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REPORT OF THE OPCW FACT-FINDING MISSION IN SYRIA REGARDING THE INCIDENT IN ALEPPO, SYRIAN ARAB REPUBLIC ON 24 NOVEMBER 2018

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1. INTRODUCTION

1.1 This document contains the report of the OPCW Fact-Finding Mission in Syria (FFM) regarding the alleged use of toxic chemicals as a weapon in Aleppo, in the Syrian Arab Republic, on 24 November 2018. The work of the FFM was conducted in accordance with OPCW Executive Council Decisions EC-M-48/DEC.1 (dated 4 February 2015), EC-M-50/DEC.1 (dated 23 November 2015), other relevant decisions of the OPCW Executive Council (hereinafter, "the Council"), and under the authority of the Director-General to seek to uphold, at all times, the object and purpose of the Chemical Weapons Convention (hereinafter "the Convention"), as reinforced by resolutions 2118 (2013) and 2209 (2015) of the United Nations Security Council, and as applicable to this investigation.

1.2 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 Technical Secretariat (hereinafter, "the Secretariat") 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).

1.3 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.

2. SUMMARY

2.1 The Secretariat received Note Verbale 89 (dated 25 November 2018) and Note Verbale 91 (dated 26 November 2018), containing correspondence 177 (dated 26 November 2018), from the Syrian Arab Republic. These notes verbales provided information about an incident reported to have occurred in several residential neighbourhoods in Aleppo on 24 November 2018. Notes Verbales 89 and 91 contained requests for the Fact-Finding Mission (FFM) to take action.

2.2 The Secretariat also received Note Verbale 92 (dated 28 November 2018), containing correspondence 179 (dated 28 November 2018), and Note Verbale 93 (dated 28 November 2018), containing correspondence 180 (dated 28 November 2018) and providing more information on the incident reported to have occurred in the neighbourhoods of Tajmeel Al-Khalidiyah, the local market located on Nile Street, and Plant 792 of the Defence Plants Association in the city of Aleppo on 24 November 2018.

2.3 The Director-General deployed an advance team to Damascus on 3 December 2018 to collect all information mentioned in the above-specified notes verbales.

2.4 The aforementioned notes verbales form the basis of the deployments of the FFM between the months of January 2019 and December 2019 with regard to the reported incident.

2.5 Thereafter, the Director-General mandated the FFM to collect facts pertinent to the reported incident. The team was deployed on three occasions to gather facts and retrieve samples connected to the incident. The team was composed of OPCW inspectors and interpreters.

2.6 During these deployments, the FFM conducted one field visit to Aleppo, during which it visited all three hospitals at which casualties were treated; it also conducted interviews, collected witness accounts, and reviewed documents and other information, including digital video and still photography that was provided by the authorities of the Syrian Arab Republic. Furthermore, the FFM visited the Scientific Studies and Research Centre (SSRC) in Jamrayah to obtain samples to be sent for analysis at OPCW designated laboratories.

2.7 The signs and symptoms that were presented constitute a general physiological response to an array of external factors and can be caused by a wide range of substances or diseases. The number of people affected at the same time and area excludes disease as a cause of those signs and symptoms. Moreover, the treatment provided was aimed at reversing the respiratory effects and cannot be linked to any one specific substance. The FFM is of the view that in some instances, the signs and symptoms reported may have been caused by exposure to some type of non-persistent substance that produced mild-to-moderate airway irritation.

2.8 Furthermore, witness accounts did not provide substantial information that would have helped identify the source or sources of the dispersion. The fragments provided by the Syrian Arab Republic could not be linked to the reported incident (paragraph 8.4). Therefore, it is not possible to determine the particular device or devices involved in the dispersion of the substance, or to determine the exact point or

points of origin of the dispersion, as there is no substantial evidence to corroborate this information.

2.9 Overall, all the information obtained and analysed, the composite summary of the interviews, and the results of the laboratory analyses did not allow the FFM to establish whether or not chemicals were used as a weapon in the incident that took place in the neighbourhood of Al-Khalidiyah and its surroundings in North-West Aleppo on 24 November 2018.

3. BACKGROUND INFORMATION

3.1 On 25 November 2018, reports began to circulate on social media and in the media regarding an alleged chemical attack that had taken place in the evening at approximately 20:30 (local time) on 24 November 2018 in North-West Aleppo, in the Syrian Arab Republic, in the neighbourhoods of Al-Khalidiyah and Al-Zahraa, including on Nile Street. Initial reports mentioned that the number of casualties ranged between 70 and 110 persons who were hospitalised with symptoms of asphyxiation, blurred vision, and fainting. Two casualties were reported to be in severe conditions. Casualties were taken to Al-Razi Hospital, the Military Hospital, and Aleppo University Hospital. Most reports covering the incident referred to the use of a toxic chemical, namely chlorine. Some media reports said that the affected area was shelled with "chlorine-filled rockets", while others were more specific, reporting that the devices used had been "120-mm shells filled with chlorine". Images and videos posted online showed the area of the alleged incident and casualties being treated in hospitals, reportedly for chemical exposure. It has been reported that Russian military chemists arrived in Aleppo on 25 November 2018 to work with the casualties and monitor the situation. Video footage published in the press showed a Russian CBRN team conducting sampling activities in the area reported to be one of the locations of the incident.

3.2 Social media reported that armed opposition groups dismissed accusations that they had used poisonous gases to attack areas controlled by the Government in the city of Aleppo.

3.3 The Secretariat received Note Verbale 89 (dated 25 November 2018) and Note Verbale 91 (dated 26 November 2018), containing correspondence 177 (dated 26 November 2018) from the Syrian Arab Republic. These communications provided information about the incident reported to have occurred in several residential neighbourhoods in Aleppo on 24 November 2018 and requesting immediate action to be taken by the FFM.

3.4 The Secretariat also received Note Verbale 92 (dated 28 November 2018), which contained correspondence 179 (dated 28 November 2018), and Note Verbale 93 (dated 28 November 2018), which contained correspondence 180 (dated 28 November 2018) and provided more information on the incident that was reported to have occurred in the neighbourhoods of Tajmeel Al-Khalidiyah, the local market located on Nile Street, and Plant 792 of the Defence Plants Association in the city of Aleppo on 24 November 2018. The communications also listed a number of documents obtained by experts of the Syrian Arab Republic and mentioned that this

information would be shared with members of the FFM upon their arrival in Damascus. Note Verbale 93 also requested that the FFM take action.

3.5 On 29 November 2018, the Secretariat sent letter L/ODG/217418/18 to the Syrian Arab Republic expressing the intention to deploy an advance team to Damascus on 3 December 2018 to collect all the information mentioned in Note Verbale 93.

3.6 The aforementioned notes verbales form the basis of the deployments of the FFM between the months of January 2019 and December 2019 relevant to the reported incident. During these deployments and throughout post-deployment activities, the team gathered, reviewed, and analysed all available information related to the incident reported by the authorities of the Syrian Arab Republic, as well as information available from open sources.

3.7 The aim of the FFM, as specified in mandate FFM/060/19, was to gather facts regarding the incident of alleged use of toxic chemicals as a weapon in the city of Aleppo, the Syrian Arab Republic, on 24 November 2018, as reported in the media according to the notes verbales specified in paragraphs 3.3 and 3.4, and according to the information gathered under the mandated mission SWI/107/18. The sites for the FFM's activities included Damascus, Aleppo, and any other relevant sites, subject to consultation with the Government of the Syrian Arab Republic and in accordance with the FFM Terms of Reference. The operational instructions (from the mandate set out in FFM/060/19) were to:

(a) review and analyse all available information pertaining to the reported incident of alleged use of toxic chemicals as a weapon;

(b) collect witness accounts from persons alleged to have been affected by the use of toxic chemicals as a weapon, including: those who underwent treatment; eye-witnesses of the alleged use of toxic chemicals; medical personnel who had provided treatment to persons who may have been treated or came into contact with persons who might have been affected by the alleged use of toxic chemicals;

(c) where possible and deemed necessary, carry out medical examinations and collect biomedical samples from those alleged to have been affected;

(d) if possible, visit hospitals as deemed relevant to the conduct of its investigations;

(e) examine and, if possible, collect copies of hospital records, including patient registers, treatment records, and any other relevant records as deemed necessary;

(f) examine and, if possible, collect copies of any other documentation and records deemed necessary;

(g) take photographs and video recordings, and examine and collect, if possible, copies of video and telephone records;

(h) examine and, if deemed necessary by the FFM team, take samples that are in the possession of the Government of the Syrian Arab Republic relating to the alleged incident;

(i) undertake, as necessary, the examination of the collected samples using approved OPCW methods and equipment, to make a preliminary determination of the chemical agent, if any; provide the Government of the Syrian Arab Republic with a duplicate or portion of each sample, if feasible;

(j) arrange transport for off-site analysis of the collected samples; and

(k) undertake activities in accordance with the relevant Secretariat procedures relating to the conduct of inspections during contingency operations, as applicable.

3.8 Other mandates (FFM/062/19 and FFM/068/19) were issued by the Director-General instructing the FFM to conduct further activities in connection with the alleged use of toxic chemicals as a weapon in the Syrian Arab Republic on 24 November 2018.

3.9 The FFM reports its findings on whether there are reasonable grounds to believe that chemical weapons were used, based on a reliable body of evidence consistent with other information indicating whether or not an incident or event took place involving the use of a toxic chemical as a weapon.

4. PRE-DEPLOYMENT ACTIVITIES AND TIMELINE

4.1 Following media reports of the alleged incident on 24 November 2018, the OPCW Situation Centre immediately informed the FFM and initiated a search for open-source information to assess the credibility of the allegations. The main open sources comprised of news media, blogs, and several websites (Annex 1). The complete mission timeline and the assessed timeline of the events relating to the reported incident can be found in Annexes 2 and 3, respectively.

4.2 Following the correspondence contained in the aforementioned notes verbales (paragraph 3.4), an advance team was deployed to Damascus from 3 to 7 December 2018 to collect all available information listed in the said notes verbales in order to decide on the course of action (a list of correspondence with the Syrian Arab Republic is set out in Annex 4).

4.3 The information provided to the advance team included: a preliminary incident report, copies of military police reports, copies of 34 witness accounts, a copy of the report on the analysis of the samples taken by the Technical Committee of the Syrian Arab Republic in Aleppo, copies of various hospitals records, and copies of medical records (detailed in Annex 5). Based on this information, the Director-General decided to initiate an on-site investigation.

4.4 On 20 December 2018, the FFM, comprising five inspectors and two interpreters, was assigned with examining the alleged incident, and pre-deployment activities commenced immediately. Preparations were made to deploy an advance team of four inspectors and one interpreter on 4 January 2019, and on 7 January 2019, the two remaining team members joined the team in Damascus. The team was briefed by the Situation Centre on all relevant information gathered to date.

5. SECURITY AND ACCESS TO THE SITES OF THE REPORTED INCIDENT

5.1 Given the volatile security situation in North-West Aleppo at the time of the FFM's deployment in January 2019, security and safety considerations were of paramount importance. Time and effort were invested in assessments and planning in order to mitigate the inherent security risks associated with the FFM's deployment to Aleppo. There were a number of unacceptable risks associated with potential field visits to certain incident locations in Al-Khalidiyah, including indirect fire, sniper activities, risk of explosions, ongoing shelling of the affected area, armed clashes, and the short distance from an active front line. Based on the assessment of the security situation in Aleppo in January 2019, the Director-General decided that a field visit to the location of the incident would not be included in the FFM activities in Aleppo at that time.

5.2 According to representatives of the Syrian Arab Republic and Russian Military Police[1] the security situation improved in Aleppo and was described as safe (Annex 2). Based on the Security Risk Assessment conducted by the United Nations Office for Project Services (UNOPS) and the United Nations Department for Safety and Security (UNDSS), the overall security environment at the site locations and the road from Damascus to Aleppo had significantly improved compared to what it was at the time of the incident. Meanwhile, the military situation in the Northern area of Aleppo was volatile and tense. Skirmishes were reported between armed opposition groups and the Syrian Arab Army along the Western and North-Western fronts of Aleppo. The locations of the reported incident are in the vicinity of Al-Zahraa, which, along with the Hamadaniyah and Al-Rashidin districts, remained the most active front line in the Governorate. The main threat factors in proximity to the sites of interests were armed conflict and terrorist activities.

5.3 During the initial meetings in Damascus, the FFM team was informed by Syrian and Russian representatives that the Syrian Arab Republic could guarantee the safety of the FFM during its deployment to Aleppo.

5.4 During consultations at OPCW Headquarters prior to the first deployment, it was agreed among the Secretariat, the representatives of the Syrian Arab Republic and the Russian Federation, UNOPS, and UNDSS that while in Aleppo, the security of the team would be provided by the Russian Military Police. Consequently, it was agreed that the Syrian Arab Republic would provide security for the team's movement from the hotel where the team members would be staying in Aleppo to the areas of interest in the city. Furthermore, arrangements were made for a security escort team to be provided by each Governorate through which the team would pass. In Aleppo, the team would receive security reinforcement from the Russian Military Police at the hotel where the team would stay, during their movement within the city, and during activities at each hospital. It was also agreed that the FFM team would be accompanied by representatives of the Syrian Arab Republic during on-site activities, while the involvement of Russian personnel would be limited to the provision of security.

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[1] Russian Military Police representatives participated in the meetings upon the invitation of the Syrian Arab Republic, based on bilateral support.

5.5 Taking into consideration the distance from Damascus, no reconnaissance visit was conducted by UNOPS, UNDSS, and the Syrian Arab Republic prior to the FFM's planned visit to Aleppo.

5.6 Measures meant to mitigate the security risk incurred by the team were discussed and agreed upon among the Secretariat, UNOPS, and the Syrian Arab Republic. These measures included limiting the number of locations to be visited to the three hospitals that had treated casualties, carefully selecting the medical personnel to be interviewed at each hospital, and limiting the number of witnesses to be interviewed in Aleppo. The size of the team and the duration of the stay in Aleppo were kept to the strict minimum needed to perform the activities safely and effectively. All parties agreed that media reports and public statements on the operations of the FFM would increase the security risk for the team. Therefore, efforts were made to mitigate this risk, as well.

5.7 Once the security situation was reassessed and the proposed mitigation measures implemented, the FFM was deployed to Aleppo, and visited the sites of interest as prioritised and in line with the proposed schedule.

5.8 For the duration of the mission, deployments of the FFM team proceeded without security incidents. Access was granted to locations identified by the team. The Russian Military Police ensured that the team was isolated from local crowds and media personnel during on-site visits, thereby allowing it to conduct its activities without interference.

5.9 During the second and third deployments, no field visits to areas posing a high security risk were conducted. The FFM was provided with standard security arrangements for the activities performed in Damascus in relation to the reported incident.

6. MISSION ACTIVITIES

6.1 The activities of the FFM were conducted in accordance with OPCW guidelines as well as Standard Operating Procedures (SOPs) and Work Instructions (WIs), as listed in Annex 13.

6.2 The activities included:

(a) receiving and documenting environmental samples, both provided by the Technical Committee of the Syrian Arab Republic, and collected from two sites relevant to the reported incident, namely Location 1 (the Local Market Park, also known as Souq Mahally Park), and Location 2 (Sallora Park, formerly known as Nour al-Din al-Zenki Park);

(b) taking photographs and collecting data from the three hospitals in Aleppo at which all casualties were treated, namely: Aleppo University Hospital, Aleppo Military Hospital 604, and Zahi Azraq Hospital (which is co-located with Al-Razi Hospital);

(c) conducting interviews with medical staff, casualties, first responders, and witnesses of the reported incident in Aleppo;

(d) reviewing open-source materials; and

(e) conducting technical meetings with the Technical Committee of the Syrian Arab Republic in connection with their activities and regarding the collection of evidence relating to the reported incident.

First deployment

6.3 The first deployment comprised the Mission Team Leader, four inspectors, two interpreters, and one support staff member who conducted activities from 4 to 16 January 2019.

6.4 The FFM initially met with the authorities of the Syrian Arab Republic to discuss the details of the deployment and to gather information associated with the incident as reported in the notes verbales specified in paragraphs 3.3 and 3.4 of this report. A delegation of the Russian Federation participated in the preliminary and coordination meetings during the deployments, including in the city of Aleppo. During its deployment, the FFM collected updated incident reports, a report on samples analysis, names of individuals registered in hospital documents, and names of hospital staff members who administered treatment (Annex 5).

6.5 Additionally, the team was provided access to the Scientific Studies and Research Centre (SSRC) in Jamrayah in order to secure and recover nine environmental samples collected by the authorities of the Syrian Arab Republic for further analysis by the OPCW designated laboratories. Given that the samples were reportedly, at the time, collected by the authorities of the Syrian Arab Republic, the team documented the handover process and ensured that the samples were treated in line with the relevant SOPs, including the chain of custody.

6.6 Over the course of the deployment, the FFM conducted a field visit to the city of Aleppo and visited three hospitals at which the casualties affected by the incident were treated: Martyr Doctor Abdel Wahab Agha Military Hospital (also known as Aleppo Military Hospital 604) Aleppo University Hospital, and Zahi Azraq Hospital (which is co-located with Al-Razi Hospital). During these visits, the FFM was able to hold meetings with and interview all four hospital directors and eight medical personnel involved in treating casualties. Documents such as medical records and hospital logs were reviewed, discussed, and photo-documented at each location.

6.7 During its stay in Aleppo, the FFM also conducted interviews with eight witnesses to the incident.

6.8 A list of documents, collected samples, and the reports of the technical exploitation in connection with the reported incident and evidence can be found in Annexes 5, 7, 10, and 12, respectively.

Second deployment

6.9 In its Note Verbale NV/ODG/218902/19, dated 5 April 2019, the Secretariat informed the Syrian Arab Republic of its intent to deploy the FFM to Damascus from 22 April 2019 to 6 May 2019. The purpose of this deployment was to conduct interviews in Damascus with witnesses who were not previously interviewed regarding the Aleppo incident.

6.10 On 16 April 2019, the Secretariat was informed that the Syrian Arab Republic would only be able to support the deployment if the FFM would be able to carry out the interviews in Aleppo instead of Damascus due to travel arrangement challenges and accommodation difficulties for witnesses.

6.11 On 17 April 2019, the Secretariat held a phone conference with the OPCW Mission in Syria and UNOPS representatives to discuss an alternative option for the deployment to Aleppo. UNOPS informed the Secretariat of a fuel shortage issue in the Syrian Arab Republic at the time, which potentially could have a significant impact on the deployment.

6.12 On 18 April 2019, a meeting between the Director-General and the Ambassador of the Syrian Arab Republic took place to discuss the situation in Syria.

6.13 After the meeting, the Secretariat issued Note Verbale NV/ODG/219118/19 (dated 18 April 2019) to the Syrian Arab Republic to convey its intention to postpone re-deploying the FFM following these operational changes by the Syrian Arab Republic, as they could not be mitigated quickly enough to allow the FFM to perform activities in Aleppo under sufficiently safe conditions.

6.14 Therefore, the second deployment carried out by the FFM in relation to this incident was postponed and instead took place over the period extending from 24 October to 6 November 2019, when the FFM was able to travel to the site and conduct interviews with witnesses in Damascus.

6.15 The FFM initially met with the authorities of the Syrian Arab Republic to discuss the details of the deployment and gather information about the incident.

6.16 Over the course of the deployment, the FFM conducted 21 interviews with witnesses.

6.17 The FFM also conducted a technical meeting with the Technical Committee of the Syrian Arab Republic to clarify outstanding issues. During this meeting, a crucial witness was identified. It was agreed that the authorities of the Syrian Arab Republic would reach out to the witness and make the necessary arrangements to provide the team with the opportunity to interview this witness over the course of the next deployment.

6.18 A list of documents and evidence collected during the second deployment can be found in Annexes 5 and 12, respectively.

Third deployment

6.19 In its Note Verbale NV/ODG/21593/19, dated 20 November 2019, the Secretariat informed the Syrian Arab Republic of its intent to deploy the FFM to Damascus from 2 December to 15 December 2019. The purpose of this deployment was to meet with the authorities of the Syrian Arab Republic and conduct further interviews in Damascus with witnesses who had not previously been interviewed by the FFM regarding this alleged incident and other alleged incidents that are not examined by this report.

6.20 The FFM initially met with the authorities of the Syrian Arab Republic to discuss the details of the deployment and gather information associated with the incident. Over the course of the deployment, the FFM conducted one interview with a witness identified at the meeting with the Technical Committee of the Syrian Arab Republic that had been conducted during the November 2019 deployment.

6.21 A list of documents and evidence collected during the third deployment can be found in Annexes 5 and 12, respectively.

Methodological considerations

6.22 The data on which this report is based were collected over the course of three deployments, as well as the interim periods between these deployments and the reporting period following these deployments (see Annex 2 for the complete mission timeline). The data was provided by the authorities of the Syrian Arab Republic and the Russian Federation, and gathered or generated by the FFM. The types of data acquired are named and explained in the following paragraphs.

Written documents

6.23 Medical information was provided by the authorities of the Syrian Arab Republic regarding individuals connected to the incident, including casualties and physicians involved in the administration of treatment, as well as the facilities where casualties were treated. It also includes medical records depicting the treatment of casualties, x-ray imageries, ECGs, blood test results, discharge sheets, and shift logs for the pertinent medical facilities, in addition to the incident date.

6.24 Incident reports provided by the authorities of the Syrian Arab Republic detail the reported incident. Some reports are generated by the Technical Committee of the Syrian Arab Republic, while others were drafted by the members of the Syrian Arab Army. They also include minutes and reports prepared by members of the police.

6.25 Technical reports include laboratory reports consisting of the results of the laboratory analysis performed by the authorities of the Syrian Arab Republic. When relevant, they also included the description of laboratory equipment, working instructions, and the standard operating procedures used during the aforementioned laboratory analyses.

6.26 Inspector notes, meeting notes and reports are generated by the team during the deployments.

Electronic data

6.27 Pictures include photographs of locations, personnel, and objects reported to be connected to the reported incident, screenshots of videos, and computer software. This data is either provided by the authorities of the Syrian Arab Republic, or collected by the FFM during interviews and the initial analysis process.

6.28 Videos include open-source media and footage provided by the authorities of the Syrian Arab Republic.

6.29 Maps of the reported incident with the coordinates or a description of the locations are either provided by the authorities of the Syrian Arab Republic, collected by the FFM during interviews, or created by the FFM during the initial analysis process.

6.30 Audio recordings of coordination and technical meetings between the FFM and the representatives of the Syrian Arab Republic and the Russian Federation were generated by the FFM.

6.31 Open-source material includes, but is not limited to, videos and photos used primarily for planning activities, and for comparative purposes with material collected directly by the FFM during the investigation.

Interviews

6.32 Interviews were conducted by inspectors proficient in interviewing techniques following the procedures set out in the OPCW's WIs. Before commencing the interviews, the process was described to the interviewees, with an emphasis on the fact that with the consent of the interviewee, the interviews would be recorded on audio, video, or both. After confirming that the process had been understood, interviewees were asked to sign a consent form. The interview process followed the free-recall approach, with follow-up questions to elicit information of potential evidentiary value and to clarify aspects of the testimony.

6.33 Witness accounts that were gathered by the FFM team were recorded on audio, video, or both, or in some cases collected in the form of written statements from individuals in relation to the reported incident.

6.34 Documents generated during the interviews include drawings made by the interviewees and written notes taken by the FFM interview team members.

Samples

6.35 Environmental samples were provided to the FFM by the Technical Committee of the Syrian Arab Republic.

Technical exploitation

6.36 The technical exploitation and assessment of ammunition fragments were conducted by the FFM with the help of other Secretariat munition experts. A written report was produced by the Secretariat's munition experts based on chemical detection, physical measurements, and visual observations (Annex 10).

Data analysis

6.37 The overarching purpose of the data analysis conducted by FFM is to collate facts in relation to the reported incident, with a focus on identifying aspects related to the use of a toxic chemical or chemicals as a weapon. Therefore, the FFM used, analysed, and reviewed all types of data as specified in the section above.

6.38 The analysis of medical information provided and the witness accounts that were collected by the FFM was carried out by the Secretariat's health and safety experts. They assessed how consistent the symptoms, treatment, and medical documentations were with exposure to a potential toxic chemical.

6.39 The FFM analysed the incident and technical reports to establish a basic understanding of the event and to identify potential interviewees, locations, and samples of interest. The information provided in these reports was translated and then compared to the data gathered during the deployments and throughout post-deployment activities.

6.40 Inspector notes, meeting notes, and reports were used to compare the data gathered during the deployments and throughout post-deployment activities.

6.41 The FFM also analysed and used electronic data, including pictures, videos, and maps, as a reference to identify both the location of the reported incident, and the locations of the medical facilities where casualties were treated. This data was also used to corroborate the sequence of events as it took place on the date of the reported incident.

6.42 Witness accounts, documents, and electronic data gathered by the FFM team during the interview process were also used to establish a link between the witnesses and the reported incident.

6.43 The interview analysis methodology employed by the FFM allowed individual accounts to be collated into a composite summary, where factual content could be extracted and reported in accordance with the mandate.

6.44 First, the audio and video records of each interview conducted by the team were translated and transcribed into English in order to facilitate their analysis. The interpreters were present at each interview.

6.45 Next, the verbal content of each interview (the video, audio, and/or transcripts thereof) was carefully and individually reviewed by at least two FFM inspectors. A timeline-based analysis table was produced in order to organise the individual responses. This allowed each witness description of locations, sights, sounds, smells, symptoms, and actions to be categorised. During the interview review process, FFM inspectors compared the interviewees' responses. The result of each interview was a unique description of the evolving, sequential event from the perspective of interviewees. Once all relevant narratives had been individually assembled, they were compared against one another. The final stage of the interview analysis process involved cross-checking all the data to identify commonalities, gaps, and discrepancies.

6.46 Commonalities formed the basis of the composite summary, gaps were addressed, and discrepancies were analysed to determine their significance. During the first deployment and the subsequent initial analysis process, the FFM was able to identify a number of gaps and sought to address them. Furthermore, the FFM anticipated reasonable discrepancies in the events recalled from the interviewees, given that some were casualties themselves, time had lapsed between the reported incident and the interviews; moreover, combat operations in the areas of interest were ongoing.

In cases where discrepancies were minor or of little consequence to establishing a composite summary (i.e., the recollection of general timings and distances), they were disregarded. If reconciliation with the summary was not possible, the discrepancies would then either be noted and reported, or could be considered limited in evidentiary value, and therefore difficult to objectively address the FFM's mandate aims.

6.47 During its first deployment, the FFM was informed that the environmental samples related to the reported incident were collected in Aleppo on 25 November 2018 by the Technical Committee of the Syrian Arab Republic. They were transported by the Technical Committee to the SSRC in Jamrayah. The FFM endeavours to collect information about the history of the samples, to the best of its abilities, to aid in its evaluation of the evidential value thereof and establish any links to the reported incident as applicable. A comprehensive overview of how the samples were handled and processed is set out in paragraphs 7.14 to 7.22.

6.48 On 7 January 2019, the FFM was allowed access to the samples collected by the Technical Committee. Due to the limited quantity and the nature of the environmental samples, it was agreed with the authorities of the Syrian Arab Republic that they would not be split, and that joint custody would not be applicable. The samples were taken over by the FFM, sealed, and documented by photographs in the presence of representatives of the Syrian Arab Republic and the Russian Federation.

6.49 On 8 January 2019, the samples were transported to the OPCW Laboratory. The process of segregating, packaging, transporting, and handing over the samples was done in compliance with the OPCW's SOPs, WIs, and guidelines, which are listed in Annex 13.

6.50 The samples were unpacked at the OPCW Laboratory for splitting and redistribution to OPCW Designated Laboratories in the presence of representatives of the Syrian Arab Republic on 7 February 2019.

6.51 The results of the laboratory analysis of environmental samples were used to confirm the absence or presence of chemicals in the samples, in accordance to the scope of analysis (Annex 9). The team subsequently compared other data available to assess whether there was a link between the samples, the casualties, and the location of the reported incident (see criteria set out in paragraph 6.47).

6.52 The technical exploitation of fragments[2] of exploded munitions reported to be linked to the incident in Aleppo was used to identify the type of ammunition, with an emphasis on the calibre, size, model, and external and internal structures. A written report, which is presented in Annex 10, was prepared based on chemical detection, physical measurements, and observation.

[2] The fragments were part of the environmental samples handed over to the FFM (see Annex 7).

7. FACTUAL FINDINGS

Information provided by the authorities of the Syrian Arab Republic and analysed by the FFM

7.1 Over the course of its deployments, the FFM received several official documents, including medical, police, military, and technical reports, all of which are listed in Annex 5.

7.2 The reports describe the use of toxic chemicals in Aleppo on 24 November 2018 at approximately 20:30 local time, where "armed groups targeted the area of Al-Khalidiyah using several 120 mm-calibre projectiles filled with toxic gases affecting 125 people, the majority of whom were near the impact area".

7.3 Large numbers of people were received by the emergency departments of Aleppo University Hospital, Aleppo Military Hospital 604, and Zahi Azraq/Al-Razi Hospitals at approximately 20:00 and onwards. This time is consistent with the time stated in the medical records (paragraph 7.26). At the same time, the FFM noted that the reported time at which casualties arrived at the hospitals preceded the reported time of the incident mentioned in paragraph 7.2. Based on the reports, the casualties came from the following locations in Aleppo: the neighbourhoods of Al-Zahraa, Al-Khalidiyah, and Balleramoun districts, and Nile Street. The medical reports stated that causalities were affected by "an unknown gas". The report from Aleppo Military Hospital 604 stated that casualties were affected by "an irritant gas". The reported signs and symptoms from all three hospitals were similar and consistent.

7.4 The Technical Committee of the Syrian Arab Republic visited the city of Aleppo on 25 November 2018. The Technical Committee visited three hospitals to which casualties were taken (Aleppo University Hospital, Aleppo Military Hospital 604, and Zahi Azraq/Al-Razi Hospitals), and interviewed doctors and patients connected to the reported incident. The statements were collected in the form of video recordings or written statements. The Technical Committee learnt that three of the projectiles had been found in Location 1 (Local Market Park) and two had been found in Location 2 (Sallora Park). On the morning of 25 November 2018, the Technical Committee visited both locations, conducted reconnaissance of the areas, found three craters reported as newly-formed at Location 1, and two similar looking craters at Location 2. The Technical Committee took the GPS coordinates of these formations and performed a rapid chemical screening of the alleged impact sites by using a Syrian-made chemical detector dubbed 'the sniffer', which is equipped with detection tubes for toxic gases. The result of the screening was negative for tested compounds, including chlorine gas. The samples were collected from both areas as follows, and then sent to the SSRC for laboratory analyses:

(a) Location 1: Metal fragments were collected from the alleged impact sites, and soil samples and cotton wipes were collected from one of the buildings near the alleged impact site. One blank sample was prepared.

(b) Location 2: Two samples of metal fragments were collected as control samples for the metal fragments taken from Location 1.

(c) Other alleged impact sites were not accessible due to ongoing armed conflict and sniper activities.

7.5 Based on their findings, the Technical Committee declared that several 120-mm mortars filled with toxic gases were shot in different areas in the neighbourhoods of Al-Khalidiyah, located between the ring road and the Arab Medicine roundabout (see Figure 15, page 37). The Technical Committee further declared that the released gases caused people to develop sings of respiratory distress and lacrimation. The chemical analysis conducted by SSRC Jamrayah showed the presence of chlorine ions. Based on these findings, the Technical Committee concluded that the toxic chemical used was chlorine gas.

7.6 A total of 79 medical records of individuals linked to the reported incident were provided to the FFM, 52 of which from Zahi Azraq/Al-Razi Hospitals, 25 from Aleppo University Hospital, and two from Aleppo Military Hospital 604. The majority of medical records are for civilians, while only two were for personnel of the Syrian Arab Army (Figure 1, page 21). The FFM made copies and returned the medical records to the authorities of the Syrian Arab Republic. It is worth mentioning that several entries in the medical records are handwritten and illegible, which prevented a comprehensive comparison. Clarification of these entries was sought from medical staff during interviews with little success.[3]

7.7 Aleppo Military Hospital 604 reported that six casualties were received in the emergency department. However, just two medical records were provided to the FFM. Clarification on this matter was sought during a hospital visit in January 2019. The hospital reported that four casualties were treated and discharged from the emergency department and no medical records were produced for them. Two casualties were admitted to the hospital due to previous medical conditions, and medical records were made for them.

7.8 During the first deployment, the FFM visited the three aforementioned hospitals in Aleppo and was given access to hospital documents, which were photo-documented. The documents consisted of logbooks of emergency department patients, hospital reports, and shift logs for medical personnel.

7.9 Among others, the authorities of the Syrian Arab Republic provided the FFM with the Aleppo International Airport Weather Report for November 24, a number of police reports, maps, GPS coordinates for the locations of the craters they had identified, and videos and photos taken at the hospitals during the emergency.

7.10 On 12 January 2019, the Technical Committee of the Syrian Arab Republic went to the sampling locations and recorded some videos that were later shared with the FFM team (see paragraph 7.12).

7.11 After reviewing the information that was provided, the FFM team identified a number of points to be clarified, such as:

(a) the identification of potential impact or dispersion point or points;

(b) the identification of the alleged type and the chemical fill of the munitions;

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[3] The medical records are handwritten, at times making them difficult to decipher. They are also populated by different physicians, meaning that every physician reports on the condition of the patient differently.

(c) a selection of samples provided by the Technical Committee;

(d) the method used by the SSRC Jamrayah to analyse the samples;

(e) the involvement of the Russian CBRN team in the sample collection; and

(f) access to the videos demonstrating the filming of locations where the projectiles allegedly impacted, as stated in one of the reports submitted to the FFM.

7.12 These points were discussed at the meetings held between the FFM and the representatives of the Syrian Arab Republic during the three deployments, as well as through official correspondence. In due course, the FFM received an updated incident report with following clarifications and issues:

(a) The impact points and sampling locations were selected based on the fact that they looked like newly-formed craters;

(b) Regarding the identification of the type and the chemical fill of the munitions, the FFM was not provided with compelling evidence that the projectiles identified by the authorities of the Syrian Arab Republic were 120-mm projectiles (Annex 5);

(c) The Technical Committee—as well as three different official reports (Annex 5)—stated that Location 1 was not safe, therefore the sampling was conducted promptly near the buildings surrounding the Local Market Park. The metal fragments were selected based on the fact that they had been located either inside, or in the proximity of said craters. Therefore, the samples were collected from the area near the selected craters, and not from inside them;

(d) The method used by SSRC Jamrayah to analyse the samples was described as qualitative analysis, which is not a confirmation method for identifying gases (paragraph 7.54);

(e) Over the course of the first and second deployments, the FFM was informed that the Russian CBRN team conducted their own reconnaissance and sampling activities. At the time, the representatives of the Syrian Arab Republic stated that the samples handed over to the FFM team are different from those collected by the Russian CBRN team (see the document of the Syrian Arab Republic FFM/062/19/7477/044, Annex 6)[4]; and

(f) The FFM also requested a copy of the videos mentioned in one of the incident reports prepared by the representatives of the Syrian Arab Republic and handed over to the FFM, demonstrating the filming of locations where the projectiles had allegedly impacted. These videos were not made available, and no clarification on the reason for their absence was given. Instead, on 12 January 2019, the Technical Committee went to the sampling locations and recorded a number of videos that were later shared with the FFM.

[4] The FFM notes that documentation provided in relation to the environmental samples, which were received by the FFM in January 2019, was in Arabic language only.

7.13 The FFM was able to confirm Location 1 and Location 2 through videos and Google Earth® screenshot images provided by the representatives of the Syrian Arab Republic (Annex 11).

Information provided by the Representatives of the Russian Federation and analysed by the FFM

7.14 Over the course of the deployment in January 2019, the FFM team was notified that the Russian CBRN team operating in Syria went to Location 1 to conduct reconnaissance and collect samples. The FFM was able to corroborate this through the video footage broadcast on Russian TV News (Annex 1, line 25). Further analysis of the video allowed the FFM to geolocate the site shown in the video in its exact place on a map of Aleppo, confirming that the sampling activities of the Russian CBRN team took place at Location 1.

7.15 As a result, and as part of gathering all relevant information, the FFM requested that the Russian Federation provide any information it may have in relation to the alleged use of chemicals as weapons in Aleppo on 24 November 2018, including the list of samples and analysis results and information collected by the Russian chemical, biological, radiological, and nuclear (CBRN) team members who visited the location of the alleged incident and conducted sampling activities before the arrival of the FFM (Note Verbale NV/ODG/219408/19, dated 11 June 2018). The Secretariat also requested access to Russian CBRN team members who would be available for interview.

7.16 Subsequently, the Russian Federation informed the FFM in Note Verbale 1118, dated 11 June 2019, that samples collected by the Russian CBRN team in Aleppo had already been handed over to the FFM during its first deployment on 7 January 2019, and that they were sufficient to conduct the FFM investigation. For the full exchange of correspondence between the FFM and the Russian Federation beginning in May 2019, see Annex 6.

7.17 The FFM followed up on this issue with representatives of the Syrian Arab Republic in a meeting during its deployment in October 2019 (see document of the Syrian Arab Republic FFM/062/19/7477/044, Annex 6). The FFM was informed at that time that the samples that had been handed over to the FFM in January 2019 had been collected by the Technical Committee of the Syrian Arab Republic. The Syrian Arab Republic added that at that time, no material or samples from the Russian Federation had been received by the Syrian Arab Republic.

7.18 In order to clarify why specific samples were collected at specific locations and which methodology was used, the FFM requested access to the members of Russian CBRN team that undertook the sampling activities in connection to this incident. As these sampling activities were broadcast on RT News, the FFM requested to interview these individuals to clarify some details.

7.19 The exchange of official documents and correspondence aiming to clarify the issue and gain access to the requested information and evidence lasted one year[5]. The result was that the following official position was provided by the Russian Federation:

(a) The samples collected by the Russian CBRN team were provided to the FFM through the authorities of the Syrian Arab Republic;

(b) Access to interview or meet with the members of the Russian CBRN sampling team was denied on the basis of military secrecy[6]; and

(c) None of the requested information or evidence (listed in Annex A of NV/ODG/219408/19) would be provided on the basis of military secrecy.

7.20 The FFM was informed that "every possible effort" had been made to provide the requested information and evidence, and that no additional information or clarification requested by the FFM was needed "as it would not significantly change the report"[7].

7.21 Based on the analysis of the information that was provided (paragraphs 7.13 and 7.14) and the outcome of the geolocation activities, the FFM determined that the sampling location of the Russian CBRN team was in the vicinity of one of the Syrian Arab Republic's sampling point; nevertheless, it could not be confirmed as identical (Annex 11).

7.22 In light of the facts set out above, it is not possible to identify which of the samples the FFM received during its first deployment (paragraph 6.5) were the samples collected by the Russian CBRN team, or which samples were collected by the Technical Committee of the Syrian Arab Republic. As per the OPCW's SOPs, WIs, and guidelines, the FFM sought information on the origin of samples received, the initial chain of custody, and the sample collection methodology. This was done with the purpose of evaluating the evidentiary value and corroborating the information and analysis results in appropriate relation to other information obtained about the incident.

7.23 The FFM made a last attempt to clarify this issue with representatives of the Syrian Arab Republic via an Internal Memorandum and Note Verbale (lines 14 and 17 in Annex 4 and 6, respectively). This did not result in any additional details or clarifications.

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5 The period of one year refers to the first request sent on 21 May 2019 until the technical meeting that took place between the FFM and permanent representations of the Russian Federation and the Syrian Arab Republic on 28 May 2020, when some answers were received.

6 Since the FFM was established in 2014, it has encountered the situations where due to military secrecy the information either was not provided the FFM or was provided with a limited usage.

7 Statement received and recorded by the FFM during the meeting held with representatives of SAR and RF at OPCW HQ on 28 May 2020 (Annex 6, line 16).

Epidemiological Analysis

7.24 An epidemiological determination of cause and effect was established according to the following criteria, per established practices:

(a) There must be a biologically plausible link between exposure and outcome;

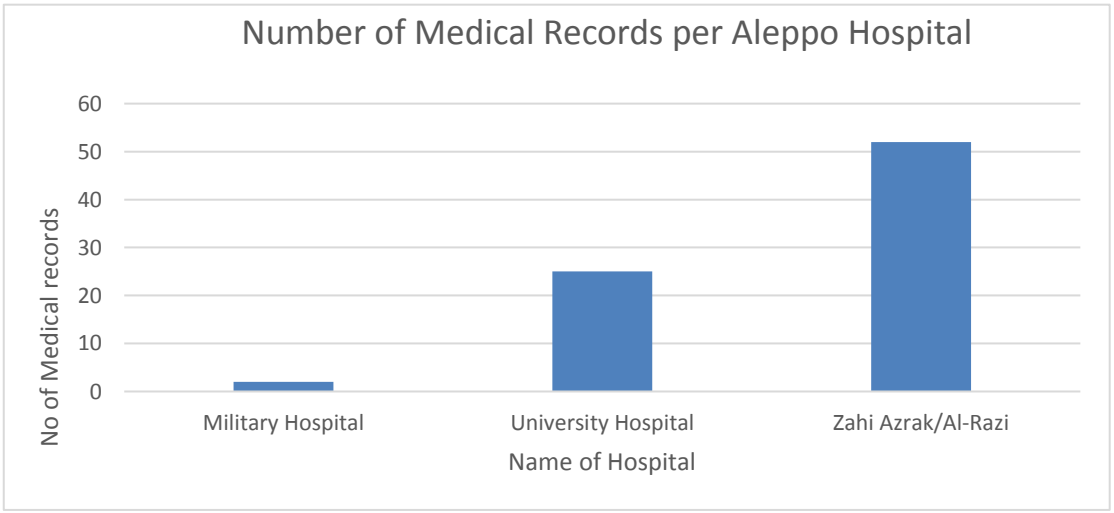
(b) There must be a temporal relationship between exposure and outcome; and

(c) There must not be any likely alternative explanation for the symptoms.

7.25 An epidemiological investigation includes: a review of all the documentation related to an alleged incident; an epidemiological description of the incident; interviews with witnesses, casualties, medical staff, and first responders; first-hand interviews with survivors; and, on-site assessments of symptoms and signs, including assessments of the clinical severity of their syndromes. Further information regarding the treatment and outcomes of persons exposed should be retrieved from medical records relating to the time of the incident and from interviews with the treating clinicians. The epidemiological investigation should yield information about the scale of each event and provide contextual and geographical information that should subsequently be cross-checked and corroborated by the environmental sampling teams. Determining the cause of the signs and symptoms is often corroborated or integrated with the results of the biomedical sample analysis. The biomedical sample analysis, if conducted, has to be specifically targeted to the presence of specific chemicals or their markers, or to specific signs and symptoms. Therefore, biomedical samples can be analysed once such a targeting is possible, which would depend on the outcome of the analysis of relevant environmental samples, or evidence of such chemicals or their markers.

7.26 The analysis of medical records reveals that on 24 November 2018, in a time frame between 20:00 and 22:00 (local time), a large number of people arrived to two major hospitals in Aleppo (Zahi Azraq/Al-Razi Hospitals and Aleppo University Hospital), and 77 of them were registered in medical records (Figure 1).

FIGURE 1: NUMBER OF MEDICAL RECORDS PER HOSPITAL IN RELATION TO REPORTED INCIDENT PROVIDED TO FFM



7.27 Six Syrian Arab Army personnel members went to Aleppo Military Hospital 604 in connection with this event, and two medical records were generated for them. Aleppo Military Hospital 604 reported that four casualties were treated and discharged from the emergency department, and no medical records were produced for them. Two casualties were admitted to the hospital for previous medical conditions (asthma, for instance), as stated by the treating physicians, and medical records were made for them.

7.28 All the casualties registered in this timeframe complained of airway irritation and mild-to-moderate respiratory distress (Figure 2), and treated for respiratory conditions of different entity (Figure 3). No significantly different signs and symptoms can be found in the hospital reports, suggesting that all three emergency rooms received patients suffering from a potential exposure of similar nature.

FIGURE 2: SIGNS AND SYMPTOMS BASED ON 54 MEDICAL RECORDS GENERATED BY ZAHI AZRAQ / AL-RAZI HOSPITALS AND ALEPPO MILITARY HOSPITAL 604.

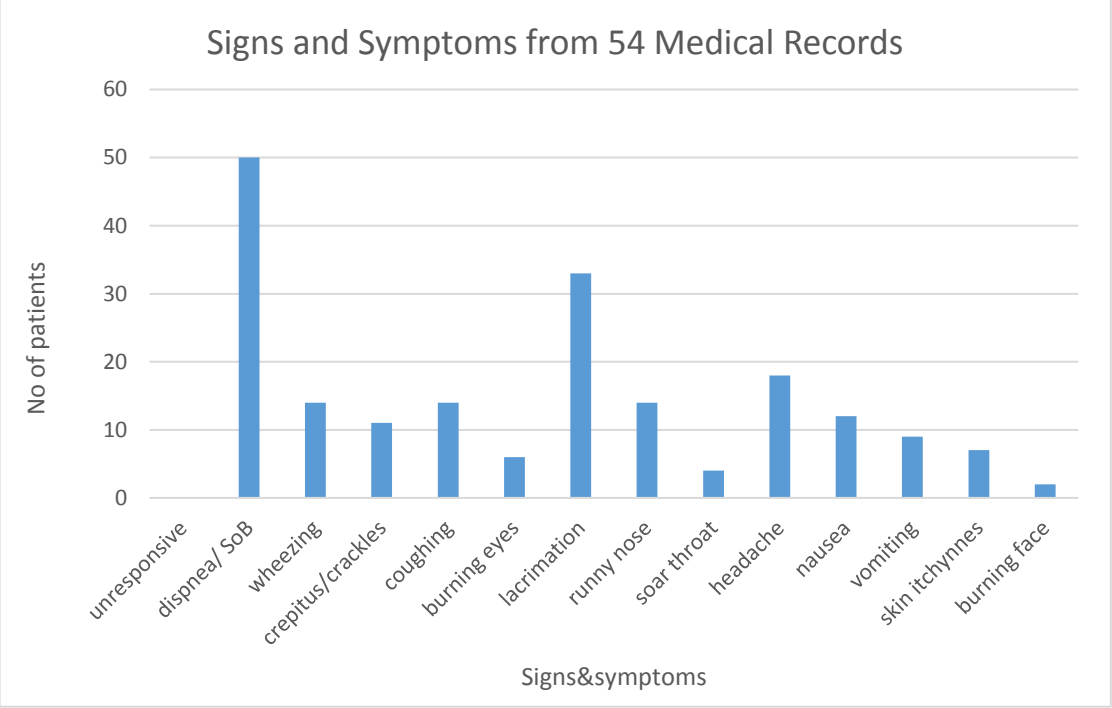
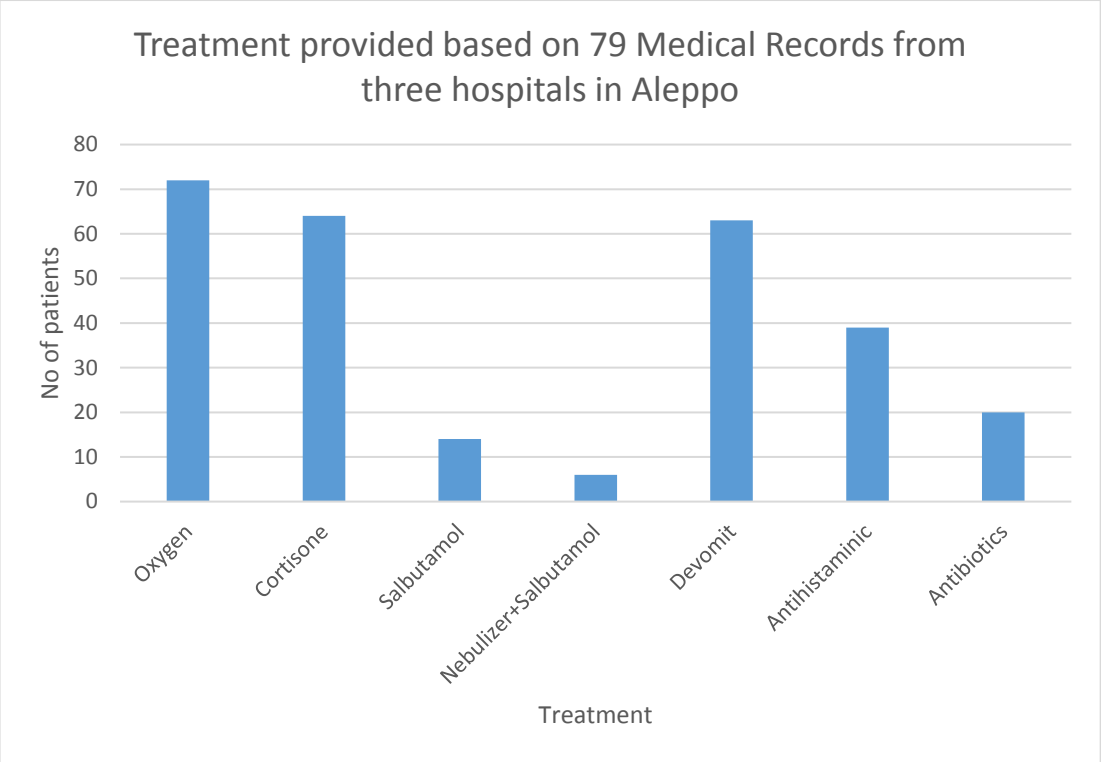


FIGURE 3: TREATMENT AT THREE HOSPITALS BASED ON 79 MEDICAL RECORDS



7.29 With regard to the treatments, the three hospitals administered a standard therapy for mild-to-moderate respiratory distress. All three hospitals confirmed that there were no fatalities associated with this incident.

7.30 Medical records generated by Aleppo University Hospital do not contain any description of the patients' signs and symptoms.

7.31 The medical records also show that these patients (paragraph 7.28) were all in the same area in North-West Aleppo when the respiratory symptoms began (Figures 4, 5, and 6).

FIGURE 4: AGE OF CASUALTIES BASED ON MEDICAL RECORDS FROM THREE HOSPITALS IN ALEPPO

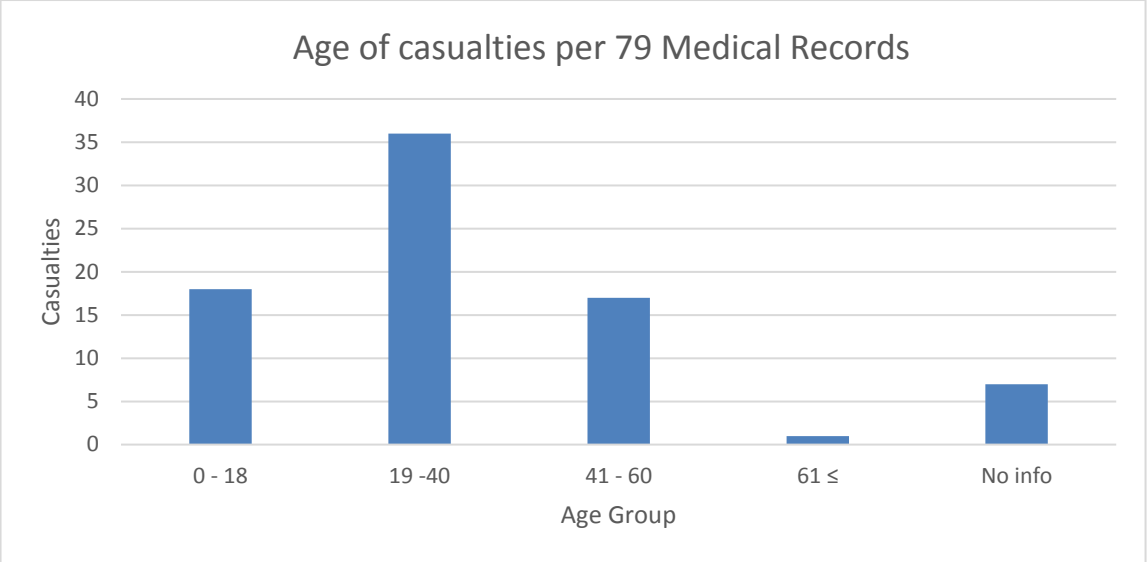
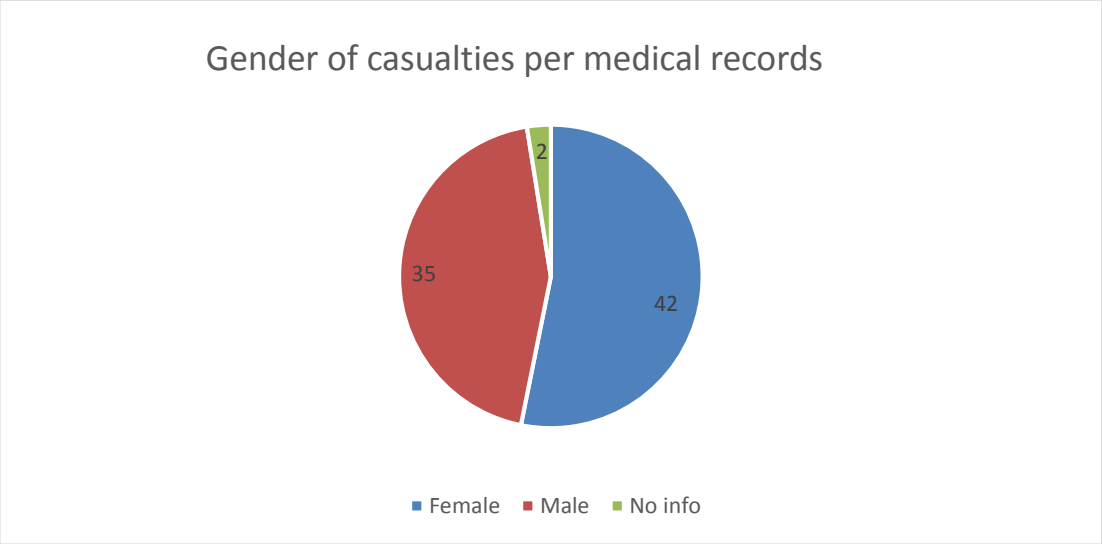


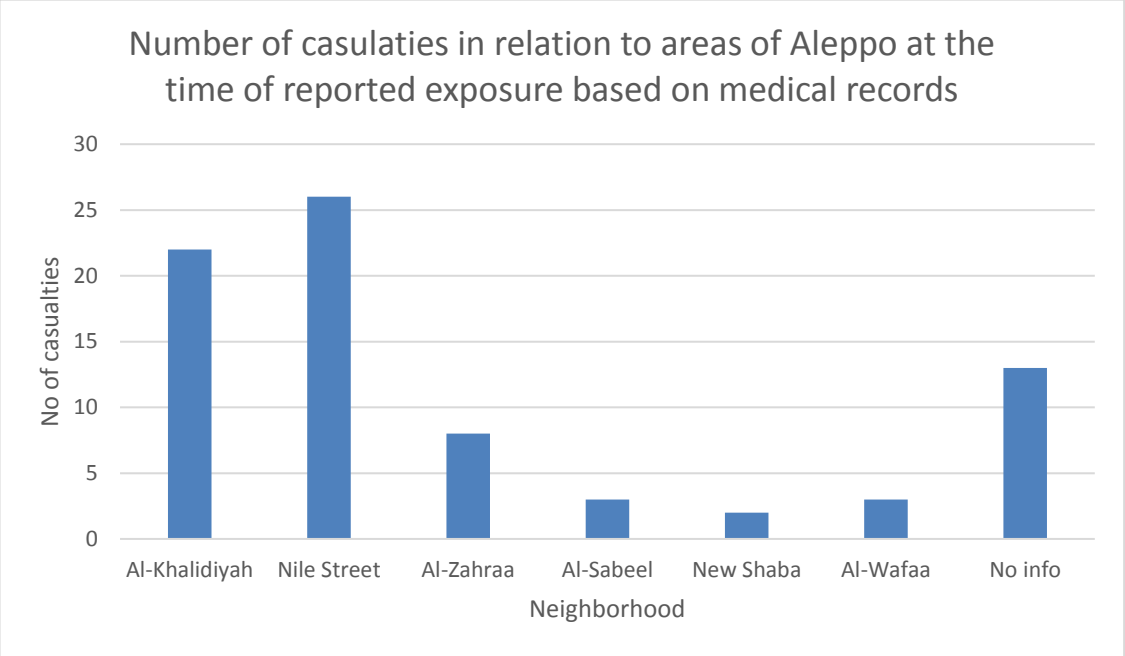
FIGURE 5: GENDER OF CASUALTIES BASED ON MEDICAL RECORDS FROM THREE HOSPITALS IN ALEPPO



7.32 The analysis of signs and symptoms, the treatments that were administered, and the duration of the symptoms as conveyed in the medical records, the medical personnel administering treatment, and the witnesses themselves, reveal a degree of compatibility between the allegations and the fact that an irritant substance might have been present in the environment at the date, time, and location indicated by the incident reported by the authorities of the Syrian Arab Republic.

7.33 As for the medical formulation of a diagnosis, there must not be any other possible explanation in order to identify the causes of an acute disease. The signs and symptoms reported are not conclusive for a specific substance or group of substances. This substance is an irritant non-toxic gas[8]. Irritants cause slight inflammation or other discomfort to the body that is temporary and without damaging the body itself.

FIGURE 6: NUMBER OF CASUALTIES IN RELATION TO THE AREAS OF ALEPPO AT THE TIME OF REPORTED EXPOSURE BASED ON MEDICAL RECORDS FROM THREE HOSPITALS IN ALEPPO



Analysis and assessment of electronic data

7.34 During its deployments, the FFM received the following electronic data:

(a) In December 2018, an advance team was provided by the representatives of the Syrian Arab Republic with a CD containing two videos recorded with mobile phones, and 24 photos of the activities at the hospital emergency departments. They all show people in beds, some with oxygen masks, and medical personnel providing care.

(b) During the deployment of January 2019, the FFM received a CD containing three videos showing interviews conducted by the Technical Committee with medical personnel from two hospitals in Aleppo involved in the emergency response. In the interviews, all the physicians involved in the treatment of casualties described signs and symptoms related to a probable inhalation of a gas. The signs and symptoms identified and treated were mild-to-moderate and mainly involved the irritation of eyes, nose, and upper airway. The casualties described a foul odour. Based on this information, it was not possible to identify the substance responsible for this medical condition. The

8 For every substance there is a dose below which there is no detectable toxic effect.

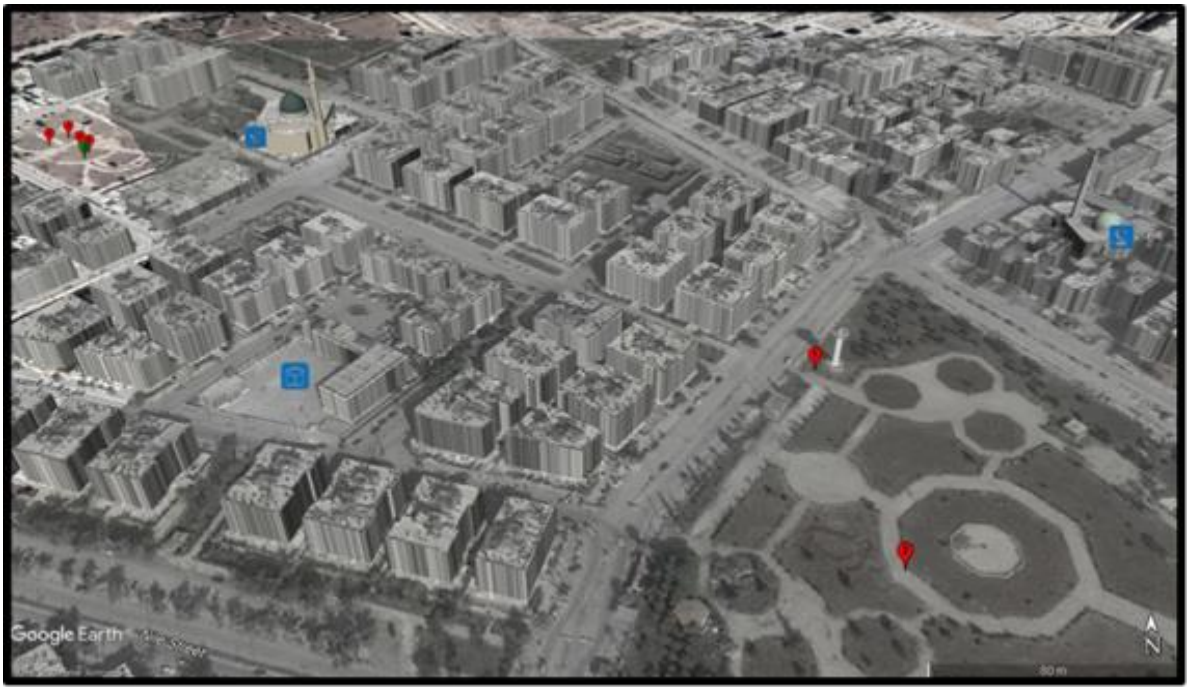
treatment was non-specific (paragraph 7.42 m) and aimed mainly at mild respiratory distress. Some casualties with pre-existing conditions (such as asthma) needed few hours of observation, but most of the patients were treated and discharged within two to three hours of arrival. The physicians also confirmed the location, time, and date of the reported incident. The information provided in these videos is consistent with the account of events provided by the witnesses interviewed by the FFM.

(c) During the same deployment, the representatives of the Syrian Arab Republic provided the FFM with a CD with a combination of footage from TV news, and photos of casualties in the emergency departments of Aleppo University Hospital and Al-Razi/Zahi Azraq Hospitals. The videos show a large number of people in the rooms, patients with oxygen masks, red eyes, camera reporters, medical personnel, and some of the ongoing activities. The video confirms that a large number of people were present in the emergency departments at the time of recording. The file received is a combination of different videos and photos, making it impossible to establish the date and time of recordings through the metadata.9 Nevertheless, during its deployments, the FFM was able to visit the two hospitals and visually confirm that the Emergency Departments seen in the video are in fact those at Aleppo University and Al-Razi/Zahi Azraq Hospitals.

(d) During the January 2019 deployment, the FFM was provided with six videos of sampling locations. These videos were recorded by the Technical Committee on 12 January 2019 during the FFM deployment. Videos 1 and 2 were recorded at Location 2 and show mortar tails and a metal fragment. Videos 3, 4, 5 and 6 were recorded at Location 1 and show craters, holes, mortar tails, and metal fragments. Although it is not possible to link the craters, holes, metal fragments, and mortar tails to the reported incident, the FFM was able to geolocate the reported sampling points through analysis of satellite imagery and landmarks (Annex 11). The following image shows Location 1 (top left corner) and Location 2 bottom right corner) (Figure 7).

9 This video was assessed as having lower evidentiary value compared to other videos and photographs with metadata.

FIGURE 7: LOCATION 1 (TOP LEFT CORNER) AND LOCATION 2 (BOTTOM RIGHT CORNER). RED PINS INDICATE WHERE THE VIDEOS WERE RECORDED



Selection of witnesses

7.35 According to the medical records provided by the three hospitals visited by the FFM in January 2019, the total number of casualties connected to the alleged chemical incident is 79. However, the team was notified that not all casualties may have been registered due to the overwhelming number of people in the emergency departments.

7.36 Additionally, the FFM established that a certain number of people may have been exposed but did not necessarily seek treatment.

7.37 The FFM initially selected a number of witnesses from the broad area in which the chemical was allegedly dispersed, according to the incident reports provided by the authorities of the Syrian Arab Republic.

7.38 After visiting the three hospitals involved in treating the casualties (Figure 13) and the first round of interviews that included eight witnesses, some of which were casualties, a more detailed description of how the events unfolded and a clearer picture of the incident began to take shape. As a result, the FFM took the following actions:

(a) The FFM divided the section of Aleppo in which a substance was allegedly dispersed in three distinct areas (see Figure 8);

(b) The FFM selected a number of witnesses for each area of interest;

(c) The FFM did not select witnesses from Area 3, which is outside of the ring road; according to different sources, it had been indicated that the reported dispersion happened in one or more locations inside the ring road, with the wind blowing in the direction of the city centre.

7.39 The FFM selected witnesses in accordance with the principles of epidemiology, forming a cluster representing the entire population reportedly involved in the incident. To achieve this target, witnesses were selected taking into account gender, age groups (with exception of minors under 18 years of age) and geographical location at the time of the reported incident (Figures 9 through 11).

7.40 Witnesses were also given a priority level of 1 to 3 based on their location at the moment of the incident and the severity of their symptoms (Figure 12).

FIGURE 8: AREAS OF ALEPPO USED FOR WITNESSES SELECTION

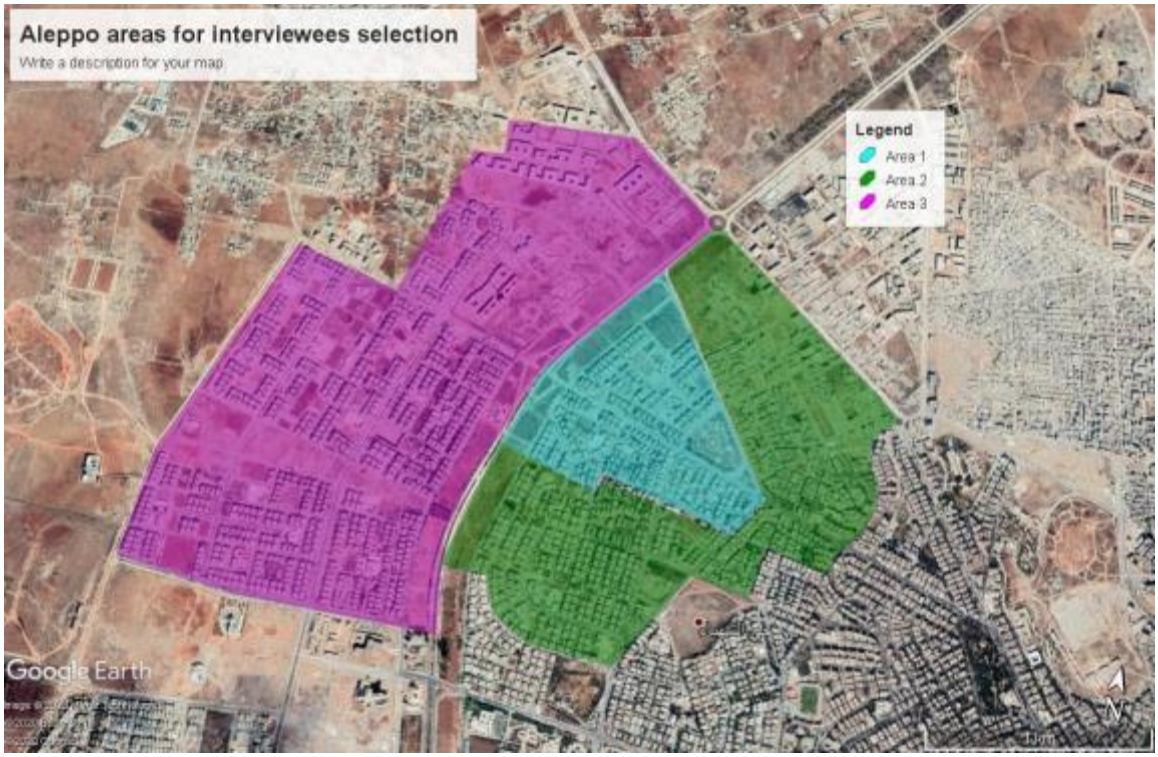


FIGURE 9: AGE OF WITNESSES INTERVIEWED BY THE FFM[10]

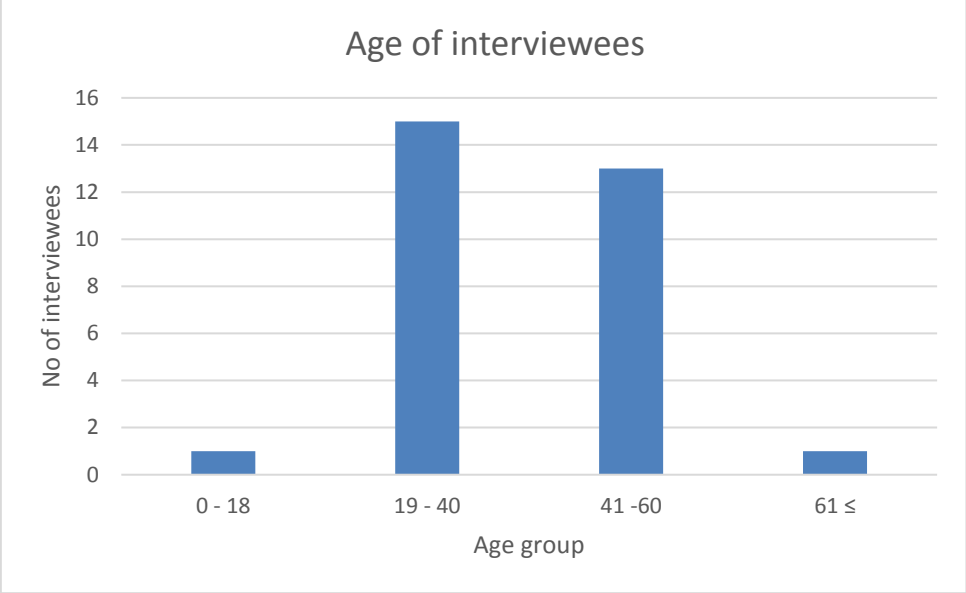
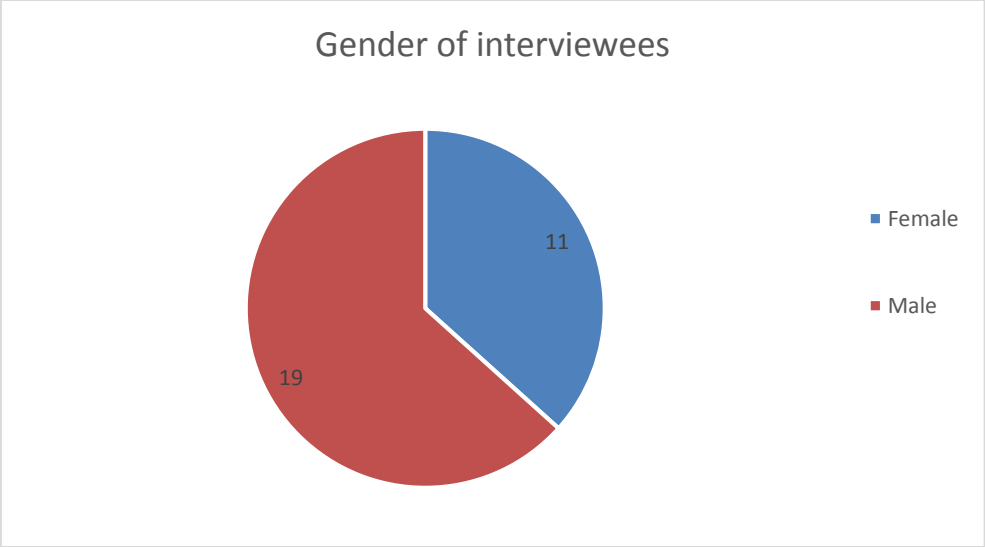


FIGURE 10: GENDER OF INTERVIEWED WITNESSES



10 Note: (a) the age prescribed in Figure 9 represents the age of the witnesses at the time of the incident; (b) figures do not include medical personnel.

FIGURE 11: NUMBER OF INTERVIEWED WITNESSES IN RELATION TO PRE-SELECTED AREAS OF ALEPPO[11]

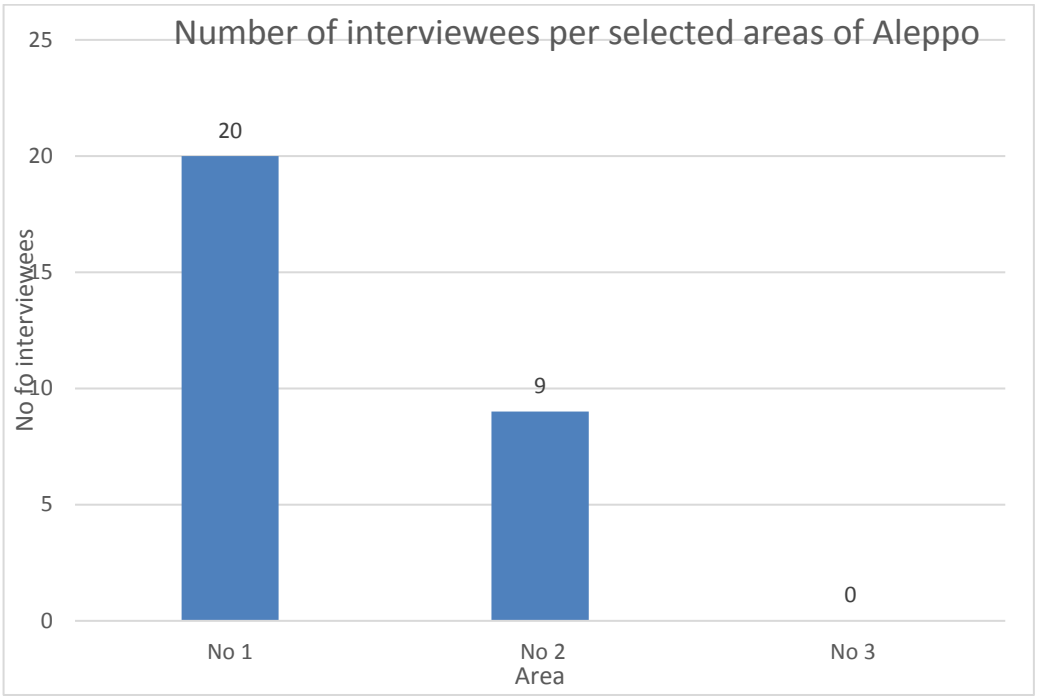
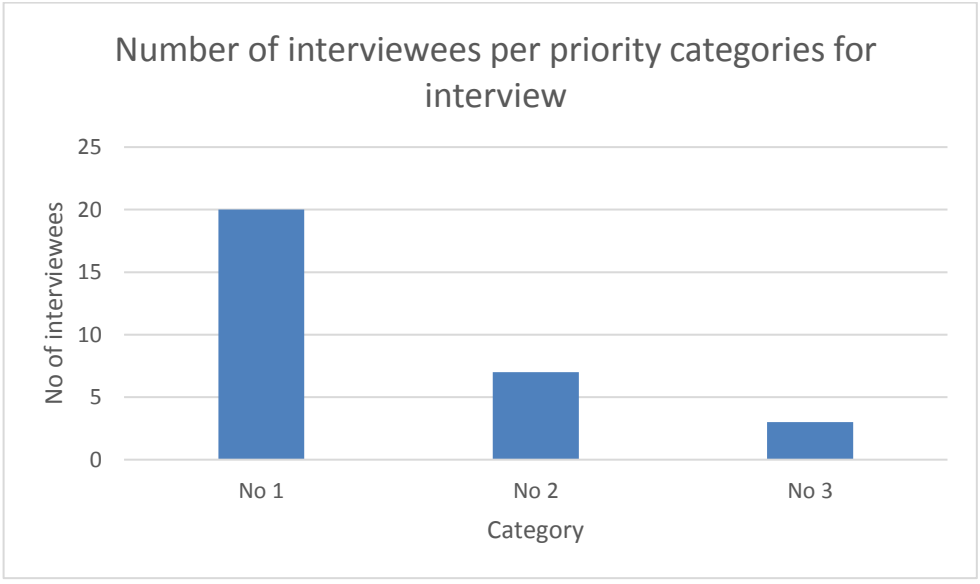
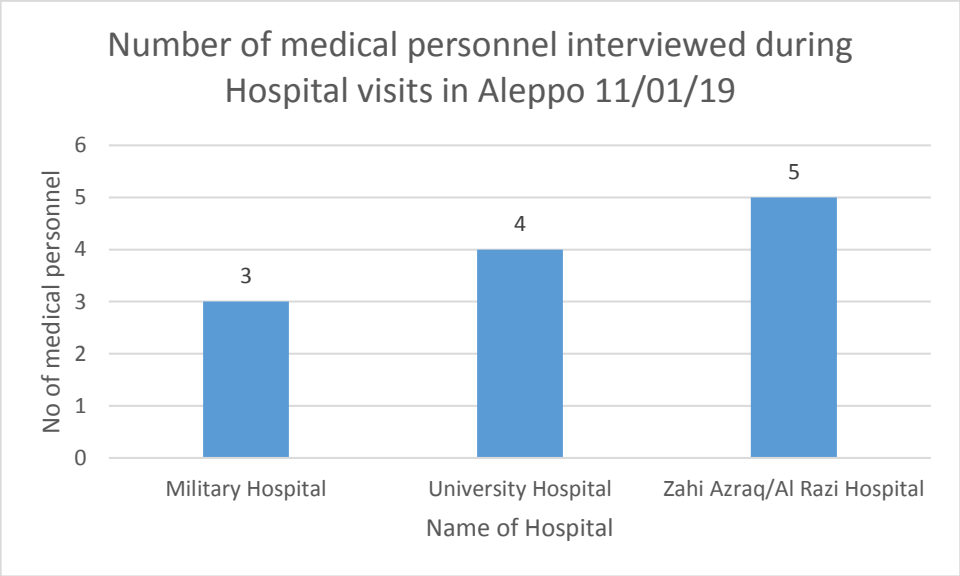


FIGURE 12: NUMBER OF INTERVIEWED WITNESSES PER PRIORITY CATEGORIES



11 A total of 29 interviewees represent persons directly involved in the reported incident.

FIGURE 13: NUMBER OF MEDICAL PERSONNEL INTERVIEWED AT EACH HOSPITAL IN ALEPPO DURING THE VISIT OF HOSPITALS IN JANUARY 2019



Analysis and assessment of interviews

7.41 Over the course of its three deployments, the FFM conducted interviews with 30 witnesses and 12 medical personnel linked to the incident. The total number of 30 witnesses consists of 29 casualties and one technical expert.

7.42 The composite summary established from interviews is as follows:

(a) Military activities between the Syrian Arab Army and armed opposition groups were ongoing in the area. At the time, the front line separated the neighbourhoods of Al-Khalidiyah, Tajmeel al-Khalidiyah, and Al-Zahraa on the one hand, and the neighbourhood of Balleramoun on the other. Syrian Arab Army units held the Defence Factories in Al-Khalidiyah, while armed opposition groups held positions in the North-West of Aleppo's ring road (Figure 15). North-West Balleramoun is the location reported to be the usual source of shelling and the location from which the "projectiles" were usually fired. Given that the entire area was an active combat zone, it was subject to regular fighting and shelling, with substantial sniper activities over the observed period.

(b) Interviewees reported that on the evening of 24 November 2018, from approximately 20:30 onwards, at least four projectiles were heard falling around Al-Khalidiyah in an area located between the ring road, in the North-West of Aleppo, the Defence Factories in the North-East of Tajmeel al-Khalidiyah, and along Nile Street, which spans from the ring road to the Arab Medicine roundabout in the South of Al-Khalidiyah. For reference, the area includes a number of landmarks, such as: Bashir al Nazir Mosque, Al Ghofrane Mosque, Imam Bukhari Mosque, Qutaybat al-Bahili Mosque, the Girls' Orphanage, the Local Market Park (aka Souq Mahally Park), and Sallora Park (also known as Nour al-Din al-Zenki Park). This densely populated area is about 1,800 meters long, 750 meters wide.

(c) Allegedly, one or more of these projectiles released a substance that produced symptoms of airway irritation experienced throughout the entire identified area.

(d) Interviewees described the sound of at least four explosions, all of which had a different or lower sound than expected. It was not possible to identify if this was due to smaller ammunition or distance. Some witnesses referred to them as "far away" or "not scary". A few interviewees said that there was no explosion on impact and that the falling sound was similar to a "whistling" sound. The type of munition or device was not mentioned by interviewees, since none of the interviewees was able to identify the exact locations of impact, or the source of the allegedly dispersed substance.

(e) Many of the interviewees linked the shelling to the release of a smoke-like substance, and an odour that they smelled afterwards. The substance was described as a white, dense, foggy smoke similar to a dust cloud. The smell perceived was described as bad, strong, gnarly, and pungent. Many interviewees linked the smell to household cleaning products or sanitizers of local brands like "Chlor", "Chlorex", "Javell", or "Flash". Some stated that the "burning sensation was stronger than the odour itself".

(f) Some interviewees reported using dry or wet pieces of cloth, scarves, or towels to cover their mouths and noses; others used paper masks as a form of respiratory protection. Several interviewees washed their faces and hands after exposure and experienced some relief of their symptoms. In most cases, protective measures proved to be insufficient and did not prevent the development of symptoms.

(g) Several casualties used their own means of transportation or taxies to get to a hospital, namely Aleppo University Hospital and the Zahi Azraq/Al-Razi Hospitals. Several witnesses reported that a number of rescue vehicles and ambulances were stationed at the Arab Medicine roundabout, following a broadcast of the incident by Syria TV and after people started reporting that a chemical attack had taken place in Al-Khalidiyah.

(h) According to medical personnel and some of the witnesses, the hospitals started receiving a large number of casualties related to the reported incident, starting at 20:30 and onwards on 24 November 2018. Hospitals kept receiving casualties suffering from the same signs and symptoms past midnight. Some patients were referred to other hospitals due to the overwhelming number of casualties. According to the severity of the symptoms and response to treatment, some patients needed to be admitted for observation and/or further treatment.

(i) On 24 November 2018 at approximately 20:45, six soldiers in their twenties who were patrolling the front line in the area of Al-Khalidiyah were exposed to a substance described as having a strong odour similar to chlorine or a cleaning product. Some reported the odour as being similar to that of spoiled eggs. As a result, they were referred to Aleppo Military Hospital 604, and two of them were admitted for observation.

(j) The signs and symptoms presented by the casualties and reported by the treating physicians were: burning eyes, eye redness, lacrimation, burning nose, runny nose, frothing from the mouth, excessive salivation, shortness of breath, sensation of suffocation, chest tightness, dizziness, nausea and vomiting, state of agitation, and in some cases, a loss of consciousness. These symptoms varied from mild to moderate[12].

(k) Although some medical personnel indicated that the cause of the signs and symptoms was a toxic gas, none of the medical personnel interviewed in the three hospitals could formulate a diagnosis that could indicate a precise substance or group of substances.

(l) Medical tests and examinations of the casualties were performed at the hospitals. These included: chest x-rays, ECGs, and blood tests (electrolytes, urea, creatinine, and AChE). The overall results of all these tests were within the normal ranges and could not help identify the cause of the respiratory distress.

(m) The treatment administered is summarised as follows: oxygen, nebulizer (salbutamol or other bronchodilators), IV fluids, steroids (cortisone or hydrocortisone), and an anti-emetic in some cases.[13]

(n) The medical personnel who were interviewed stated that most patients were discharged within a couple of hours, some after having asked to be discharged. Four interviewees stayed in hospital more than two days, while the longest stay was eight days. Most of the interviewees did not go back for a follow-up and were discharged in good health.

(o) The substance allegedly released in the environment reportedly produced a dense white smoke similar to dust that moved in the direction of the wind and did not disperse quickly like a smoke that would be generated by fire. This description is consistent among the vast majority of witnesses. The witnesses far from the suspected dispersion points could not identify any smoke, vapour, or visible gas in the environment, and experienced some mild irritating effects to the eyes and nose.

(p) The substance produced eye and respiratory tract irritation, which was not permanent. Furthermore, some people felt itching or burning on skin that was unprotected or exposed. Some reported deterioration of the respiratory symptoms, including difficulty breathing and a sensation of suffocation, which consequently led to a state of agitation or panic. A few suffered from nausea and vomiting.

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12 Frothing from the mouth can be due to excessive salivation, normally preceding vomiting. Loss of consciousness is also common in agitated, panicked, and hyperventilating patients.

13 The treatment provided in the hospitals targeted the symptoms in a non-specific way and is not a standard treatment for a specific substance or group of substances.

(q) One witness visited one alleged impact point at Location 2 the following day at 11:00 to inspect the area. The interviewee identified and described a crater as "long shaped", 50- to 60-cm long and 25-cm deep, surrounded by metal fragments differing in size, adding that the size ranged "from that of a finger to that of a palm". There was no odour at that time and no discoloration was observed in the surrounding vegetation. It is unclear whether this crater is related to the reported incident.

(r) According to witness accounts and their locations when they began exhibiting symptoms, the area of interest for this incident is depicted in Figure 14.

FIGURE 14: SUSPECTED AREA OF DISPERSION BASED ON LOCATION OF THE WITNESSES AT THE MOMENT OF EXPOSURE

7.43 Members of the Technical Committee of the Syrian Arab Republic were interviewed. The Technical Committee tasked to investigate the reported incident consisted of an Aleppo branch, which had commenced the investigation on 24 November 2018 and was joined by the rest of the team arriving from Damascus on 25 November 2018. A composite summary is set out in the points below.

(a) The Aleppo branch of the Technical Committee became aware of the reported chemical incident in Aleppo on the evening of 24 November 2018 from reports on Syrian TV, which was broadcasting from the hospitals in Aleppo, namely Zahi Razaq/Al-Razi Hospitals and Aleppo University Hospital. During the night, a supervisor tasked the Aleppo branch of the Technical Committee to move to the area and collect information. At 08:00 on the following day, the Aleppo branch of the Technical Committee went to Location 1—the Local Market Park, also known as the Souq Mahally Park—which was the location mentioned the night before on television. There, the Aleppo branch of the Technical Committee spoke with local residents and the neighbourhood representative. They pointed to the house of a family whose members had reported to have been exposed, had needed to go to the hospital, and had

already been released by that time. The Aleppo branch of the Technical Committee collected the family members' accounts of the events, including the symptoms they experienced. They mentioned a number of projectiles impacting around the area where they reside, and that they subsequently developed respiratory symptoms.

(b) Some of the impact points were reported to be behind the family's residence in a green/open area somewhere along the last building line, behind the sand barricades and the ring-road. This area was not accessible for security reasons.

(c) According to the family that was interviewed, the projectiles produced a lower sound at impact, compared to what they had grown accustomed to. The witnesses described an odour that reminded them of a cleaning product named Chlorax or Flash.

(d) After speaking with this family, the Aleppo branch of the Technical Committee visited Aleppo University Hospital and Zahi Azraq/Al-Razi Hospitals, where interviews with medical staff took place.

(e) On 25 November 2018 at around 13:00, the Aleppo branch of the Technical Committee was joined by two individuals sent from Damascus and continued its activities with a visit to Location 1. The activities performed at that location were: the identification of two or three craters reported as newly-formed through ground discoloration, and the identification of some fragments of ammunition, some of which were described as big, possibly resulting from a lower explosive load of the device, or bigger than a conventional munition. The Technical Committee also took wipe samples from the glass windows at the residence of the family that was interviewed. A detailed description of the sampling points is provided in Annex 11.

(f) Detection activities were carried out at the sites of the craters. The detector used was a Syrian-made chemical detector dubbed 'the sniffer', which uses detection tubes, including chlorine detection tubes. Screening by hand-held detector did not indicate the presence of any screened chemicals, including chlorine. The samples were collected from the area near the selected craters, and not from inside them.

(g) There was no discolouration noted in the vegetation in the surroundings of the selected craters, and it was not observed to be any different from the vegetation in the area.

(h) The members of the Technical Committee used paper masks as the only means of protecting their airways.

(i) The Technical Committee noted that the wind was blowing from the west on the evening when the incident took place.

(j) The activities at Location 1 ended around sundown.

(k) In order to provide control samples, the Technical Committee went to Location 2 and identified two newly-formed craters, similar to those found at Location 1. Some metal fragments were collected as control samples from this area. A detailed description of the sampling points is provided in Annex 11.

(l) The following day, on 26 November 2018, the Technical Committee went to talk to the neighbourhood representative again, and then visited the hospitals once more to continue the investigation. This time, they also visited Aleppo Military Hospital 604.

(m) The Technical Committee stated that the collected samples were sent to SSRC Jamrayah for a qualitative analysis. The result of the samples analysis showed the presence of chlorine ions in eight out of nine samples gathered within the area of interest. The ninth sample is a cotton wipe that was provided to the FFM (original Sample Code #4), and was labelled as a blank sample tested negative for chlorine ions by SSRC Jamrayah.

7.44 Witness accounts were also used to identify the location of the reported incident. During interviews, witnesses were encouraged to explain their surroundings, as well as the events leading up to and immediately following the incident. This information was used to geolocate key features such as landmarks, mosques, hospitals, and other identifiable buildings. This analysis was used to identify and mark the areas pertinent to the reported incident. Open-source research was used to corroborate the information when possible, such as the location of the front line on the date of the incident and the location of possible impact points. A map of the locations of the incident can be seen in Figure 15.

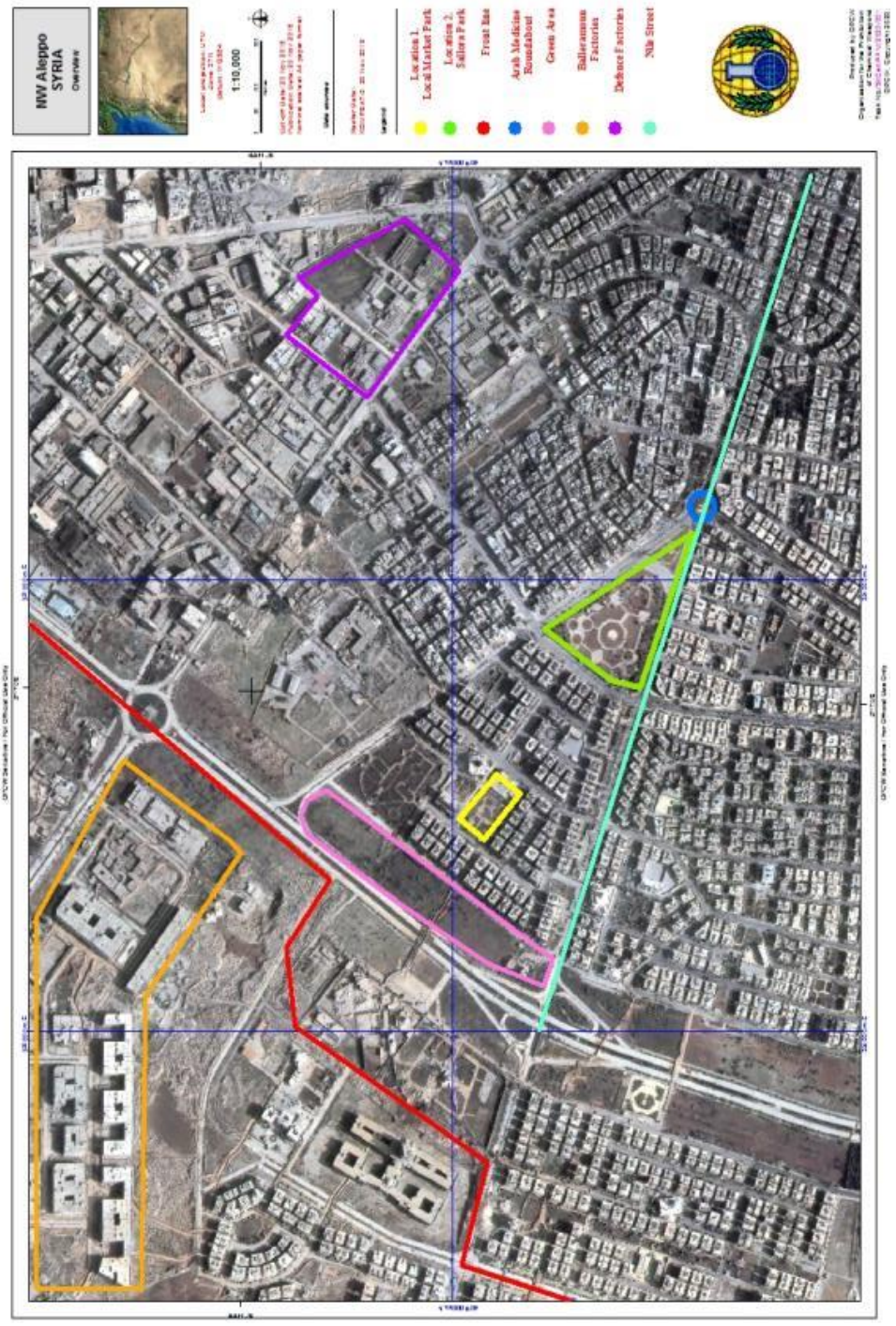


FIGURE 15: THE NEIGHBOURHOOD OF AL-KHALIDIYAH, ALEPPO GOVERNORATE

Environmental samples and analyses

7.45 During the FFM's January 2019 deployment, the Technical Committee of the Syrian Arab Republic informed the FFM that the Committee had visited the location of the 25 November 2018 incident on in order to conduct sampling activities (interviews summarised in paragraph 7.43). The samples collected by the Technical Committee were then transported to the SSRC Jamrayah for further analysis (paragraphs 7.43(e) to 7.43(m)).

7.46 The FFM was given access to nine environmental samples in the custody of the authorities of the Syrian Arab Republic on 7 Jan 2019 and located at SSRC Jamrayah. Four of these samples were the metal fragments mentioned in paragraph 7.57, and five samples were soil and wipe samples. The samples were handed over in sealed transparent plastic bags and glass containers. The plastic bags and the container lids were then partially opened by the FFM in order to perform detection on the potential off-gassing of the samples. The FFM continued by conducting a preliminary screening of samples using hand-held detectors. The full process was documented by photographs. These activities were witnessed by the representatives of the Syrian Arab Republic and the Russian Federation.

7.47 Due to the nature and size of the samples, it was agreed with the authorities of the Syrian Arab Republic that the samples would be collected as such and subsequently split at the OPCW Laboratory in the presence of Syrian representatives. The FFM then secured these samples under OPCW seals and packed them for further analysis by OPCW Designated Laboratories. They were packed and transported in accordance with the OPCW WIs and SOPs listed in Annex 13.

7.48 With regard to the history of the environmental samples, no additional evidence, such as documentation or the sample collection, handling, or processing methodologies that were applied, nor any laboratory logbooks or information about the chain of custody were provided. The FFM always endeavours to collect information about the history of samples to the best of its ability in order to aid in its evaluation of their evidential value. The FFM requested access to these documents on several occasions. None were provided. After consultations that took place at the OPCW HQ on 28 May 2020, the FFM was informed by the relevant State Party that the chain of custody of the samples had been established because the samples were collected by a State Party to the Convention and thus, the samples were legitimate and had sufficient evidential value. However, based on the lack of information on the history of the samples, the criteria listed in paragraph 6.47 were not met. Therefore, the evidential value was assessed as low and insufficient to establish a link between the reported incident and the samples.

7.49 On 8 January 2019, the samples were transported to the OPCW Laboratory.

7.50 On 7 February 2019, the samples were unpacked, split and processed for analysis. The sample handover and the splitting process were witnessed by one FFM team member and representatives of the Syrian Arab Republic. All transfers of samples were documented and verified in compliance with standard OPCW procedures.

7.51 The samples were analysed by two OPCW designated laboratories.

7.52 The scope of the analysis was based on the information received from the Syrian Arab Republic, a summary of the interviews, as well as the signs and symptoms, and physical properties of the alleged substance described by the witnesses. Therefore, the scope of analysis included scheduled chemicals, their precursors and degradation products, riot control agents, and chlorinated organic chemicals.

7.53 The laboratory reports from the Designated Laboratories did not show the presence of any such chemicals in the samples. The report of the laboratory analysis of these samples can be found in Annex 9.

7.54 In January 2019, the FFM received the report on the analysis of environmental samples conducted by SSRC Jamrayah (Annex 5). The result of the sample analysis showed the presence of chlorine ions in eight out of nine samples gathered within the area of interest. The ninth sample is a cotton wipe that was given to the FFM (original Sample Code #4) as a blank sample, and tested negative for chlorine ions by SSRC Jamrayah. The methodology used by SSRC Jamrayah was based on qualitative inorganic analysis, which seeks to find the elemental composition of inorganic compounds. This method is focused on detecting ions in an aqueous solution. The solution is then treated with various reagents to test for characteristics of the reactions of certain ions, which may cause a colour change, precipitation, and other visible changes.

7.55 The results of the analysis of environmental samples conducted by the OPCW designated laboratories did not confirm the findings listed in paragraph 7.54.

7.56 Based on the results of analysis of environmental samples and the fact that the criteria listed in paragraph 7.25 were not met, the FFM decided not to perform collection of biomedical samples.

Analysis of technical weapons exploitation

7.57 During its first deployment in January 2019, the FFM received, at SSRC Jamrayah, several fragments of ammunition reported to be samples connected to the incident (Annex 7). These ammunition fragments were collected by the Technical Committee of the Syrian Arab Republic in Aleppo, at Locations 1 and 2 on 25 November 2018. The samples were handed over in sealed transparent plastic bags. The plastic bags were then partially opened by the FFM in order to detect any potential off-gassing of the fragments. The team continued by conducting a preliminary screening of fragments using hand-held detectors. The full process was documented by photos and witnessed by the representatives of the Syrian Arab Republic and the Russian Federation. Screening activities with hand-held detectors did not indicate the presence of chemical warfare agents or the presence of chlorine gas.[14]

7.58 From the moment of receipt, the fragments were handled and treated by the FFM as environmental samples, as described in paragraphs 7.46 to 7.53.

[14] The preliminary screening was conducted according to SOPs/WIs for samples handling and for safety reasons. This screening is used to select the proper way of transportation of samples for off-site analysis, according to International Air Transport Association (IATA) regulations.

7.59 In May 2019, with the help of Secretariat munition experts, the FFM conducted a thorough technical weapon exploitation of the fragments in the OPCW Laboratory. The full Technical Weapons Exploitation Report can be found in Annex 10.

7.60 Special attention was paid to the shape of the fragments in an effort to determine their origin, i.e., the type, calibre, and possible fill of the ammunition that produced the fragments. This is because an ammunition with a chemical fill would generally produce a typical type of fragment, or parts of ammunition.

7.61 The location where the reported chemical attack took place was an active combat zone which has been covered with fragments from numerous explosions, from different types of ammunition, and with different payloads. Given that the number of fragments handed over to the FFM was limited to six fragments from different ammunition, and without any visible key features to identify the ammunition, the team was not able to determine with certainty the type of ammunition and whether the ammunition which produced the fragments had a chemical fill.

8. CONCLUSIONS

8.1 Over the course of three deployments and throughout post-deployment activities, the FFM gathered, reviewed, and analysed the available information regarding incidents of alleged use of toxic chemicals as a weapon, as reported in Note Verbale 89 dated 25 November 2018 and Note Verbale 91 dated 26 November 2018 received from the Syrian Arab Republic.

8.2 The FFM examined and collected copies of documents and records provided by the authorities of the Syrian Arab Republic and the Russian Federation. These included written incident and technical reports, medical information, and electronic data relevant to the reported incident.

8.3 The authorities of the Syrian Arab Republic provided access to environmental samples, including metal fragments reported to be connected to the alleged incident. The FFM conducted an examination of the environmental samples in accordance with OPCW procedures and using approved equipment in order to make a preliminary assessment to identify the method of transportation and the scope of laboratory analysis of these samples.

8.4 With regard to the history of environmental samples, no additional evidence, such as documentation and methodology of the samples collection activities, handling and processing, laboratory logbooks, and the chain of custody were provided. Neither the Syrian Arab Republic nor the representatives of the Russian Federation could clarify which samples were collected by the Technical Committee or by the Russian CBRN team. It was stated that no additional information regarding the environmental samples would be provided, due to the need to uphold military secrecy. Given that the criteria listed in paragraph 6.47 were not met, the evidential value was assessed as low and insufficient to establish a link between the reported incident and the samples, as detailed in paragraphs 7.11 to 7.13, 7.15 to 7.23 and 7.48.

8.5 Regardless of what has been mentioned above, the environmental samples were analysed by two OPCW Designated Laboratories. The scope of the analysis included scheduled chemicals, their precursors and degradation products, riot control agents, and chlorinated organic chemicals. The laboratory reports did not show the presence of any such chemicals in the samples. The report of the laboratory analysis can be found in Annex 9.

8.6 Based on these results, and according to the non-specificity of the signs and symptoms, the FFM conducted the assessment and decided not to proceed with the collection of biomedical samples, as the analysis has to be targeted to the compounds found in the environmental samples or to specific signs and symptoms.

8.7 The full analysis of fragments, which included a technical weapons exploitation, visual observations, and chemical analysis, cannot confirm that the fragments received are related to a chemical incident. The full expert report can be found in Annex 10.

8.8 The FFM was unable to visit the locations of pertinence to the allegation to conduct site exploitation assessments, including environmental sample collection, due to security reasons. The team was, however, able to visit the three different hospitals in Aleppo involved in the treatment of all casualties where 12 medical personnel were interviewed.

8.9 In order to form a composite summary of the reported incident, the FFM conducted interviews with witnesses, casualties, medical personnel engaged in the administration of treatment to casualties, and other stakeholders identified by the FFM upon review of the documentary evidence.

8.10 With regard to the incident that took place in the neighbourhood of Al-Khalidiyah and its surroundings on 24 November 2018, the FFM reviewed, assessed and analysed all witness accounts and documents provided or collected. The FFM found consistency in the statements of the witnesses, casualties, and medical personnel involved in the administration of treatment to casualties; all of those interviewed described similar events and symptoms. The summary established by the team through interviews is similar to the official incident reports provided by the Syrian Arab Republic (paragraph 7.3).

8.11 According to all the documents examined by the FFM, from 79 to 125 people were exposed to an unidentifiable substance around the same time and area, developing signs and symptoms of a respiratory nature. No casualty suffered long-term debilitating effects and no fatalities occurred. This is consistent with the information obtained from the interviews. Neither the general clinical presentation of those affected, nor the visual or olfactory description of the substance can be related to a specific chemical. The signs and symptoms presented are a general physiological response to an array of external factors and can be caused by a large number of substances and diseases. The number of people affected at the same time and area excludes disease as a cause of said signs and symptoms. Moreover, the treatment provided was aimed at reversing the respiratory effects and cannot be linked to any one specific substance. The FFM is of the view that the signs and symptoms reported may have, in some instances, been caused by exposure to some type of non-persistent substance that produced mild-to-moderate airway irritation.

8.12 Furthermore, witness accounts did not provide substantial information to help identify the source or sources of the dispersion. The fragments provided by the Syrian Arab Republic could not be linked to the reported incident (paragraph 8.4). Therefore, it is not possible to determine the particular device or devices involved in the dispersion of the substance, nor the exact point or points of origin of the dispersion, as there is no substantial evidence to corroborate this information.

8.13 Overall, all the information obtained and analysed, the composite summary of the interviews, and the results of the laboratory analyses did not allow the FFM to establish whether or not chemicals were used as a weapon in the incident that took place in the neighbourhood of Al-Khalidiyah and its surroundings in North-West Aleppo on 24 November 2018.

Annexes (English only):

Annex 1: List of Open-Source Information

Annex 2: Mission Timeline

Annex 3: Accounted Timeline of Events

Annex 4: List of Correspondence with the Authorities of the Syrian Arab Republic

Annex 5: List of Information Received and Handed Over During Deployments to and from the Authorities of the Syrian Arab Republic

Annex 6: List of Correspondence Regarding FFM Request for Information from the Russian Federation

Annex 7: List of Samples Transported for Off-Site Analysis

Annex 8: Select Sample Photographs

Annex 9: Report on the Analysis of FFM Samples Related to the Aleppo Incident Returned by FFM in January 2019

Annex 10: Technical Weapons Exploitation Report

Annex 11: Mapping of Incident Location in Al-Khalidiyah

Annex 12: List of Evidence Gathered During the Interview Process

Annex 13: Reference Documentation

Annex 1

LIST OF OPEN-SOURCE INFORMATION[15]

No.	Source
1	https://syria360.wordpress.com/2018/11/24/dozens-of-civilians-injured-as-terrorists-shell-aleppo-with-chlorine/
2	https://www.facebook.com/KinanaAllouchePage/videos/254502965221563/
3	https://sputniknews.com/middleeast/201811241070102178-syria-aleppo-terrorists-shelling-casualties/
4	https://sputniknews.com/middleeast/201811241070104570-syria-aleppo-chlorine-attack-military-response/
5	https://www.youtube.com/watch?v=sOUc8fMgGxk
6	https://www.washingtonpost.com/world/middle_east/the-latest-syrian-tv-21-injured-in-suspected-gas-attack/2018/11/24/fcb1a3fe-f029-11e8-8b47-bd0975fd6199_story.html?arc404=true
7	https://www.youtube.com/watch?time_continue=1&v=w37yDagyjMk
8	https://www.facebook.com/677727849050698/posts/1133827910107354/
9	https://www.rt.com/news/444804-syria-gas-attack-aleppo/
10	https://www.timesofisrael.com/rebels-deflect-blame-after-dozens-said-hurt-in-syria-gas-attack/
11	https://twitter.com/THEBELAAZ/status/1066504117051408384
12	https://maps.southfront.org/moderate-rebels-attack-aleppo-city-with-chemical-weapons-casualties-reported-photos/
13	https://twitter.com/Partisangirl/status/1066531602044317696
14	https://www.cnbc.com/2018/11/25/russia-accuses-insurgents-of-firing-on-syrias-aleppo-with-chlorine-gas-shells.html
15	https://edition.cnn.com/2018/11/25/middleeast/syria-gas-attacks/index.html
16	https://sana.sy/en/?p=151917

[15] Links were available at the time of first deployment.

No.	Source
17	https://www.theguardian.com/world/2018/nov/24/dozens-injured-by-shelling-in-aleppo-syrian-state-media-reports
18	https://twitter.com/ChannelNewsAsia/status/1066648136628678657
19	https://twitter.com/Th2shay/status/1066651027988979712
20	https://www.haaretz.com/middle-east-news/syria/poison-gas-attack-by-anti-assad-rebels-injures-50-syrian-state-media-claims-1.6680654
21	https://www.aljazeera.com/news/2018/11/syria-opposition-denies-launching-poison-gas-attack-aleppo-181125104423008.html
22	https://www.vesti.ru/doc.html?id=3087385#/video/https%3A%2F%2Fplayer.vgtrk.com%2Fiframe%2Fvideo%2Fid%2F1846456%2Fstart_zoom%2Ftrue%2FshowZoomBtn%2Ffalse%2Fsid%2Fvesti%2FisPlay%2Ftrue%2F%3Facc_video_id%3D778556
23	https://www.abc.net.au/news/2018-11-26/russia-bombs-syria-rebels-after-suspected-aleppo-gas-attack/10553338
24	https://m.ren.tv/novosti/2018-11-26/ustanovleno-proishozhdenie-boepripasov-s-hlorom-kotorymi-boeviki-atakovali-aleppo
25	https://ren.tv/news/v-mire/364892-ustanovleno-proiskhozhdenie-boepripasov-s-khlorom-kotorymi-boeviki-atakovali-aleppo
26	https://www.youtube.com/watch?v=HBdfkEkbLls
27	https://www.middleeasteye.net/news/syrian-government-allegations-aleppo-chemical-attack-critics-sceptical-1555062259
28	https://twitter.com/hussam_ali0/status/1067036700453625856
29	https://tvzvezda.ru/news/forces/content/201811271608-jjty.htm
30	https://www.bellingcat.com/news/mena/2018/11/28/open-source-survey-of-the-alleged-november-24-2018-chemical-attack-in-aleppo/

Annex 2

MISSION TIMELINE

Date	Activities
25 Nov 2018	Reports of alleged chemical attack in Aleppo, SAR. Secretariat Situation Centre begins immediate collection of open source materials to assess credibility of the allegation.
25 Nov 2018	SAR Permanent Mission sends Note Verbale 89 regarding an incident reported to have occurred in several residential neighbourhoods in Aleppo on 24 November 2018 and requests the FFM to take action. (Annex 4)
26 Nov 2018	SAR Permanent Mission sends Note Verbale 91, regarding an incident reported to have occurred in several residential neighbourhoods in Aleppo on 24 November 2018 and requests the FFM to take action. (Annex 4)
Nov 2018	Secretariat received notes verbales from SAR with regards to alleged incident in Aleppo as listed in Annex 4.
29 Nov 2018	DG informs SAR NA in Letter No L/ODG/217418/18 about its intention to deploy an advance team to Damascus on 3 December 2018 to collect all information listed in the notes verbales received.
3 – 9 Dec 2018	Advance team deployment to Damascus to collect all available information in order to decide on the course of action.
10 – 14 Dec 2018	FFM analysis of information collected by the advance team.
20 Dec 2018 – 4 Jan 2019	Pre-deployment activities for FFM/060/19.
4 Jan 2019	Departure from OPCW-HQ
5 Jan 2019	Operational meeting between FFM and UNOPS.
5 Jan 2019	Initial coordination meeting between FFM and SP representatives for mandate hand-over and discussion of the course of action.
6 Jan 2019	FFM meeting with UNOPS, SAR representatives and Russian military personnel to discuss security situation in Aleppo for the field trip and planned mission activities in Aleppo. Field trip agreed to take place in the period of 10 – 14 Jan 2019.
7 Jan 2019	FFM receives environmental samples in SSRC Jamrayah (Annex 7)

Date	**Activities**
8 Jan 2019	FFM meets with UNOPS, SAR representatives and Russian military personnel to discuss details of FFM field trip to and from Aleppo and activities to be conducted in Aleppo.
8 Jan 2019	Environmental samples sent to OPCW Laboratory.
9 Jan 2019	FFM team joined by the remaining team members.
9 Jan 2019	FFM meets with UNOPS, SAR representatives and Russian military personnel to finalize the details of its field trip to Aleppo, activities and provide update on security situation.
10 Jan 2019	FFM movement Damascus – Aleppo.
10 Jan 2019	FFM meets with UNOPS, SAR representatives and Russian military personnel to discuss details of the field trip to three hospitals in Aleppo.
11 Jan 2019	FFM visits three hospitals in Aleppo (Aleppo Military Hospital 604 → Aleppo University Hospital → Al-Razi/Zahi Azraq Hospital)
11 Jan 2019	FFM meets with UNOPS, SAR representatives and Russian military personnel to discuss details of the following day's activities – witness interviews.
12 – 13 Jan 2019	Eight interviews conducted by FFM in Aleppo.
13 Jan 2019	FFM meets with UNOPS, SAR representatives and Russian military personnel to discuss details of FFM field trip to Damascus and receives update on the security situation.
14 Jan 2019	FFM movement Aleppo – Damascus
15 Jan 2019	FFM meets with SAR representatives and Russian military personnel to discuss FFM deployment and future activities.
4 – 15 Jan 2019	List of documents handed-over/received during FFM/060/19 in Annex 5.
16 Jan 2019	FFM returns to HQ.
Jan – April 2019	Analysis of information collected and generated during the first deployment (FFM/060/19) and preparation for second deployment.
Jan 2019	Environmental samples arrive to OPCW Laboratory.

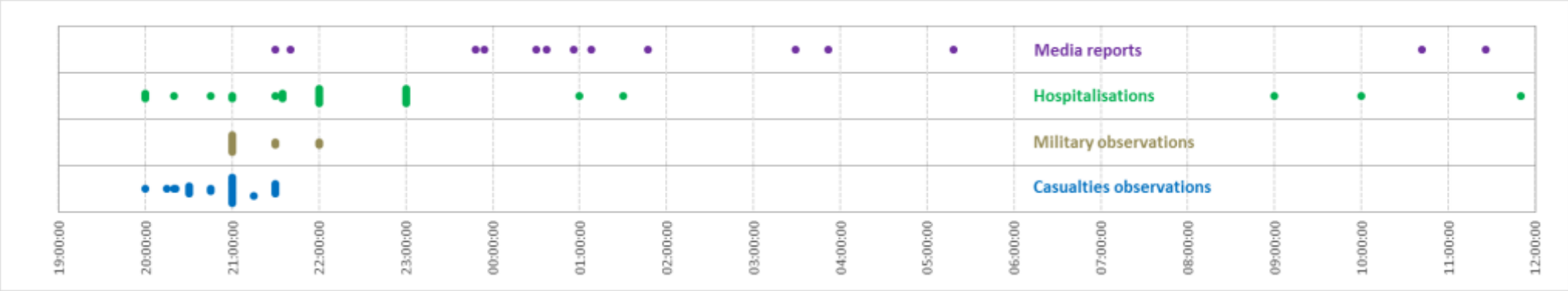
Date	Activities
7 Feb 2019	Environmental samples unpacked, split and processed for analysis by DLs. Procedure witnessed by SAR representatives and an FFM team member.
5 Apr 2019	TS informs the Syrian Arab Republic in Note Verbale NV/ODG/218902/19 dated 05 April 2019 of its intent to deploy the FFM to Damascus from 22 April 2019 to 6 May 2019.
16 Apr 2019	TS is informed that SAR was able to support the deployment only if the FFM would be willing to carry out the interviews in Aleppo, instead of Damascus, due to difficulties to make travel and accommodation arrangements for witnesses in Damascus.
17 Apr 2019	A phone conference with the OPCW Mission in Syria and UNOPS representatives to discuss the fuel shortage issue in SAR, its effect on a field trip to Aleppo and an alternative.
18 Apr 2019	The TS informs SAR in Note Verbale NV/ODG/219118/19 dated 18 April 2019, of the decision to postpone this FFM deployment, given all the aforementioned reasons.
Apr – Oct 2019	Analysis of information collected and generated during the first deployment (FFM/060/19) and preparation for second deployment.
7 – 9 May 2019	Technical weapon exploitation of the fragments in the OPCW Laboratory with the help of OPCW munition experts.
21 May 2019	The TS informs RF in Note Verbale NV/ODG/219408/19, of its request to access material and evidence collected by RF CBRN team in Aleppo (Annex 6).
11 Jun 2019	RF informs the TS in Note Verbale 1118, that samples were transferred to HoFFM on 7 Jan 2019. Complete list of communication between Secretariat, RF and SAR, as well as FFM actions in this regards are listed in Annex 6.
13 Sep 2019	FFM receives reports on analysis of environmental samples from two DLs
24 Oct 2019	Second deployment FFM/062/19
25 Oct 2019	FFM arrives in Damascus.
25 Oct 2019	Operational meeting between FFM and UNOPS.
25 Oct 2019	Initial coordination meeting between FFM and SAR representatives for mandate hand-over and discussion of the course of action.
26 Oct 2019	Coordination meeting between advance FFM and SAR representatives to discuss security situation and the details of FFM activities.

Date	**Activities**
27 Oct – 4 Nov 2019	21 interviews conducted by FFM in Damascus.
2 Nov 2019	Technical meeting between the FFM and SAR technical committee to discuss their activities in relation to incident in Aleppo.
5 Nov 2019	Final meeting between the FFM and SAR to discuss FFM deployment and future activities.
25 Oct – 5 Nov 2019	List of documents handed-over/received during FFM/062/19 in Annex 5.
5 Nov 2019	FFM departs from Damascus.
6 Nov 2019	FFM returns to HQ.
Nov 2019	Analysis of information collected and generated during the first deployment (FFM/062/19) and preparation for third deployment underway.
20 Nov 2019	The TS informs SAR in Note Verbale NV/ODG/21593/19 dated 20 November 2019 of its intent to deploy the FFM to Damascus from 2 December to 15 December 2019.
2 Dec 2019	Third deployment FFM/068/19
3 Dec 2019	Operational meeting between FFM and UNOPS.
3 Dec 2019	Initial coordination meeting between FFM and SAR representatives for mandate hand-over and discussion on the course of actions.
5 Dec 2019	FFM conducts one interview in Damascus.
2 – 15 Dec 2019	List of documents handed-over/received during FFM/068/19 in Annex 5.
14 Dec 2019	FFM departs from Damascus.
15 Dec 2019	FFM returns to HQ.
Dec 2019 – Sep 2020	Exchange of communication between the TS, RF and SAR regarding the access to the evidence and materials collected by RF CBRN team in Aleppo – see Annex 6.
January 2020 – April 2020	Analysis of information collected and created during all deployments.

Date	**Activities**
May – September 2020	Report drafting.

Annex 3

ACCOUNTED TIMELINE OF EVENTS



(a) The timeline begins on 24 November 2018 at 19:00 local time.

(b) “Casualties observations” refer to the beginning of the reported incident described by casualties and witnesses in interviews conducted by the FFM.

(c) “Military observations” refer to the beginning of the reported incident described in witness accounts by military/law enforcement personnel and were extracted from official documents provided by the authorities of the Syrian Arab Republic.

(d) “Hospitalisations” refer to the hospital admittance of casualties detailed in hospital records and witness accounts of hospital management and were extracted from official documents provided by the authorities of the Syrian Arab Republic.

(e) “Media reports” refer to broadcast time metadata of open source reports on the reported incident

Annex 4

LIST OF CORRESPONDENCE WITH THE AUTHORITIES OF THE SYRIAN ARAB REPUBLIC

No.	Name	Registration No/DCN	Date	Remarks
1	NV by SAR to TS	NV # 89	25/11/2018	Information regarding toxic gas attacks in Aleppo on 24/11/2018 and request for FFM deployment
2	NV by SAR to TS	NV# 91, DCN: *0172370*	26/11/2018	Containing letter 117 with brief information about alleged chemical attack in Aleppo
3	NV by SAR to TS	NV# 92 DCN: *0172371	28/11/2018	Containing letter 179 with brief information about alleged chemical attack in Aleppo
4	NV by SAR to TS	NV# 92 DCN: *0172369	28/11/2018	Containing letter 180 with brief information about alleged chemical attack in Aleppo, including the list of documents available for FFM
5	NV by TS to SAR	NV/INS/OPB/21773 1/18	21/12/2018	FFM deployment in period 04 – 16/01/2019
6	NV by TS to SAR	NV/ODG/218902/19	05/04/2019	FFM deployment in period 21/04 – 07/05/2019
7	NV by TS to SAR	NV/ODG/219118/19	16/04/2019	FFM deployment postponed due to latest operational changes presented by SAR's government
8	NV by TS to SAR	NV/ODG/221112/19	08/10/2019	FFM deployment in period 23/10 – 06/11/2019
9	NV by TS to SAR	NV/ODG/221593/19	20/11/2019	FFM team deployment in period 02 – 14/12/2019
10	NV by TS to SAR	NV/ODG/221990/19	23/12/2019	Request to assist with access for additional evidence from RF as per Annex A
11	NV by SAR to TS	NV # 28 DCN *0211434*	30/03/2020	Response to NV/ODG/221990/19. All available info submitted to FFM including those collected by RF CBRN team.

No.	Name	Registration No/DCN	Date	Remarks
12	NV by TS to SAR	NV/ODG/223262/20	21/04/2020	Response to NV 28. Request for clarification on origin of samples and access to the evidence as per Annex A
13	NV by SAR to TS	NV # 33	07/05/2020	Response to NV/ODG/223262/20. All available info submitted to FFM including those collected by RF CBRN team.
14	NV by TS to SAR	NV/ODG/223937/20	28/08/2020	Regular communication in relation to Internal Memorandum: request for clarification, ref. FFM/062/19/7477/065
15	NV by SAR to TS	NV # 58 DCN *0203094*	01/09/2020	Response to NV/ODG/223937/20. Confirmation that SAR and RF have submitted all available info and material evidence and no more information will be provided.

Annex 5

LIST OF INFORMATION RECEIVED AND HANDED OVER DURING DEPLOYMENTS TO AND FROM THE AUTHORITIES OF THE SYRIAN ARAB REPUBLIC

Advance Team Deployment				
No.	**DCM**	**Description**	**Date Received/Handed Over**	
1	7303/101	Initial Report of SAR NA on Aleppo incident (Arabic)	10/12/2018	Received
2	7303/102	CD containing 2 videos and 28 photos of affected persons (Arabic)	10/12/2018	Received
3	7303/103	Copy of different Hospital Records: two medical records from Aleppo Military Hospital 604, emergency medical personnel and patients admission logbooks from hospitals (Arabic)	10/12/2018	Received
4	7303/104	Copy of Military Police report on Aleppo incident 24 Nov 2018 (Arabic)	10/12/2018	Received
5	7303/105	Copy of witness accounts of 65 persons in relation to incident in Aleppo on 24 Nov 2018 (Arabic)	10/12/2018	Received
6	7303/106	Copy of three reports of Hospital Directors (Al-Razi Hospital, Aleppo Military Hospital 604 and Aleppo University Hospital) (Arabic)	10/12/2018	Received
7	7303/107	Report on sample analysis – Aleppo 24 Nov 2018, SSRC Jamrayah	10/10/2018	Received
8	7303/108	1 SD card containing 391 photos of 35 medical records from different hospitals in Aleppo (Arabic)	10/10/2018	Received
9	7303/109	1 SD card containing 415 photos of 44 medical records from different hospitals in Aleppo (Arabic)	10/10/2018	Received

First Deployment				
No.	**DCM**	**Description**	**Date Received/Handed Over**	
1	0183331	Mandate FFM/060/19 (English)	05/01/2019	Handed over
2	0168200	Mandate FFM/060/19 (Arabic)	05/01/2019	Handed over
3	7371/030	SD card containing copy of 77 photographs from FFM sampling activities from SSRC Jamrayah	07/01/2019	Handed over
4	7371/031	List of OPCW seals applied on samples for off-site analysis, Copy 2 of 2	07/01/2019	Handed over
5	7371/032	Updated incident report of SAR NA and report on results of samples analysis – SSRC Jamrayah (Arabic)	08/01/2019	Received
6	7371/034	List of casualties and witnesses (Arabic)	09/01/2019	Received
7	7371/035	Copy of weather report from Aleppo International Airport on 24 Nov 2018	09/01/2019	Received
8	7371/036	CD containing videos from Emergency Department in relation to event on 24 Nov 2018	09/01/2019	Received
9	7371/037	CD containing videos of interviews with medical personnel and casualties conducted by SAR NA in relation to event on 24 Nov 2018	09/01/2019	Received
10	7371/039	Internal Memorandum to SAR NA, Copy 2 of 2	09/01/2019	Handed over
11	7371/041	CD containing 5 videos of sampling points made by SAR NA on 12 Jan 2019	13/01/2019	Received
Second Deployment				
No.	**DCM**	**Description**	**Date Received/Handed Over**	
1	7477/011	Internal Memorandum to SAR NA: Response to SAR NA questions (English)	16/04/2019	Handed over
2	7477/012	Internal Memorandum to SAR NA: Response to SAR NA questions (Arabic)	16/04/2019	Handed over
3	7477/015	Internal Memorandum to SAR NA: List of witnesses for interviews (English)	11/10/2019	Handed over

4	7477/015	Internal Memorandum to SAR NA: List of witnesses for interviews (Arabic)	11/10/2019	Handed over
5	7477/024	Internal Memorandum to SAR NA: Update on the deployment	23/10/2019	Handed over
6	0170476	Mandate FFM/062/19 (English)	25/10/2019	Handed over
7	0170474	Mandate FFM/062/19 (Arabic)	25/10/2019	Handed over -
8	7477/034	SD card containing copy of audio-recording of meeting between FFM and SAR NA on 26 Oct 2019	26/10/2019	Handed over
9	7477/039	Internal Memorandum to SAR NA: Meetings outcomes 26 Oct 2019 (Arabic)	27/10/2019	Handed over
10	7477/043	SD card containing copy of audio-recording of meeting between FFM and SAR NA on 28 Oct 2019	29/10/2019	Handed over
11	7477/045	Internal Memorandum to SAR NA: Meetings outcomes 28 Oct 2019 (Arabic)	29/10/2019	Handed over
12	7477/046	Internal Memorandum to SAR NA: Meetings outcomes 29 Oct 2019, Copy 2 of 2	29/10/2019	Handed over
13	7477/047	Internal Memorandum to SAR NA: Meetings outcomes 31 Oct 2019, Copy 2 of 2	31/10/2019	Handed over
14	7477/049	SD card containing copy of audio-recording of meeting between FFM and SAR NA on 02 Nov 2019	05/11/2019	Handed over
15	7477/051	Internal Memorandum to SAR NA: Meetings outcomes 02 Nov 2019, Copy 2 of 2	05/11/2019	Handed over
16	7477/058	Internal Memorandum to SAR NA: List of possible witnesses for interview (English/Arabic)	22/11/2019	Handed over

Third Deployment				
No.	**DCM**	**Description**	**Date Received/Handed Over**	
1	7727/009	Internal Memorandum to SAR NA: List of possible witnesses for interview (English/Arabic)	27/11/2019	Handed over
2	7727/020	Internal Memorandum to SAR NA: Meeting outcomes 04 Dec 2019 (English/Arabic), Copy 2 of 2	04/12/2019	Handed over
3	7727/022	SD card containing copy of audio-recording of meeting between FFM and SAR NA on 04 Dec 2019	05/12/2019	Handed over
4	7477/065	Internal Memorandum to SAR NA: Request for clarification	26/07/2020	Handed over via OPCW Mission in Syria

Annex 6

LIST OF CORRESPONDENCE REGARDING FFM REQUEST FOR INFORMATION FROM THE RUSSIAN FEDERATION

a) Initial information and enquiry into additional evidence in the possession of the Russian Federation				
No.	**Event**	**Date**	**What**	**Secretariat Actions**
1	Meeting between RF rep. including RF CBRN and ODG in relation to Aleppo incident during the second week of RevCon led by CoC	26 – 30/11/2018	TS informed that RF has samples and evidence ready to be shared with the FFM in relation to Aleppo incident – (*however SAR's approval to do so was needed*)	FFM Deployment January 2019
2	FFM deployment Coordination meeting between FFM, SAR NA, SAR MFA, RF delegation in DAM	06/01/2019	After discussions over handing over samples taken by SAR NA to FFM and request of FFM for any information in relation to Aleppo incident and RF involvement in aftermath- RF delegation informed the FFM that "*RF has samples from Aleppo incident which are currently in Moscow and RF is ready to provide them to FFM by official channel (TS-Moscow)*"	NV/ODG/219408/19

b) Correspondence and meetings on requests for additional evidence in the possession of the Russian Federation					
No.	**Name**	**Date**	**Registration No.**	**Link to Other Document**	**Content**
1	NV by TS to RF	21/05/2019	NV/ODG/219408/19		
2	Briefing by TS to SPs	28/05/2019			
3	NV by RF to TS	11/06/2019	NV # 1118	Response to NV/ODG/219408/19	*The samples collected by RF CBRN team were transferred to HoFFM on 07 Jan 19*
4	Meeting between FFM and SAR NA in DAM,	28/10/2019	FFM/062/19/7477/044	Response to NV # 1118	*The samples which were handed over to the FFM on 07 Jan 19 were collected from location of incident by TC of SAR. Those are not the samples collected by RF. At that time no material from RF was received by SAR.*
5	NV by TS to RF	23/12/2019	NV/ODG/221991/19	Response to FFM/062/19/7477/044	
6	NV by TS to SAR	23/12/2019	NV/ODG/221990/19	FFM/062/19/7477/044	
7	NV by RF to TS	24/01/2020	NV # 2	Response to NV/ODG/221991/19	*All material including samples collected by RF CBRN team were transferred by SAR to HoFFM on 7 Jan 19*
8	Minutes of meeting between CP TL of OPCW in DAM and SAR NA	02-03/02/2020		Response to NV/ODG/221990/19	*Nothing received from RF. Information to be provided by RF has to be requested by TS through Russian representative in The Hague.*
9	NV by SAR to TS	30/03/2020	NV # 28, DCN *0211434*	Response to NV/ODG/221990/19	*All available info submitted to FFM including those collected by RF CBRN team.*
10	NV by TS to SAR	21/04/2020	NV/ODG/223262/20	Response to NV # 28	*Request for clarification*
11	Report by DG to SP: Progress on elimination of SAR CW programme	24/04/2020	E-94/DG.3		

b) Correspondence and meetings on requests for additional evidence in the possession of the Russian Federation					
No.	**Name**	**Date**	**Registration No.**	**Link to Other Document**	**Content**
12	NV by RF to TS	30/04/2020	NV # 34	Response to E-94/DG.3	*All material including samples collected by RF CBRN team were transferred by SAR to HoFFM on 7 Jan 19*
13	NV by SAR to TS	07/05/2020	NV # 33	Response to NV/ODG/223 262/20	*All available info submitted to FFM including those collected by RF CBRN team.*
14	NV by TS to RF	13/05/2020	NV/ODG/22 3281/20	Response to NV # 34	*No info from RF has been received so far*
15	TS letter to RF ambassador	13/05/2020	NV/ODG/22 3282/20	Response to NV # 34	
16	Technical meeting between FFM, RF and SAR permanent representative, OPCW HQ, The Hague	28/05/2020 At 15:00	FFM/062/19/ 7477/060 OPCW Highly protected[16]	Response to SAR NV # 33 and request from RF PR for meeting	*None of the items listed in Annex A of NV will be provided by RF to FFM due to military secrecy.* *RF provided all info and evidence in their possession to the FFM via SAR NA – including samples in January 2019.* *Samples and information provided to the FFM by SAR NA were jointly gathered by SAR and RF.* *No response on FFM request for clarification on the originator of samples handed over to the FFM by SAR NA on January 2019.* *No response on FFM request for clarification on what information – from those handed over to the FFM –*

[16] Meeting was audio recorded and registered under FFM/062/19/7477/060. One copy of audio recording was handed over to each representative.

b) Correspondence and meetings on requests for additional evidence in the possession of the Russian Federation					
No.	**Name**	**Date**	**Registration No.**	**Link to Other Document**	**Content**
					was obtained by RF and which was obtained by SAR NA. *It was agreed that the FFM will reach out to SAR NA directly for clarification.*
17	Internal Memorandum from FFM to SAR	26/07/2020	FFM/062/19/7477/065 OPCW Protected	Response to the information provided during technical meeting between FFM, RF and SAR permanent representative	*Update on the outcome of the technical meeting.* *FFM requested clarification on who collected each sample previously handed over. FFM requested clarification on who collected information previously handed over to the FFM.*
18	NV by SAR to TS (attachment Protected - FFM/062/19/7477/065)	28/08/2020	NV/ODG/223937/20	Response to the information provided during technical meeting between FFM, RF and SAR permanent representative	*Regular communication via Internal Memorandum* FFM/062/19/7477/065 *in the attachment*
19	NV by SAR to TS	01/09/2020	NV # 58, DCN: *0203094*	Response to NV/ODG/223937/20	*Confirmation that SAR and RF submitted all available info and material evidence and no more information will be provided.*

Annex 7

LIST OF SAMPLES TRANSPORTED FOR OFF-SITE ANALYSIS

First Deployment – Environmental Samples					
No.	**Original Sample Code**	**New Sample Code**	**Description**	**Preliminary Screening**	**Incident Place**
1	#1	01SLS	Glass vial containing originally wet soil from Local Market Park[+]	No reading	Aleppo collected on 25/11/18 by SAR NA
2	#1	02SLS	Glass vial containing originally wet from Local Market Park[+]	No reading	
3	#2	03SDS	Metal fragment taken from Local Market Park[+]	No reading	
4	#2	04SDS	Metal fragment taken from Local Market Park[+]	No reading	
5	#3	05WPS	Cotton wipe from glass of one of the houses near the impact points - Local Market Park[+]	No reading	
6	#3	06WPS	Cotton wipe from glass of one of the houses near the impact points - Local Market Park[+]	No reading	
7	#4	07WPB	Cotton blank for samples 05 and 06WPS	No reading	
8	A	08SDS	Metal fragment and piece of plastic from Sallora Park[*] 0.5 km away from impact points	No reading	
9	B	09SDS	Metal fragments from Sallora Park[*] 0.5 km away from impact points	No reading	

[+] Local Market Park – original name Souq Mahally Park, Location 1.
[*] Sallora Park – original name Nour al-Din al-Zenki Park, Location 2.

Note: This table was created based on the information provided by the Syrian National Authority during the handover/takeover of the samples.

Annex 8

SELECT SAMPLE PHOTOGRAPHS

FIGURE 1: NINE ENVIRONMENTAL SAMPLES REPORTEDLY COLLECTED BY THE TECHNICAL COMMITTEE OF THE SYRIAN ARAB REPUBLIC FROM TWO LOCATIONS IN ALEPPO ON 25 NOVEMBER 2018 AND HANDED OVER TO THE FFM ON 7 JANUARY 2019

FIGURE 2: TWO SAMPLES (01SLS AND 02SLS) – GLASS VIALS CONTAINING ORIGINALLY WET SOIL FROM LOCATION 1

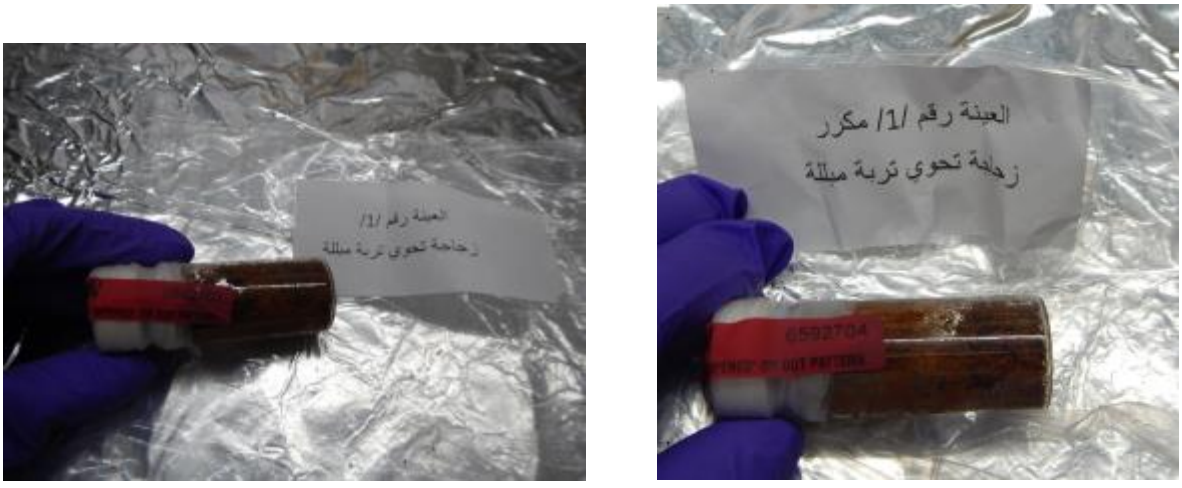


FIGURE 3: SAMPLE NO 03SDS – METAL FRAGMENT TAKEN FROM LOCATION 1

FIGURE 4: SAMPLE NO 04SDS – METAL FRAGMENT TAKEN FROM LOCATION 1

FIGURE 5: SAMPLE NO 05WPS – COTTON WIPE FROM GLASS OF ONE OF THE HOUSES NEAR THE IMPACT POINTS IN LOCATION 1

FIGURE 6: SAMPLE NO 06WPS – COTTON WIPE FROM GLASS OF ONE OF THE HOUSES NEAR THE IMPACT POINTS IN LOCATION 1

FIGURE 7: SAMPLE NO 07WPS – COTTON BLANK FOR SAMPLES 05WPS AND 06WPS

FIGURE 8: SAMPLE NO 08WPS – METAL FRAGMENT AND PIECE OF PLASTIC COLLECTED FROM LOCATION 2

FIGURE 9: SAMPLE NO 09WPS – METAL FRAGMENTS COLLECTED FROM LOCATION 2

FIGURE 10: NINE ENVIRONMENTAL SAMPLES PACKED, SECURED UNDER OPCW SEALS AND PREPARED FOR TRANSPORTATION

Annex 9

**REPORT ON THE ANALYSIS OF FFM SAMPLES
RELATED TO THE ALEPPO INCIDENT RETURNED BY FFM IN JANUARY 2019
5 SEPTEMBER 2019**

Executive summary

1. The authentic environmental samples returned from FFM/060/2019 have been analysed by the two OPCW designated laboratories.

2. The following table summarises the findings for a subset of the samples.

Incident location	No.	Sample Code	Description	Results
Aleppo 24/11/18	1	01SLS	Glass vial containing originally wet soil from Local Market Park[+]	No findings
	2	02SLS	Glass vial containing originally wet soil from Local Market Park[+]	TNT[17]
	3	03SDS	Metal fragment taken from Local Market Park[+]	PETN[18]
	4	04SDS	Metal fragment taken from Local Market Park[+]	PETN[2]
	5	05WPS	Cotton wipe from glass of one of the houses near the impact points – Local Market Park[+]	No findings
	6	06WPS	Cotton wipe from glass of one of the houses near the impact points Local Market Park[+]	No findings
	7	07WPB	Cotton blank for samples 05 and 06WPS	No findings
	8	08SDS	Metal fragment and piece of plastic from Sallora Park[*] 0.5 km away from impact points	No findings

17 Explosive TNT – Trinitrotoluene.

18 Explosive PETN – Pentaerythritol tetranitrate.

Incident location	No.	Sample Code	Description	Results
	9	09SDS	Metal fragments from Sallora Park* 0.5 km away from impact points	No findings
OPCW QC Samples	10	10SDS	OPCW Blank Sample	No findings
	11	11SDS	OPCW Positive Control Sample	Chlorobenzene

+ Local Market Park – original name Souq Mahally Park, Location 1
* Sallora Park – original name Nour al-Din al-Zenki Park, Location 2

Narrative

3. The FFM team returned nine environmental samples in connection with alleged used of chemical weapons to the OPCW Laboratory on 22 January 2019.

4. Due to the nature of samples, it was agreed between the FFM team and the authorities of the Syrian Arab Republic that samples will be split in the OPCW laboratory. On 07 February 2019, the unpacking and splitting of samples took place in OPCW laboratory in the presence of permanent representatives of the Syrian Arab Republic. The integrity of the seals was confirmed and samples were processed further for splitting.

5. Together with the blank and positive control sample added by the OPCW Laboratory a total of eleven samples were sent to each of two designated laboratories. All samples sent to designated laboratories were analysed.

6. All transfers of samples and materials were documented, and the chain of custody of all samples was maintained.

7. The scope of analysis included scheduled chemicals, their precursors and degradation products, riot control agents and also chlorinated organic chemicals as the samples were linked with an alleged use of chlorine (or of a compound containing chemically reactive chlorine) as a weapon. Due to the specific chlorine allegation, the OPCW Laboratory spiked the positive control sample with Chlorobenzene. It was indicated to the designated laboratories that a non-scheduled chemical could be present in the positive control sample.

Results

8. Both designated laboratories identified Chlorobenzene in the positive control sample.

9. No chlorinated organic chemicals indicative or supportive of a use of chlorine or a chemical containing active chlorine were identified.

10. No other reportable chemicals were identified.

11. In addition, one of the designated laboratories identified the explosive Pentaerythritol tetranitrate (PENT) in samples 03SDS and 04SDS and the explosive trinitrotoluene (TNT) in sample 02SLS.

12. Apart from what has been previously mentioned, the results of analysis of the samples did not show any chemicals relevant to the scope of analysis.

Annex 10

TECHNICAL WEAPONS EXPLOITATION REPORT

1. General observation:

   It is very difficult to distinguish between different fragments recovered from an active battlefield. Different types of ammunition were, and/or have been used, contaminating a possible incident site, where the large number of fragments is expected to be present.

2. Samples 08 and 09-SDS-01 (Figures 1-8)

   a. Were collected by the Technical Committee of Syrian Arab Republic on 25 Nov 2018 from Local Market Park in Aleppo - as control samples.

   b. They do not show the characteristics of burster type ammunition.

   (1) Sample 08-SDS-01: (Figures 1-6)

      (a) Consists of 2 pieces:

         i. Metal fragment;

         ii. And green/grey plastic piece.

      (b) Metal fragment. (Figures 3-4)

         i. Irregular in form;

         ii. Has 45 degrees angled fracture surfaces, indicating that its presumed provenance is high explosive ammunition;

         iii. Reacted with a magnet;

         iv. Have relatively low level of corrosion. One side slightly more corroded;

         v. Mass = 56.26g;

         vi. Dimensions of approximately 57 x 33 mm in widest parts;

         vii. And thickness ranged from 5.3 mm to 7.7 mm.

      (c) The Plastic piece (Figures 5-6)

         i. Although it is unlikely that it is an ammunition part, the possibility that this piece might be a part of improvised ammunition cannot be ruled out;

         ii. Irregular in form;

iii. No visible burn marks;

iv. And mass 2.59 g.

(2) Sample 09-SDS-01 (Figures 7-8).

(a) Consists of 2 metal fragments:

i. Both reacted with a magnet;

ii. And given their general appearance, they seem to be the product of different types of ammunition.

(b) Metal fragment A (Figures 7-8 right hand side)

i. Has a folded edge and is irregular in form;

ii. Has 45 degrees angled fracture surfaces, indicating that its presumed provenance is high explosive ammunition;

iii. Reacted with a magnet;

iv. Have relatively low level of corrosion. One side slightly more corroded;

v. Mass = 69.25 g;

vi. Dimensions of approximately 57 x 43 mm in widest parts;

vii. And thickness ranged from 6.0 mm to 7.0 mm.

(c) Metal fragment B (Figures 7-8, left hand side)

i. Smaller than fragment A and irregular in form;

ii. Has 45 degrees angled fracture surfaces which indicates that this is presumably from a high explosive ammunition;

iii. Reacted with a magnet;

iv. Have relatively low level of corrosion. One side covered with spot-like corrosion.

v. Mass = 19.25 g;

vi. Dimensions of approximately 35 x 30 mm in widest parts

vii. Thickness ranged from 4.4 mm to 4.6 mm.

3. Samples 03-SDS-01 and 04-SDS-01: (Figures 9-15)

   a. Were collected by the Technical Committee of Syrian Arab Republic on 25 Nov 2018 from the reported impact site – Sallora Park in Aleppo;

   b. And the two fragments show typical characteristics of fragments of a Low Ordered (or ruptured) ammunition, and can be produced by burster type of ammunition (i.e. ammunition with a chemical payload), as allegedly used during the reported chemical attack in Aleppo.

      (1) The reasons why ammunition can be low-ordered are:

         (a) Explosives with low brisance capabilities (Brisance is the destructive fragmentation effect of a charge on its immediate vicinity from Meyers Explosives), similar to non-military grade of explosives;

         (b) A low explosives-to-casing ratio (like in the rear part of mortars);

         (c) No direct contact between the explosives and the casing (like in a burster type of ammunition);

      (2) Fragments of burster type (low order) ammunition will have the following characteristics:

         (a) 90 degrees angled fracture surfaces;

         (b) Larger pieces of metal;

         (c) No stretching of the fragments;

         (d) Blunt edges on the fracture surfaces;

         (e) And no colourization or presence of soot.

      (3) Fragments of a high explosive ammunition will show the following characteristics:

         (a) 45 degrees angled fracture surfaces;

         (b) Smaller pieces of metal;

         (c) Lateral stress fractures along the length of the fragments;

         (d) Razor sharp edges on the fracture surfaces; and

         (e) Blue colourization due to exposure to high temperature of the explosion.

c. Details of the fragments.

(1) Sample 03-SDS-01: (Figures 9-12)

i. Is irregular in form, has a rectangular (longer) shape;

ii. Has 90 degrees angled fracture surfaces, indicating that its provenance is a low-ordered ammunition;

iii. Reacted with a magnet;

iv. Heavily corroded;

v. Mass = 310.96 g

vi. Dimensions of approximately 110 x 40 mm in widest parts;

vii. And thickness ranged from 16.9 mm to 17.5 mm.

(2) Sample 04-SDS-01: (Figures 13-15)

i. Is irregular in form, has a more rounded shape;

ii. Has 90 degrees angled fracture surfaces, indicating that its provenance is a low-ordered ammunition;

iii. Reacted with a magnet;

iv. Heavily corroded;

v. Mass = 254.44 g;

vi. Dimensions of approximately 70 x 65 mm in widest parts;

vii. And thickness ranged from 15.5 mm to 16.1 mm.

(3) The fragments samples 03 and 04 can be put together through matching shape (Figures 16-17). When put together, it is visible that they are two parts of tapered ammunition similar to a mortar. Both of the fragments are heavily corroded and have some sort of a shiny layer of unknown origins on the entire surface, including the edges. It is also possible to see that the fine radial grooves on one side of the fragments were probably created during the fabrication process. There are no visible paint or markings on the fragments.

(4) Dimensions of the fragments are approximate, due to the irregular shape of the fragments.

4. Conclusion:

Due to the limited number of fragments and the lack of key features present on the fragments, it is neither possible to determine with certainty the type of ammunition that produced the fragments nor the possible fill of the ammunition.

FIGURE 1: SAMPLES 03 SDS-01, 04 SDS-01, 08 SDS-01 AND 09 SDS-01 PACKED AND SEALED

FIGURE 2: THE TWO FRAGMENTS OF SAMPLE 08 SDS-01

FIGURE 3: METAL FRAGMENT OF SAMPLE 08 SDS-01, SHOWING 45° DEGREE ANGLE EDGE

FIGURE 4: METAL FRAGMENT OF SAMPLE 08 SDS-01, OTHER SIDE

FIGURE 5: PLASTIC FRAGMENT OF SAMPLE 08 SDS-01

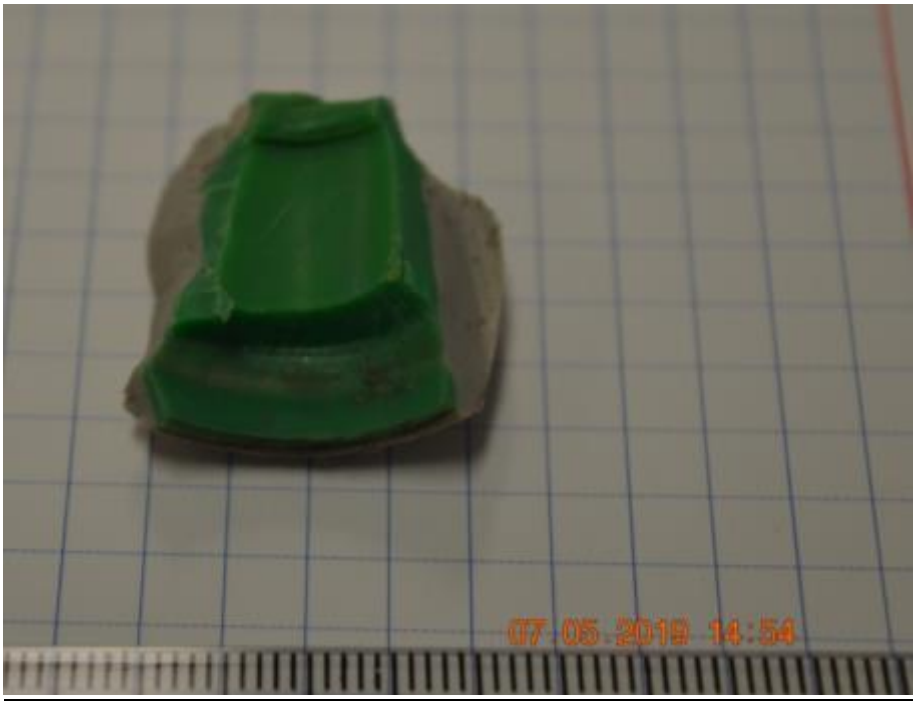


FIGURE 6: PLASTIC FRAGMENT OF SAMPLE 08 SDS-01, OPPOSITE SIDE

FIGURE 7: TWO METAL FRAGMENTS OF SAMPLE 09 SDS-01

FIGURE 8: TWO METAL FRAGMENTS OF SAMPLE 09 SDS-01 OPPOSITE SIDE, SHOWING 45° DEGREE ANGLED EDGES

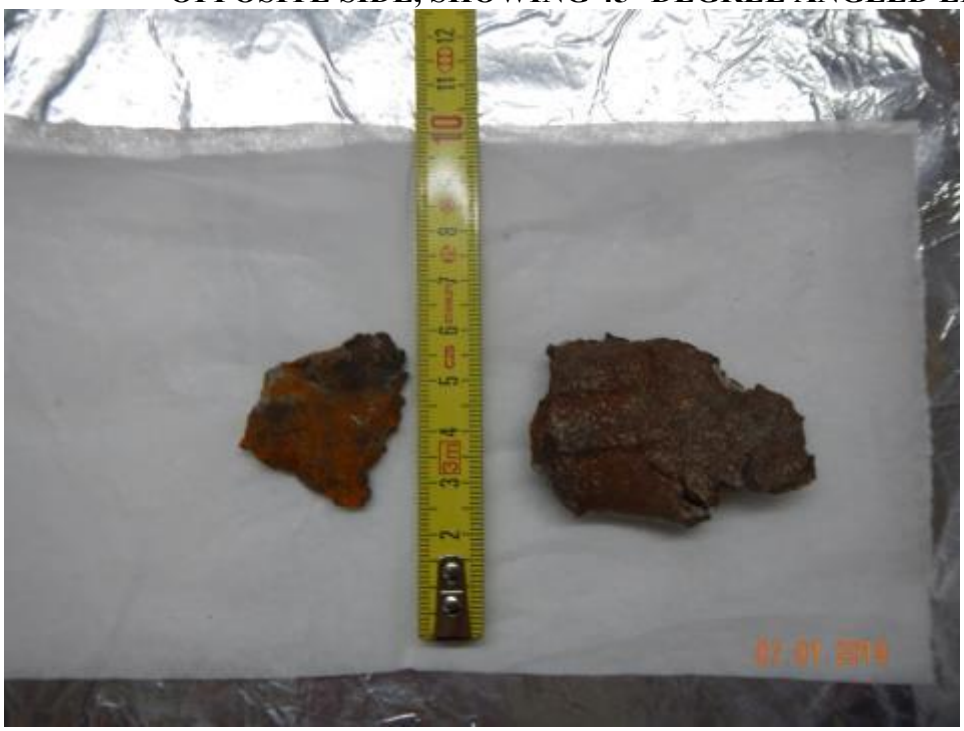


FIGURE 9: METAL FRAGMENT OF SAMPLE 03 SDS-01

FIGURE 10: METAL FRAGMENT OF SAMPLE 03 SDS-01 OPPOSITE SIDE

FIGURE 11: METAL FRAGMENT OF SAMPLE 03 SDS-01 SIDE VIEW SHOWING THICKNESS AND 90° ANGLED EDGES

FIGURE 12: METAL FRAGMENT OF SAMPLE 03 SDS-01 OPPOSITE SIDE VIEW SHOWING THICKNESS AND 90° ANGLED EDGES

FIGURE 13: METAL FRAGMENT OF SAMPLE 04 SDS-01

FIGURE 14: METAL FRAGMENT OF SAMPLE 04 SDS-01, OPPOSITE SIDE

FIGURE 15: METAL FRAGMENT OF SAMPLE 04 SDS-01, SIDE VIEW SHOWING 90° ANGLED EDGES AND THICKNESS

FIGURE 16: METAL FRAGMENT OF SAMPLE 03 SDS-01 AND SAMPLE 04 SDS-01 SHOWING A COMMON FAULT LINE

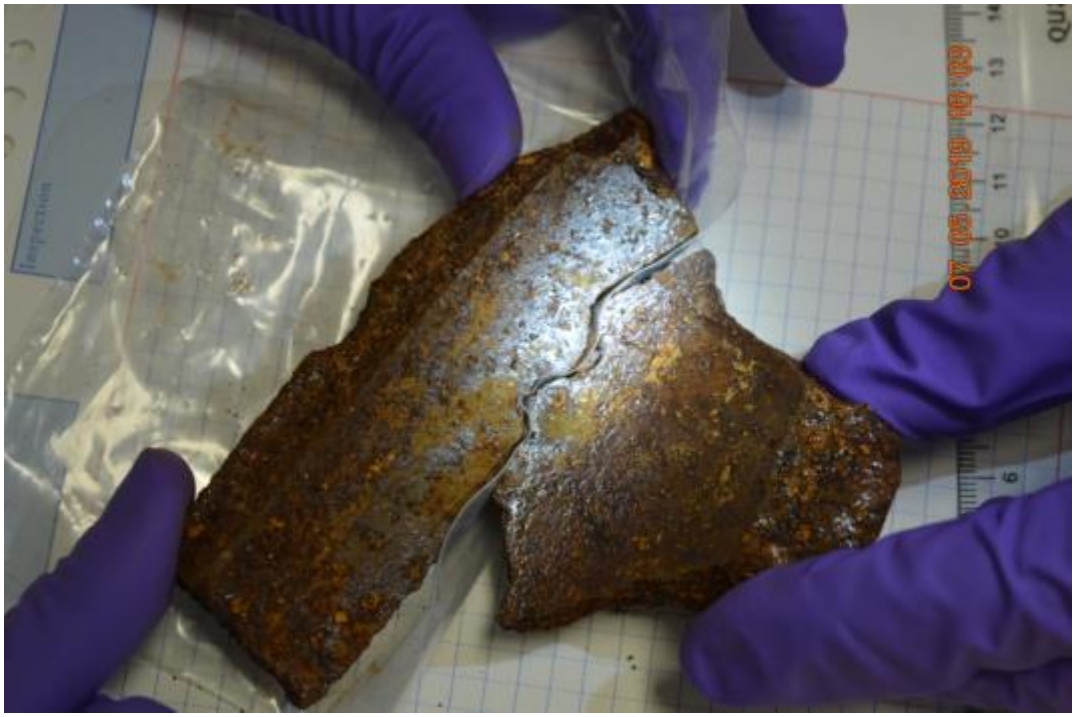


FIGURE 17: METAL FRAGMENT OF SAMPLE 03 SDS-01 AND SAMPLE 04 SDS-01 SHOWING THE ARCH OF A POSSIBLE MUNITION

Annex 11

MAPPING OF INCIDENT LOCATION IN AL-Khalidiyah

Geolocation from videos

1. The TS OPCW Situation Centre experts received a USB storage device containing 6 short video clips showing munitions, fragments, and/or craters (Locations of Interest, or LOIs) [Filenames: 00108; 00109; 00110; 00111; 00112 and 00113] and was asked to identify the locations shown in the videos. The mapping expert was also asked to identify the location where samples are seen being collected in a video found online in Russian media. This video was downloaded (https://ren.tv/news/v-mire/364892-ustanovleno-proiskhozhdenie-boepripasov-s-khlorom-kotorymi-boeviki-atakovali-aleppo) and stored offline. For ease of reference, the mapping report numbered the Geo-locations from the USB videos from 1-6, and the geolocation from the Russian media video number 7.

2. The videos were all from parks to the North of Nile Street, in North-West Aleppo.

Location

3. The mapping experts studied each of the videos for identifying features which could be used for geolocation. These identifying features were then categorised into primary and secondary, depending on how critical/useful they could be in the identification process.

4. The primary features were then searched for on open source maps such as Google Earth and Bing Maps.

5. Two mosques, a distinctive low level market building, and a water tower were identified as primary identifying features.

6. Several still snapshots were taken from each of the videos showing the primary features identified and as many secondary identification features as possible. Secondary identification features used were the shapes of pathways running through the park, a children's slide, and the height differences in neighbouring buildings. These images were analysed and geolocated to a satellite image of the area.

7. As an additional measure to more accurately pinpoint LOIs, an external provider was tasked to create a 3-Dimensional (3D) model covering key features in the area used in the geolocation process. The model was created using Sketchup, a modelling software which was then overlaid onto a satellite image. This meant that the observation angle of the satellite images could be customised to match the angle the video was filmed from. The 3D scene was elaborated using a WorldView-2 high resolution satellite image dated 7 February 2018.

8. Colour coding was used to show the links between features in the video images and the Sketchup model, overlaid onto the satellite image the locations were pinned to.

9. Locations labelled 1-6, provided on the USB are marked with red pins, the location identified from the video posted online showing the Russian Federation's sample point has been marked with a green pin.

10. Due to the limited imagery provided, the geolocations determined here are accurate to the nearest 5 meters. Geolocation 7 has been confirmed as being in the vicinity of the nearest Syrian Arab Republic sample point, identified as geolocation 6; however, it could not be verified as being the identical location.

FIGURE 1: VIDEO 108/GEOLOCATION 1

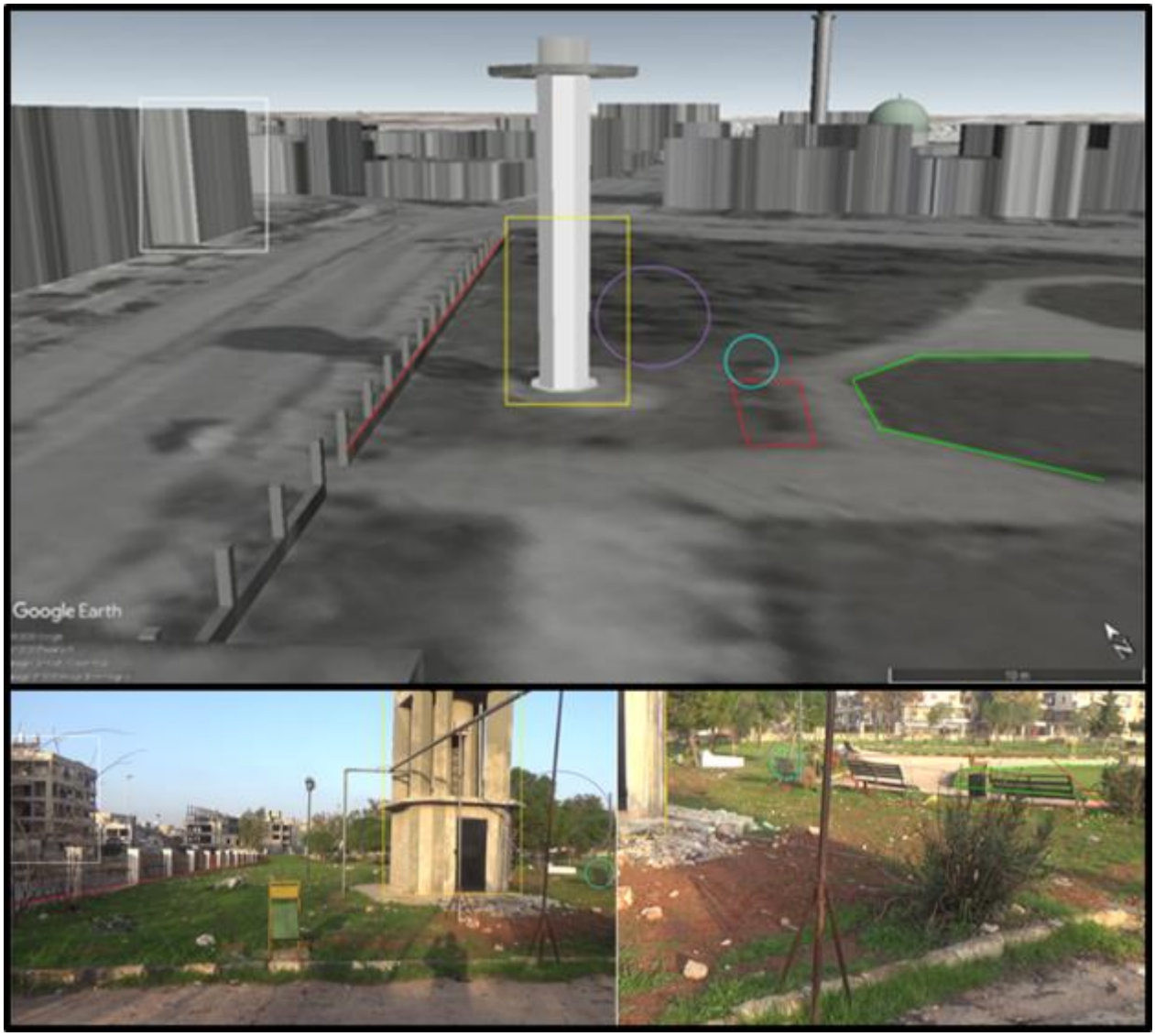


FIGURE 2: VIDEO 109/GEOLOCATION 2

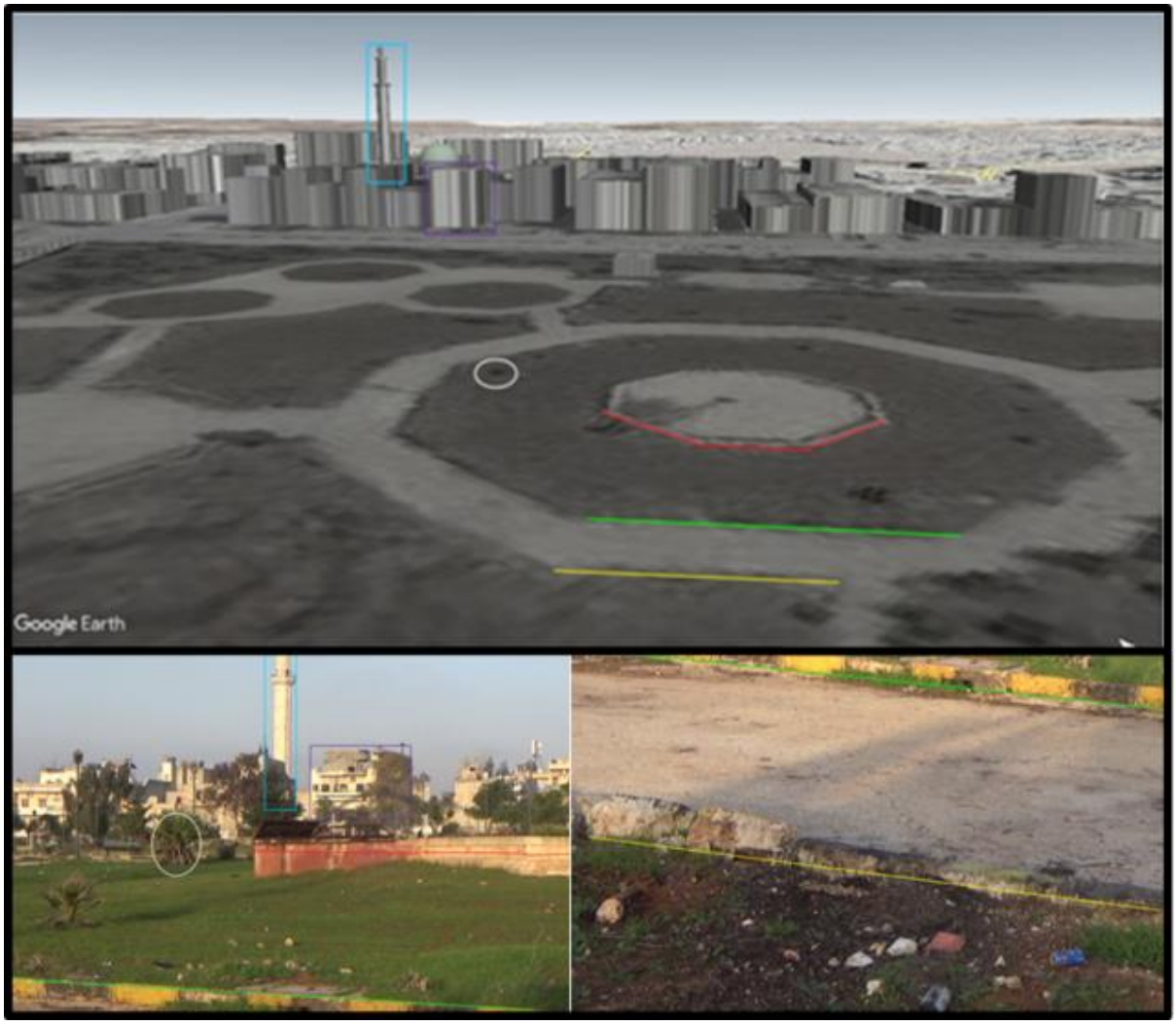


FIGURE 3: VIDEO 110/GEOLOCATION 3

FIGURE 4: VIDEO 111/GEO-LOCATION 4

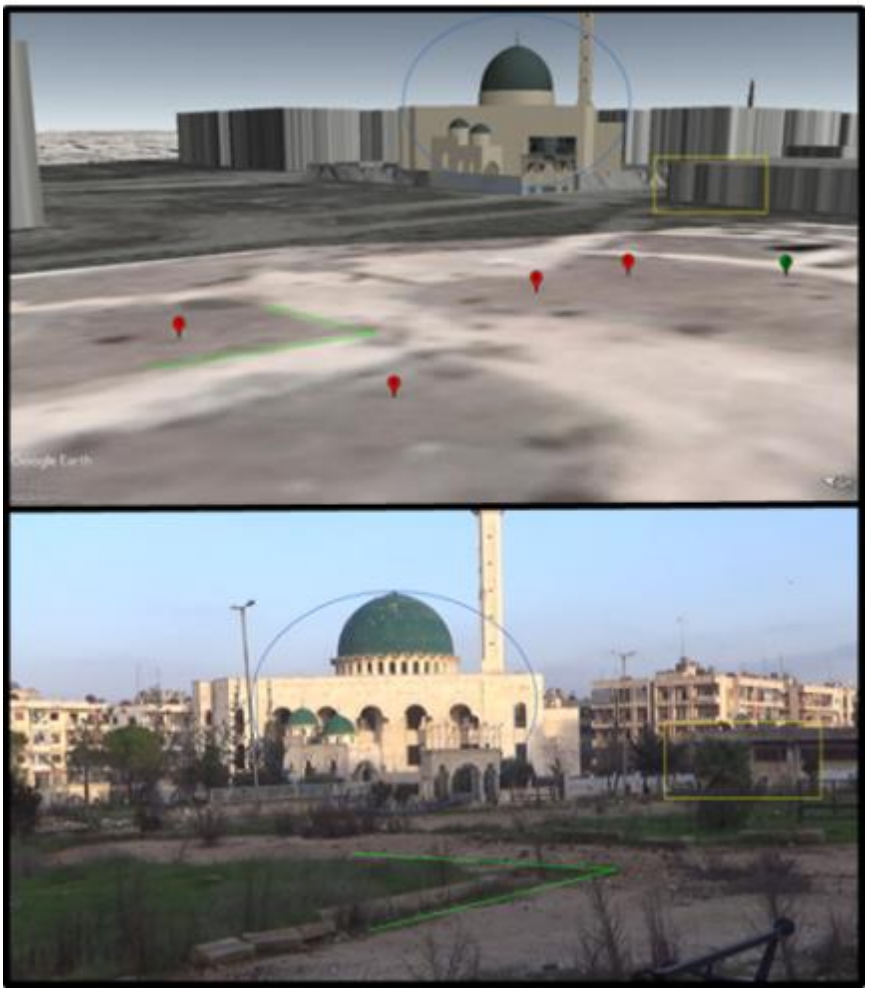


FIGURE 5: VIDEO 112/ GEO-LOCATION 5

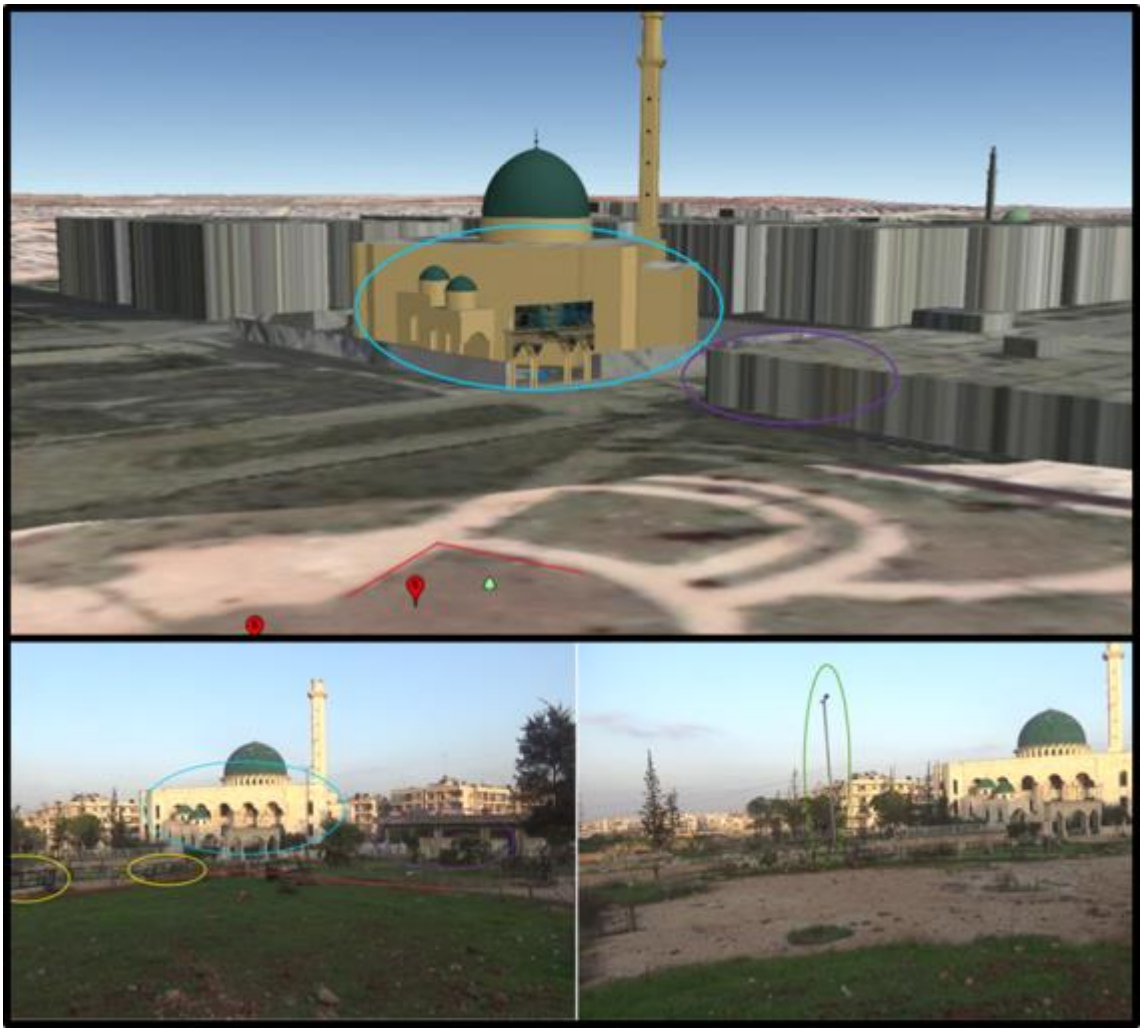


FIGURE 6: VIDEO 113/GEO-LOCATION 6

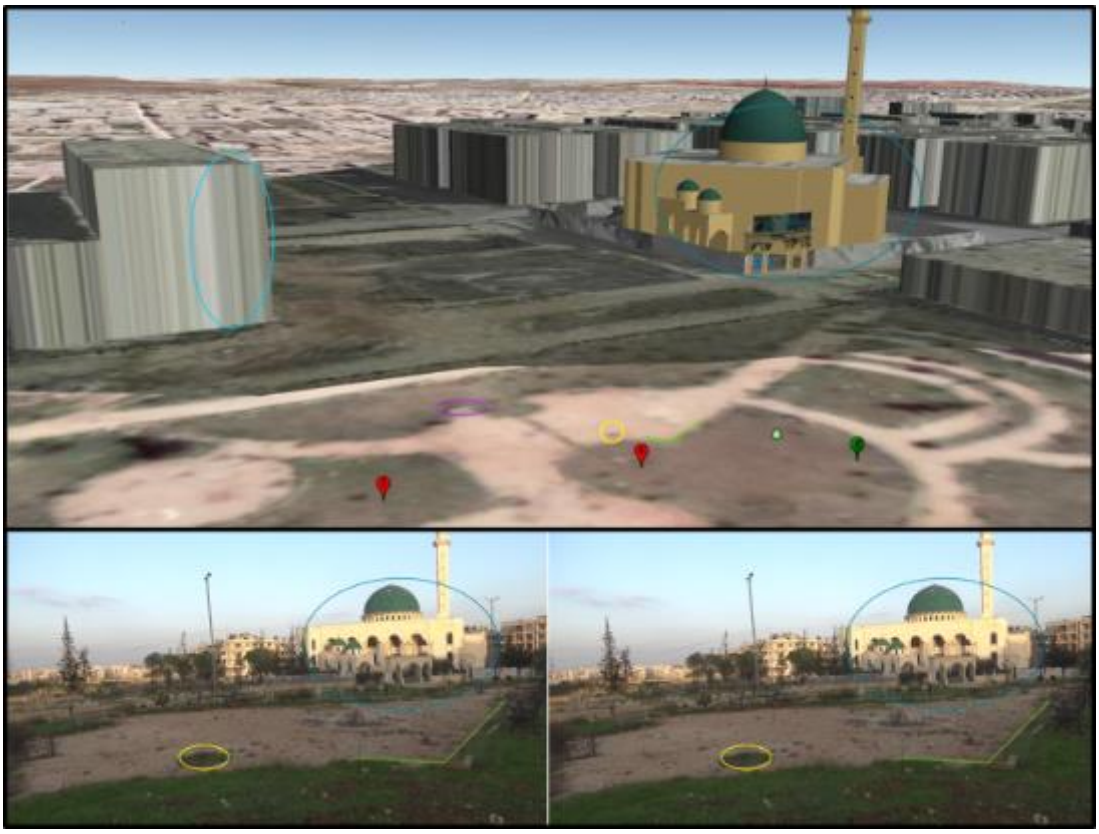


FIGURE 7: OPEN SOURCE VIDEO OF RUSSIAN CBRN TEAM COLLECTING SAMPLES (ANNEX 1, LINE 25) /GEOLOCATION 7

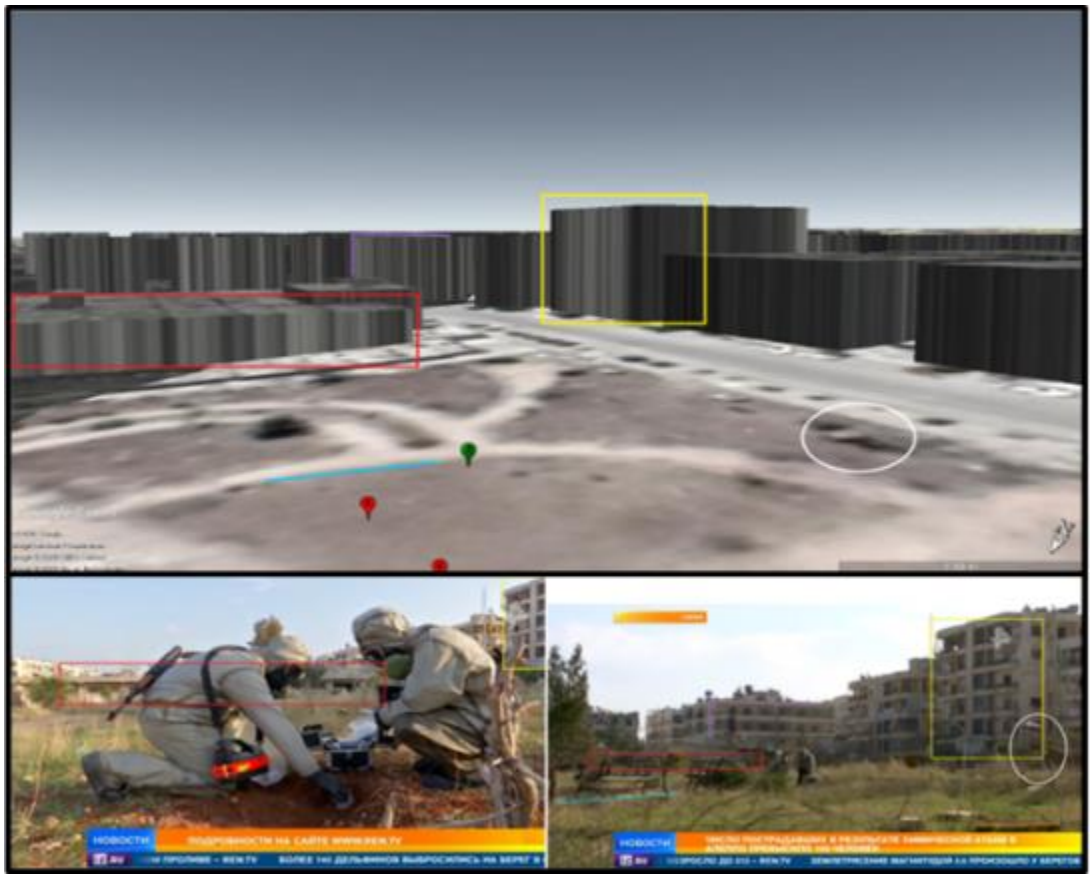


FIGURE 8: LOCATION 2 —SALLORA PARK. AN OVERVIEW OF SALLORA PARK SHOWING ALL GEOLOCATIONS AND THEIR PROXIMITY TO EACH OTHER

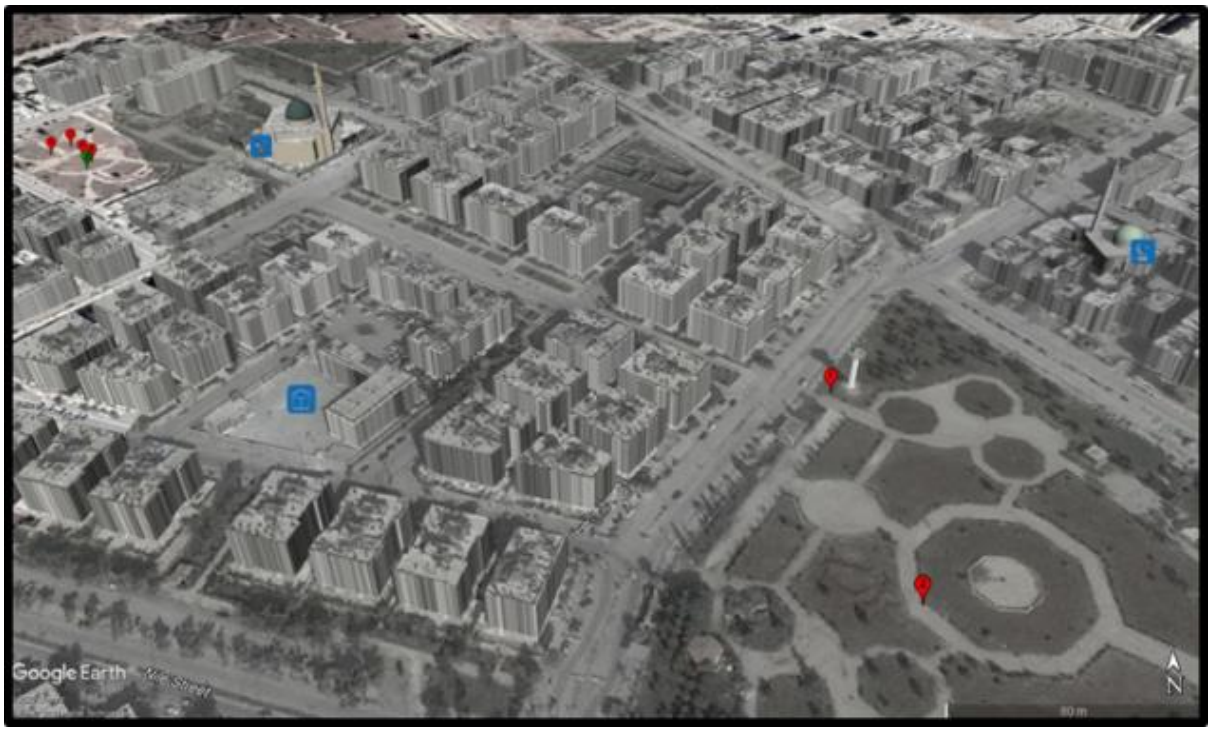
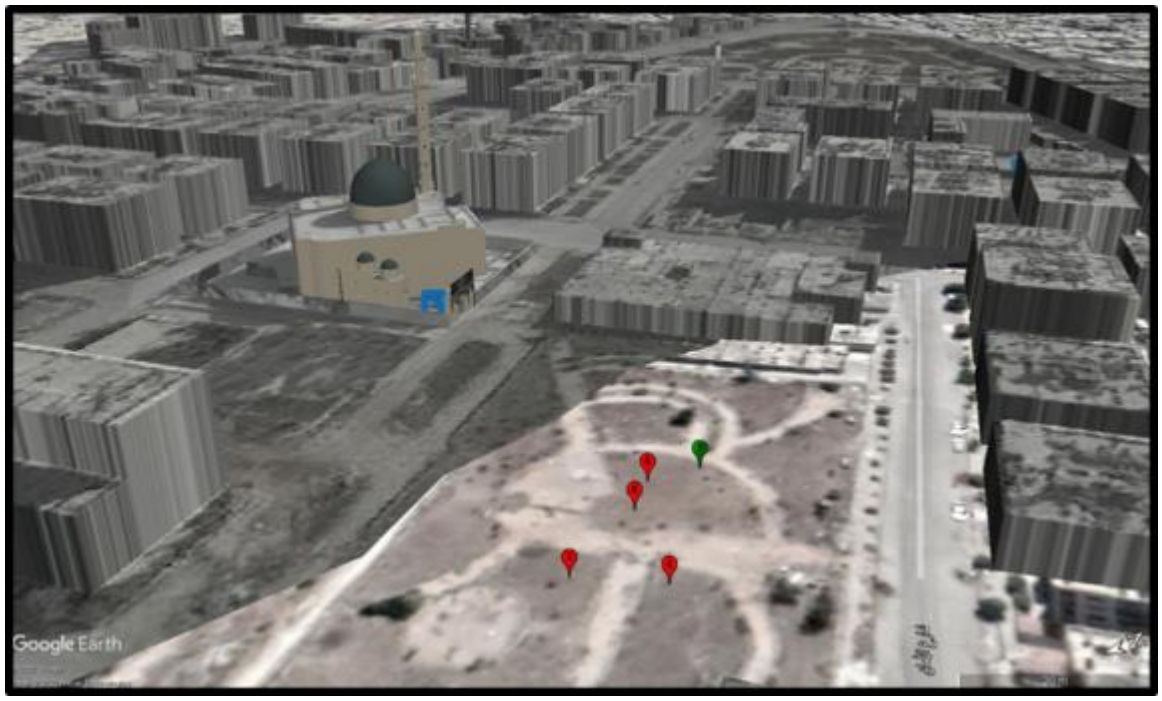


FIGURE 9: LOCATION 1—LOCAL MARKET PARK



Annex 12

LIST OF EVIDENCE GATHERED DURING THE INTERVIEW PROCESS

First deployment

No.	ERN	DCN	Evidence Description	Evidence Collected/Received	
				DTG	Where
1	20190112203501	2035	1 x MSD Audio recording	12/01/19 11:22	Aleppo, Syria
2	20190112203502	2035	1 x MSD Video recording	12/01/19 11:22	Aleppo, Syria
3	201901121002101	10021	1 x MSD Audio recording	12/01/19 13:19	Aleppo, Syria
4	201901121002102	10021	1 x SD Video recording	12/01/19 13:19	Aleppo, Syria
5	201901121007301	10073	1 x MSD Audio recording	12/01/19 14:27	Aleppo, Syria
6	201901121007302	10073	1 x SD Video recording	12/01/19 14:27	Aleppo, Syria
7	201901121003301	10033	1 x MSD Audio recording	12/01/19 15:40	Aleppo, Syria
8	201901121003302	10033	1 x SD Video recording	12/01/19 15:40	Aleppo, Syria
9	201901121007401	10074	1 x MSD Audio recording	12/01/19 16:45	Aleppo, Syria
10	201901121007402	10074	1 x SD Video recording	12/01/19 16:45	Aleppo, Syria
11	20190112203401	2034	1 x MSD Audio recording	13/01/19 13:38	Aleppo, Syria
12	20190112203402	2034	1 x MSD Video recording	13/01/19 13:38	Aleppo, Syria
13	20190112203601	2036	1 x MSD Audio recording	13/01/19 15:36	Aleppo, Syria

No.	ERN	DCN	Evidence Description	Evidence Collected/Received	
				DTG	Where
14	20190112203602	2036	1 x MSD Video recording	13/01/19 15:36	Aleppo, Syria
15	20190112203603	2036	1 page of drawing of area	13/01/19 15:36	Aleppo, Syria
16	20190112203801	2038	1 x MSD Audio recording	13/01/19 17:30	Aleppo, Syria
17	20190112203802	2038	1 x MSD Video recording	13/01/19 17:30	Aleppo, Syria

Second deployment

No.	ERN	DCN	Evidence Description	Evidence Collected/Received	
				DTG	Where
1	20191027210601	2106	1 x MSD Video recording	27/10/19	Damascus, Syria
2	20191027210602	2106	1 x MSD Audio recording	27/10/19	Damascus, Syria
3	20191027211901	2119	1 x MSD Video recording	27/10/19	Damascus, Syria
4	20191027211902	2119	1 x MSD Audio recording	27/10/19	Damascus, Syria
5	20191027211801	2118	1 x MSD Video recording	27/10/19	Damascus, Syria
6	20191027211802	2118	1 x MSD Audio recording	27/10/19	Damascus, Syria
7	20191027211401	2114	1 x MSD Video recording	27/10/19	Damascus, Syria
8	20191027211402	2114	1 x MSD Audio recording	27/10/19	Damascus, Syria

No.	ERN	DCN	Evidence Description	Evidence Collected/Received	
				DTG	Where
9	20191028211301	2113	1 x MSD Video recording	28/10/19	Damascus, Syria
10	20191028211302	2113	1 x MSD Audio recording	28/10/19	Damascus, Syria
11	20191028210701	2107	1 x MSD Video recording	28/10/19	Damascus, Syria
12	20191028210702	2107	1 x MSD Audio recording	28/10/19	Damascus, Syria
13	20191028210501	2105	1 x MSD Video recording	28/10/19	Damascus, Syria
14	20191028210502	2105	1 x MSD Audio recording	28/10/19	Damascus, Syria
15	20191028210503	2105	1 page drawing	28/10/19	Damascus, Syria
16	20191028211501	2115	1 x MSD Video recording	28/10/19	Damascus, Syria
17	20191028211502	2115	1 x MSD Audio recording	28/10/19	Damascus, Syria
18	20191029212001	2120	1 x MSD Video recording	29/10/19	Damascus, Syria
19	20191029212002	2120	1 x MSD Audio recording	29/10/19	Damascus, Syria
20	20191029212801	2128	1 x MSD Video recording	29/10/19	Damascus, Syria
21	20191029212802	2128	1 x MSD Audio recording	29/10/19	Damascus, Syria
22	20191029212601	2126	1 x MSD Video recording	29/10/19	Damascus, Syria
23	20191029212602	2126	1 x MSD Audio recording	29/10/19	Damascus, Syria

No.	ERN	DCN	Evidence Description	Evidence Collected/Received	
				DTG	Where
24	20191029210101	2101	1 x MSD Video recording	29/10/19	Damascus, Syria
25	20191029210102	2101	1 x MSD Audio recording	29/10/19	Damascus, Syria
26	20191029211601	2116	1 x MSD Video recording	29/10/19	Damascus, Syria
27	20191029211602	2116	1 x MSD Audio recording	29/10/19	Damascus, Syria
28	20191031210301	2103	1 x MSD Video recording	31/10/19	Damascus, Syria
29	20191031210302	2103	1 x MSD Audio recording	31/10/19	Damascus, Syria
30	20191031211101	2111	1 x MSD Video recording	31/10/19	Damascus, Syria
31	20191031211102	2111	1 x MSD Audio recording	31/10/19	Damascus, Syria
32	20191031212701	2127	1 x MSD Video recording	31/10/19	Damascus, Syria
33	20191031212702	2127	1 x MSD Audio recording	31/10/19	Damascus, Syria
34	20191031212501	2125	1 x MSD Video recording	31/10/19	Damascus, Syria
35	20191031212502	2125	1 x MSD Audio recording	31/10/19	Damascus, Syria
36	20191101210801	2108	1 x MSD Video recording	01/11/19	Damascus, Syria
37	20191101210802	2108	1 x MSD Audio recording	01/11/19	Damascus, Syria
38	20191101211201	2112	1 x MSD Video recording	01/11/19	Damascus, Syria

No.	ERN	DCN	Evidence Description	Evidence Collected/Received	
				DTG	Where
39	20191101211202	2112	1 x MSD Audio recording	01/11/19	Damascus, Syria
40	20191101212901	2129	1 x MSD Video recording	01/11/19	Damascus, Syria
41	20191101212902	2129	1 x MSD Audio recording	01/11/19	Damascus, Syria
42	20191101210401	2104	1 x MSD Video recording	01/11/19	Damascus, Syria
43	20191101210402	2104	1 x MSD Audio recording	01/11/19	Damascus, Syria

Third deployment

No	ERN	DCN	Evidence Description	Evidence Collected/Received	
				DTG	Where
1	20191205212201	2122	1 x MSD Video recording	05/12/19	Damascus, Syria
2	20191205212202	2122	1 x MSD Audio recording	05/12/19	Damascus, Syria

Annex 13

REFERENCE DOCUMENTATION

	Document Reference	**Full Title of Document**
1.	QDOC/INS/SOP/IAU01 (Issue 1, Revision 1)	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 (Issue 1, Revision 2)	Work Instruction for Conducting Interviews during an Investigation of Alleged Use
3.	QDOC/INS/SOP/IAU02 (Issue 1, Revision 0)	Standard Operating Procedure Investigation of Alleged Use (IAU) Operations
4.	QDOC/INS/SOP/GG011 (Issue 1, Revision 0)	Standard Operating Procedure for Managing Inspection Laptops and other Confidentiality Support Materials
5.	QDOC/LAB/SOP/OSA2 (Issue 1, Revision 2)	Standard Operating Procedure for Off-Site Analysis of Authentic Samples
6.	QDOC/LAB/WI/CS01 (Issue 1, Revision 2)	Work Instruction for Handling of Authentic Samples from Inspection Sites and Packing Off-Site Samples at the OPCW Laboratory
7.	QDOC/LAB/WI/OSA3 (Issue 2, Revision 1)	Work Instruction for Chain of Custody and Documentation for OPCW Samples On-Site
8.	QDOC/LAB/WI/OSA4 (Issue 1, Revision 3)	Work Instruction for Packing of Off-Site Samples

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