



## **Syria: An Investigation on the Attack on Afrin's Al-Shifaa Hospital**

*In an investigation into the perpetrator of 12 June and 25 July attacks on al-Shifaa hospital, an analysis of the armaments used in the attack constitute evidence that Russian and Syrian government forces were responsible*

## The Attack Against Al-Shifaa Hospital

On 12 June 2021, at approximately 7:00 PM Syria local time, several artillery rockets struck [al-Shifaa Hospital](#)<sup>1</sup> in the city of Afrin, controlled by Turkey and allied Syrian opposition armed groups of the Syrian National Army (SNA). The attack resulted in 15 deaths and 40 injuries, including staff, as well as devastating damage to the hospital and surrounding buildings. In the days following the attack, Turkish authorities and allied SNA groups prevented journalists from entering the hospital to cover the attack, and conflicting reports emerged alleging who was responsible for the crime.

The attack on al-Shifaa Hospital was part of an offensive against Afrin. Other attacks targeted civilian sites in the city on the same day at approximately 6:00 P.M., killing at least one person and wounding others. Tragically, many of the civilians injured in attacks earlier in the day sought treatment at al-Shifaa hospital before being killed in the strikes on the hospital itself.<sup>2</sup>

The Syrian American Medical Society (SAMS) [reported](#) the attack against al-Shifaa Hospital on its Facebook page and posted photos of the resulting damage.<sup>3</sup> SAMS claimed that the strike was a ground attack and testified that two members of its medical staff were killed. On the same day, SAMS released a press [statement](#) condemning the attack and providing additional details on the attack.<sup>4</sup>

Subsequently, the White Helmets, officially known as Syria Civil Defense, published a [field report](#) on the attack against the al-Shifaa Hospital. The report cited a provisional count of casualties: 15 deaths, including four women, a child, seven men, and three unidentified people. The report also stated that the rockets were fired from areas jointly controlled by the regime and the Syrian Democratic Forces (SDF).<sup>5</sup>

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1 The al-Shifaa Hospital coordinates: 36.85811570072415 ,36.509754927708514.

2 The “double tap” is a bombardment tactic in which a location is struck twice; the second time occurring after first responders have arrived at the scene of the strike and that results in the largest number of dead and injured. Syrian and Russian forces are the main parties who have utilized this tactic throughout the ongoing Syrian war.

3 A post by the Syrian American Medical Society (SAMS) on its Facebook page, 12 June 2021, <https://www.facebook.com/sams.arabic/posts/2356935861106289> (last accessed: 27 July 2021).

4 “Two Staff Killed, Eleven Injured in an Attack on al-Shifaa Hospital in Afrin”, SAMS, 12 June 2021, [https://www.sams-usa.net/press\\_release/two-staff-killed-eleven-injured-in-an-attack-on-al-shifaa-hospital-in-afrin/](https://www.sams-usa.net/press_release/two-staff-killed-eleven-injured-in-an-attack-on-al-shifaa-hospital-in-afrin/) (last accessed: 27 July 2021).

5 A bloody Day in Northern Syria; 79 Civilians Killed and Wounded, Medical Facilities and Humanitarian Workers in the Area of Targeting, Syria Civil Defense, 12 June 2021, <https://www.syriacivildefence.org/ar/our-reports/field-reports/%D9%8A%D9%88%D9%85-%D8%AF%D8%A7%D9%85-%D8%B9%D9%84%D9%89-%D8%A7%D9%84%D8%B4%D9%85%D8%A7%D9%84-%D8%A7%D9%84%D8%B3%D9%88%D8%B1%D9%8A-79-%D9%85%D8%AF%D9%86%D9%8A%D8%A7-%D8%A8%D9%8A%D9%86-%D9%82%D8%AA%D9%8A%D9%84-%D9%88%D8%AC%D8%B1%D9%8A%D8%AD-%D9%88%D8%A7%D9%84%D9%85%D9%86%D8%B4%D8%A2%D8%AA-%D8%A7%D9%84%D8%B7%D8%A8%D9%8A%D8%A9-%D9%88%D8%A7%D9%84%D8%B9%D9%85%D8%A7%D9%84-%D8%A7%D9%84%D8%A5%D9%86%D8%B3%D8%A7%D9%86%D9%8A%D9%8A%D9%86-%D9%81%D9%8A->

Immediately after the attack, military and political authorities in the area made differing claims on who was responsible for the strikes. The Turkish president Recep Tayyip Erdogan accused the Kurdistan Workers' Party (PKK) of being responsible while Turkey's [Ministry of Foreign Affairs](#) and Turkish [national mass media](#) accused the People's Defense Units (YPG) of conducting the attack with BM-21 Grad rockets and artillery shells.<sup>6</sup> However, the SDF [refuted](#) the accusations through the director of its media centre, Farhaad Shami, who denied the SDF's presence in Syria's northwest.<sup>7</sup>

Mazloum Abdi, the SDF's commander-in-chief, [echoed](#) Shami's refutation in a post on his [Twitter account](#).<sup>8</sup> Furthermore, a [Facebook page](#), using Abdi's name, [accused](#) Russian forces of carrying out the attack against al-Shifaa hospital. Importantly, this Facebook page does not belong to Mazloum Abdi and is a fake account, even though it has been cited in numerous articles on the incident.



Image 1: A screenshot of posts on the fake Facebook page using the name of Mazloum Abdi, blaming Russia for the attack of 12 June 2021 against al-Shifaa Hospital.

[%D8%AF%D8%A7%D8%A6%D8%B1%D8%A9-%D8%A7%D9%84%D8%A7%D8%B3%D8%AA%D9%87%D8%AF%D8%A7%D9%81/?fbclid=IwAR3echreOJ4KLb8F6QDA9cbcQwnybm1IXGLOj-FyMYvEKUx7LMSLgsavJUJ](#) (last accessed: 27 July 2021).

6 Syria's Afrin: al-Shifaa Hospital Stopped Working after being Targeted by the PKK, Anadolu News Agency, 13 June 2021, <https://www.aa.com.tr/ar/%D8%A7%D9%84%D8%AF%D9%88%D9%84-%D8%A7%D9%84%D8%B9%D8%B1%D8%A8%D9%8A%D8%A9/%D8%B9%D9%81%D8%B1%D9%8A%D9%86-%D8%A7%D9%84%D8%B3%D9%88%D8%B1%D9%8A%D8%A9-%D8%AA%D9%88%D9%82%D9%81-%D8%A7%D9%84%D8%B9%D9%85%D9%84-%D8%A8%D9%85%D8%B3%D8%AA%D8%B4%D9%81%D9%89-%D8%A7%D9%84%D8%B4%D9%81%D8%A7%D8%A1-%D8%B9%D9%82%D8%A8-%D8%A7%D8%B3%D8%AA%D9%87%D8%AF%D8%A7%D9%81-%D9%8A-%D8%A8-%D9%83/2272465> (last accessed: 27 July 2021).

7 A statement released by the media office of the SDF, <https://sdf-press.com/?p=33214> (last accessed: 27 July 2021).

8 The full tweet: "The SDF categorically denies that any of its forces were responsible for/or involved in, the tragic attack in hospital in Afrin. We are deeply saddened by the loss of innocent life. We condemn the attack without reservation. Targeting hospitals is a violation of international law."

Since the attack on al-Shifaa Hospital and as of the completion of this report (the last week of August 2021), the [Turkish Army](#) and its allied Syrian rebels (present in Afrin and Euphrates Shield area) and the Syrian Army, allied militias, and the YPG (present mainly in the Shahbaa region and rural Aleppo) have continued to exchange fire.

## Locating al-Shifaa Hospital

The al-Shifaa Hospital is located on the western edge of Afrin city, among civil and military buildings of the Turkish government and the SNA. According to STJ's field researchers and other credible sources, al-Shifaa Hospital is surrounded by the Afrin Security Directorate/Criminal Security Investigation, the Political Security Building, the governor's guesthouse of the Hatay Wali, the Turkish Intelligence/the Public Security Directorate (in Turkish: Kent Güvenlik Yönetim Sistemi Binası), a Turkish security base (formerly Azhar Afrin School), and the Palace of Justice of Afrin/Civil Court.<sup>9</sup> It should be noted that the hospital's back door is connected to the building of the Afrin Security Directorate/Criminal Security Investigation.

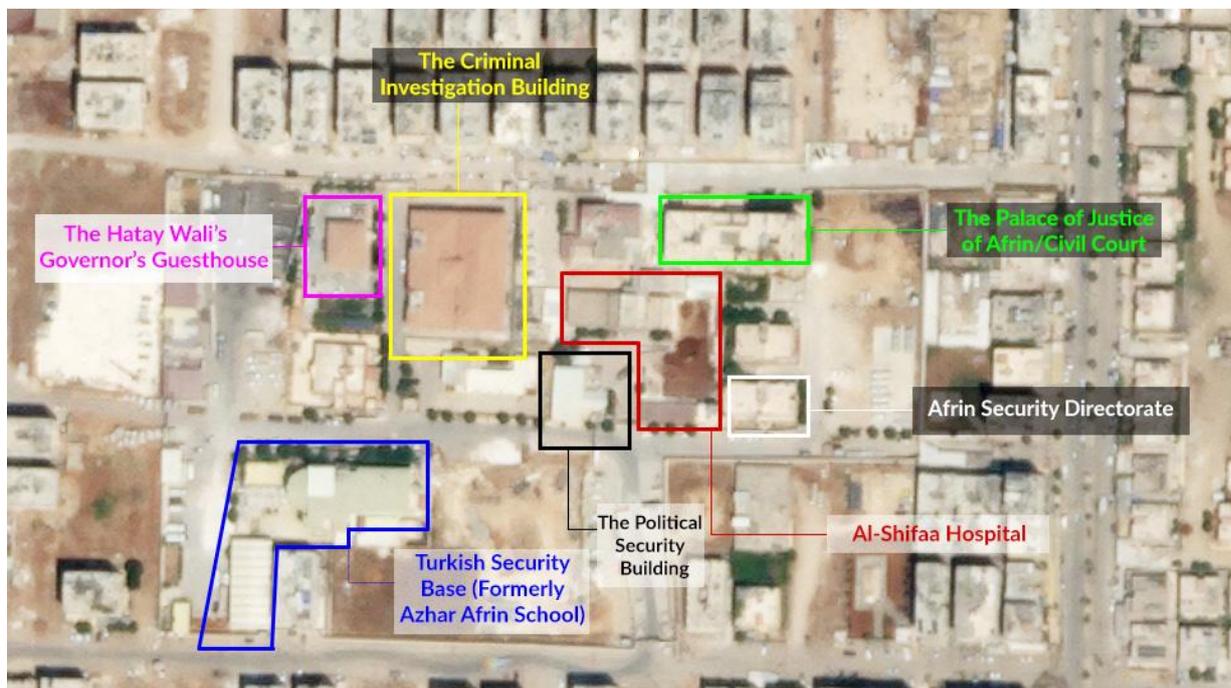


Image 2 - A satellite image shows locations of the civil and military buildings around al-Shifaa Hospital. Taken on 5 August 2021. Credit: Planet Labs Inc.

STJ investigated the attacks targeting al-Shifaa Hospital between 12 June 2021 and the last week of August the same year. Relying on visual evidence and testimonies from witnesses, survivors, and medical staff, the investigation analyzed the conflicting accounts of events and played out multiple eventualities to identify the perpetrator.

<sup>9</sup> Some facilities and buildings have both official and street names.

Due to the limited amount of evidence available, STJ cannot definitively identify the perpetrator responsible for the al-Shifaa Hospital attack on 12 June 2021. However, after thoroughly investigating evidence of the case, STJ’s team of researchers concluded that the Syrian regime and, indirectly, Russia are the most likely culprits of the hospital attack, which killed 15 and injured dozens more — many of them civilians and medical workers.

## Testimonies

For the purposes of this report, STJ collected information from multiple sources. The first source was a paramedic who confirmed that at approximately 6:00 P.M., prior to the attack on al-Shifaa Hospital, artillery shells landed 100 to 500 meters away from the hospital, killing at least one person and wounding four others. The paramedic explained:

“We, emergency medical services, do not act without an order from the Turkish official in charge of us. That day, we were told to head toward the al-Shifaa Hospital. As we arrived, members of the Criminal Security closed the main door of the Hospital and opened the back one that connects it to the building of the Criminal Security/Security Directorate. We made sure that all the wounded, who include members of the Criminal Security and volunteers of the Syria Civil Defense or the White Helmets, were given first aid treatment. We also inspected the bodies, but could not remove them, and then left the Hospital.”

The same source added that members of the Military and Civil Police were deployed alongside Turkish soldiers to the site of the incident immediately after the attack. He assumed that they collected shrapnel and remnants of rockets and projectiles for analysis.

At approximately 6:55 P.M. local time, the hospital itself was attacked and struck by two rockets. The White Helmets stated that the attack on al-Shifaa Hospital killed 15 people, including a child, four women, and three unidentified individuals, and injured 43, including a child, 13 women, and three White Helmets volunteers. The dead are:

1. Zaloukh Mohammad Hannan, 85
2. Zainab Sheikh Dawood, 21
3. Yousuf Hassan Qalbah
4. Mohammad Osama Mamdouh
5. Ameen Qousho, 55 (He was killed in his home adjacent to the hospital. (See details on the trajectory of the third rocket)
6. Dana al-Manfoukh
7. Ghiath Abbas, 23
8. Sameera al-Suyoufi, 40
9. Mohammad Dayas, 35
10. Anwar al-Daher
11. Majed Kabsh
12. Abdelwahab al-Akhras
13. Three unidentified people

STJ spoke with a source who was near al-Shifaa Hospital when it was attacked. They described:

“On that day, I was walking past al-Shifaa Hospital, and I saw the market near it crowded. Suddenly, a big explosion was heard and soon the street was covered in dust. The people rushed to hide inside the shops and at the entrances to the buildings without knowing what really happened. After things calmed down, I exited the shop I was hiding in and saw that the hospital was damaged. I could not determine whether the sound was of an air strike or a car bomb. I rushed with others towards the hospital to help the injured. I saw people dying and others bleeding, screaming, or crying for help. Two cars carrying members of the police and security forces arrived shortly after the attack from their nearby base. The members told us, civilians, to evacuate the hospital and areas in its vicinity and to not help the injured. However, I remained close to the hospital until White Helmets ambulances came to help the wounded. Then, the policemen and security members yelled at us to get out the area for fear of further attacks and we ran.”

## Preventing Local Media Workers from Covering the Attack

Witnesses confirmed that Turkish soldiers and members of the Civil Police were deployed in the vicinity of al-Shifaa Hospital following the attack. The groups prevented local media workers from entering the site of the attack to cover the incident, allowing only correspondents from Turkish news agencies. The third source – who asked for anonymity – told STJ:

“I rushed to al-Shifaa Hospital following the attack, as I was nearby. Before entering the hospital, I asked an official of the Syrian opposition permission to take photos of the attack’s aftermath. He allowed me under the condition of going to the police station later to register my ID information. However, I only took three photos of the hospital before a Turkish soldier pulled me back and put me on the ground shouting yok..yok in Turkish, which means no — he wanted to prevent me from filming. So, I left the hospital and saw several other media workers outside who were also banned from covering the incident.”

The source added:

“After about an hour of waiting, an officer in the SNA promised to allow us to enter the hospital and cover the incident after the Civil Defense were done with their work and the bodies were removed. However, we waited until midnight and were still not allowed to enter— no one explained why. This is not the first time we have faced violence while doing our job in Afrin. Turkish forces have the final say here, no one can give us permission but them.”

## Identifying the Rockets Used in the Strikes

STJ's [digital analyst, Alexander McKeever](#), analyzed open-source photos, notably images of the rockets and satellite images, and determined that the type of rockets used in the attack on al-Shifaa Hospital were 122mm BM-21 Grad. By identifying the rockets used in the attack, STJ began narrowing the field of possible suspects according to which armed groups typically used BM-21 Grad rockets in their offensives.

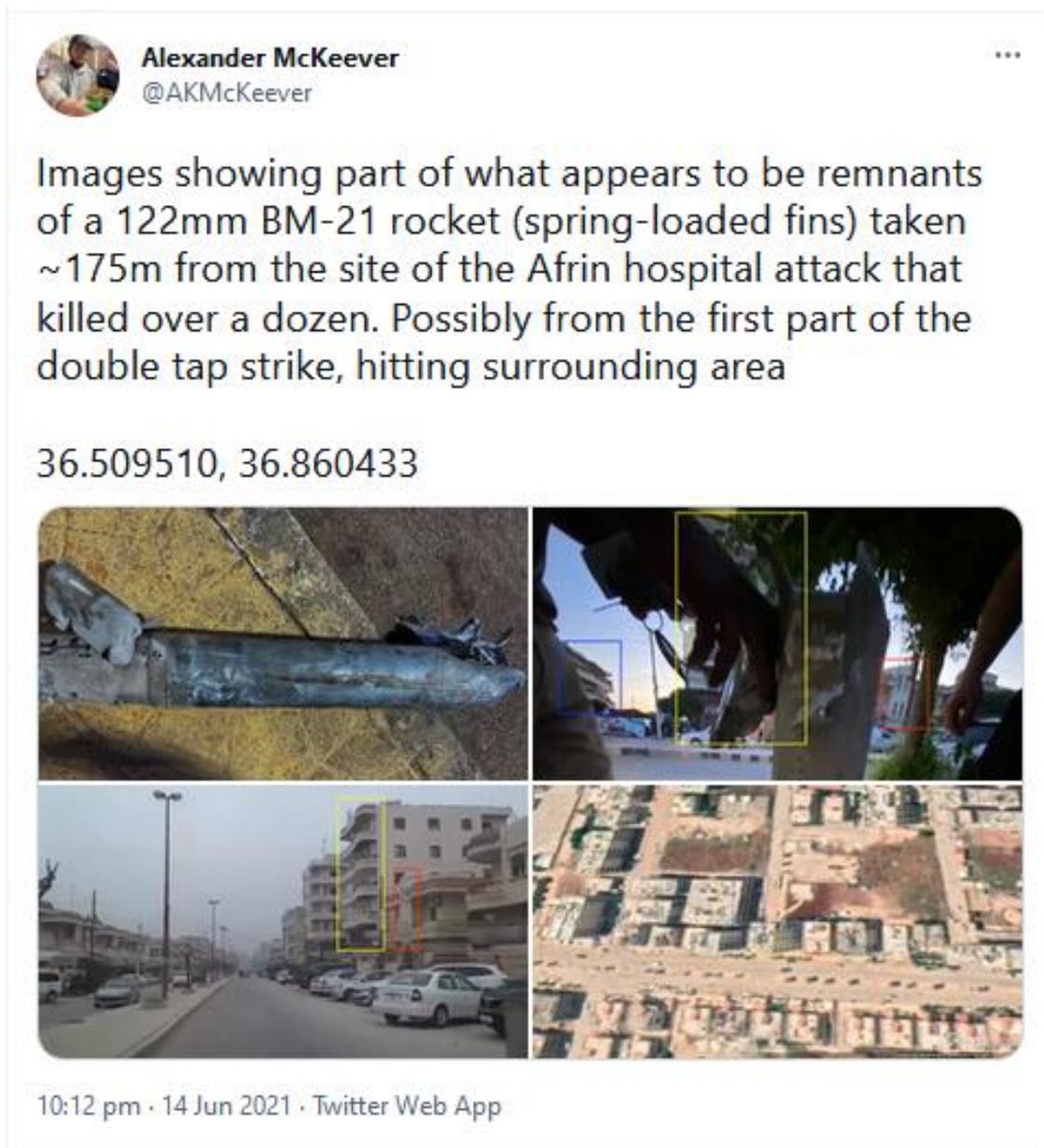


Image 3 - A tweet posted by STJ's digital analyst identifying the type of weapon used in the attack on al-Shifaa Hospital.



Image 4 - Remnants of a rocket believed to be used in the attack. Credit: a [Turkish journalist](#). (These photos of rocket remnants were shared to the internet after the attack on al-Shifaa Hospital which enhances the likelihood of their use in this attack).



Image 5 - Photos posted by the Turkish journalist on Twitter show remnants of the rockets used in the attack. [Credit: Twitter](#).

In addition, STJ's digital analyst tried to locate photos of the rockets' remnants, which are represented below.



Image 6 - Remnants of a rocket which landed near al-Shifaa Hospital. The photo is taken 180 meters away from al-Shifaa Hospital.



Image 7 - A screenshot from a video used to verify the location of the previous rocket remnant.



Image 8 - A satellite image shows locations of the buildings appeared in the previous rocket remnant photo. Credit: Google Earth.

The BM-21 Grad is a multiple rocket launcher system developed by the Soviet Union in the 1960s. Typically mounted on a truck, this weapons system fires 9'5" long, 122mm caliber rockets at a range of 20km. The Grad is the most popular multiple rocket launcher on Earth, deployed by dozens of militaries around the world. Several countries have developed new variants of the weapons system in addition to producing their own rockets, some of which possess a range greater than 20km. The use of the Grad has been verified in several conflicts around the world.

The [BM-21](#) is "designed to deliver its munitions over an area rather than at a point target... at a range of 20 km, when a full salvo of 40 rockets is fired, the lethal area extends up to 600 m x 600 m." That not just the hospital targeted but other locations were hit as well is explained by the BM-21 being intended to launch multiple rockets across a relatively broad area instead of at a single target.



Image 9 - A BM-21 Grad set on a truck of the Syrian Army. Credit: Ruptly.

The Syrian Arab Army has possessed BM-21s since the Cold War, using the weapon frequently throughout the ongoing civil war. Furthermore, it appears that Russia [supplied](#) the Syrian regime with upgraded versions of the weapons system. However, since multiple parties have captured Syrian military weapons stockpiles during the conflict, the weapon is not exclusively used by the SAA and regime militias. Additionally, opposition factions have been [supplied](#) with new stocks of Grad rockets by Turkey and other regional states throughout the war. Consequently, the use of BM-21 rocket in the attack does not confirm that it was the SAA and regime militias responsible for the al-Shifaa Hospital attack.

However, it is important to note that the YPG/SDF use BM-21s less frequently than other parties in the Syrian conflict because they do not have a steady supply of the rockets from outside powers.



Image 10 - A screenshot from a [video](#) published on 3 August 2017, confirming the use of the BM-21 Grad by the YPG.



Image 11 - Syrian armed opposition groups using BM-21 Grad. Published in August 2021. Credit: Telegram channel of the 2<sup>nd</sup> Corps of the SNA.

الغيلق الثاني - الفرقة الثانية

#الجيش\_الوطني\_السوري

#الغيلق\_الثاني\_الفرقة\_الثانية

#فرقة\_الحمزة\_قوات\_خاصة

استهداف مواقع وتجمعات ميليشيا PKK-PYD بصواريخ الغراد رداً على

استهداف أهلنا المدنيين في مدينة الباب

<https://youtu.be/wDus6ldWbqs>

YouTube

فرقة الحمزة - استهداف مواقع ميليشيا PKK بصواريخ الغراد رداً على

استهداف أهلنا المدنيين بمدينة الباب



Image 12 - A screenshot confirms rebel groups' possession of BM-21 Grad. Published in August 2021.

Credit: Telegram channel of the 2<sup>nd</sup> Corps of the SNA.

now

The Syrian Archive Organization compared images showing remnants of the rocket which struck al-Shifaa Hospital with others show fragments of a rocket fired by pro-government forces on a [hospital](#) affiliated to the Syrian American Medical Society (SAMS) in Eastern Ghouta on 17 April 2017. The comparison revealed that the two rockets are of the same type.



Image 13 - A tweet by SAMS shows photos of a rocket like that which hit al-Shifaa Hospital.



Image 14 - The two photos compared by colleagues at the [Syrian Archive Organization](#).



Հետք/Hetq  
@Hetq\_Trace



The Armenian Unified Information Center reports that [#Azerbaijan](#) forces fired a 122mm [#Grad](#) rocket at a residential area of [#Stepanakert](#), right next to a kindergarten and a school.

[#NKPeace](#) [#KarabakhNow](#)



1:29 pm · 29 Sep 2020 · Twitter Web App

Image 15 - A screenshot of a [Tweet](#) confirmed the use of BM-21 Grad by the Azerbaijani Army against the Armenians in their recent conflict.



Image 16 - Photos of BM-21 Grad remnants taken from different targeted areas.

## Where Were the Rockets Fired From?

The BM-21 Grad Rockets have a range of 20 km. Using this information, STJ defined a geographical area from where the rockets may have been fired. To identify who may have fired the rockets, STJ identified the military groups controlling the various zones within the defined area, analyzed visual evidence, and conducted interviews with workers in Syrian opposition and YPG air and ground military monitoring centers.

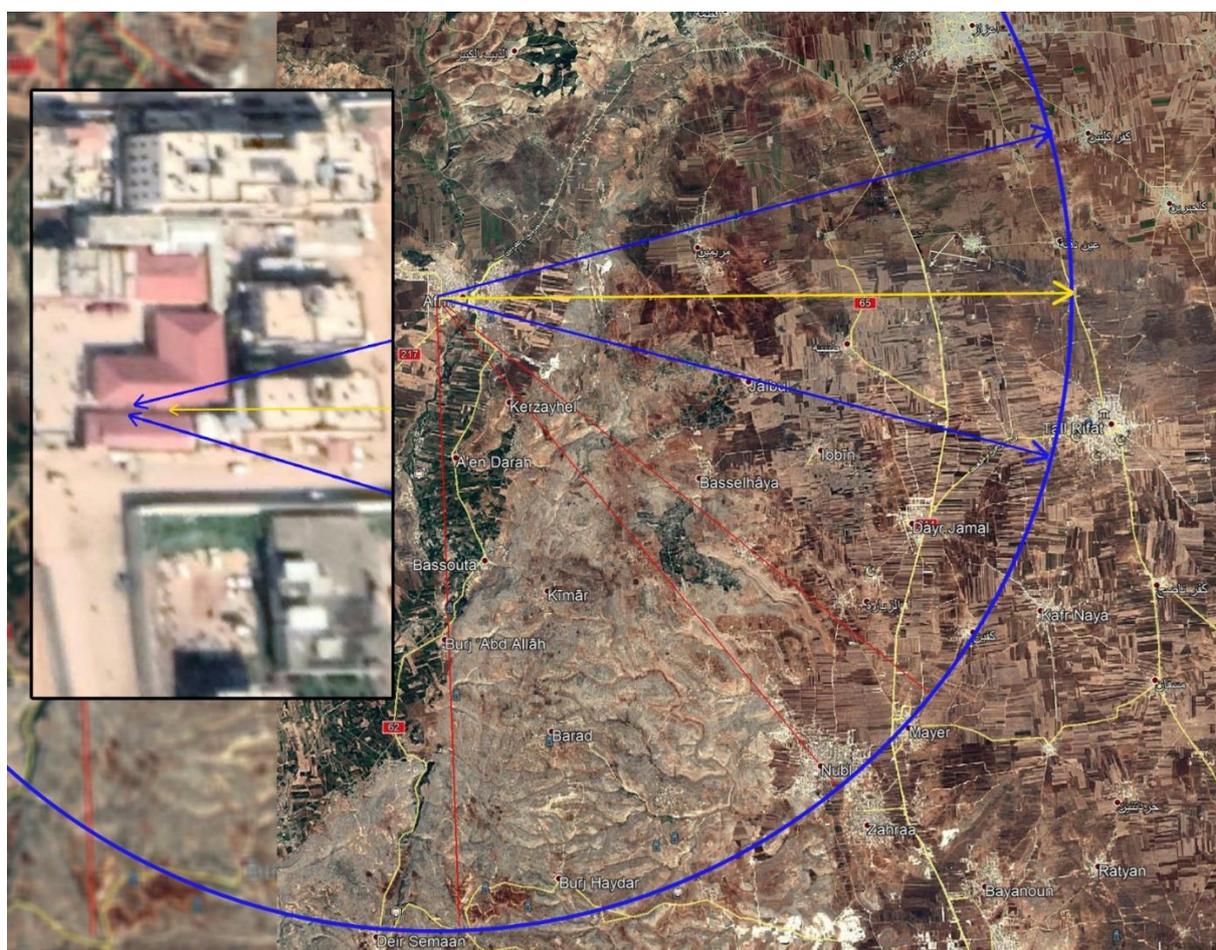


Image 17- A map illustrates results of the analysis conducted by STJ; the blue and yellow lines define the angle from where the rockets were likely fired, while the red line defines the reach of the MB-21 Grad in its maximum (20 km).

### A. The First Rocket

The 1<sup>st</sup> rocket which struck al-Shifaa Hospital landed in the outer corridor between the departments of emergency and maternity at 06:55 P.M. local time.



Image 18 - A screenshot from a video shows the damage caused by the 1<sup>st</sup> rocket.

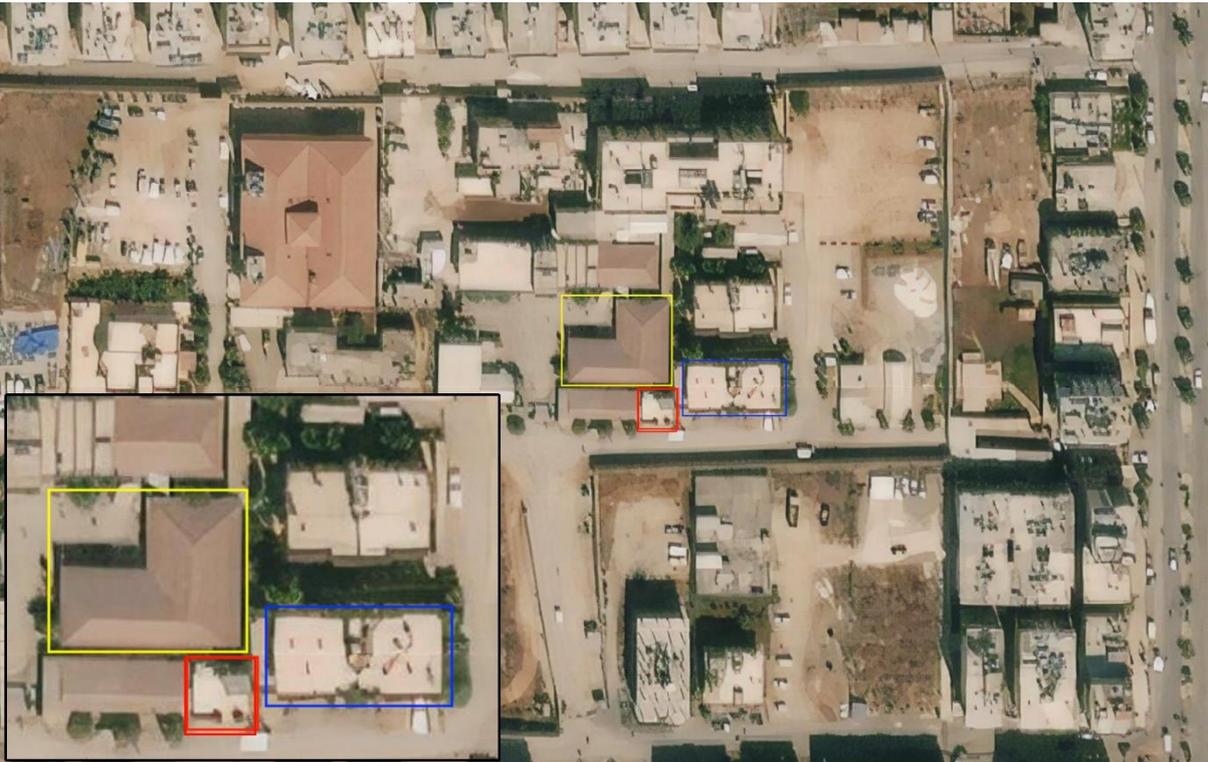


Image 19 - Matching the ground and satellite images.



Image 20 - A satellite image shows the exact area hit by the 1<sup>st</sup> rocket. The area is located at the coordinates: 36.509582, 36.858559.



Image 21 - A screenshot from a video showing the damage caused by the 1<sup>st</sup> rocket.



Image 22- A screenshot from a video showing the damage caused by the 1<sup>st</sup> rocket.

While STJ could not find information confirming from where the first rocket was fired, our investigators determined the second strike came from east; consequently, it is likely that the first rocket was fired from the same direction. **Visual evidence demonstrates equivalent damage on both sides of the corridor, suggesting that the rocket struck something solid in the middle of the corridor which led to an explosion with equivalent pressure on the left and right.**

Notably, this ward of al-Shifaa Hospital was in the process of treating the wounded from an attack that rocked the city of Afrin 45 minutes before. Between 5-10 smaller armaments struck civilian homes and farmland in the neighborhoods surrounding the hospital. This “double tap strike” pattern is frequently used by the Syrian government and its Russian allies, increasing the likelihood that they were responsible for the hospital attack.

Footage of the immediate aftermath of the initial strike on the hospital shows several injured members of the White Helmets, as well as a damaged ambulance belonging to the same organization. Patients and hospital staff working or being treated in the gynecological department at the time were also injured or killed in the strike.



Image 23 - A photo collage shows the damage caused to the al-Shifaa Hospital by the rocket.

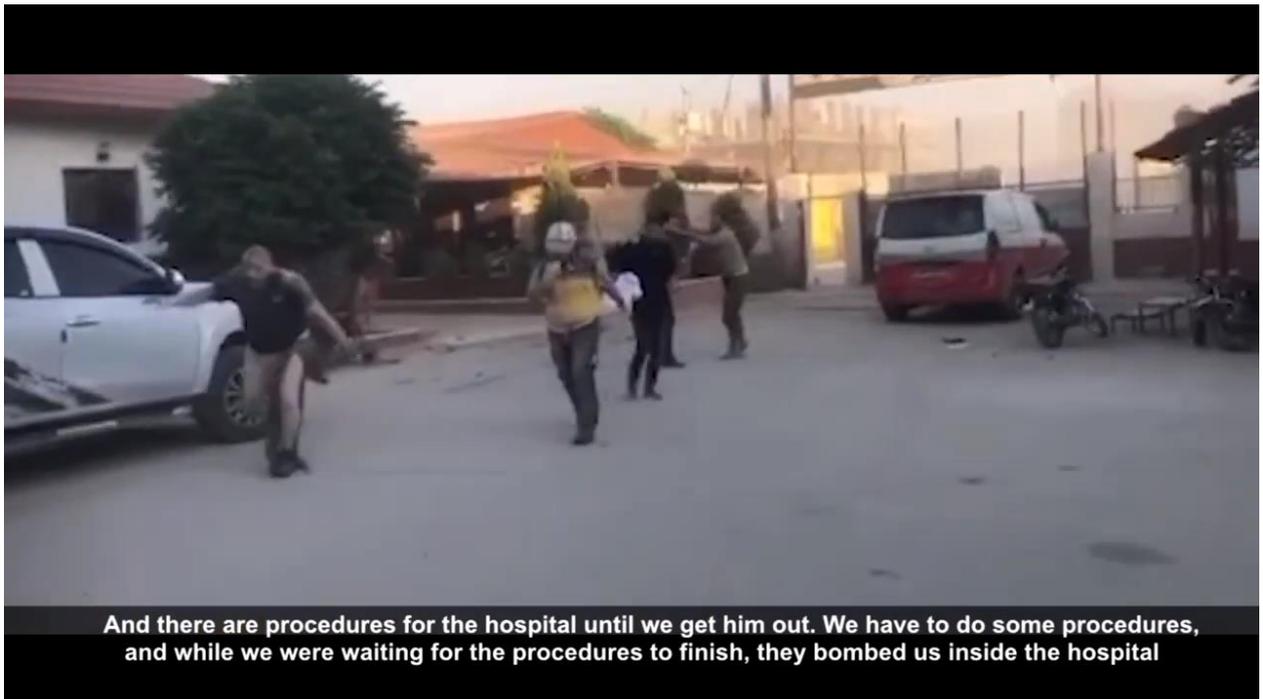


Image 24 - A screenshot of a video showing the scenes immediately following the first rocket strike on the hospital. Credit: The National Commission for the Defense of Detainees and Human Rights



Image 25- A screenshot of a video showing the scenes immediately following the first rocket strike on the hospital. [Credit](#): The National Commission for the Defense of Detainees and Human Rights

## **B. The Second Rocket**

The 2<sup>nd</sup> rocket to hit the hospital struck a wall above the roof of the building housing the hospital's outpatient clinics. The second strike occurred within minutes of the first rocket strike; however, the exact time remains unclear.



Image 26 - An image displaying the damage created by the second rocket. [Credit:](#) Al-Furat Agency.



Image 27 - A satellite image showing the exact location where the 2<sup>nd</sup> rocket struck the hospital.

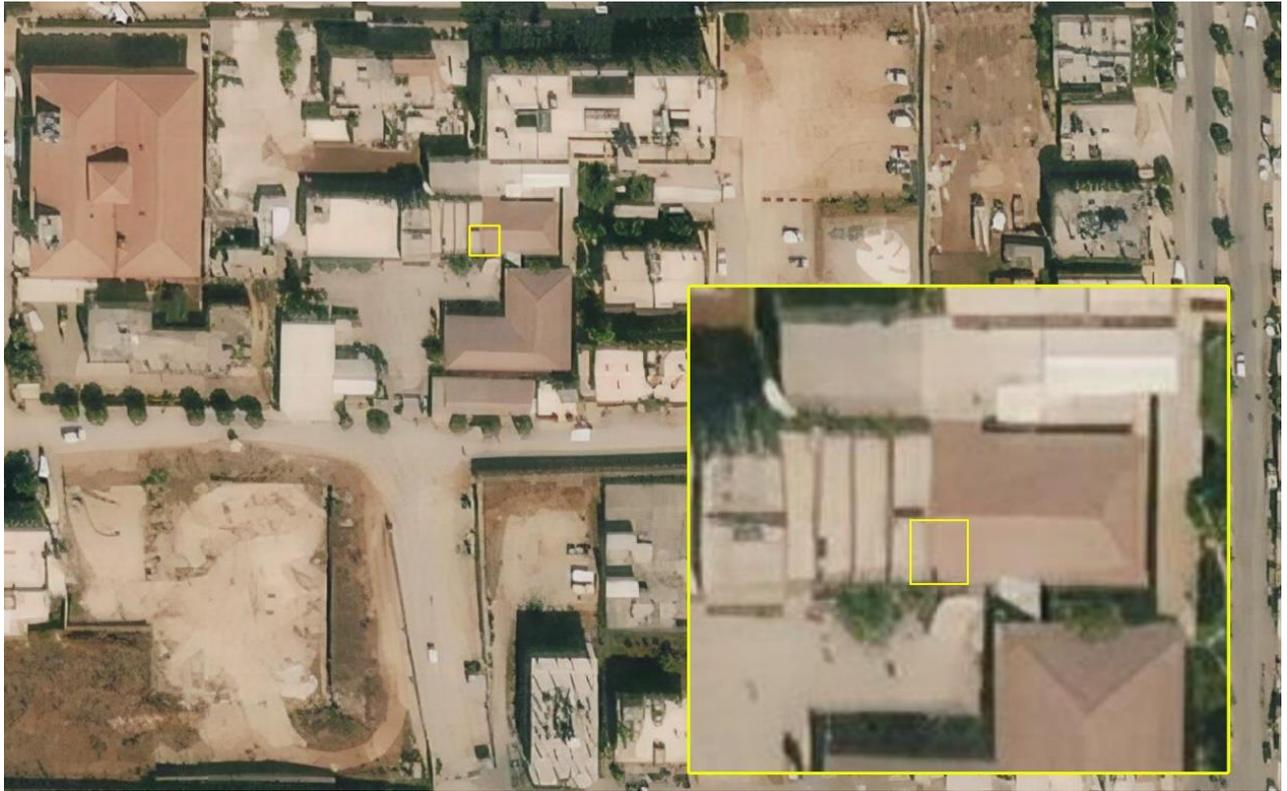
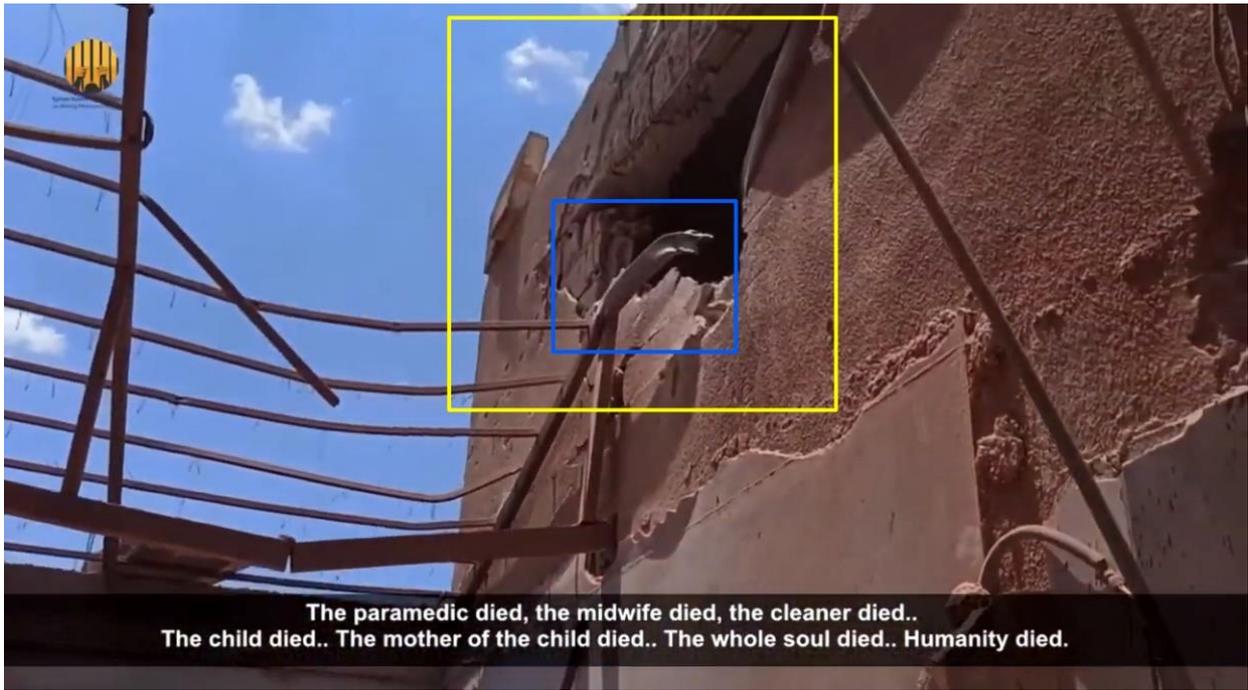


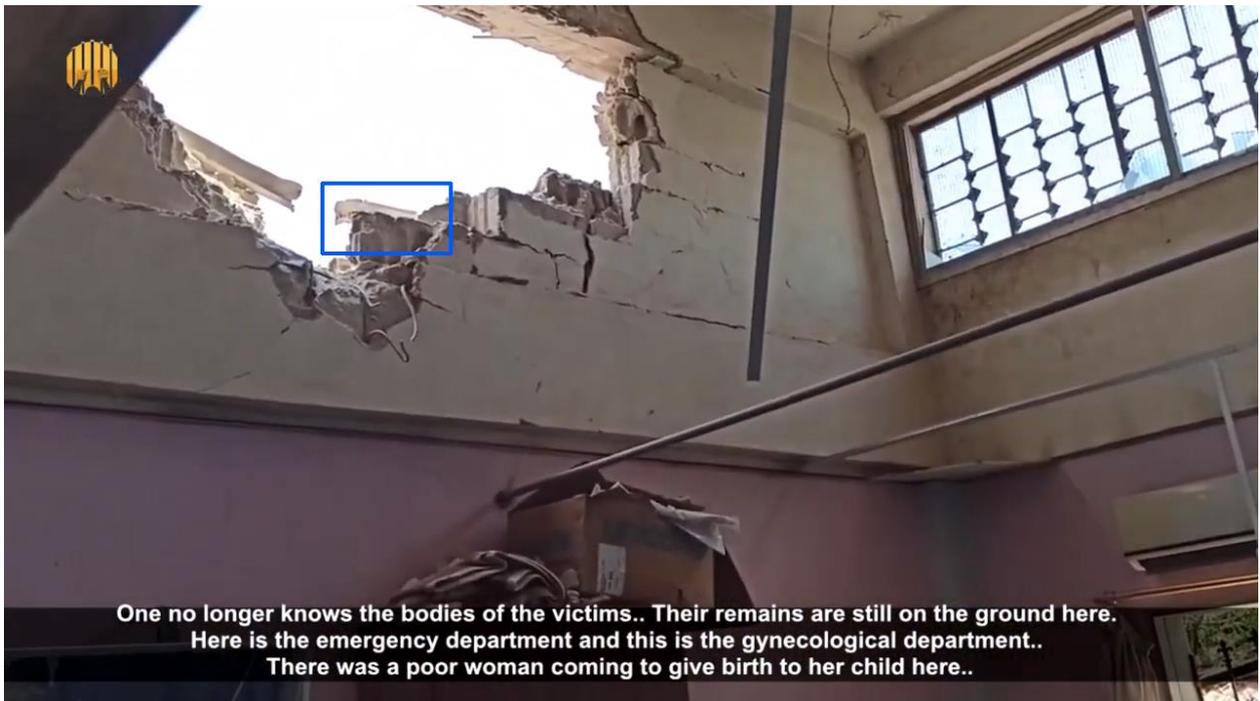
Image 28 - The geographical area of the 2<sup>nd</sup> rocket strike location at the coordinates: 36.509846, 36.858473.

Footage in the wake of the attack clearly shows where the second rocket hit the hospital, causing part of the eastern wall to collapse. Additionally, large sections of the adjacent lower roof were destroyed by the blast. A metal rafter of this lower roof, located directly in front of the site of impact was broken and twisted by the rocket. Judging from the angle at which this metal is bent, it appears that the rocket was traveling on a relatively straight-on, east-west axis.



The paramedic died, the midwife died, the cleaner died..  
The child died.. The mother of the child died.. The whole soul died.. Humanity died.

Image 29 - The exact point of the building struck by the 2<sup>nd</sup> rocket and the damage caused to it as a result. [Credit:](#) The National Commission for the Defense of Detainees and Human Rights



One no longer knows the bodies of the victims.. Their remains are still on the ground here.  
Here is the emergency department and this is the gynecological department..  
There was a poor woman coming to give birth to her child..

Image 30 - A hole left in the building by the rocket that came from the east. [Credit:](#) The National Commission for the Defense of Detainees and Human Rights



Image 31 - The same hole from another angle. [Credit:](#) Al-Furat Agency.



Image 32 - The same hole from another further angle. [Credit:](#) The National Commission for the Defense of Detainees and Human Rights (NCDDHR)



Image 33 - An image displaying damage to the interior. Shrapnel punctured the wall below and to the east of the site of impact. [Credit:](#) The National Commission for the Defense of Detainees and Human Rights

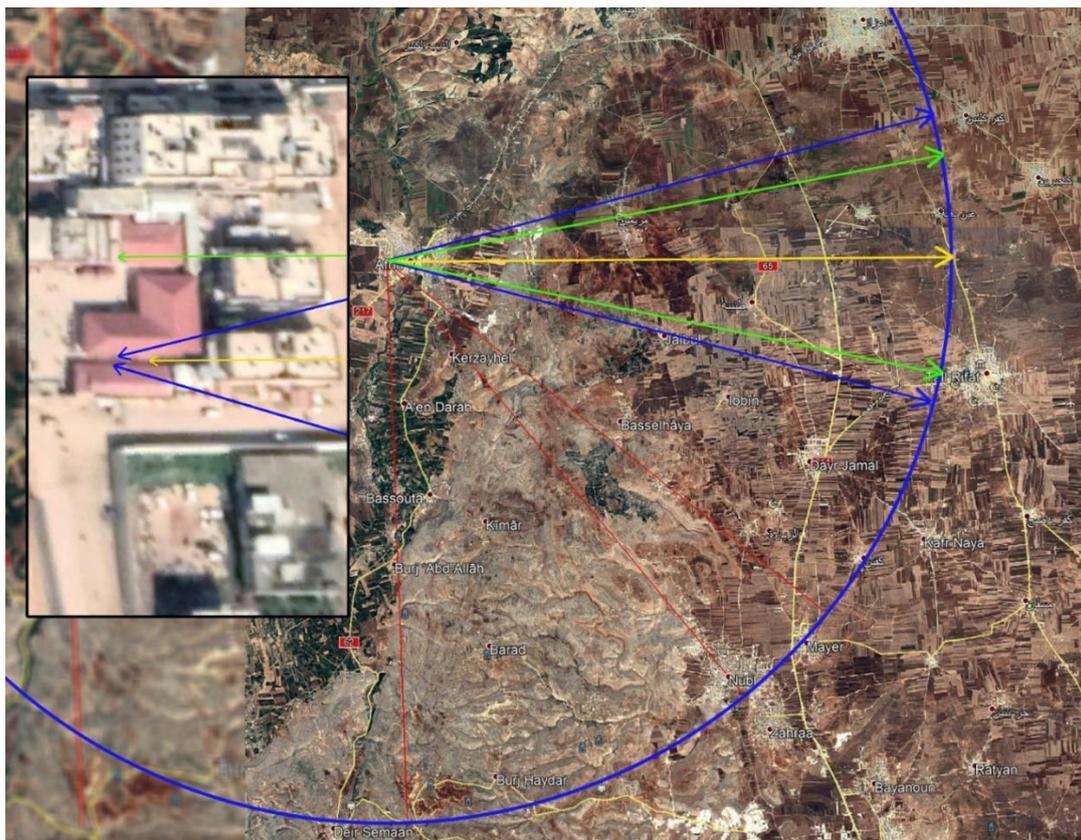


Image 34 - A map illustrates results of the analysis conducted by STJ: The blue lines and the yellow one define the area from where the 1<sup>st</sup> rocket was possibly fired. The green line defines the launch point of the 2<sup>nd</sup> rocket which is most likely in the east. The red lines defines the maximum reach of the MB-21 Grad (20 km).

STJ met with a third source, a worker in a military monitoring center. He confirmed that the rockets that struck al-Shifaa Hospital came from an area between the villages of [Kashta'ar](#),<sup>10</sup> [Tanibah](#),<sup>11</sup> and [Eben](#),<sup>12</sup> which are jointly controlled by the Syrian government and its Russian allies on the one hand and the YPG on the other. One of the sources explained:

“On Saturday 12 June at 6:00 PM, three rockets were launched from Kashta'ar direction. Then, we heard on the walkie-talkies someone from the government forces saying: ‘Sir, the Party fired three rockets toward the west, but we do not know where they landed’. Shortly after, walkie-talkies reported that further rockets were fired from Eben direction toward the west also by pro-government forces and rocked a hospital in Afrin.”

The similarities between the results of our visual analysis of the damage and the worker’s testimony implies that the testimony is likely true. However, we cannot verify the account as there are no other reports available to corroborate the exchange.

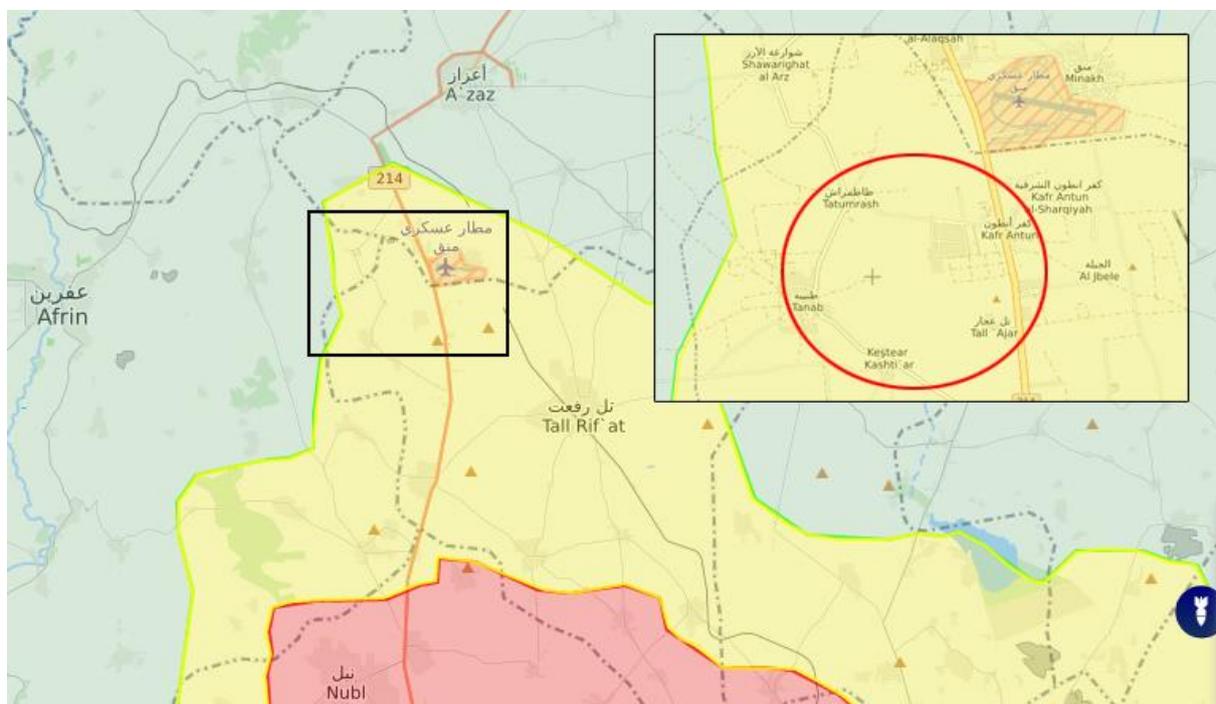


Image 35 - The rockets’ launch area according to the source.

Another source STJ spoke to also worked in a military monitoring center between A'zaz and Afrin. He testified:

“In the afternoon of 12 June, we detected unusual movements of the enemy (he meant the YPG). Then we heard over walkie-talkies someone giving orders to arrange

10 Coordinates for the village of Kashta'ar: 36.488234, 37.016718.

11 Coordinates for the village of Tanibah: 36.49605886607283, 37.00344999543442.

12 Coordinates for the village of Eben: 36.465236, 36.994290.

and clean the headquarters in the village of Kashta'ar to receive military officials and group leaders. We thought that there was an inspection tour. Afterwards, at 6:00 PM, reports were sent through walkie-talkies on three rockets launched towards the west and then we heard someone saying 'Sir, the Party fired three rockets towards the west.' Shortly after, we heard other rockets coming out, but we couldn't determine from where they came nor their target destination."

While this source's testimony appears to suggest that the YPG was responsible for the strike, three sources with the YPG based in Tall Rifat denied responsibility for the attack, noting that the YPG is not the only armed force based in the area from where the rockets were launched. Syrian, Russian, and Iranian forces are also stationed in the region.

Additionally, STJ interviewed a local from Dayr Jamal, a town located less than 5 km from Kashta'ar. He confirmed that on the day the al-Shifaa Hospital was targeted, pro-government militias were stationed near Dayr Jamal. There, the militias set up a rocket launcher and carried out several strikes before withdrawing.

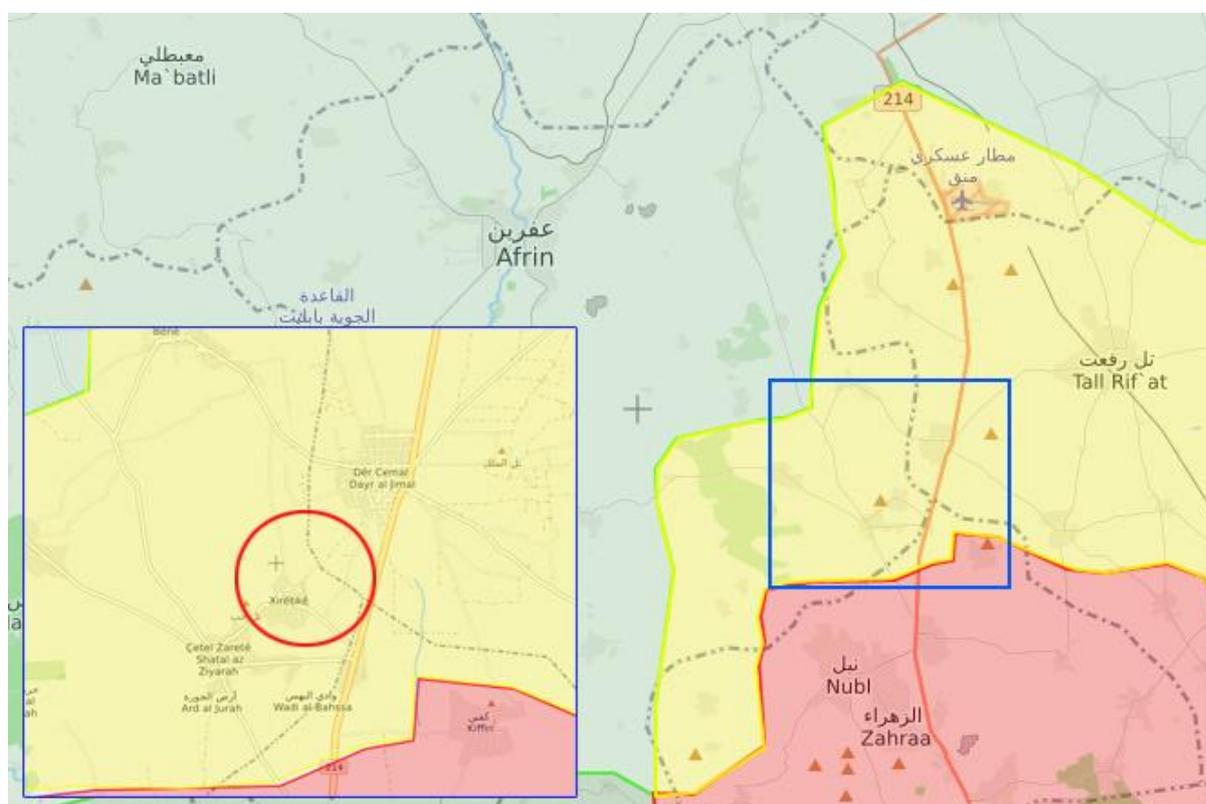


Image 36 - The red circle indicates bases of the Syrian government forces the source said they bombed Afrin on 12 June. We could not verify this account.

STJ's tenth source was a member with the Syrian National Army (SNA), who asked for anonymity. He stated that five rockets landed near the hospital, and a sixth one was heard but its target was not located, suggesting that the strike was likely sonic. He explained:

“I think that the shelling was meant to target the Turkish intelligence building, which is opposite the hospital with only a narrow side street between them. Sirens went off in the building just prior to the landing of the first rocket and the Turks there fled at once.”

The eleventh source was also a member of the SNA. He claimed that the attack on al-Shifaa Hospital was likely a retaliatory response by pro-government forces in response to the Turkish army’s attack on Syrian government sites in Idlib on the same day, the 12 June. STJ cannot corroborate the source’s claim because we have not been able to authenticate evidence that there was a Turkish attack on Syrian government sites in Idlib. The source went on to explain that the tactic used in the al-Shifaa Hospital mirrors similar “double tap strike” tactics frequently used by the Syrian government and its allies against hospitals and vital centers.

### C. A Rocket Strike on a Civilian Home Near Al-Shifaa Hospital

In addition to the rockets which struck the al-Shifaa Hospital, another rocket struck a residential building on al-Siyasiyah street, 330 meters from the hospital on the same day, 12 June. The exact time of impact is unclear; however, a [video](#) filmed from the street and published online at [approximately 7:17PM](#) shows smoke in the area, suggesting that the rocket was fired around the same time as the other two rockets which struck al-Shifaa Hospital. Little can be seen in this video other than evidence of an explosion somewhere to the west.



Image 37 - The position of the cameraman can be determined by the name of the businesses visible in his direct vicinity, particularly [Taibah Restaurant](#) located on al-Siyasiyah Street, east of al-Shifaa.



Image 38 - The position of the cameraman can be determined by the name of the businesses visible in his direct vicinity, particularly [Taibah Restaurant](#) located on al-Siyasiyah Street, east of al-Shifaa.



Image 39 – The location of Taibah Restaurant. Source: Google Maps.

The rocket which landed in this area struck the eastern side of an apartment building on the southern side of al-Siyasiyah street. The explosion sent shrapnel into surrounding buildings nearby, some of which punctured walls and windows. At the time of the explosion, Dr. Amin Qorsho was [sitting at the kitchen table](#) of his apartment, located to the immediate southeast of the blast site. He appears to have been killed instantaneously, found at the same location by his wife just moments later.



Image 40 - The strike point of the 3<sup>rd</sup> rocket. [Credit.](#)

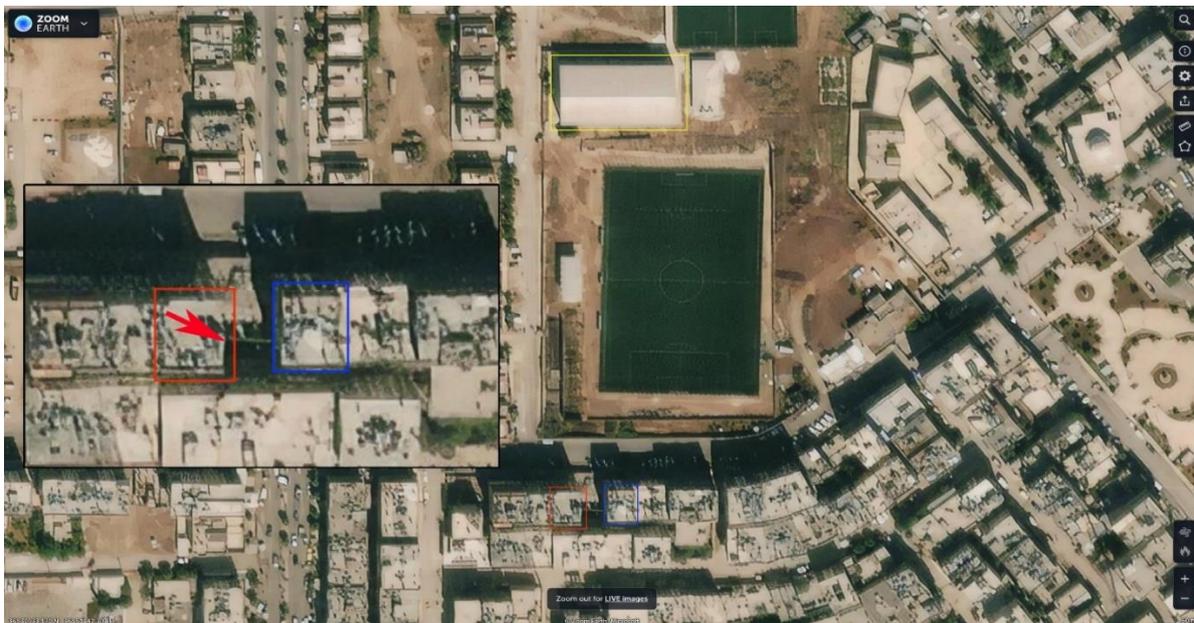


Image 41 - A satellite image shows the exact area hit by the 3<sup>rd</sup> rocket. The area is located at the coordinates: 36.508319, 36.861677.

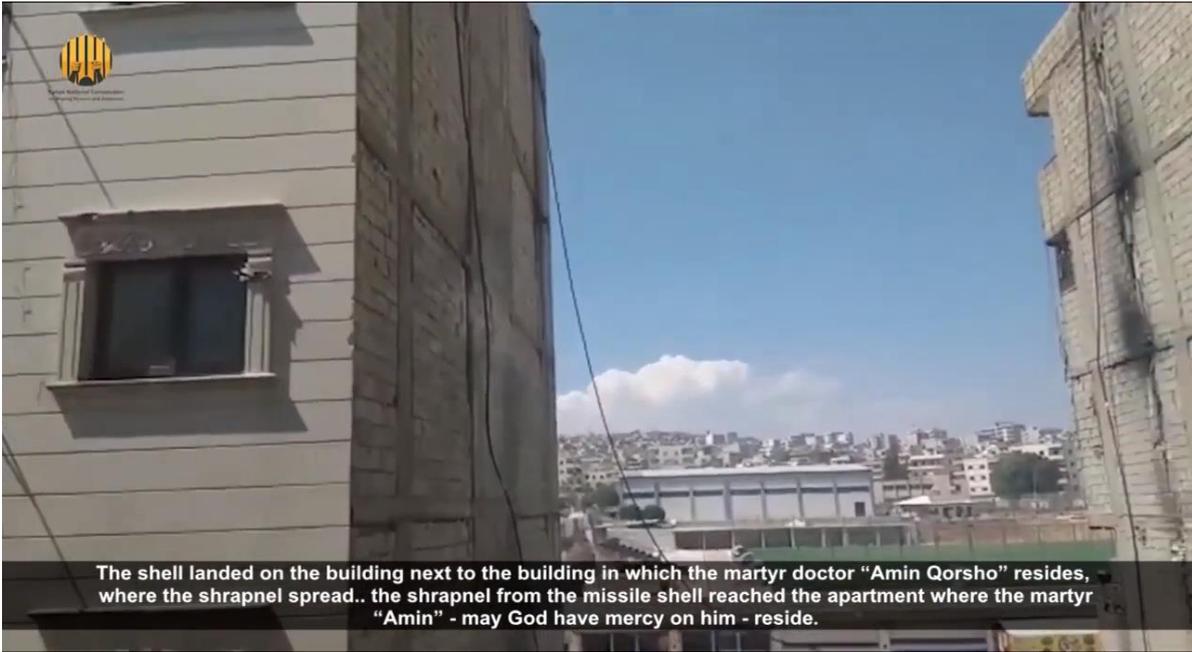


Image 42 - Site of impact and damage to exterior of Dr. Amin Qorsho's apartment. [Credit.](#)



Image 43 -The damage caused by the 3<sup>rd</sup> rocket strike to the interior of Dr. Amin Qorsho's apartment. [Credit.](#)

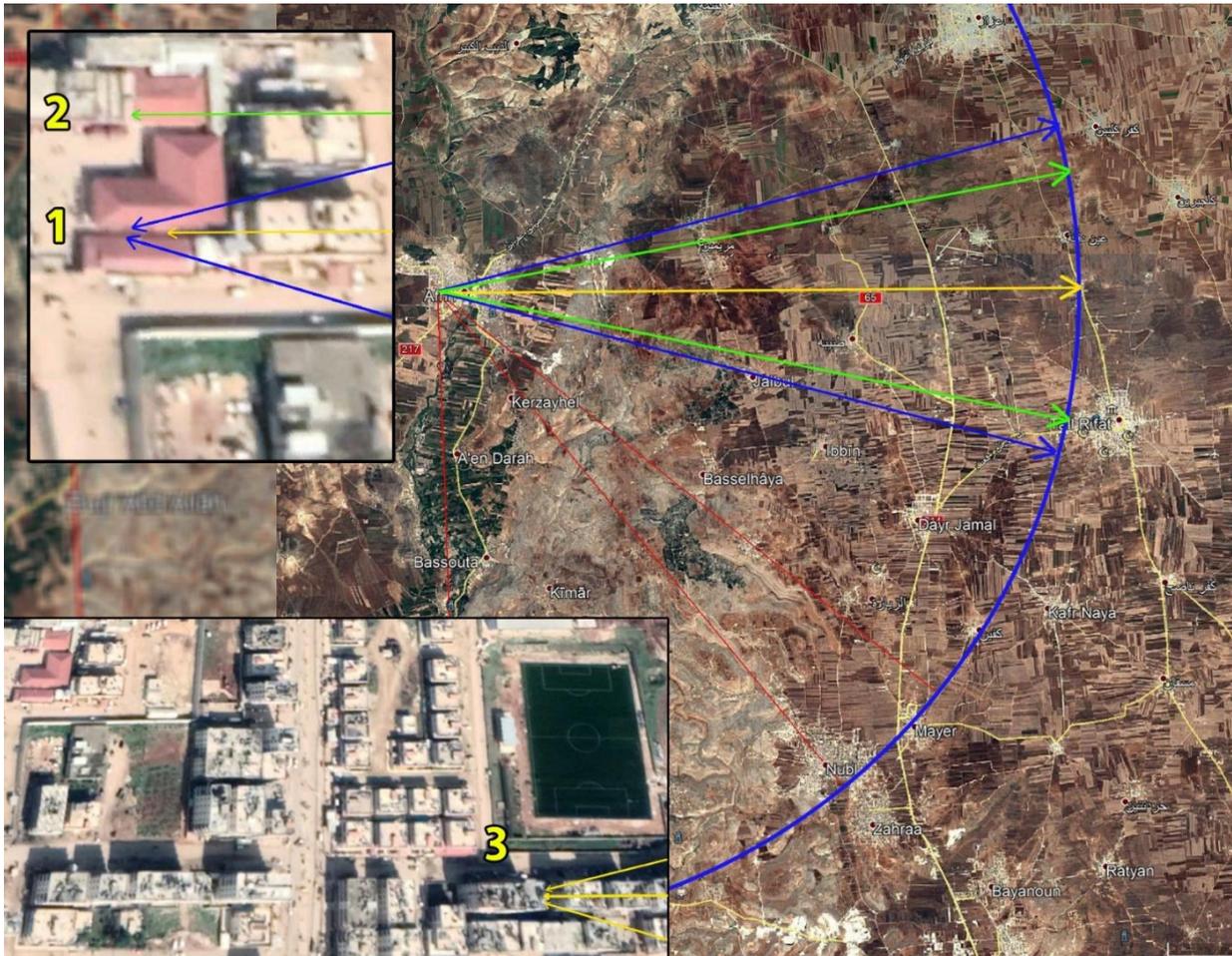


Image 44 - A map illustrates results of the analysis conducted by STJ; the blue, green and yellow lines indicate the possible firing angle of the first, second and the third rockets respectively; they appear to be fired from the same area. The red lines define the maximum reach of the MB-21 Grad (20 km).

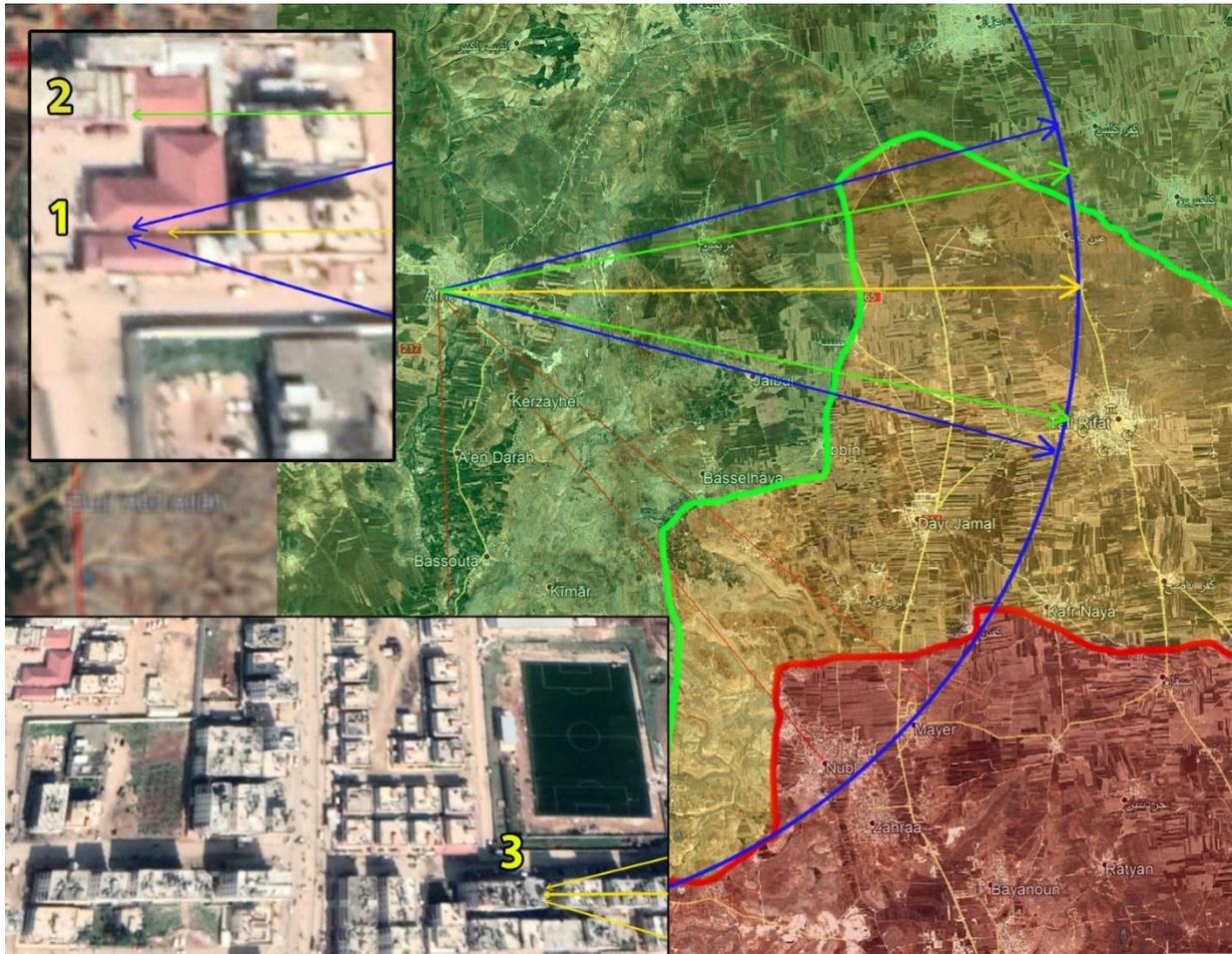


Image 45 - A map illustrates results of the analysis conducted by STJ showing the landing areas of the three rockets and their possible firing angles. The map also shows who controls what: the area in green is controlled by the Turkish Army and its allied Syrian rebel groups, the area in red is fully controlled by the Syrian Government, the yellow area (al-Shahbaa area) is jointly controlled by the YPG, the Afrin Liberation Forces, the Russian forces, the Syrian regular army, and armed groups linked to Iran. (The Russian and Syrian government forces are mainly present in the northern area of al-Shahbaa).

## Investigating the Similarities Between 25 July and 12 June 2021 Strikes

On 25 July 2021, more than a month after the attack on al-Shifaa Hospital in Afrin, rockets landed around the center of the Syria Civil Defense, known as the White Helmets.

STJ obtained testimonies and collected open-source information available on the 25 July attack and found that the rockets used in the strike were the same used in the strikes on al-Shifaa Hospital on 12 June 2021 — and they were likely fired from the same area.



Image 46- Smoke rising in Afrin city a little before 1:00 P.M., 25 July 2021. [Source: Twitter.](#)



Image 47 - The parking lot of the Syrian Civil Defense headquarters after the building was hit by a Grad rocket. 36.509866, 36.865023 ([Source: Twitter](#)).



Image 48 - Matching ground and satellite images of the Syrian Civil Defense headquarters.

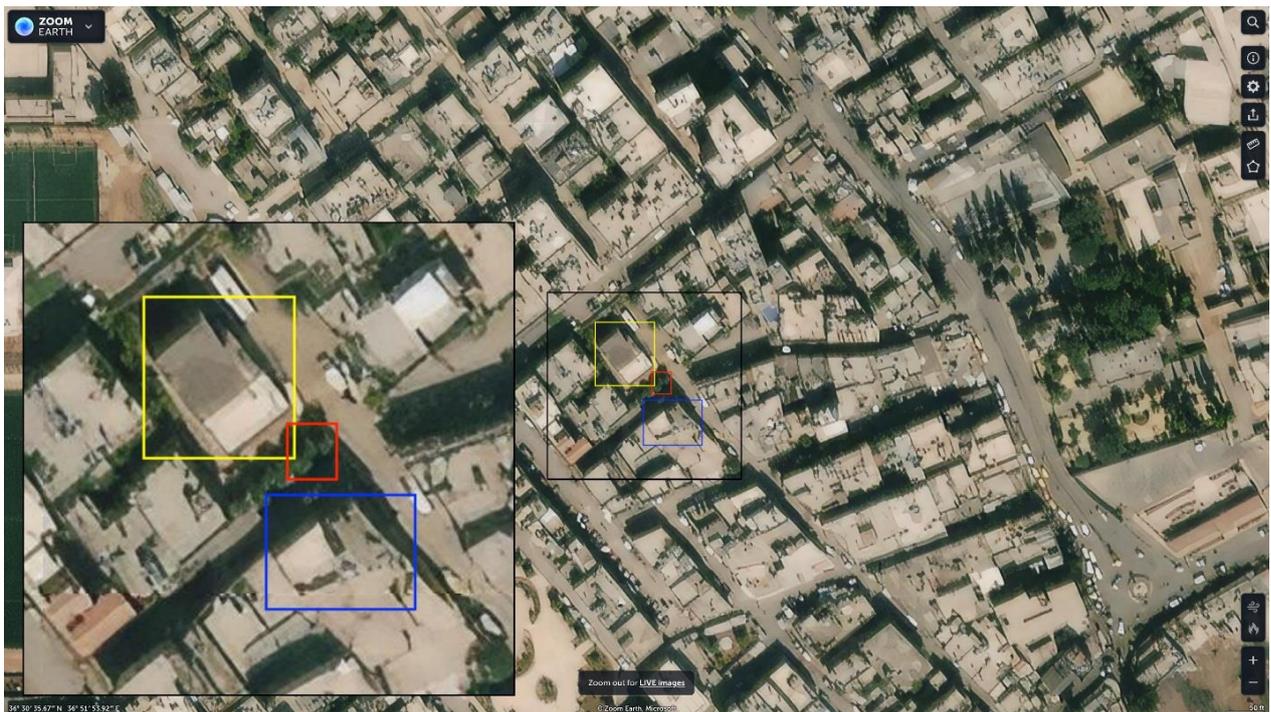


Image 49 - Matching ground and satellite images of the Syrian Civil Defense headquarters.



Image 50 - The moment the rocket struck the Civil Defense HQ, 12:55PM. ([Source](#)).



Image 51 - The moment the rocket struck the Civil Defense HQ, 12:55PM. ([Source](#)).



Image 52 - The site of impact. 36.509869, 36.865016 ([Source](#)).



Image 53 - Still from the Civil Defense CCTV footage, showing the shadow of the rocket immediately prior to impact. ([Source](#)).



Image 54 - The remains of a Grad rocket used in the attack; location unknown. ([Source](#)).





Image 57 - The possible firing angle.

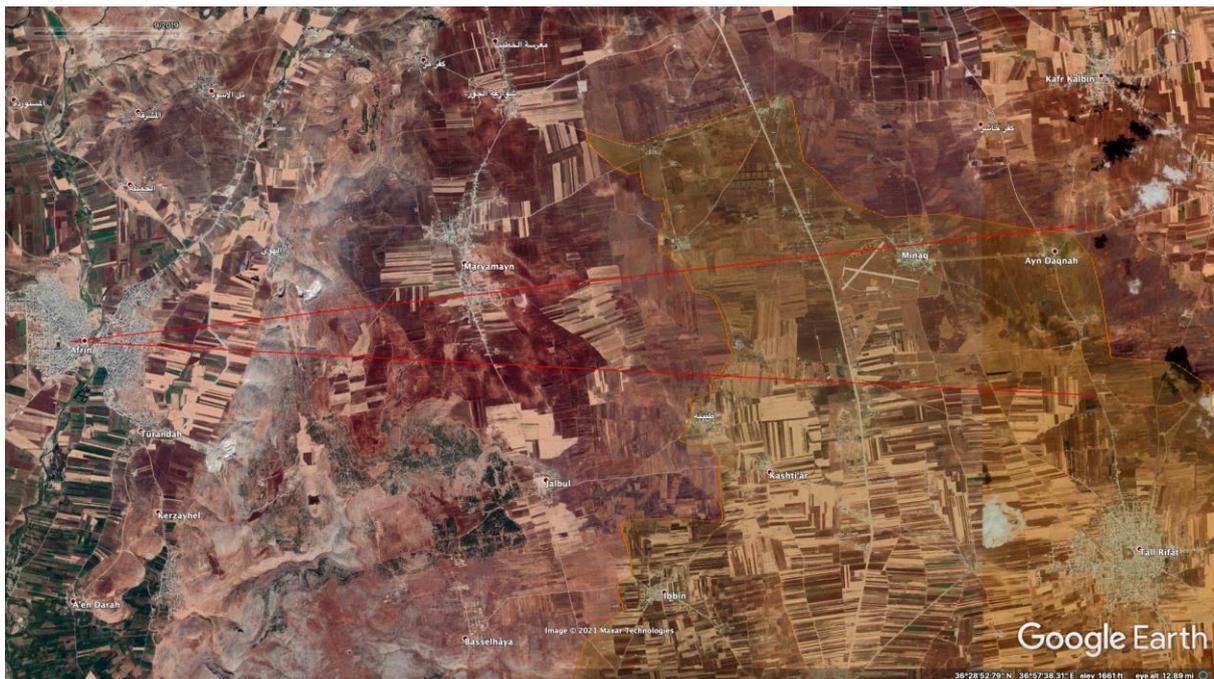


Image 58 - An approximate definition of the rockets' launch area.

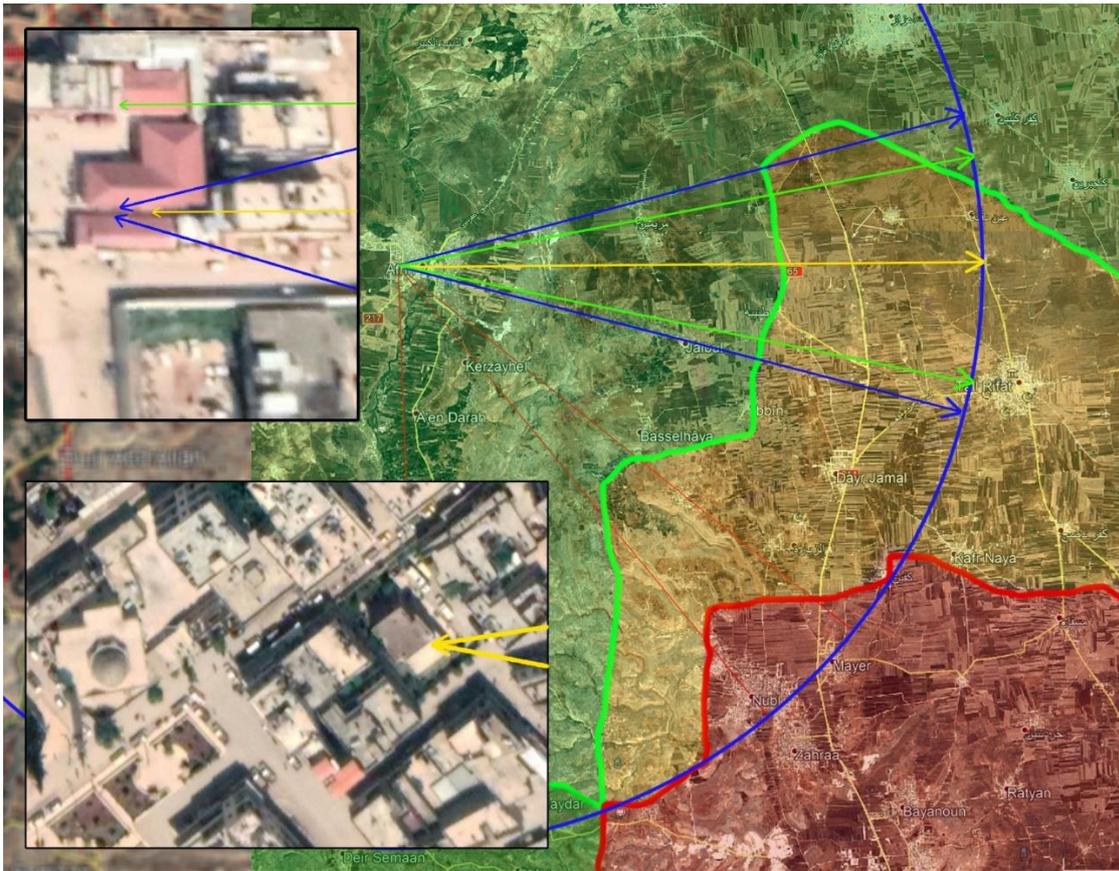


Image 59 - A map illustrates results of analyzing the attacks of 12 June (top left) and that of 25 July (lower left).



Image 60 - A comparison between the rockets used in the attacks of 12 June and 25 July 2021.

Outcomes of STJ's investigations and [@obretix](#) analyses are consistent with what has been published by other open sources. Afrin Now Observatory/Marsad Afrin Alan was among these sources, [publishing](#) coordinates on its Telegram channel that it claimed located the area where the rockets were launched on the 25 July attack. They reported that the rocket launcher was located 1500 meters south of the Menagh Military Air Base.



Image 61 - A Telegram post by Afrin Now Observatory/Marsad Afrin Alan locates the geographical area of the rocket launcher. (We could not verify this.)

## The Presence of Russian and Syrian Government Forces at the Alleged Rocket-Launch Sites

The al-Shahbaa area falls under the joint control of the YPG, the Afrin Liberation Forces, the Russian forces, the Syrian regular army, and armed militias linked to Iran. However, the northern area of al-Shahbaa mostly carries a heavy presence of Russian forces and the Syrian regular army.

Russian and regime forces do not appear to have entered Tall Rifat and the surrounding area until 2017. Russian Military Police were first seen in the region in [August 2017](#).



Image 62 - Russian heavy vehicles near Tall Rifat. ([Source](#)).

Two months later, on 28 October 2017, Russia Today [reported](#) that the SDF had handed over the Menagh Airbase to Russia. This transition was agreed to by the SDF with the intention of preventing future Turkish military offensives from targeting the area. It is worth noting that analysis conducted by STJ's digital analyst finds that Menagh airbase does not currently appear to be the site of any military activity. A week prior to the reported handover, SMART News Agency published photos showing a Russian flag flying over the village of Mara'anaz, located on the frontline between Tall Rifat and A'zaz.



Image 63 - A tweet by SMART News Agency on the presence of Russian forces at Menagh Military Airport.



Image 64 - Matching ground and satellite images.



Image 65 - Matching ground and satellite images.

Over the course of 2018, the positions controlled by the Russian Military Police were reinforced by deployments of regime forces, including detachments of the Syrian Arab Army and the Republican Guard.

On 29 March, a [video](#) published to social media showed soldiers of the Syrian Army entering Tall Rifat and other areas in northern rural Aleppo. Members of the Republican Guard and the Russian forces also appeared in the video.



Image 66 - Members of the Republican Guard (of the Syrian regular forces) in Tall Rifat northern Aleppo.

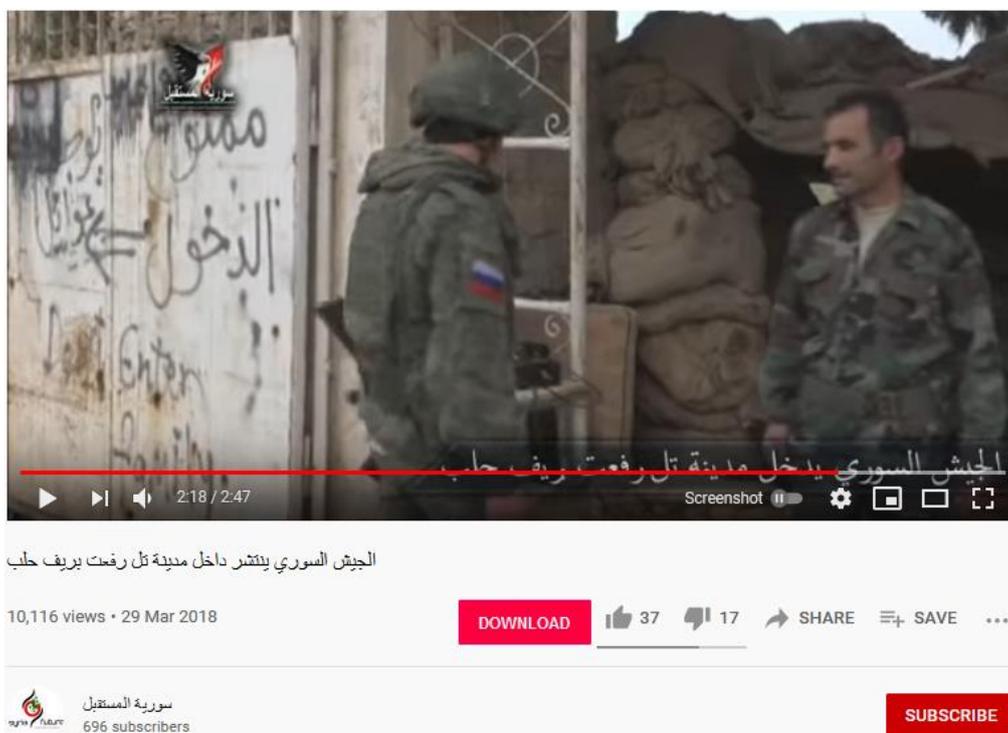


Image 67 - Syrian and Russian soldiers in Tall Rifat, northern Aleppo.



Image 68 - Russian military vehicles and a Russian soldier in Tall Rifat.

A [video](#) published on 14 November 2018 showed a convoy of regime soldiers and armor, including armored personnel carriers and tanks, driving north along the '214 road' running from Deir Jamal to Menagh Airbase.



Image 69 - Screenshots from the previous video show Syrian military vehicles.

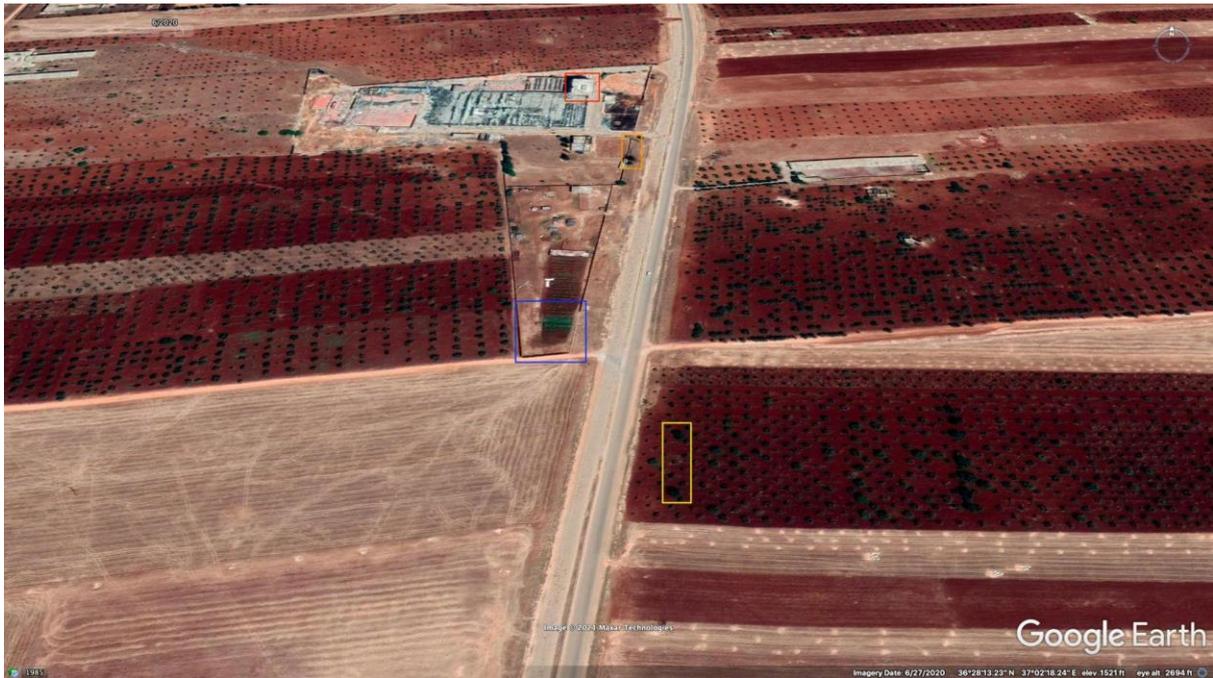


Image 70 - A satellite image of the area shown in the previous image.



Image 71 - Screenshots from a video show Syrian military vehicles.



Image 72 - A satellite image of the area shown in the previous image.

Since these videos, digital analysts on Twitter have geolocated two of the Russian positions in the area. One of them, identified in 2020, lies on the western outskirts of Tall Rifat.


**Samir**  
 @obretix

geolocation of a recently established Russian military outpost in a building in Tell Rifat [google.com /maps?ll=36.472...](https://www.google.com/maps?ll=36.472...)



1:44 pm · 16 Jun 2020 · Twitter Web App

Image 73– The geolocation of a Russian position ([Source](#)).

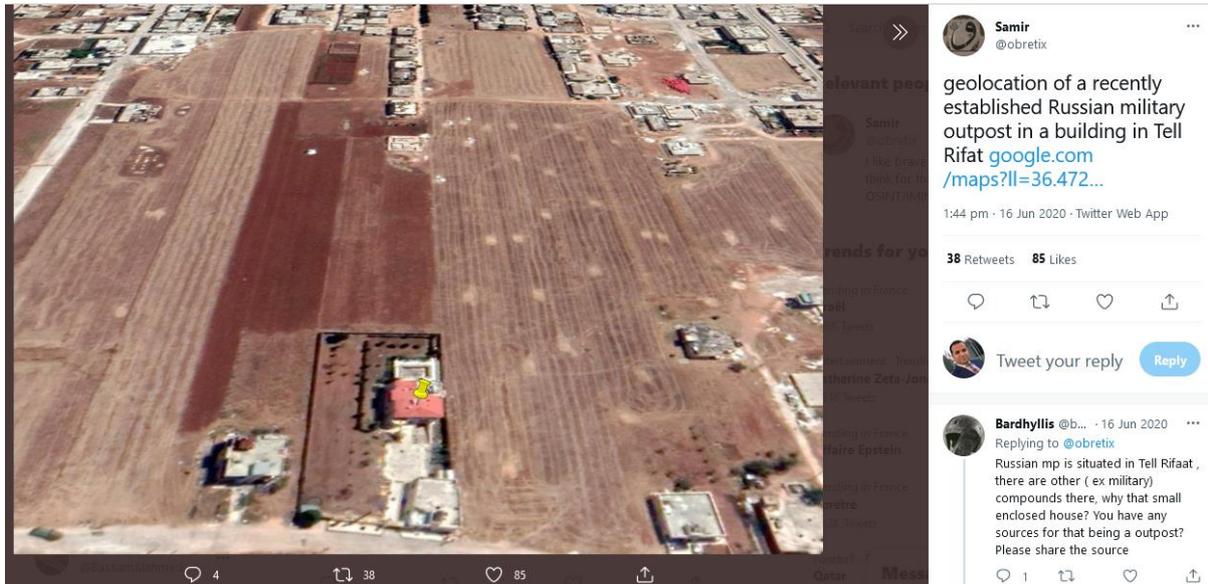


Image 74 - The geolocation of a Russian position.

A second is located in a villa just north of the al-Faisal Mills, approximately 2km southeast of the village of Kashta'ar.



Image 75 - A tweet posted by Efrin News 24 on 14 April 2021 confirms the return of Russian forces to positions they had retreated from earlier in al-Shahbaa area.

STJ's digital analyst [matched](#) the footage with satellite images and geolocated Russian presence in the area.



Image 76 – Geolocations of Russian presence in the area.

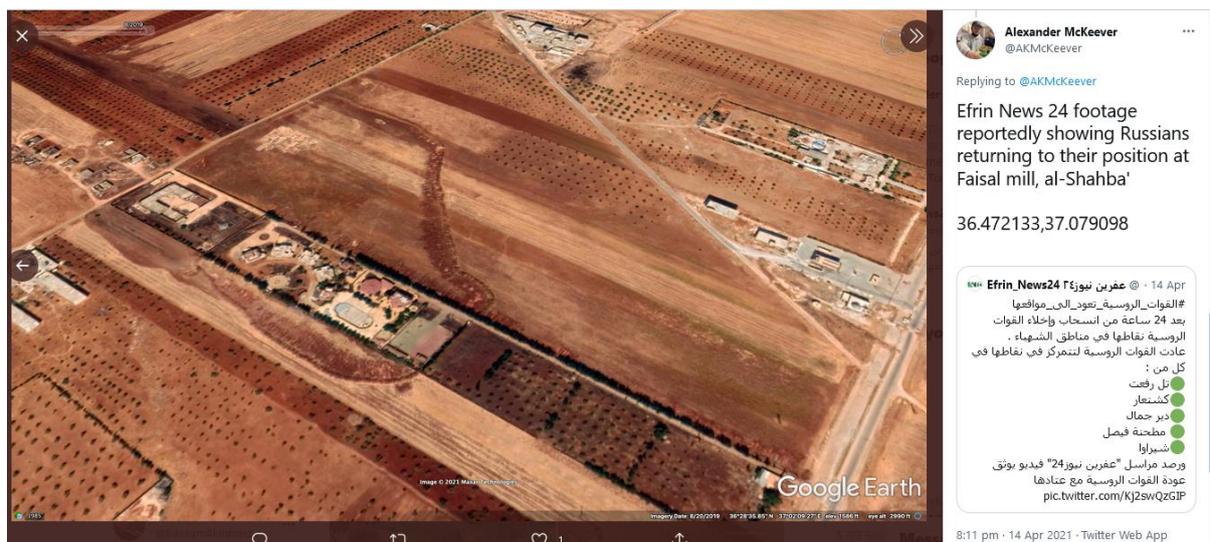


Image 77 – Geolocations of Russian presence in the area.

On 2 June 2021, only ten days before the attack on al-Shifaa Hospital, reports [confirmed](#) the death of lieutenant Ali Yasser Dirgham of the Syrian Army in a Turkish artillery shelling on the village of [Mara'anaz](#), from where the rockets are believed to have been fired during the 12 June and 25 July 2021 attacks.



Image 78 – Social media post showing Syrian loyalist pages mourning the loss of a Syrian government soldier.

On 10 June 2021, only two days before the attack against al-Shifaa Hospital, Afrin Activists Network [reported](#) the injury of three members of the 3<sup>rd</sup> Division of the Syrian Army, as a result of a bombardment conducted by Turkey and allied Syrian rebels on Menagh Military Air Base.

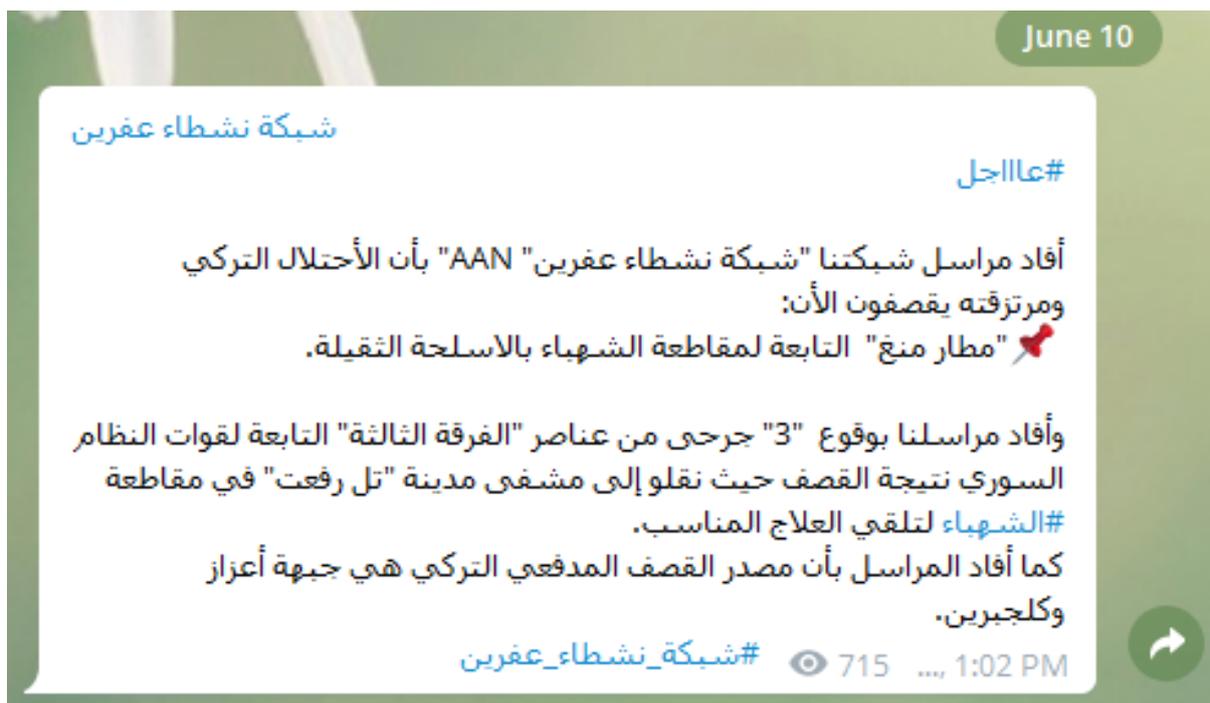


Image 79 – A post by Afrin activists reporting the injury of three members of the 3<sup>rd</sup> Division of the Syrian Army.

The exact geographical distribution of SDF, Russian, and regime forces in al-Shahbaa region is still unclear to STJ. However, it appears that the area located in between Mara'anaz to the north, Tall Rifat to the east, Deir Jamal to the south, and Kashta'ar to the west features significant detachments of Russian Military Police, the Syrian Arab Army, and, at least in 2018, the Republican Guard. Centrally located within this highlighted region is the Russian Military Police outpost adjacent to al-Faisal Mills, as well as Menagh Airbase, also reportedly under Russian control.

## Conclusion and Recommendations

Due to the limited amount of evidence available, STJ cannot definitively identify the perpetrator responsible for the al-Shifaa Hospital attack on 12 June 2021. However, after thoroughly investigating evidence of the case, STJ's team of researchers concluded that the Syrian regime and, indirectly, Russia are the most likely culprits of the hospital attack, which killed 15 and injured dozens more — the vast majority of them civilians and medical workers.

This assessment is based on several factors. This includes the weapon used, a BM-21, most frequently deployed by regime forces, supplied with throughout the war with new stocks of rockets by Russia. Furthermore, the targeting of civilian medical infrastructure, whether a hospital or emergency response center, is a tactic commonly employed by the regime and its Russian allies over the course of the war. Frequently these tactics behaviour include a 'double tap,' in which a location is struck twice; the second time occurring after first responders have arrived at the scene of the strike. The same tactic was used during the attack on al-Shifaa

Hospital. On 12 June, an initial barrage of missiles was fired at Afrin city at around 6:10 P.M. The first strike on the hospital occurred 45 minutes later, as those wounded in the initial barrage were being treated in the emergency wing of al-Shifaa Hospital. The second strike struck the hospital minutes later, while aid workers were responding to the first strike.

The complicated situation on the ground in al-Shahbaa region makes assessing the actors responsible difficult, despite the general direction from which the rockets came from being clear. Both digital analyses and testimonies identify the area between the village of Kashta'ar and Menagh Airbase as the likely launch site. Given that this area is in close proximity to one of the main Russian Military Police bases in the area, it seems like a reasonable assumption that an attack like this, risking escalation, would require the consent of the Russians nearby.

An assessment of the possible motivations of actors also suggests that Syrian regime forces are likely responsible. Turkish and/or opposition shelling earlier in June killed one regime soldier and reportedly wounded others stationed in al-Shahbaa region. Furthermore, the regime and Russia have been engaging in limited air and artillery strikes on (largely civilian) targets in opposition/Turkish controlled territory throughout the summer, in both Idlib as well as Northern Aleppo. It is possible that this attack was both a response to Turkish shelling earlier in the month as well as a continuation of regime and Russian tactics being employed elsewhere in Syria. While STJ cannot fully rule out the SDF, it seems unlikely that the SDF would engage in such a brazen attack targeting civilians just two days prior to a scheduled [meeting](#) between President Biden and President Erdogan, in which the divergent American and Turkish positions on the SDF and Syria more broadly were sure to be discussed.