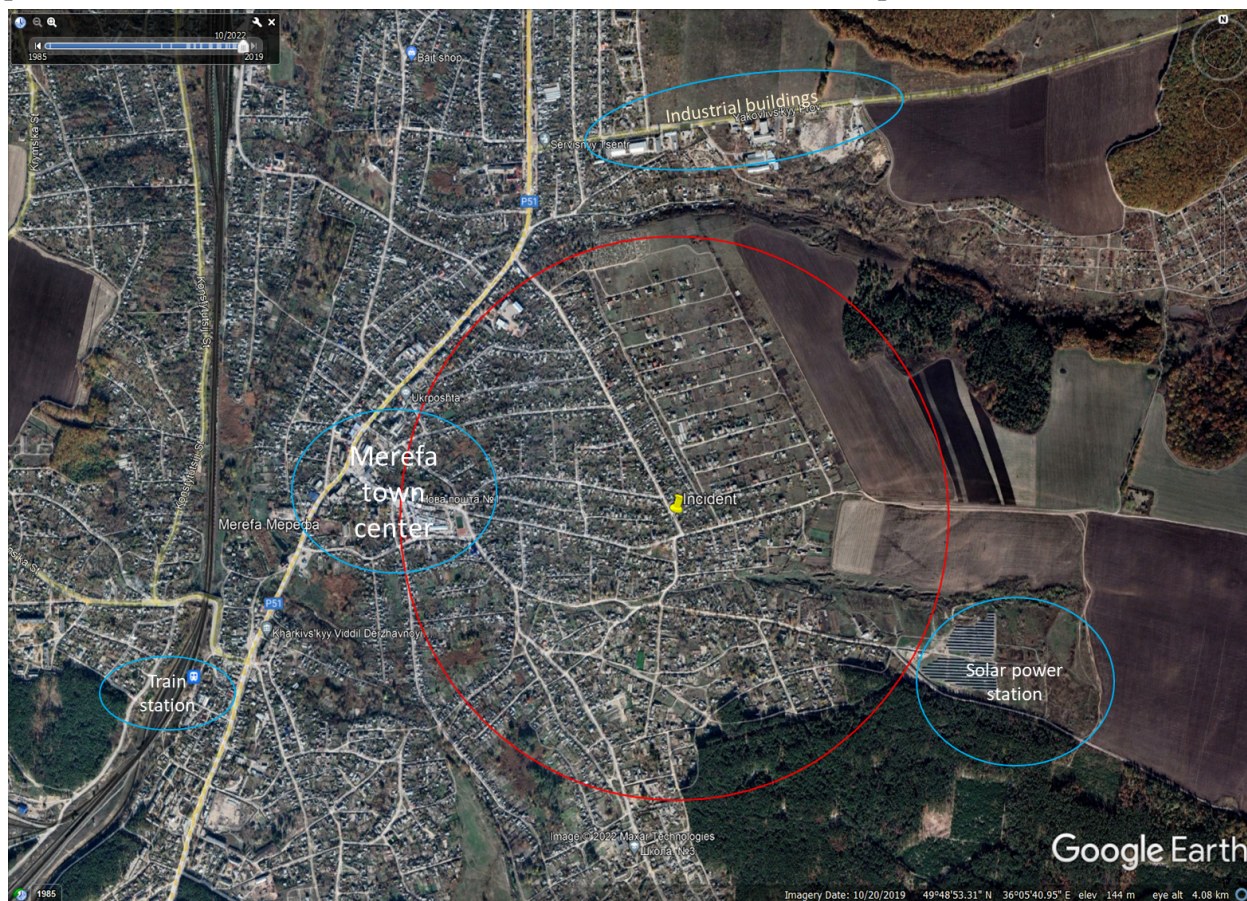
A screenshot of [Liveuamap](https://liveuamap.com/)¹⁹ view as of 20/03/2022 showing the area under control by the Russian army (red areas) with an overlay of 20km and 70 km area in which this attack was likely to have originated from.

Were there military structures, installations or other assets in the area?

Merefа town appears to consist mostly of residential areas. There are also objects of transportation (e.g., railway station), as well as some industrial buildings and objects such as a solar power station.

¹⁹ <https://liveuamap.com/>

For the purposes of a detailed investigation of the possible target area for potential military presence, a search was conducted within a 1 kilometer radius of the place of the Incident.



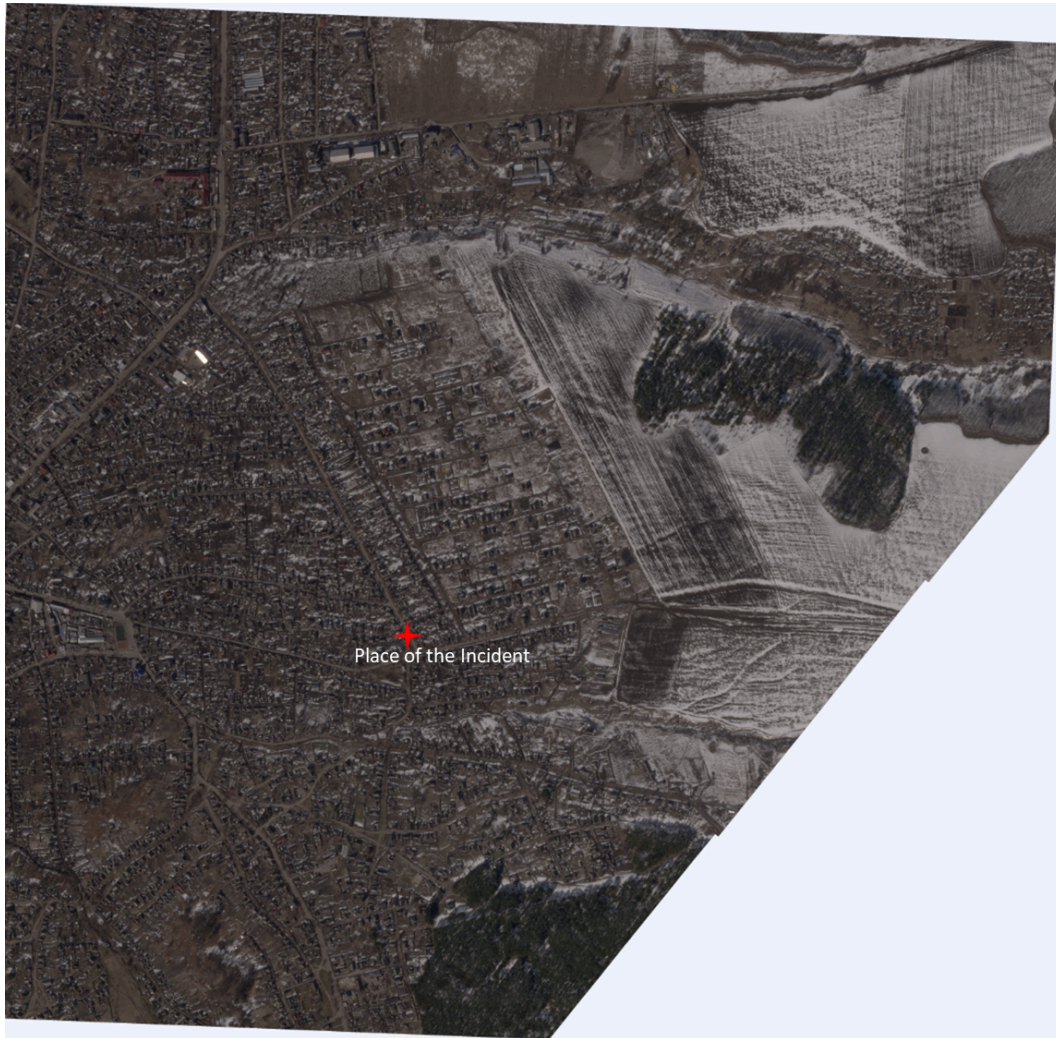
Screenshot of a satellite view from Google Earth Pro. The location of the Incident is marked with a yellow pin. The red circle indicates a 1 km radius area around the Incident location, while the blue circles mark the potential areas of interest (Credit: Google/Maxar Technologies).

As could be seen from the satellite image the 1 km west of the place of Incident is the center of the town with shops, post office, bus stops, etc. No military objects were identified in that area. The areas to the south and east of the location of Incident seem to consist mainly of residential houses. A solar power station can be observed to the south-east of the location of the Incident, but outside the 1 km radius.

To the north of the location of the Incident there is an area of what appears to be industrial buildings. All of the buildings are located on the same street, namely Yakovlivsky lane. Based on the publicly available [registration data](#),²⁰ these industrial buildings are registered as offices of: a private transportation company; a private producer of plastic and glass fiber; as well as a fire station and pharmacy.

For further investigation of possible military presence at the time of the Incident, a high-resolution satellite imagery of the area around the Incident from 21/03/2022 was ordered from the satellite image provider Planet Labs.

²⁰ <https://leadscanner.com.ua/location/harkivska-17/merefa-16121/62472>



Screenshot of the satellite imagery obtained from [Planet Labs](https://www.planet.com/)²¹ depicting area around the location of the Incident dated 21/03/2022 (Credit: Planet Labs).

No objects of military infrastructure or other military presence could be identified within the radius of 1 km from the place of the Incident as of 21/03/2022 using this imagery.

Timeline of the Incident

No later than on 22/03/2022, but likely between 20/03/2022 and 22/03/2022, at least one 9M55K rocket tail section impacted into a sidewalk near the fence of the household in Merefa, Kharkiv region. Imagery of another remnant, showing the rocket motor could not be geolocated.

Statements from Parties of the Conflict

Ukraine

No reports or mentions of the Incident by state or local authorities were identified.

²¹ <https://www.planet.com/>

Russia

No reports or mentions of the Incident by the Russian authorities were identified.

Conclusion

Although the post depicting a 9M55K rocket tail section embedded in a pavement was posted on 22/03/2022, it was not possible to establish the exact date this incident took place. Based on posts and videos on social media, it appears that the town of Merefa came under artillery attack, possibly by cluster munitions, on or before 20/03/2022.

The likely potential area of the launch was identified as being to the north-east of the location, towards areas reportedly held by both Russian and Ukrainian forces. The impact area of the submunitions from this munition could not be identified, although it is likely to be within 1 km to the north-east of the rocket tail section remnant. No military installations, equipment or positions could be identified in this area in high resolution satellite imagery from 21/03/2022.

Further Action

- Obtain and compare satellite imagery for dates 19th- 22nd of March.
- Conduct further research to identify impact footage and location