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REPORT OF THE OPCW FACT-FINDING MISSION IN SYRIA REGARDING INCIDENTS OF ALLEGED USE OF TOXIC CHEMICALS AS A WEAPON IN QALIB AL-THAWR, AL-SALAMIYAH, ON 9 AUGUST 2017, AND AL-BALIL, SOURAN, ON 8 NOVEMBER 2017, IN HAMA GOVERNORATE, THE SYRIAN ARAB REPUBLIC

1. SUMMARY

- 1.1 In a note verbale dated 21 September 2017, the Syrian Arab Republic informed the Technical Secretariat of the OPCW (the Secretariat) about an incident that occurred near the village of Qalib al-Thawr in the eastern countryside of al-Salamiyah in Hama Governorate on 9 August 2017. The Syrian Arab Republic reported that “Daesh”,¹ the terrorist organisation also known as ISIL, launched AGC² munitions containing unknown toxic gases, causing a number of Syrian Arab Army (SAA) soldiers to exhibit symptoms including suffocation, fainting, and vomiting.
- 1.2 The OPCW Fact-Finding Mission in Syria (FFM) was preparing for a deployment to the Syrian Arab Republic to investigate the reported allegations in Kharbit Massasneh (S/2186/2023, dated 28 June 2023), al-Yarmouk (S/2254/2024, dated 22 February 2024), and Qalib al-Thawr, when it received a note verbale (dated 24 November 2017) from the Syrian Arab Republic, which included information regarding another allegation. Through its correspondence, the Syrian Arab Republic reported to the Secretariat an attack with mortars containing “poisonous” gases targeting the SAA in al-Balil, which is located in the surroundings of Souran in the Governorate of Hama, on 8 November 2017.
- 1.3 Based on the information received, the Director-General included the allegation in al-Balil to the scope of investigation for the aforementioned deployment.
- 1.4 The FFM obtained information regarding the incidents in Qalib al-Thawr and al-Balil through the following activities:
 - (a) exchanging correspondence with the Syrian Arab Republic, including notes verbales;
 - (b) holding meetings with the Syrian Technical Committee of the National Authority of the Syrian Arab Republic (the Technical Committee);

¹ Daesh – The Islamic State of Iraq and the Levant (ISIL), also known as the Islamic State (IS), and the Islamic State of Iraq and Syria (ISIS).

² The acronym “AGC” makes reference to an AGS type of automatic grenade launcher, as clarified by the Syrian Arab Republic.



- (c) conducting and analysing interviews with individuals, including witnesses and casualties of the reported incidents;
 - (d) conducting field visits to locations of interest relevant to the reported incidents;
 - (e) reviewing and analysing material such as photographs and documents gathered by the FFM; and
 - (f) reviewing open-source material.
- 1.5 During the course of its investigations, and for safety and security reasons, the FFM did not visit the incident locations in Qalib al-Thawr or al-Balil. Nevertheless, the FFM did visit locations of interest relevant to both incidents, namely Hama National Hospital and al-Salamiyah Hospital, where casualties were treated, and the Military Police stations located at these hospitals, where military reports were issued.
- 1.6 The FFM examined and analysed all the information received and gathered and established the following:
- (a) According to medical records, five members of the SAA were affected following the incident in Qalib al-Thawr on 9 August 2017. The casualties were treated at al-Salamiyah Hospital.
 - (b) According to medical records, four members of the SAA were affected following the incident in al-Balil on 8 November 2017. The casualties were treated at Hama National Hospital.
 - (c) Casualties from both incidents showed signs and symptoms of respiratory distress.
 - (d) The complaints of and symptoms presented by the casualties described during interviews and the clinical signs reported in the medical records are not consistent with any well-defined toxidrome.³
- 1.7 A technical team from the Syrian Arab Republic visited a location in the vicinity of al-Balil in September 2018 and collected information regarding the location of the incident and the casualties.
- 1.8 This technical team was unable to visit the location of the incident in Qalib al-Thawr; however, it was able to visit the area close to the location of the incident and provided the FFM with updated information regarding the location.

³ A toxic syndrome or ‘toxidrome’ describes the characteristic toxic effects elicited by the chemicals within a specific group, serving as a set of clinical “fingerprints”.

- 1.9 During the investigation, the FFM actively pursued further information from all available sources. Nevertheless, the FFM still faced challenges in corroborating the information it had gathered regarding the reported incidents in Qalib al-Thawr and al-Balil in light of the following:
- (a) The incident locations were at close proximity to confrontation lines and assessed as unsafe for the FFM to be deployed there in the aftermath of the reported incidents.
 - (b) No photographs or video recordings of the locations of the reported incidents were made available to the FFM.
 - (c) No inspections, photographs, or video recordings of the munitions were included in the documents in connection with the reported incidents in Qalib al-Thawr on 9 August 2017 or al-Balil on 8 November 2017.
 - (d) No environmental samples, including the clothing of the casualties, were collected in connection with the incident in al-Balil.
 - (e) No environmental samples were collected from the incident location in Qalib al-Thawr. The Syrian authorities informed the FFM that the uniforms of the casualties in Qalib al-Thawr were collected at al-Salamiyah Hospital and stored at the Scientific Studies and Research Center (SSRC) in Barzeh, where they were reportedly destroyed in an air strike. The FFM cannot independently verify the information claiming the collection, storage, or ultimate destruction of these items, and the Syrian Arab Republic did not provide any information or evidence in this regard.
 - (f) Blood samples were taken for medical purposes by medical staff from casualties of both incidents at the hospitals where they were treated. No targeted analyses were conducted of the blood samples, nor were these samples made available to the FFM.
 - (g) The medical staff who were interviewed informed the FFM that none of the casualties presented with traumatic injuries, and there was no information indicating traumatic injuries mentioned in any of the medical records; however, one of the interviewees confirmed that they had suffered bullet and shrapnel injuries on the same day of the incident in Qalib al-Thawr.
- 1.10 Based on the analysis of the information and documents provided by medical personnel, the FFM cannot provide a toxicological assessment of the reported exposure given the following gaps:
- (a) There was no accurate description of the “unknown toxic gases” reportedly involved in the incidents.
 - (b) Neither environmental samples nor biomedical samples were made available to the FFM.
 - (c) The clothes reportedly collected at al-Salamiyah Hospital related to the Qalib al-Thawr allegation were not made available to the FFM.
 - (d) No analyses were performed by the Syrian Arab Republic on the collected clothes while stored at the SSRC in Barzeh.

- 1.11 The information obtained and analysed as a whole, in accordance with the FFM's mandate to gather facts relevant to the alleged use of toxic chemicals as a weapon in the Syrian Arab Republic, is not sufficient to provide reasonable grounds for the FFM to determine that toxic chemicals were used as a weapon in the reported incidents that occurred on 9 August 2017 in Qalib al-Thawr and 8 November 2017 in al-Balil, Hama Governorate, the Syrian Arab Republic.
- 1.12 The FFM is grateful to the Syrian Arab Republic and the individuals, witnesses, and other organisations that supported its activities, in addition to the States Parties to the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction (the Convention).

2. INTRODUCTION

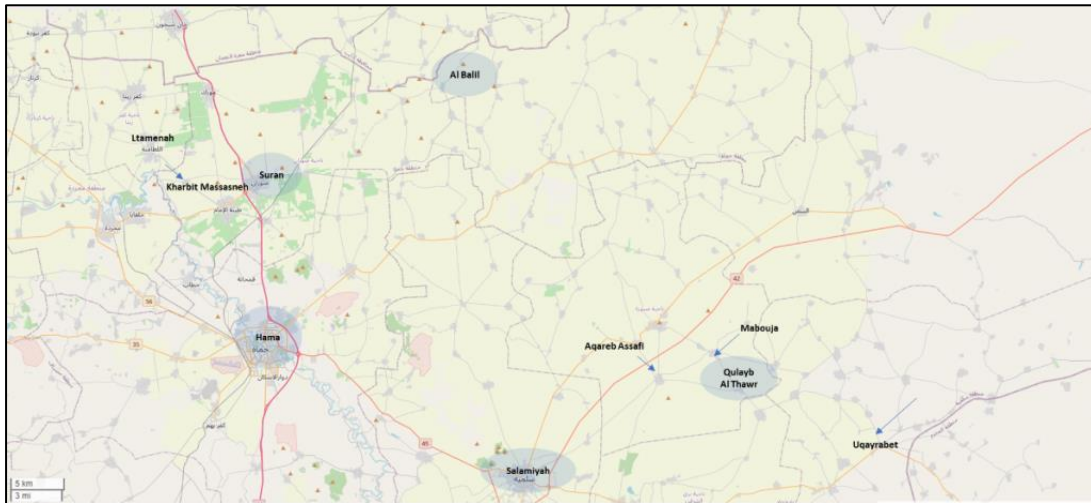
- 2.1 This document contains the findings and conclusions of the FFM in the alleged use of toxic chemicals as a weapon in Qalib al-Thawr (al-Salamiyah) and al-Balil (Souran) in the Governorate of Hama on 9 August and 8 November 2017, respectively.
- 2.2 The activities of the FFM were conducted in accordance with the decisions of the OPCW Executive Council (the Council) EC-M-48/DEC.1 (dated 4 February 2015) and EC-M-50/DEC.1 (dated 23 November 2015), as well as other relevant Council decisions and the Director-General's authority to seek to uphold at all times the object and purpose of the Convention, as reinforced by United Nations Security Council resolutions 2118 (2013) and 2209 (2015), and as applicable to this investigation.
- 2.3 The terms of reference of the FFM were mutually agreed upon by the OPCW and the Syrian Arab Republic through the exchange of letters between the Director-General of the OPCW and the Government of the Syrian Arab Republic, dated 1 and 10 May 2014, respectively (Annex to the Note by the Secretariat S/1255/2015*, dated 10 March 2015). The States Parties expressed their support for the continued work of the FFM in order to study all available information relating to allegations of the use of chemical weapons in the Syrian Arab Republic.
- 2.4 Both the Council and the United Nations Security Council have called upon the FFM to study all available information relating to allegations of the use of chemical weapons in the Syrian Arab Republic, including information provided by the Syrian Arab Republic and others.

3. BACKGROUND

- 3.1 In its reports S/2020/2022 (dated 31 January 2022) and S/2186/2023 regarding the allegations in Kafr Zeita on 1 October 2016 and Kharbit Massasneh on 7 July and 4 August 2017, respectively, the Secretariat provided an overview of the general situation in Hama Governorate, specifically on the events that took place in its northern countryside in 2016 and 2017 and that were reported in public sources. During the aforementioned period, the Governorate of Hama experienced heavy fighting, air strikes, and ground offensives and counteroffensives in nearly all its areas.
- 3.2 This report covers the incidents that took place in the eastern countryside of Hama Governorate, namely in Qalib al-Thawr, which is located to the east of al-Salamiyah, and in al-Balil, which is located in the northeast of Souran, on 9 August and 8 November 2017, respectively (see map in Figure 1).
- 3.3 In this section, the FFM provides an overview of the situational context in eastern Hama Governorate based on several publicly reported events,⁴ with a focus on Qalib al-Thawr, al-Balil, and the neighbouring villages and towns, for the period leading up to these allegations. Furthermore, the information presented includes the main actors mentioned in public sources who were present in the areas of interest at the time.

⁴ This report contains open-source links in the footnotes that may no longer be available online. The content of all these open-source links have been duly archived by the FFM.

FIGURE 1: MAP OF THE COUNTRYSIDE OF HAMA



- 3.4 In September 2015, approximately two years after gaining control over the area, ISIL began a large-scale retreat operation from the eastern countryside of al-Salamiyah, amid fears of SAA air strikes on areas under ISIL’s control.⁵ At that time, ISIL was present in the villages of Salba, Abu Hanaya, Qalib al-Thawr, and Uqayribat (the latter was considered one of ISIL’s main strongholds in the area), and was preparing to withdraw from these villages.
- 3.5 In June 2016, ISIL was still present and active in the eastern countryside of Hama Governorate. On 11 June, sources reported that the SAA advanced towards areas under ISIL’s control and recovered several areas to the east of al-Salamiyah, on the hills of Tebaret al-Diba and along Road 42. This allowed the SAA to gain control⁶ of one of ISIL’s main supply routes, while simultaneously targeting ISIL’s movements in the villages of Aqareb and Qalib al-Thawr (a strategic village near al-Salamiyah – Ithriya Road).⁷
- 3.6 On 22 July 2016, air strikes targeted several villages, including Jruh, Abu Hanaya, Abu Hubaylat, Hamada al-Omar, Salba, Qalib al-Thawr and Uqayribat.⁸ Simultaneously, fierce confrontations took place between ISIL and the SAA on the frontlines of Albawee and Ithriya–Khanasser Road, in an attempt by the SAA to secure this road, which is considered the main reinforcement supply route. One day prior, local news outlets indicated that eight civilians were killed, and over 20 others were injured after ISIL shelled residential neighbourhoods in al-Salamiyah.⁹

⁵ <https://www.almodon.com/print/607ac4ab-1f1e-41e5-95e1-487ce7b405af/9dfcdafe-a698-400c-8129-4a0811cc020d>.

⁶ <https://www.al-binaa.com/archives/120796>.

⁷ <https://www.alayam.com/online/international/586567/News.html>.

⁸ <https://syrianembassy.ro/ar/2016/07/29/>.

⁹ <https://www.rozana.fm/ar/news/2017/07/22/>.

- 3.7 On 12 December 2016, sources¹⁰ reported that the four villages of Jruh, Salaliya, Hamada al-Omar and Qastal—under ISIL’s control at the time—were subject to intensive air strikes, resulting in more than 70 dead and over 200 injured—all of whom were reportedly exposed to a toxic gas.¹¹
- 3.8 The SAA continued targeting ISIL’s positions in the eastern countryside of Hama Governorate with air strikes amid ISIL’s attempts to regain control of areas and villages lost during the confrontations.
- 3.9 On 18 May 2017, news outlets¹² reported that more than 50 people were killed, and over 100 were injured in an attack conducted by ISIL on residential areas in the village of Aqareb, located at a distance of five kilometres from the confrontation lines between SAA and ISIL; the aim was for ISIL to set up positions in the village. While ISIL attacked from different directions, mainly from Qalib al-Thawr,¹³ the SAA and their allies in the area blocked their advance. Public sources also reported a similar ISIL attack¹⁴ that occurred in the village of Mabouja, northeast of Aqareb. Units from the SAA responded on 21 May 2017 by targeting several ISIL members stationed in Qalib al-Thawr and Abu Hanaya.¹⁵
- 3.10 To further secure areas alongside the Damascus-Aleppo road, in June 2017 the SAA advanced in eastern al-Salamiyah towards Uqayribat, aided by air strikes on ISIL’s positions in the area including in Salba, Qalib al-Thawr, and Abu Hubaylat.^{16, 17}
- 3.11 On 11 July 2017, sources reported that air strikes mistakenly targeted Syrian troops stationed along the oil transportation route near Qalib al-Thawr, which resulted in several injuries among SAA members. At the same time, ISIL thwarted the attempts of the SAA to advance towards Qalib al-Thawr.¹⁸ These air strikes and confrontations continued on Qalib al-Thawr and neighbouring villages almost on a daily basis.^{19,20,21}
- 3.12 On 25 July 2017, local news sources reported that SAA troops backed by the Liwa al-Quds brigade and local fighters resumed the offensive, aiming to recapture Qalib al-Thawr from ISIL. The SAA troops controlled a strategic hill that overlooks the village and nearly regained control of it before having to withdraw following a counter-attack from ISIL.²²

10 <https://www.harmoon.org/reports/>.

11 <https://shaam.org/news/syria-news/>.

12 <https://alpha-ar-front.almayadeen.net/news/politics/757201/>.

13 <https://www.almodon.com/arabworld/2017/5/18/>.

14 <https://kenanaonline.com/users/AAC-ES-SMARA/posts/927771>.

15 <https://afasianet.net/2021/ar/19139-2017-05-22-10-12-35.html>.

16 <https://www.elnashra.com/news/show/1111872/>.

17 <https://www.almasyalyoum.com/news/details/1144987>.

18 http://alwan.fm/news_veiw?id=13306&cat=1.

19 <https://www.athrpress.com/>.

20 <http://www.mod.gov.sy/>.

21 <http://www.sns.sy/ar/node/87972>.

22 <https://www.almasdarnews.com/article/syrian-army-foils-isis-attack-east-hama-resumes-advance/>.

- 3.13 On 3 September 2017, sources indicated that the SAA and its allies conducted continuous air strikes and military operations on the ground against ISIL, and temporarily regained control of Uqayribat and Qalib al-Thawr.²³ Intense fighting²⁴ continued for approximately two weeks, after which the SAA recovered Qalib al-Thawr.^{25,26}
- 3.14 Figure 2 below shows maps of eastern al-Salamiyah in Hama Governorate as at 14 July,²⁷ 31 August,²⁸ and 13 September²⁹ 2017, indicating the areas³⁰ under the control of the SAA, ISIL, and the Free Syrian Army, in addition to confrontation lines.

23 <https://www.syriahr.com/240101/>.

24 <https://www.alwatanonline.com/>.

25 <https://fb.watch/nW9tqx5XnB/>.

26 <https://www.youtube.com/watch?v=UKCxaKBA7QA>.

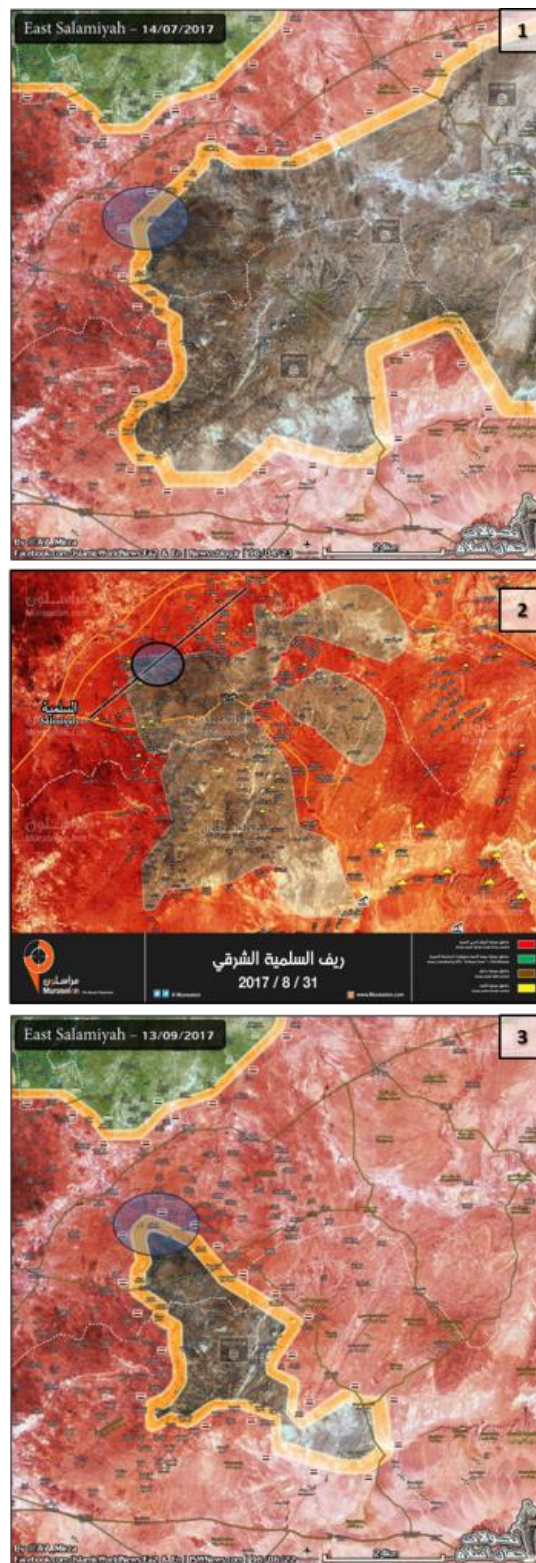
27 <https://s2.cdnstatic.space/wp-content/uploads/2017/07/1-152-990x1024.jpg>.

28 <https://scontent-ams2-1.xx.fbcdn.net/v/t31.18172-8/>.

29 <https://southfront.press/military-situation-in-eastern-hama-on-september-13-2017/>.

30 <https://southfront.press/military-situation-in-area-east-of-salamiyah-on-july-14-2017-map-update/>.

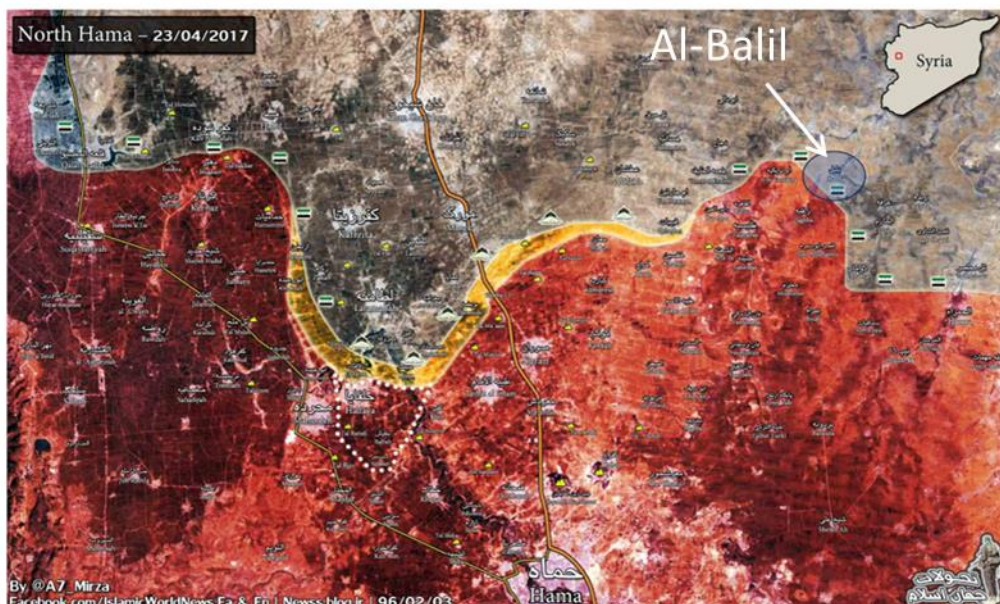
FIGURE 2: MAPS OF CONTROL AND FRONTLINES IN EASTERN AL-SALAMIYAH, AS AT 14 JULY (1), 31 AUGUST (2), AND 13 SEPTEMBER (3) 2017



■ Syrian Arab Army (SAA) ■ Free Syrian Army (FSA) ■ ISIL
■ Frontlines ■ Qalib al-Thawr and neighbouring villages

- 3.15 During the same period between July and December 2017, to the northwest of Qalib al-Thawr—specifically in the eastern part of Souran—several towns and villages experienced intense fighting between the SAA Forces and its allies on one side, and Hay’at Tahrir al-Sham (HTS) and other opposition groups—including Jaysh al-Izza and the Central Division (al-Firqa al-Wusta)—on the other side.
- 3.16 On 24 September 2017, the SAA and its allies, including the Tiger Forces, began redeploying to the northern Hama countryside following an intensification of the fighting between the SAA and the HTS and other opposition groups in the Maan area, approximately 10 kilometres northeast of Souran.³¹
- 3.17 Going back to April 2017, when the SAA and its allies regained control over the areas of Halfaya, Tal Batish, and Tal Nasiriyah in northern Hama Governorate,³² the village of al-Balil was still controlled by HTS and other opposition groups, as shown in Figure 3.

FIGURE 3: MAP OF CONTROL AND FRONTLINES IN NORTHEAST AL-SALAMIYAH, AS AT 23 APRIL 2017



- 3.18 In November 2017, the fighting intensified in al-Balil, in both its hills and surroundings. Numerous messages posted on the social media platform Telegram indicated that the situation was volatile, and the village became an active frontline.
- 3.19 On 6 November 2017, information was shared on Telegram stating that the SAA had conducted several air strikes targeting al-Balil and its surroundings. However, later that same day, additional information was shared on the platform indicating that opposition groups were controlling checkpoint positions in and around al-Balil, following fierce confrontations with the SAA.³³

³¹ https://www.cartercenter.org/resources/pdfs/peace/conflict_resolution/syria-conflict/weekly-conflict-summary-2017.09.21-27.pdf.

³² https://twitter.com/A7_Mirza/status/856037413369651200/photo/1.

³³ <https://t.me/s/stepnews=56955>.

- 3.20 On 7 November 2017, while sources reported air strikes on al-Balil, members of Jaysh al-Izza broadcast a video recording³⁴ showing the village of al-Balil and the hill there (which overlooks the neighbouring villages of Shteeb, az-Zahra, and al-Dhahiryia), claiming that it had fallen under their control.
- 3.21 In the morning of 8 November 2017, a Telegram post reported that al-Balil and the hill there were under SAA control. Hours later, the same source indicated that Jaysh al-Izza had regained control of the village after violent confrontations. The volatile situation in al-Balil continued throughout November and into early December 2017, with air strikes, explosive barrels targeting the village, and simultaneous artillery shelling and fighting between the SAA and opposition groups.
- 3.22 On 9 December 2017, the SAA took control of the village of um-Khezeem and al-Balil and its strategic hill. A video recording broadcast by the Syrian War Media on 11 December 2017 showed SAA members in the streets and fields of al-Balil.³⁵ Over 40 SAA soldiers were killed, and more than 60 were injured; the casualties were transferred to Hama National Hospital. Most of the injured troops came from the battlefield in al-Balil where the confrontation between the SAA and armed groups took place.³⁶

4. MISSION ACTIVITIES

Methodological considerations

- 4.1 The FFM followed the same methodological approach outlined in previous FFM reports, adhering to the most stringent protocols throughout its activities (Annex 1).
- 4.2 Interviews were conducted by inspectors who are trained and proficient in interviewing techniques, in strict compliance with the procedures set out in the relevant OPCW work instructions. Prior to commencing the interviews, the process was explained to the interviewees, with emphasis on the fact that with the consent of the interviewee, the interview would be recorded using audio, video, or both. After confirming that the process had been understood, interviewees were requested to sign a consent form. The interview process used the free-recall approach, with follow-up questions to elicit information of potential evidentiary value and to clarify testimonies. To guarantee the impartiality of the interview process, only the interviewees and FFM personnel were present in the room during the interviews.
- 4.3 Available open-source information, such as maps and security updates, was primarily used to plan activities and conduct a general situation assessment.
- 4.4 The FFM examined the data obtained and collected, both individually and combined. The conclusions of this report are based on an analysis of the information taken as a whole, including:
- (a) witness accounts during interviews conducted by the FFM;
 - (b) information and material provided by the National Authority of the Syrian Arab Republic;

³⁴ https://www.youtube.com/watch?v=jt_g3mbbaU8.

³⁵ <https://www.facebook.com/watch/?v=854750521351552>.

³⁶ <https://www.alquds.co.uk/>.

- (c) information and material provided by the Syrian Arab Republic and collected by the FFM during field visits;
- (d) supporting material gathered during the interview process; and
- (e) subsequent cross-reference and corroboration of all information.

Activities

- 4.5 The activities of the FFM were conducted in accordance with its terms of reference, OPCW guidelines, standard operating procedures, and work instructions as set out in Annex 1. The mission activities (Annex 3) included:
- (a) exchanging notes verbales and other correspondence with the Syrian Arab Republic;
 - (b) holding meetings with the Technical Committee;
 - (c) conducting and analysing interviews with witnesses and casualties of the reported incidents in Qalib al-Thawr and al-Balil;
 - (d) conducting field visits to relevant locations;
 - (e) reviewing and analysing photographs, documents and files gathered by the FFM; and
 - (f) reviewing open-source material.
- 4.6 The FFM collected information related to the reported incidents in the village of Qalib al-Thawr in the eastern countryside of al-Salamiyah on 9 August 2017 and al-Balil, Souran, on 8 November 2017—both in the Hama Governorate of the Syrian Arab Republic—using its equipment and ensuring the chain of custody and witness identity protection throughout its deployments in accordance with the standard operating procedures, work instructions, and guidelines of the OPCW.
- 4.7 On 21 September 2017, through Note Verbale No. 88, the Syrian Arab Republic informed the Secretariat about an incident that occurred near the village of Qalib al-Thawr in the eastern countryside of al-Salamiyah in the Syrian Arab Republic, on 9 August 2017. In this note verbale, the Syrian Arab Republic informed the Secretariat that ISIL had launched munitions containing unknown gases, causing a number of SAA soldiers to exhibit symptoms, including suffocation, fainting, and vomiting. The Syrian Arab Republic shared the names of seven SAA casualties.
- 4.8 The FFM was in the preparation phase for a deployment to the Syrian Arab Republic between 6 and 17 December 2017 to investigate the following allegations: Kharbit Massasneh (S/2186/2023), al-Yarmouk (S/2254/2024), and Qalib al-Thawr, when the Secretariat received information about another allegation in al-Balil through Note Verbale No. 127 (dated 24 November 2017) informing the Secretariat of an attack on 8 November 2017 with mortars containing “poisonous” gases targeting the SAA in al-Balil in the surroundings of Souran, Hama Governorate. Accordingly, the al-Balil allegation was included in the scope of the aforementioned deployment.
- 4.9 The deployment of the FFM to the Syrian Arab Republic was coordinated between the Secretariat and the Syrian Arab Republic through the exchange of notes verbales between November 2017 and November 2021, in accordance with the terms of reference of the FFM.

- 4.10 From 6 to 17 December 2017, the FFM conducted the first deployment to the Syrian Arab Republic, during which it held meetings with the Technical Committee and received a number of documents, which are listed in Annex 5. More details on the content of said documents are provided in the Factual Findings Section of this report. During the same deployment, the FFM conducted an interview with a witness in relation to the incident in Qalib al-Thawr.
- 4.11 From 29 September to 4 October 2018, the FFM deployed a second time to the Syrian Arab Republic, held meetings with the Technical Committee, and received additional information regarding the incidents in Qalib al-Thawr and al-Balil. The documents received by the FFM include a report on the incidents with updated coordinates of the incident locations, a list of the names of casualties as potential witnesses, a copy of the police reports, a shift log from two hospitals: Martyr Major General Qais Habib Hospital (al-Salamiyah Hospital) and Hama National Hospital. The FFM was also provided with a document confirming that al-Salamiyah National Hospital had been renamed, and is now known as Martyr Major General Qais Habib Hospital.
- 4.12 From 2 to 15 December 2019, the FFM deployed a third time to the Syrian Arab Republic, held three coordination meetings with the Technical Committee, conducted interviews with six witnesses (one related to Qalib al-Thawr and five to al-Balil), and collected and received information in relation to the reported incidents.
- 4.13 On 11 and 12 December 2019, the FFM visited locations of interest that were identified in the course of the investigation, in the cities of Hama and al-Salamiyah. At the time of the visit, the locations were under the control of the Syrian Government, and the security situation assessed by the United Nations Department of Safety and Security allowed safe movement to the locations. The FFM's activities included:
- (a) visiting Hama National Hospital and al-Salamiyah Hospital, including the departments where casualties of the two incidents were treated;
 - (b) holding meetings facilitated by the National Authority of the Syrian Arab Republic with eight relevant individuals in relation to the reported incident in Qalib al-Thawr, and five relevant individuals in relation to the al-Balil incident;
 - (c) visiting the Military Police offices present at both al-Salamiyah Hospital and Hama National Hospital; and
 - (d) requesting and taking photographs of the documentation provided at the Hama National Hospital and al-Salamiyah Hospital, including medical files, staff shift logs, patient admission logs, and a military police log.
- 4.14 From 28 November to 10 December 2021, the FFM deployed for the fourth time to the Syrian Arab Republic, held meetings with the Technical Committee, and conducted interviews with 12 witnesses: six in relation to al-Balil, and six in relation to Qalib al-Thawr.
- 4.15 On 22 February 2022, the Secretariat requested from the Syrian Arab Republic, through Note Verbale No. NV/ODG-239/22, information regarding the security situation in Hama Governorate before and during the period of the reported incidents. On 25 March 2022, the Syrian Arab Republic provided a response in Note Verbale No. 22.

- 4.16 The FFM has actively pursued further information in possession of the Syrian Arab Republic, States Parties to the Convention, non-governmental organisations, and conducted in-depth research into public information.

5. ACCESS TO THE SITE AND RELATED CONSIDERATIONS

- 5.1 The safety and security of individuals involved in any FFM deployment are of the utmost importance.
- 5.2 The safe deployment of the FFM to Qalib al-Thawr and al-Balil was deemed not possible for the following reasons:
- (a) continuous combat activities in the area;
 - (b) the volatile situation in the surroundings of Qalib al-Thawr and al-Balil at the time of the incidents; and
 - (c) the presence of remnants of war, such as unexploded ordnances.
- 5.3 The FFM was able to visit other locations in the Syrian Arab Republic, including Damascus and other areas of Hama Governorate during its deployments. As noted above, in Hama, the FFM visited locations relevant to the reported incidents, including medical facilities.

6. FACTUAL FINDINGS

Information provided by the Syrian Arab Republic

- 6.1 During the course of its investigation and deployments, the FFM received several items of correspondence and documents from the Syrian Arab Republic. The documents listed in Annex 5 include, inter alia, medical reports, military police reports, forensic reports, technical reports, maps, and GPS coordinates.
- 6.2 The FFM held five meetings in relation to the reported incidents in Qalib al-Thawr and al-Balil with the National Authority of the Syrian Arab Republic to receive and clarify relevant information.
- 6.3 The incident description received from the Syrian Arab Republic on 9 December 2017 during meetings indicated that at 13:15 on 9 August 2017 in Qalib al-Thawr, “[t]he terrorist organization ISIS launched various projectiles including grenades, mortars, and AGC containing unknown toxic gases, which caused seven members [of the Syrian Army forces] to develop suffocation, loss of consciousness, and vomiting”. The casualties were transported to al-Salamiyah Hospital.
- 6.4 The incident description received from the Syrian Arab Republic on 9 December 2017 also stated that on 8 November 2017, “[a] number of Syrian Arab Army soldiers were transported to the National Hospital of Hama after being attacked with several hand grenades and mortars containing toxic gases by armed groups in al-Balil, located in the countryside of the city of Souran in the Governorate of Hama. ... Following a medical examination, it appeared that they had inhaled a toxic gas. They were suffering from dyspnoea, a severe cough and frothy secretions from the mouth. The location was not accessible due to the intense clashes in the area”.

- 6.5 These incident reports stated that after the incidents “a technical team had previously been formed to visit the incident location, and to try collecting physical evidence in addition to the aforementioned evidence (injuries due to the incident), but the team was not able to reach the location due to the intense clashes in the area”. The technical team visited the vicinity of the incident location in al-Balil on 12 and 13 September 2018, after the SAA had regained control of it and collected information regarding the location of the incident and the casualties. The technical team was unable to visit the location of the incident in Qalib al-Thawr on the same dates, due to “booby-traps and sniper activities”. During the visit to the area close to the location of the incident in Qalib al-Thawr, the technical team was able to meet with some individuals who were present during the incident and subsequently provide updated information regarding the location.
- 6.6 The Syrian Arab Republic provided documents as attachments to the incident reports, including a list of the medical staff that was on duty in both hospitals on the dates of the incidents, and the Hama Military Police reports, relevant to the incident in al-Balil.
- 6.7 The Technical Committee also provided the FFM with a report entitled “Comparative study and scientific analysis between the effect of the use of toxic gases by terrorist groups during incidents (Kharbit Massasneh, Qalib al-Thawr, al-Balil, Al-Hamadaniyah, and Karm al-Tarrab) and the toxic and irritant gases used for riot control” (the Comparative Study). The FFM noted that this Comparative Study did not refer to an incident on a specific date in Qalib al-Thawr or al-Balil.
- 6.8 Moreover, the Comparative Study consists of the general statements of a number of casualties who were reportedly present in the vicinity of the confrontation lines and witnessed the projectiles landing. According to the Comparative Study, the casualties reported that a “few masked armed men were seen throwing cylindrical containers. These containers caught fire upon impacting the ground, and dispersed gases in the surroundings, while spinning. These are the gases that affected us”.
- 6.9 Additionally, the Comparative Study referred to statements by several army personnel members who confirmed that at the confrontation lines, they were targeted with mortars emitting a white cloud that remained in the air for a relatively extended period of time. The soldiers believed it to be phosphorus munitions (i.e., munitions containing white phosphorus).
- 6.10 Based on the symptoms of the casualties in the reported incidents, the Comparative Study referred to “toxic irritants and tear gases” such as CN, PS, CS, and CR,³⁷ as well as other substances that cause similar effects upon exposure.
- 6.11 On 4 April 2018, during its deployment, the FFM received from the National Authority of the Syrian Arab Republic information related to the reported incident on 9 August 2017 in Qalib al-Thawr. This included an incident report, a copy of a shift log for the medical staff working at al-Salamiyah Hospital in August 2017, and copies of maps and GPS coordinates.

³⁷

CN: phenacyl chloride; PS: chloropicrin; CS: 2-chlorobenzalmalononitrile; CR: dibenzoxazepine.

- 6.12 During the deployment that took place between 29 September and 4 October 2018, and upon the request of the FFM, the Syrian Arab Republic provided an explanation related to the discrepancies in the dates of medical records and information previously received. The Syrian Arab Republic also provided five medical records in relation to the incident.
- 6.13 During the meeting with the National Authority of the Syrian Arab Republic on 29 September 2018, the FFM received verbal information regarding the uniforms that the casualties were wearing, outlining that these uniforms were collected at Hama National Hospital, stored at the SSRC in Barzeh, and completely damaged in the air strike targeting the SSRC on 14 April 2018.
- 6.14 From 2 to 15 December 2019, the FFM deployed to the Syrian Arab Republic, held meetings with the Technical Committee, conducted interviews with witnesses, and visited the hospitals where casualties were reportedly treated, and the military police stations located at the hospitals. The FFM team documented the military police records shared via cablegram by photographing them.
- 6.15 Over the course of this deployment, the FFM held technical meetings, facilitated by the Technical Committee, with relevant medical personnel and forensic specialists. At eight meetings, the FFM focused the discussions on the reported incident in Qalib al-Thawr; at five other meetings, the focus was on the reported incident in al-Balil. During these meetings, the FFM sought clarification on previously received information and obtained additional details.
- 6.16 On 21 May 2020, in its Note Verbale No. 38, the Syrian Arab Republic provided additional information regarding both incidents, including copies of forensic and police reports, as requested by the FFM.
- 6.17 The Syrian Arab Republic informed the Secretariat through Note Verbale No. 22 (dated 25 March 2022) that at the time of the incidents, the main fighting factions and armed groups in the Hama countryside were Jabhat al-Nusra (the al-Nusra Front) and its affiliated factions: Ahfad al-Rasul Brigade, Ahrar al-Sham, and al-Farouq Brigade. In 2017, the same groups controlled several villages in the area, including al-Balil.
- 6.18 The FFM examined and reviewed the reports and documents provided by the Syrian Arab Republic and established the following:
 - (a) No inspections, photographs, or video recordings of the munitions were included in the documents in connection to the reported incidents in Qalib al-Thawr on 9 August 2017 or in al-Balil on 8 November 2017.
 - (b) No environmental samples, including the clothing of the casualties, were collected regarding the al-Balil incident.
 - (c) No environmental samples were collected regarding the incident in Qalib al-Thawr. Although the uniforms of casualties were collected at the hospital by the Syrian authorities and stored at the SSRC in Barzeh, the Syrian Arab Republic claimed that the uniforms were completely damaged in the air strike targeting the SSRC. The FFM is not in a position to independently verify this narrative.

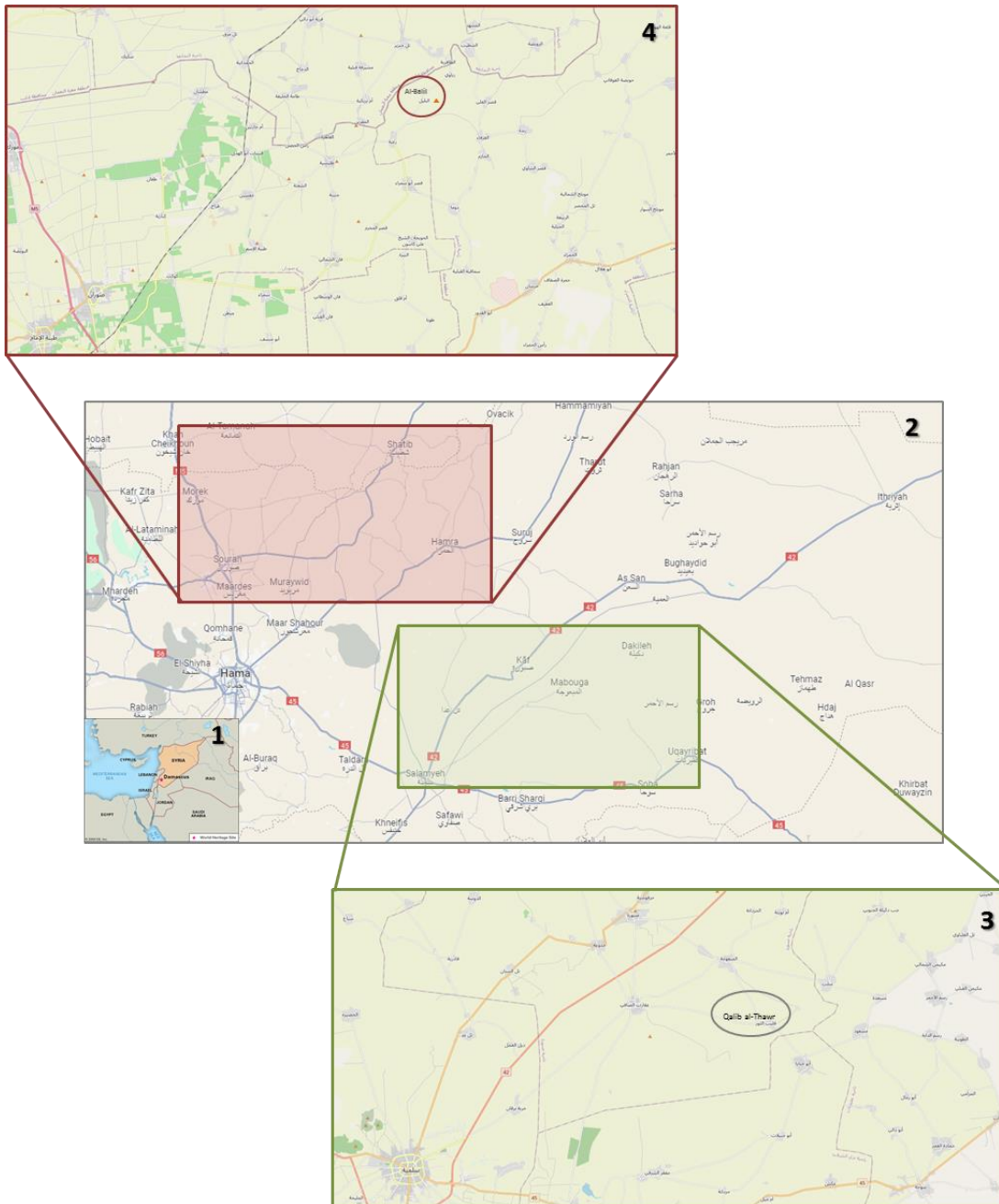
- (d) The reports of the Syrian Arab Republic concluded that the gas that was used was possibly a riot control agent. The Technical Committee emphasised that this conclusion was solely based on the symptoms experienced by the casualties.
- (e) The FFM neither received nor collected any information that would allow it to link the statements reported in the Comparative Study regarding the types of devices or projectiles and the substance(s) involved in the reported incidents in Qalib al-Thawr on 9 August 2017 or al-Balil on 8 November 2017, since the study covered several other reported allegations³⁸ that had occurred in 2016 and 2017.

Incident sites

- 6.19 Qalib al-Thawr is a village located in Hama Governorate, approximately 50 kilometres to the east of the city of Hama, and 25 kilometres to the northeast of al-Salamiyah. At the time of the reported incident, the village was not under the control of the Syrian Government.
- 6.20 Al-Balil is a village in Hama Governorate, approximately 35 kilometres to the northeast of the city of Hama. At the time of the reported incident, the village was not under the control of the Syrian Government.

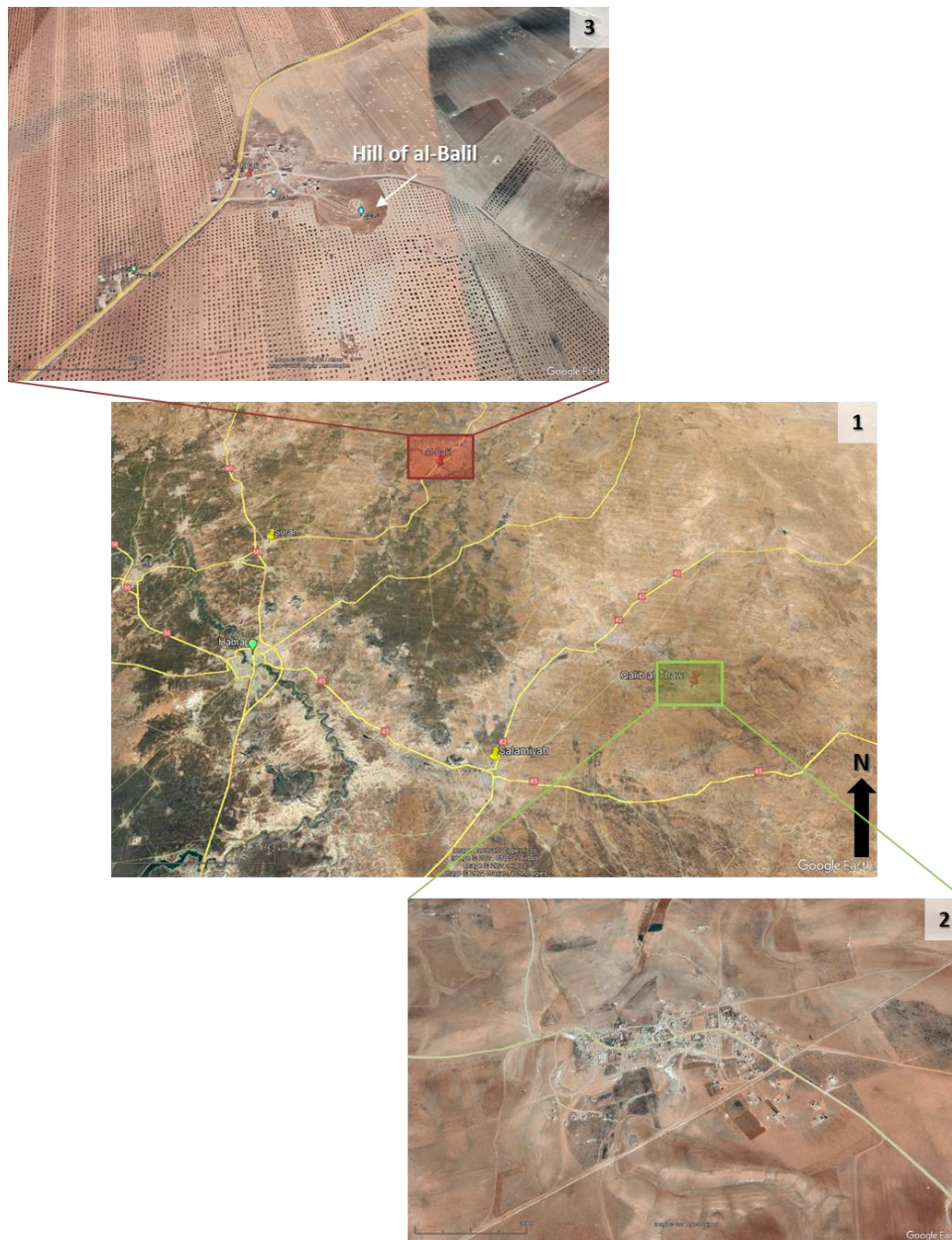
³⁸ The FFM investigated the incidents in Al-Hamadaniyah on 30 October 2016, Karm al-Tarrab on 13 November 2016, and Kharbit Massasneh on 7 July 2017 and 4 August 2017, and issued its reports (S/1642/2018 and S/2186/2023) on 6 July 2018 and 28 June 2023, respectively. The reports conclude that "... the FFM cannot confidently determine whether or not a specific chemical was used as a weapon in the incidents that took place in the neighbourhood of Al-Hamadaniyah ... and in the area of Karm al-Tarrab" and that "[t]he information obtained and analysed ... did not provide reasonable grounds for the FFM to determine that toxic chemicals were used as a weapon in the reported incidents that occurred in Kharbit Massasneh".

FIGURE 4: INCIDENT LOCATIONS



(1) Syrian Arab Republic; (2) Relevant areas in Hama Governorate; (3) Qalib al-Thawr and surroundings; and (4) al-Balil and surroundings.

FIGURE 5: AERIAL VIEW OF INCIDENT LOCATIONS



(1) Aerial view of relevant areas in Hama Governorate; (2) Aerial view of Qalib al-Thawr; and
(3) Aerial view of al-Balil

Collected information

Interviews

- 6.21 In fulfilling its mandate to examine all available information relating to an alleged use of toxic chemicals as a weapon, the FFM conducted in-person interviews in the Syrian Arab Republic with witnesses who consented to be interviewed.
- 6.22 In compliance with the usual procedures, FFM team members verified the identity of each witness, and witnesses signed a consent form before starting their interview.

The Qalib al-Thawr incident: 9 August 2017

- 6.23 Between 14 December 2017 and 2 December 2021, the FFM conducted eight interviews with eight witnesses: five male individuals who were present at the incident location in Qalib al-Thawr on 9 August 2017, and three medical staff members, one of whom is female.
- 6.24 Of the five witnesses present in Qalib al-Thawr at the time of the incident, four reported having been exposed to a toxic chemical.
- 6.25 The following narrative is a composite summary of the statements given by witnesses interviewed by the FFM team.
- 6.26 According to witness statements, on 9 August 2017, SAA troops were subject to an attack in Qalib al-Thawr with various munitions, including grenades containing a toxic substance.
- 6.27 Witnesses from the SAA recalled that in the morning of 9 August 2017, they were positioned in Mabouga,³⁹ a village in the eastern countryside of Hama Governorate approximately 4.5 kilometres northwest of Qalib al-Thawr. That morning, between 6:00 and 9:00, these witnesses headed to Qalib al-Thawr to conduct a mission.
- 6.28 The soldiers stopped at a farm after three kilometres, where three of them stayed behind and the rest went on their way to Qalib al-Thawr through a desert area referred to as “al-Sahen”. At approximately 11:00, they reached a location 500–600 metres from Qalib al-Thawr, where they observed a sand barrier and a bulldozer.
- 6.29 At this point, the soldiers at the sand barrier were attacked with rockets, mortars, AGCs, and toxic grenades by the armed groups positioned in Qalib al-Thawr. A witness explained that the attack was carried out by a tank that was stationed “on the left side of the village”, and from pick-up trucks with mounted machine guns displaying ISIL flags. The soldiers remained behind the sand barrier until they were able to retreat to the bulldozer which was discovered to be wired with improvised explosive devices.
- 6.30 While under attack, one of the four soldiers in the location was killed, according to witnesses. One of these witnesses confirmed observing a frothy secretion from the mouth of the dead soldier. Three soldiers extracted the casualty and tried to reach the bulldozer to take shelter. At this point, they started to feel a burning sensation in their eyes and face, followed by a feeling of “suffocation” and a cough. The witnesses stated that they eventually lost consciousness.

³⁹ Alternative transliterations: al-Mabaoujah; Mabujah.

- 6.31 According to witnesses, the “toxic grenades” used were handheld bombs that can be fired from a “launcher” similar to a rifle. They generated a low explosion upon impact, followed by an odour.
- 6.32 A witness from a different SAA squad stated that two to three months prior to the incident, a military operation was ongoing and involved troops from various SAA brigades. The areas of operation were Aqareb, Uqayribat, and Qalib al-Thawr. In August 2017, the troops gathered in Aqareb and moved towards Qalib al-Thawr.
- 6.33 On 9 August 2017—the day of the incident—one of the witnesses was at his duty station, which is located near Qalib al-Thawr, on top of a hill and surrounded by sand barricades. Around 13:00, their position was heavily targeted with “hand grenades, projectiles, and rockets”. According to the witness, several munitions generated an unusual sound upon impact.
- 6.34 The same witness recalled sustaining a gunshot wound in the leg and another wound in the back of the head resulting from shrapnel from a projectile. While on the ground waiting for an ambulance, a “chemical projectile made of metal” landed at a distance of 10 to 15 metres from the witness and released smoke that dispersed in all directions. The smoke was yellow and smelled like sulfur, according to a few witnesses.
- 6.35 In describing the general scene, the injured witness said that they were thrown back several metres due to the explosions. There was a large number of casualties, several with traumatic injuries. The witness emphasised that they saw a lot of blood.
- 6.36 The first symptoms that the witnesses immediately developed at the location of the incident included a burning sensation in the eyes and skin. Shortly afterwards, they started to experience a suffocating sensation. At that time, they observed several military casualties losing consciousness and frothing from the mouth.
- 6.37 Most of the casualties were promptly transported to al-Salamiyah Hospital; one was taken to Hama National Hospital. At the hospitals, the casualties were undressed and washed with water before receiving oxygen and intravenous fluids. The casualties were hospitalised for a period ranging between two days and two weeks.
- 6.38 After being admitted to the hospital, some casualties reported suffering from nausea; one of them reported not being able to walk for a day. Up to the date of the interviews on December 2021, witnesses still experienced shortness of breath and weakness, according to their statements. One casualty was still suffering from seizures and nervous breakdowns and was still on medication—namely “Carbatec” and “Zoloster”—as a result of the incident.
- 6.39 Several witnesses who were present at al-Salamiyah Hospital at the time of the incident on 9 August 2017, including medical personnel, stated that around noon, they received a call from the hospital to go to the emergency department due to a large influx of casualties. Upon their arrival, they saw more than 10 casualties, most of whom had sustained traumatic injuries caused by shrapnel. However, three to five other casualties suffered from breathing difficulties and had not sustained any traumatic injuries.

- 6.40 According to medical personnel, the casualties, who were in military uniforms, were immediately undressed and washed with water. The medical personnel collected the clothing and bagged it to contain the spread of the odour. One witness who was present during the process stated that the clothes emitted a “bad odour” and an “annoying smell” and explained that they started to experience pain in the throat, itchiness in the skin, and redness in the eyes, describing it like “having onions in the eyes”. Their symptoms subsided after approximately one hour.
- 6.41 A military staff member working at the hospital and medical staff who arrived at the hospital 15 to 30 minutes after the casualties did not notice any unusual smell and did not experience any symptoms.
- 6.42 Cases presenting with respiratory symptoms were treated with intravenous fluids, oxygen masks, and a nebulizer with hydrocortisone, as well as the antibiotic⁴⁰ “Dixon” and the anti-emetic⁴¹ “Devomit”.

The al-Balil incident: 8 November 2017

- 6.43 Between 6 December 2019 and 6 December 2021, the FFM conducted 11 interviews with 11 witnesses in relation to the reported incident in al-Balil on 8 November 2017. Three of these witnesses were casualties.
- 6.44 The following narrative is a composite summary of the statements given by witnesses interviewed by the FFM team.
- 6.45 According to witness statements, on 8 November 2017, SAA troops were subject to an attack with various weapons, including munitions containing toxic substances, in a village called al-Balil located in the northern countryside of Hama Governorate.
- 6.46 Based on the witness descriptions, the weather that day was warm, with low cloud coverage, and a gentle wind blowing from the northwest to the southeast.
- 6.47 Witnesses from the SAA stated that on the day of the attack, they were positioned in a village called Zaghbeh, located near the village of al-Balil.
- 6.48 At 8:00, the SAA started preparing for the attack against the armed groups located in al-Balil. A few hours later, the SAA had gained control of the village. Around noon, the armed groups performed a counter-attack to regain control of the village; this attack lasted approximately one hour. One of the witnesses identified the armed groups as the al-Nusra Front and Hurras al-Din.
- 6.49 Witnesses stated that during the battle, the armed groups used mortar shells and “grad”⁴² rockets. One of the mortars released smoke, which spread in the direction of the SAA soldiers. The smoke was described as being yellowish-white in colour.

⁴⁰ An antibiotic medicine inhibits the growth of and/or destroys bacterial microorganisms.

⁴¹ An antiemetic medicine prevents vomiting.

⁴² A type of multiple rocket system. In this case, it is used as a general term, and cannot be linked to the BM-21 Grad.

- 6.50 Witnesses further stated that they noticed a “strange smell” in the air, and that shortly after sensing it, they started to develop excessive lacrimation, difficulty breathing, convulsions, and in some cases, loss of consciousness.
- 6.51 The affected soldiers were transferred to Hama National Hospital, where they were undressed and treated with oxygen and nebulizers upon their arrival. Their condition improved within hours. The casualties were discharged from the hospital one to three days later, and they resumed their tasks in their respective units.
- 6.52 Several witnesses who were working closely with the casualties at Hama National Hospital stated that in 2017, several cases of suffocation were brought to the hospital with symptoms similar to the ones described by the SSA soldiers.

Epidemiology and toxicology

The Qalib al-Thawr incident: 9 August 2017

Symptoms experienced by casualties

- 6.53 Based on interviews, casualties of the incident explained that the onset of symptoms was almost instantaneous upon the moment of exposure. Some of the casualties were able to run for several metres, while others needed assistance.
- 6.54 The symptoms included dyspnoea, an altered state of consciousness, drowsiness, a burning sensation in the eyes, lacrimation, nausea, vomiting, and excessive salivation. Additional signs were described by the treating medical staff at al-Salamiyah Hospital and were reported in the medical records of the casualties.

Treatment and diagnosis of casualties

- 6.55 The patients reached the hospital presenting an altered state of consciousness, drowsiness, dyspnoea, low oxygen saturation, severe cough, and excessive salivation and lacrimation. Other signs were reported by the treating physicians and included wheezing on auscultation of the chest and tachycardia.
- 6.56 The medical intervention was focused on the treatment of symptoms reported by the casualties and the clinical signs observed by the treating medical personnel.
- 6.57 The medical staff involved in the treatment of the casualties reported washing the casualties with water during the initial treatment, including the hair, and that surgical masks were needed because of the odour emanating from the casualties.
- 6.58 Some medical staff reported that the clothes of the casualties emitted a foul odour, but did not affect the health of treating staff. Only one witness, a medical staff member, stated that they experienced pain in the throat, itchiness of the skin, and redness of the eyes. While the latter compared it to “having onions in the eyes”, another medical staff member compared the odour to that of “matches”. Because of the foul odour, casualties were kept in a separate room, and medical staff wore surgical masks with protective shields and disposable gowns.

- 6.59 Although a description and a comparison of the foul odour perceived by the medical staff was provided, the FFM cannot link either of the descriptions to the symptoms experienced by medical staff. Although other medical staff members perceived the smell, they did not experience any symptoms related to it.
- 6.60 As mentioned in the medical records and reported by the treating physicians, the medical intervention consisted of an initial treatment involving first aid procedures such as administering oxygen, nebulized beta-agonists, intravenous fluids, and corticosteroids. Some casualties were prescribed an antiemetic and/or an antibiotic.
- 6.61 The treatment, as confirmed by medical personnel during interviews and technical meetings, is standard therapy for mild to moderate respiratory distress. It was not specific to the exposure to a particular class of substances. Medical staff confirmed that there were no fatalities associated with this reported incident.
- 6.62 According to medical records, one casualty was diagnosed with inflammatory bowel syndrome upon admission to the hospital. During their interview with the FFM, the same casualty confirmed that the reason for hospital admission was exposure to “yellow smoke” and “suffocation”.
- 6.63 The differential diagnosis in the medical records read “inhalation of a (unknown) toxic gas”. No further indication of the nature of this substance is provided in the records.
- 6.64 All medical staff agreed that the symptoms presented by the casualties were not related to the usual traumatic injuries seen as a result of the use of conventional weapons, but rather as the result of exposure to a substance, possibly in gaseous form, that affected the respiratory system and resulted in the symptoms mentioned above. Neither the medical staff nor the forensic report provided by the Syrian authorities identified the substance.

Medical documentation, admission, discharge, and follow-up

- 6.65 The analysis of medical records and the interviews held with medical staff reveal that on 9 August 2017, between 12:30 and 13:00, a group of SAA soldiers arrived at al-Salamiyah Hospital showing signs of respiratory distress and complaining of exposure to an unknown substance.
- 6.66 The FFM obtained copies of five medical records of the casualties and logs from the hospital related to the incident in Qalib al-Thawr. In addition, during its deployments, the FFM sought clarifications of these medical records with the treating physicians and the forensic doctor who issued the forensic reports on the incident to the military authorities.
- 6.67 After the initial treatment and as mentioned in the records, the casualties were admitted for observation either to the general ward or the intensive care unit. Four casualties were discharged the next day, while one remained for two nights.
- 6.68 The FFM noticed that although medical staff did not mention receiving casualties presenting traumatic injuries, and the medical records that were received did not include any such information, one of the interviewees confirmed that they had suffered bullet and shrapnel injuries on the same day of the reported incident in Qalib al-Thawr.

The al-Balil incident: 8 November 2017

Symptoms experienced by casualties

- 6.69 Based on witness testimonies, casualties explained that the onset of symptoms did not immediately follow exposure. Exposure was described as perceiving an unknown smell. The symptoms included excessive lacrimation, difficulty breathing, convulsions, and, in some cases, loss of consciousness.
- 6.70 None of the casualties sustained traumatic injuries.

Treatment and diagnosis of casualties

- 6.71 The patients reached Hama National Hospital presenting an altered state of consciousness, drowsiness, dyspnoea, low oxygen saturation, a severe cough, a burning sensation in the chest, lacrimation, and rhinorrhoea.
- 6.72 The medical intervention was focused on the treatment of symptoms reported by the casualties and the clinical signs observed by the treating medical personnel.
- 6.73 As mentioned in the medical records, the medical intervention consisted of an initial treatment involving first aid procedures, such as administering oxygen, nebulized beta-agonists, intravenous fluids, and corticosteroids. All four casualties received antibiotic therapy to prevent opportunistic infections in the respiratory system. Two casualties were treated for nausea and vomiting.
- 6.74 The medical treatment was standard, non-specific therapy for mild to moderate respiratory distress. It was not specific to exposure to any particular class of substances.
- 6.75 During the technical meetings, the medical staff confirmed that there were no fatalities associated with this incident.
- 6.76 The incident was investigated and reported by the Military Police and the forensic specialist at Hama National Hospital.
- 6.77 The differential diagnosis in the medical records read “inhalation of a (unknown) toxic gas”. No further indication of the nature of this substance is provided in the records.
- 6.78 The medical staff agreed that the symptoms presented by the casualties were not related to the usual traumatic injuries seen as a result of the use of conventional weapons, but rather as the result of exposure to a substance that affected the respiratory system, resulting in the aforementioned symptoms. Neither the medical records nor the consequent forensic report provided by the Syrian authorities identified the mentioned substance.

Medical documentation, admission, discharge, and follow-up

- 6.79 The analysis of the medical records and the meetings held with medical staff revealed that on 8 November 2017, four SAA soldiers arrived at Hama National Hospital presenting with symptoms of respiratory distress, complaining of exposure to an unknown substance in the field in the south of al-Balil.

- 6.80 The FFM obtained copies of the medical records of the casualties and logs from Hama National Hospital. In addition, during its deployments, the FFM sought clarification of these medical records from the medical staff involved in the treatment of the casualties and the forensic doctor who issued the forensic reports on the incident to the military authorities.
- 6.81 After initial treatment, and as mentioned in the records, the casualties were admitted for observation. Of the three casualties interviewed, one was discharged three to four days later, one was discharged within two days, and another was discharged on the same day and resumed their duties.

Epidemiology and toxicology assessment

- 6.82 The following assessment covers both incidents that are the subject of this report.
- 6.83 The signs and symptoms described constitute a general physiological response to a variety of factors that can be caused by a wide range of substances or diseases.
- 6.84 Exposure to any class of chemical substances produces a predictable and known set of signs and symptoms, referred to as a toxidrome. Some variations from one patient to another may be observed, depending on the amount, route, and duration of exposure, in addition to a person's premorbid condition. However, patients would generally display the characteristics of toxicity associated with the chemical or group of chemicals that a toxidrome represents.
- 6.85 The complaints and presentations of the casualties described during interviews, and the clinical signs reported in the medical records are not consistent with any single well-defined toxidrome, and therefore cannot be linked to a class of chemicals.
- 6.86 The reported substance or class of substances involved in both incidents were not identified by medical staff or in the consequent forensic report provided by the Syrian authorities. In spite of all the efforts of the FFM and the Syrian Arab Republic, the reported substance remains unknown.
- 6.87 Based on the analysis of the information and documents provided by medical personnel, the lack of an accurate description of the "unknown substance" reportedly involved in each incident, and the fact that no samples from the environment or from the clothes of the casualties were available, the FFM cannot confidently provide a toxicological assessment of the reported exposure.

7. CONCLUSIONS

- 7.1 This report sets out the findings of the FFM's investigation into the incident in Qalib al-Thawr on 9 August 2017 and the incident in al-Balil on 8 November 2017, both in Hama Governorate, as reported to the OPCW by the Syrian Arab Republic. The report covers the FFM's activities between September 2017 and the date of issue of this report.
- 7.2 The conclusions drawn by the FFM are the result of the combination, consistency, and corroboration of evidence gathered as a whole throughout the mission; they are not based on isolated evidentiary elements.
- 7.3 On 21 September 2017, the Syrian Arab Republic informed the Secretariat of an incident that occurred on 9 August 2017 near the village of Qalib al-Thawr in the eastern countryside of al-Salamiyah in Hama Governorate.
- 7.4 In a note verbale dated 24 November 2017, the Syrian Arab Republic informed the Secretariat of another incident that took place on 8 November 2017 in al-Balil, in the surroundings of Souran, Hama Governorate.
- 7.5 During the course of its investigations, and for safety and security reasons, the FFM did not visit the incident locations in Qalib al-Thawr or al-Balil. Nevertheless, the FFM did visit locations of interest relevant to both incidents, namely Hama National Hospital and al-Salamiyah Hospital, where casualties were treated, and the Military Police stations located at these hospitals, where military reports were issued.
- 7.6 The FFM examined and analysed the information received and gathered and established the following:
- (a) According to medical records, five members of the SAA were affected following the incident in Qalib al-Thawr on 9 August 2017. The casualties were treated at al-Salamiyah Hospital.
 - (b) According to medical records, four members of the SAA were affected following the incident in al-Balil on 8 November 2017. The casualties were treated at Hama National Hospital.
 - (c) Casualties from both incidents showed signs and symptoms of respiratory distress.
 - (d) The complaints of and symptoms presented by the casualties described during interviews and the clinical signs reported in the medical records are not consistent with any well-defined toxidrome;
 - (e) A technical team from the Syrian Arab Republic visited a location near the site of the incident in al-Balil in September 2018 and collected information regarding the location of the incident and the casualties.
 - (f) During the same period, the technical team was unable to visit the location of the incident in Qalib al-Thawr, and instead visited the area close to the site of the incident and provided the FFM with updated information about the location.

- 7.7 The FFM actively pursued further information from all available sources. Nevertheless, the FFM still faced challenges in corroborating the information it had gathered on the reported incidents in Qalib al-Thawr and al-Balil due to the following:
- (a) The incident locations were at close proximity to confrontation lines and assessed as unsafe for the FFM to be deployed there in the aftermath of the reported incidents.
 - (b) No photographs or video recordings of the locations of the reported incidents were made available to the FFM.
 - (c) No inspections, photographs, or video recordings of the munitions were included in the documents in connection with the reported incidents in Qalib al-Thawr on 9 August 2017 or al-Balil on 8 November 2017.
 - (d) No environmental samples, including the clothing of the casualties, were collected in connection with the incident in al-Balil;
 - (e) No environmental samples were collected from the incident location in Qalib al-Thawr. Although the Syrian authorities informed the FFM that the uniforms of the casualties in Qalib al-Thawr were collected at the hospital and stored at the SSRC in Barzeh, the FFM cannot independently verify the information claiming the collection, storage, or ultimate destruction of the clothing in an air strike on the SSRC.
 - (f) Blood samples were taken for medical purposes by medical staff from casualties of both incidents at the hospitals where they were treated. No targeted analyses of the blood samples were conducted, nor were these samples made available to the FFM.
 - (g) While the medical staff who were interviewed informed the FFM that none of the casualties presented with traumatic injuries, and there was no information indicating traumatic injuries in any of the medical records, one of the interviewees confirmed that they had suffered bullet and shrapnel injuries on the same day of the incident in Qalib al-Thawr.
- 7.8 Based on the analysis of the information and documents provided by medical personnel, the FFM cannot provide a toxicological assessment of the reported exposure given the following gaps:
- (a) There was no accurate description of the “unknown toxic gases” reportedly involved in the incidents.
 - (b) No environmental samples were available to the FFM.
 - (c) The clothes reportedly collected at al-Salamiyah Hospital related to the Qalib al-Thawr allegation were not made available to the FFM.
 - (d) No analyses were performed by the Syrian Arab Republic on the collected clothes while stored at the SSRC in Barzeh.

7.9 The information obtained and analysed as a whole, in accordance with the FFM's mandate to gather facts relevant to the alleged use of toxic chemicals as a weapon in the Syrian Arab Republic, is not sufficient to provide reasonable grounds for the FFM to determine that toxic chemicals were used as a weapon in the reported incidents that occurred on 9 August 2017 in Qalib al-Thawr and on 8 November 2017 in al-Balil, Hama Governorate, the Syrian Arab Republic.

Annexes (English only):

- Annex 1: Reference Documentation
- Annex 2: Open Sources
- Annex 3: Mission Timeline
- Annex 4: Information Collected by the FFM
- Annex 5: Documents Received from the Syrian Arab Republic

Annex 1**REFERENCE DOCUMENTATION**

	Document Reference⁴³	Full Title of Document
1	QDOC/INS/SOP/IAU01	Standard Operating Procedure for Evidence Collection, Documentation, Chain-of-Custody and Preservation during an Investigation of Alleged Use of Chemical Weapons
2	QDOC/INS/WI/IAU05	Work Instruction for Conducting Interviews of Witnesses during an Investigation of Alleged Use
3	QDOC/INS/SOP/IAU02	Standard Operating Procedure – Investigation of Alleged Use (IAU) Operations
4	QDOC/INS/SOP/GG011	Standard Operating Procedure for Managing Inspection Laptops and Other Confidentiality Support Materials

⁴³

The OPCW QDOCs referred to in this report are the most recent versions.

Annex 2

OPEN SOURCES

No open-source data was available in relation to the reported allegations in Qalib al-Thawr on 9 August 2017 or al-Balil on 8 November 2017.

Annex 3**MISSION TIMELINE**

Date	Activities
21 September 2017	The Secretariat received a note verbale from the Syrian Arab Republic with information on an alleged use of toxic chemicals as a weapon in the area of Qalib al-Thawr in Hama Governorate. The team began the collection of information.
After 21 September 2017	The FFM started the identification of witnesses, evidence, and material pertaining to the allegation and conducted open-source research.
17 November 2017	The Secretariat sent a note verbale informing the Syrian Arab Republic of its intention to deploy the FFM.
22 November 2017	The Secretariat received a note verbale from the Syrian Arab Republic regarding the FFM deployment.
24 November 2017	The Secretariat received a note verbale from the Syrian Arab Republic with information regarding a mortar attack with “poisonous” gases against the Syrian Arab Army on 8 November 2017 in al-Balil, in Hama Governorate.
As at 24 November 2017	The FFM began the identification of witnesses, evidence, and material and conducted open-source research pertaining to the allegation in al-Balil, in Hama Governorate.
6 – 17 December 2017	First deployment to the Syrian Arab Republic: Initial information and reports were received from the Syrian authorities. The FFM conducted technical meetings and one in-person interview in relation to the incident in Qalib al-Thawr.
January – September 2018	The FFM conducted a further search for witnesses and information.
4 April 2018	The FFM received additional information about the reported incidents from the Syrian authorities.
4 September 2018	The Secretariat sent a note verbale to the Syrian Arab Republic regarding the FFM’s second deployment.
29 September – 4 October 2018	Second deployment to the Syrian Arab Republic: The FFM conducted technical meetings, collected evidence, and received additional information about the reported incidents.
February – October 2019	The FFM continued its search for witnesses and additional information about the incidents.
20 November 2019	The Secretariat sent a note verbale to the Syrian Arab Republic regarding the FFM’s third deployment.
2 – 14 December 2019	The FFM conducted a third deployment to the Syrian Arab Republic and received additional information, collected evidence, and held meetings with representatives of the Technical Committee of the Syrian Arab Republic. The FFM conducted six in-person interviews.
11 – 12 December 2019	The FFM visited locations of interest in Hama City and al-Salamiyah in Hama Governorate, the Syrian Arab Republic, and conducted 12 technical meetings with medical staff at the hospitals.

Date	Activities
22 May 2020	The Secretariat received a note verbale from the Syrian Arab Republic containing additional information about the reported incidents.
January 2019 – November 2021	The FFM continued its search for witnesses and information.
25 March – 6 April 2021	The Secretariat and the Syrian Arab Republic exchanged notes verbales in relation to a future deployment of the FFM.
9 – 15 November 2021	The Secretariat and the Syrian Arab Republic exchanged notes verbales regarding the FFM's deployment.
28 November – 10 December 2021	The FFM deployed a fourth time to Syrian Arab Republic, held meetings with the Technical Committee, and conducted 12 interviews with witnesses.
22 February 2022	The Secretariat sent a note verbale to the Syrian Arab Republic requesting information regarding the security situation before and during the period of the reported incidents in Hama Governorate.
25 March 2022	The Syrian Arab Republic provided a response via a note verbale.
April 2022 – September 2023	The FFM continued its search for witnesses and information.
October 2023 – January 2024	The FFM conducted its analysis and corroboration of the information gathered.
January – May 2024	The FFM drafted its report.
4 June 2024	The FFM submitted its report to the Director-General.

Annex 4**INFORMATION COLLECTED BY THE FFM**

The tables list the physical evidence collected from various sources by the FFM. It is split into electronic evidence stored in electronic media storage devices such as USB sticks and micro-SD cards, hard-copy evidence, and samples. Electronic files include audiovisual captions, still images, and documents. Hard-copy files consist of various documents, including drawings made by witnesses.

THE QALIB AL-THAWR INCIDENT: 9 AUGUST 2017**Table A4.1: ELECTRONIC DATA COLLECTED BY THE FACT-FINDING MISSION**

Entry number	Assigned Code				
1	7303/071				
File names					
Dscn2667.jpg	Dscn2678.jpg	Dscn2685.jpg	Dscn2693.jpg	Dscn2700.jpg	
Dscn2668.jpg	Dscn2679.jpg	Dscn2686.jpg	Dscn2694.jpg	Dscn2701.jpg	
Dscn2671.jpg	Dscn2680.jpg	Dscn2687.jpg	Dscn2695.jpg	Dscn2702.jpg	
Dscn2672.jpg	Dscn2681.jpg	Dscn2688.jpg	Dscn2696.jpg	Dscn2703.jpg	
Dscn2675.jpg	Dscn2682.jpg	Dscn2689.jpg	Dscn2697.jpg	Dscn2704.jpg	
Dscn2676.jpg	Dscn2683.jpg	Dscn2690.jpg	Dscn2698.jpg	Dscn2705.jpg	
Dscn2677.jpg	Dscn2684.jpg	Dscn2691.jpg	Dscn2699.jpg		

Entry number	Assigned Code				
2	7303/076				
File names					
Dscn2271.jpg	Dscn2272.jpg	Dscn2273.jpg	Dscn2274.jpg	Dscn2275.jpg	

Entry number	Assigned Code				
3	7303/077				
File names					
Dscn2304.jpg	Dscn2306.jpg	Dscn2308.jpg	Dscn2309.jpg	Dscn2310.jpg	
Dscn2305.jpg	Dscn2307.jpg				

Entry number	Assigned Code				
1	7727/034				
File names					
Img_0343.jpg	Img_0353.jpg	Img_0363.jpg	Img_0373.jpg	Img_0383.jpg	
Img_0344.jpg	Img_0354.jpg	Img_0364.jpg	Img_0374.jpg	Img_0384.jpg	
Img_0345.jpg	Img_0355.jpg	Img_0365.jpg	Img_0375.jpg	Img_0385.jpg	
Img_0346.jpg	Img_0356.jpg	Img_0366.jpg	Img_0376.jpg	Img_0386.jpg	
Img_0347.jpg	Img_0357.jpg	Img_0367.jpg	Img_0377.jpg	Img_0387.jpg	
Img_0348.jpg	Img_0358.jpg	Img_0368.jpg	Img_0378.jpg	Img_0388.jpg	
Img_0349.jpg	Img_0359.jpg	Img_0370.jpg	Img_0379.jpg	Img_0389.jpg	
Img_0350.jpg	Img_0360.jpg	Img_0370.jpg	Img_0380.jpg		
Img_0351.jpg	Img_0361.jpg	Img_0371.jpg	Img_0381.jpg		
Img_0352.jpg	Img_0362.jpg	Img_0372.jpg	Img_0382.jpg		

THE AL-BALIL INCIDENT: 8 NOVEMBER 2017

Table A4.2: ELECTRONIC DATA COLLECTED BY THE FACT-FINDING MISSION

Entry number	Assigned Code				
1	SWI/092/18				
File names					
Dscf5227.jpg	Dscf5243.jpg	Dscf5259.jpg	Dscf5275.jpg	Dscf5291.jpg	
Dscf5228.jpg	Dscf5244.jpg	Dscf5260.jpg	Dscf5276.jpg	Dscf5292.jpg	
Dscf5229.jpg	Dscf5245.jpg	Dscf5261.jpg	Dscf5277.jpg	Dscf5293.jpg	
Dscf5230.jpg	Dscf5246.jpg	Dscf5262.jpg	Dscf5278.jpg	Dscf5294.jpg	
Dscf5231.jpg	Dscf5247.jpg	Dscf5263.jpg	Dscf5279.jpg	Dscf5295.jpg	
Dscf5232.jpg	Dscf5248.jpg	Dscf5264.jpg	Dscf5280.jpg	Dscf5296.jpg	
Dscf5233.jpg	Dscf5249.jpg	Dscf5265.jpg	Dscf5281.jpg	Dscf5297.jpg	
Dscf5234.jpg	Dscf5250.jpg	Dscf5266.jpg	Dscf5282.jpg	Dscf5298.jpg	
Dscf5235.jpg	Dscf5251.jpg	Dscf5267.jpg	Dscf5283.jpg	Dscf5299.jpg	
Dscf5236.jpg	Dscf5252.jpg	Dscf5268.jpg	Dscf5284.jpg	Dscf5300.jpg	
Dscf5237.jpg	Dscf5253.jpg	Dscf5269.jpg	Dscf5285.jpg	Dscf5301.jpg	
Dscf5238.jpg	Dscf5254.jpg	Dscf5270.jpg	Dscf5286.jpg	Dscf5302.jpg	
Dscf5239.jpg	Dscf5255.jpg	Dscf5271.jpg	Dscf5287.jpg	Dscf5303.jpg	
Dscf5240.jpg	Dscf5256.jpg	Dscf5272.jpg	Dscf5288.jpg	Dscf5304.jpg	
Dscf5241.jpg	Dscf5257.jpg	Dscf5273.jpg	Dscf5289.jpg	Dscf5305.jpg	
Dscf5242.jpg	Dscf5258.jpg	Dscf5274.jpg	Dscf5290.jpg	Dscf5306.jpg	

Entry number	Assigned Code				
2	7303/072				
File names					
Dscn2611.jpg	Dscn2623.jpg	Dscn2634.jpg	Dscn2645.jpg	Dscn2656.jpg	
Dscn2612.jpg	Dscn2624.jpg	Dscn2635.jpg	Dscn2646.jpg	Dscn2657.jpg	
Dscn2613.jpg	Dscn2625.jpg	Dscn2636.jpg	Dscn2647.jpg	Dscn2658.jpg	
Dscn2614.jpg	Dscn2626.jpg	Dscn2637.jpg	Dscn2648.jpg	Dscn2659.jpg	
Dscn2615.jpg	Dscn2627.jpg	Dscn2638.jpg	Dscn2649.jpg	Dscn2660.jpg	
Dscn2616.jpg	Dscn2628.jpg	Dscn2639.jpg	Dscn2650.jpg	Dscn2661.jpg	
Dscn2617.jpg	Dscn2629.jpg	Dscn2640.jpg	Dscn2651.jpg	Dscn2662.jpg	
Dscn2618.jpg	Dscn2630.jpg	Dscn2641.jpg	Dscn2652.jpg	Dscn2663.jpg	
Dscn2619.jpg	Dscn2631.jpg	Dscn2642.jpg	Dscn2653.jpg	Dscn2664.jpg	
Dscn2620.jpg	Dscn2632.jpg	Dscn2643.jpg	Dscn2654.jpg	Dscn2665.jpg	
Dscn2621.jpg	Dscn2633.jpg	Dscn2644.jpg	Dscn2655.jpg	Dscn2666.jpg	
Dscn2622.jpg					

Entry number	Assigned Code				
3	7303/078				
File names					
Dscn2276.jpg	Dscn2282.jpg	Dscn2288.jpg	Dscn2294.jpg	Dscn2300.jpg	
Dscn2277.jpg	Dscn2283.jpg	Dscn2289.jpg	Dscn2295.jpg	Dscn2301.jpg	
Dscn2278.jpg	Dscn2284.jpg	Dscn2290.jpg	Dscn2296.jpg	Dscn2302.jpg	
Dscn2279.jpg	Dscn2285.jpg	Dscn2291.jpg	Dscn2297.jpg	Dscn2303.jpg	
Dscn2280.jpg	Dscn2286.jpg	Dscn2292.jpg	Dscn2298.jpg		
Dscn2281.jpg	Dscn2287.jpg	Dscn2293.jpg	Dscn2299.jpg		

Entry number	Assigned Code				
4	7727/034				
File names					
Img_0305.jpg	Img_0313.jpg	Img_0321.jpg	Img_0329.jpg	Img_0337.jpg	
Img_0306.jpg	Img_0314.jpg	Img_0322.jpg	Img_0330.jpg	Img_0338.jpg	
Img_0307.jpg	Img_0315.jpg	Img_0323.jpg	Img_0331.jpg	Img_0339.jpg	
Img_0308.jpg	Img_0316.jpg	Img_0324.jpg	Img_0332.jpg	Img_0340.jpg	
Img_0309.jpg	Img_0317.jpg	Img_0325.jpg	Img_0333.jpg	Img_0341.jpg	
Img_0310.jpg	Img_0318.jpg	Img_0326.jpg	Img_0334.jpg	Img_0342.jpg	
Img_0311.jpg	Img_0319.jpg	Img_0327.jpg	Img_0335.jpg		
Img_0312.jpg	Img_0320.jpg	Img_0328.jpg	Img_0336.jpg		

Table A4.3: HARD COPY OF DATA COLLECTED BY THE FACT-FINDING MISSION

Entry Number	Assigned Package Code	Evidence Reference Number	Description
1.	2024	20191206202403	Drawings

Annex 5

DOCUMENTS RECEIVED FROM THE SYRIAN ARAB REPUBLIC

1. **On 20 September 2017**, the Syrian Arab Republic informed the Secretariat through **Note Verbale No. 88** of an alleged use of toxic chemicals as a weapon in the area of Qalib al-Thawr in Hama Governorate. In this note verbale, the National Authority of the Syrian Arab Republic provided a brief description of the reported incident and a list of casualties.
2. **On 22 November 2017**, the Syrian Arab Republic sent **Note Verbale No. 124** regarding the FFM's deployment.
3. **On 24 November 2017**, the Syrian Arab Republic informed the Secretariat through **Note Verbale No. 127** of an alleged use of toxic chemicals as a weapon in the area of Souran in Hama Governorate. In this note verbale, the National Authority of the Syrian Arab Republic provided a brief description of the alleged incident.
4. **From 6 to 17 December 2017**, the FFM received initial information relating to the reported incidents: brief incident reports, GPS coordinates, copies of medical staff shift logs from the National Hospital of Martyr General Qais Habib in al-Salamiyah in August 2017, a copy of the floorplan of Hama National Hospital, copies of five medical records regarding the Qalib al-Thawr incident, and four medical records regarding the al-Balil incident.
5. **On 17 December 2017**, the FFM received the following documents from the National Authority of the Syrian Arab Republic: a copy of the Comparative Study between the effect of toxic chemicals used by terrorist groups during incidents and the toxic and irritant gases used for riot control; forensic reports in relation to incident on 9 August 2017 in Qalib al-Thawr and 8 November 2017 in al-Balil; and references for chemical names and codes.
6. **On 4 April 2018**, the FFM received from the National Authority of the Syrian Arab Republic information (an incident report, a copy of medical staff shift log from the National Hospital of Martyr General Qais Habib in al-Salamiyah in August 2017, copies of maps, and GPS coordinates) related to the reported incident on 9 August 2017 in Qalib al-Thawr.
7. **From 27 September to 4 October 2018**, the FFM received additional information from the National Authority of the Syrian Arab Republic in relation to the reported incident in Qalib al-Thawr: an incident report; a list of medical staff on duty on the date of the incident; and three official documents stating that the al-Salamiyah National Hospital had been renamed as the Martyr General Qais Habib Hospital in May 2017.
8. **On 3 October 2018**, the FFM received five medical records and hospital shift logs for the Qalib al-Thawr incident, four medical records, and an emergency department patient logbook. The logbooks and medical records were photo-documented by the FFM before their return to the Technical Committee.

9. The Secretariat received **Note Verbale No. 38 (dated 21 May 2020)** from the Syrian Arab Republic with additional information regarding both incidents, including copies of forensic reports and police reports, as requested by the FFM.
10. **On 1 April 2021**, the Syrian Arab Republic sent **Note Verbale No. 32** regarding the FFM's activities during its deployment.
11. **On 6 April 2021**, in reference to the Secretariat Notes Verbales NV/ODG-50/21 (dated 25 March 2021) and NV/ODG-53/21 (dated 1 April 2021), the Syrian Arab Republic sent **Note Verbale No. 37** regarding the FFM's deployment.
12. **On 15 November 2021**, in reference to the Secretariat's Note Verbale NV/ODG-172/21 (dated 9 November 2021), the Syrian Arab Republic sent **Note Verbale No. 137** regarding the FFM's deployment.
13. **On 25 March 2022**, in reference to the Secretariat Note Verbale NV/ODG-239/21 (dated 22 February 2021), the Syrian Arab Republic sent **Note Verbale No. 22** regarding the general security situation around the time of the reported incidents in Hama Governorate, including the movement, activities, and names of the armed groups present in the areas.