

# **Technical Secretariat**

Verification Division S/1224/2014 19 November 2014 ENGLISH only

#### NOTE BY THE TECHNICAL SECRETARIAT

# REPORTS OF THE TECHNICAL SECRETARIAT FOR THE PURPOSE OF REVIEWING DOCUMENTATION RELATED TO THE RECOVERY AND DESTRUCTION OF IRAQI CHEMICAL WEAPONS

- 1. At the invitation of the United Kingdom of Great Britain and Northern Ireland and the United States of America, representatives of the Technical Secretariat (hereinafter "the Secretariat") paid a visit to these States Parties in the first week of September 2009. During the visits, the representatives of the Secretariat reviewed documentation maintained by those States Parties on the recovery and destruction in Iraq, in the period between 2003 and 2008, of munitions suspected of having being designed as chemical weapons or containing a chemical agent. Following the visits, the Secretariat representatives prepared two reports.
- 2. Noting that recent reports in the media have focused attention on the destruction-related activities mentioned above and in order to ensure the utmost transparency and the availability to States Parties of the information relevant to this topic, the Secretariat considers it appropriate to provide States Parties with a copy of the aforementioned reports.
- 3. The reports are annexed hereto.

Annex:

Reports of the Visits Conducted by the Technical Secretariat for the Purpose of Reviewing Documentation Related to the Recovery and Destruction of Iraqi Chemical Munitions

S/1224/2014 Annex page 2

# Annex

REPORTS OF THE VISITS CONDUCTED BY THE TECHNICAL SECRETARIAT FOR THE PURPOSE OF REVIEWING DOCUMENTATION RELATED TO THE RECOVERY AND DESTRUCTION OF IRAQI CHEMICAL MUNITIONS

#### Report of the visit conducted by the Technical Secretariat for the purpose of reviewing documentation related to the recovery and destruction of Iraqi chemical munitions

This report has been prepared by the representatives of the Technical Secretariat (TS) and reflects the findings of the visit conducted by the TS for the purpose of reviewing documentation related to the recovery and destruction of Iraqi chemical munitions prior to Iraq's accession to the Chemical Weapons Convention. Since this activity was not a verification measure intended to confirm the destruction of the subject chemical munitions, it was not conducted in accordance with rules contained in the Verification Annex to the Chemical Weapons Convention.

#### Background

- In the communication NACS #178715, dated 17 April 2009, the United States
  of America (US) informed the TS that, with security assistance from Coalition
  Forces, it had recovered and destroyed Iraqi CW materiel since 2003. In that
  communication, the US provided, for transparency, a summary of the recovery
  and destruction activities carried out prior to Iraq's ascension to the CWC and
  stated that it will make the related documentation available for review by the
  TS.
- 2. Further to that, the TS accepted the invitation extended by the US [in its letter NACS # 179251 dated 15 June 2009] to review the documentation which the US offered to provide. The review took place between 31 August and 2 September 2009, at the Point of Entry. The names of the TS staff who conducted the review and the names of the US representatives are listed in annex 1 to this report.
- 3. The purpose of the review of the documents made available by the US was to examine the information provided, and allow the US to provide assurance that it acted in the spirit of the Convention in regards to the recovery and destruction of chemical munitions in Iraq. The records were provided in the spirit of openness and transparency, by the US.
- 4. It should be indicated that, by letter dated 3 July 2006, addressed to the Director of Verification, the US had previously informed the TS about the recovery and destruction by the Coalition Forces of chemical munitions in Iraq, since 2003; these items were believed to be Iraqi chemical munitions produced prior to 1991 and contained degraded mustard or nerve agent (sarin).
- 5. The letter dated 3 July 2006 made reference to the report of the Iraq Survey Group, issued in September 2004, publicly available, which provided information about the recovery of chemical munitions up to the time the report was issued; it also stressed that, due to concerns about safety and security, the distribution of more recent information had been very limited.
- 6. The letter referred above further stated that the US was preparing a summary of items recovered and their subsequent disposal and would provide such information to the TS in the future. It also mentioned that Coalition Forces would most likely recover additional such munitions during security operations in Iraq; however the efforts to recover and destroy chemical munitions remained an extremely sensitive matter. Finally, the letter

underscored that the US would continue to document such activities and provide updates to the TS.

#### Summary of activities during the visit

- 7. Upon arrival at Washington, the TS delegation was welcomed by the representatives of the US who facilitated all entry procedures and made all logistic arrangements required during the visit. A working space with all required amenities was made available at the Point of Entry.
- The review included 95 operation records which covered the recovery, assessment and destruction of munitions suspected of having being designed as chemical weapons or containing a chemical fill, during the period from May 2004 to 12 February 2009.
- 9. The TS noted that the documents reviewed varied in complexity. As explained by the representatives of the US, a regulation regarding the establishment of proper documentation was not issued until March 2007 (see annex 2 for an example of the required instructions issued). Therefore, due to the hostile conditions in which the actions were carried out, some of the documents reviewed were mostly very brief annotations of the type and number of suspected CW munitions and the date of their recovery and disposal. Most of the reports reviewed, following the dissemination of the regulation, were more detailed and contained in various degrees; a narrative part specifying the circumstances of the recovery, the condition of recovered items, the assessment and disposal methods used, photographs of the recovered items and demolition setups, NDE and analytical data, and memoranda for record of destruction operations.

Summary of findings following the review of documentation made available

#### Details regarding recovery

- 10. The documents reviewed indicated that 4.530 munitions were recovered in various areas of Iraq (see annex 3 to this report); although the records reviewed made reference to the broad areas where such recoveries took place, the US representatives indicated that the exact locations are considered sensitive and for safety and security concerns can not be disclosed at this point in time.
- 11. The majority of munitions were recovered and destroyed under combat conditions, which required the selected disposal method (i.e. detonation). Due to field conditions, assessment of the recovered items was limited and often incomplete.
- 12. The items recovered included 155mm Projectiles; 152mm Projectiles; 130mm Projectiles; 122mm rockets SAKR-18, Borak. Firos 25; R400 bombs; 500 lb bombs; AOKH-8. All munitions found were left over from pre-1991 Iraqi Programme.
- 13. As depicted in the records reviewed, some of the items recovered were intact, while others were deteriorated to a large extent; some munitions were unfilled others were partially leaked out. A large number of recovered items appeared to have been previously destroyed by UNSCOM. However, the US chose to err on the side of safety and security and, as such, these munitions were reported and completely destroyed by US forces.

#### Assessment of recovered items

- 14. The TS reviewed documentation of a variety of methods that were utilised, depending on circumstances for the assessment of the recovered items, to include visual observation of specific external configuration (i.e. welded base plate, presence of filling plug/hole and/or burster tube); physical assessment (i.e. slosh test); use of equipment such as CAM, AP2C, PINS and X-ray, or detection paper. None of the methods above is considered confirmatory. Therefore, the US chose to err on the side of safety and security and, as such, these munitions were reported and completely destroyed by US forces.
- 15. In some circumstances, soil samples were collected from underneath the munitions, at the location of their recovery, and analysed. Records reviewed indicated a limited number of confirmatory positive results for CW.

#### Destruction/disposal

- 16. The method of destruction, for items recovered in Iraq, in all cases was detonation. The TS was allowed to review relevant extracts from a Technical Manual "Explosive Ordnance Disposal Procedures. Chemical and Biological Agents; Characteristics, Leak Sealing, Disposal, and Decontamination", rev.5, dated December 1992 which provided details regarding the applicability of this method in the case of chemical agents. The extracts reviewed stated the following in relation to detonation: "During wartime, this may be the only practical way to dispose of chemical agents. A minimum of 5.0 pounds (2.3 kg) of explosives should be used for each 1.0 pound (454 grams) of agent. In some remote locations, toxic chemical munitions may be detonated where they are found, but downwind hazard restrictions must be observed."
- 17. Moreover, in accordance with US national regulations, open air detonation using donor explosives in a 5:1 explosive/agent ratio is an approved method for destroying chemical agent filled munitions that can not be safely removed or stored (reference to Addendum 4 to the RCWDF detailed facility information, dated 18 December 2008).
- 18. A select number of soil samples were taken following the disposal of suspected CW munitions throughout the territory of Iraq; the analysis of these samples, using GC/MS indicated the absence of target analytes.
- 19. The review of available photographs, analytical data of post-blast soil samples and memoranda for record of destruction operations indicated that the items recovered were destroyed.

Munitions and samples sent to the USA for analysis to support recovery and destruction operations

20. The US in its letter NACS # 179251 dated 15 June 2009, indicated 4 munitions (122mm rockets) and 38 samples (total 909ml) were moved to the US for analysis to support recovery and destruction operations and then subsequently destroyed. The munitions, two of which were leaking, were drilled, contents drained and neutralized. The chemical samples were analysed and subsequently neutralized. The TS reviewed documentation of the destructions of both the munitions and the samples.

#### Conclusion

- The documents reviewed during the visit appear to be consistent with the information provided by the USA in the communication NACS #178715, dated 17 April 2009.
- 22. In the course of the visit, the US representatives demonstrated full openness and transparency and provided required and available information in support of the review.

ate 2 September 2009

The US representatives have reviewed the report and agree that it is a fair representation of the visit and a factual account of the records reviewed.

Date 2 September 2009

Names of the TS staff who conducted the review and of the US representatives who hosted the visit

Technical Secretariat

United States of America

Example of Procedures for Recording CW Discovery, Recovery, Storage, and Disposal

#### Procedures for Recording Possible CW Discovery, Recovery, Storage, and Disposal

This information should be mandatory for all future recovery and destruction operations. For past operations, as much of the following information as possible should be collected in order to determine if a declaration is warranted, and if so, to assemble one.

Field Report/Incident Report/Serious Incident Report — This report may have different names depending on the unit that completes it. Tech Escort Units responding to the recovery of a suspect chemical munition or chemical agent will complete a Field Report. This report may be redacted for sensitive information as necessary, however, it should include information on the number of items, type and caliber, suspect fill, and condition of the rounds. It should also include steps taken to secure the items.

<u>Photographs</u> – Any supporting photographs to include digital, Polaroid, or video of individual rounds, groups, recovery site, detonation site, or scrap metal after destruction. If possible, individual photographs of each item with an identifying piacard is suggested. Photographs of the items prepared for destruction, i.e. a round layered with 5 blocks of C-4 or groups of items as appropriate. Photographs should have piacards that associate it back to the original discovery. For example, if you have a group of 10 items, the piacard should read "contains items 20 – 30". The piacard and photograph should allow for the visual confirmation of the number of items.

Non Destructive Evaluation - X-rays, when taken, should include an identifier that can be referred back to the item. This should also apply to any other type of NDE that may be conducted on the item.

<u>Analytical Data</u> - Any analytical data on the rounds prior to their destruction and any analysis of the site after detonation. These can be in any format to include strip charts, hand written lab reports, etc.

<u>Checklist for Destruction Pre-Operations and Post Operations</u> – Any checklists that were prepared for destruction operations.

Operations Order - The operational order authorizing the destruction operation.

<u>Limiting Condition Report</u> – If a condition was encountered that prevented destruction or required assessment prior to proceeding, the LCR should be present.

<u>Memorandum for Record of Destruction Operations –</u> This may be either a certificate of destruction, or a memorandum documenting the destruction.

Annex 3

Munitions Recovered and Destroyed

| No. of<br>records<br>reviewed | Date of<br>recovery/<br>Destruction | Munition type                    | Quantity | Remarks   |
|-------------------------------|-------------------------------------|----------------------------------|----------|---|
| 1                             | 04-May-04                           | 155mm<br>Artillery<br>Projectile | 1        | Used as IED,<br>analytical results, type<br>and condition indicate<br>HD filled round   |
| 2                             | 16-May-04                           | 155mm<br>Artillery<br>Projectile | 10       | Found with ruptured<br>burster tube<br>inconsistent with UN<br>practices, HD traces   |
| 3                             | 16-May-04                           | 152mm<br>Artillery<br>Projectile | 1        | Binary munition,<br>tested positive for GB.<br>detonated as suspected<br>IED  |
| 4                             | 16-Jun-04                           | 122mm SAKR<br>18 Rocket          | 2        | Liquid residue<br>indicated traces of GB<br>and GF  |
| 5                             | 25-Jun-04                           | 122mm SAKR<br>18 Rocket          | 17       | 13 found partially<br>destroyed and 4 intact<br>positive results for G,<br>agent degraded   |
| 6                             | 28-Jul-04                           | 122mm SAKR<br>18 Rocket          | 22       | 21 found in<br>deteriorated condition<br>one intact warhead<br>contained traces of<br>RCA   |
| 7                             | 17-Sep-04                           | 122mm Borak<br>Rocket            | 1        | Spreadsheet only,<br>Intact, direct sample<br>for GB  |
| 8                             | 02-Oct-04                           | 122mm Borak<br>Rocket            | 2        | Spreadsheet only, one<br>rocket with unknown<br>results, one with direct<br>sample for GB,GF,<br>destroyed by<br>detonation 12 Oct 04 |
| 9                             | 01-Nov-04                           | 122mm Borak<br>Rocket            | 4        | Spreadsheet only,<br>intact, direct sample<br>for GB, destroyed by<br>detonation 24 Nov 04  |
| 10                            | 10-Jan-05                           | 122mm Borak<br>Rocket            | 10       | Spreadsheet only,<br>intact, GB, destroyed 9<br>Jan 05  |

| No. of<br>records<br>reviewed | Date of<br>recovery/<br>Destruction | Munition type         | Quantity | Remarks   |
|-------------------------------|-------------------------------------|-----------------------|----------|---|
| 11                            | 02-Sep-05                           | 122mm Borak<br>Rocket | 1        | Drilled, sampled,<br>moved to the US for<br>further assessment  |
| 12                            | 23-Sep-05                           | 122mm Borak<br>Rocket | 15       | Ten rockets drilled and<br>sampled, One rocket<br>and ten samples<br>moved to the US for<br>further assessment;<br>remaining items<br>destroyed on-site |
| 13                            | 07-Oct-05                           | 122mm Borak<br>Rocket | 11       | Four drilled and<br>sampled; four samples<br>moved to the US for<br>further assessment;<br>eleven rockets<br>destroyed                                  |
| 14                            | 07-Nov-05                           | 122mm Borak<br>Rocket | 33       | Rocket warheads,<br>Limited information<br>spreadsheet  |
| 15                            | 26-Nov-05                           | 122mm Borak<br>Rocket | 1        | Empty rocket warhead,<br>destroyed on-site  |
| 16                            | 08-Dec-05                           | 122mm Borak<br>Rocket | 8        | Rocket warheads,<br>destroyed on-site   |
| 17                            | 13-Jan-06                           | 122mm Borak<br>Rocket | 100      | Two rockets sampled;<br>all rockets destroyed<br>on-site  |
| 18                            | 14-Jan-06                           | 122mm Borak<br>Rocket | 16       | Canisters, destroyed on-site, post sampling negative  |
| 19                            | 12-Feb-06                           | 122mm Borak<br>Rocket | 157      | No samples taken,<br>rockets destroyed on-<br>site  |
| 20                            | 26-Feb-06                           | 122mm Borak<br>Rocket | 79       | No samples taken,<br>canisters, destroyed<br>on-site  |
| 21                            | 14-Mar-06                           | 122mm Borak<br>Rocket | 9        | AP2C indicated three<br>bars for G, destroyed<br>on-site  |
| 22                            | 17-Mar-06                           | 122mm Borak<br>Rocket | 1        | Canister, assessed by<br>PINS and X-ray, 50%<br>filled with unknown<br>liquid, destroyed on-<br>site  |

| No. of<br>records<br>reviewed | Date of recovery/ Destruction | Munifion type                           | Quantity | Remarks  |
|-------------------------------|-------------------------------|---|----------|--|
| 23                            | 29-Nov-06                     | 122mm Borak<br>Rocket                   | 2,459    | Rocket canisters, of<br>which 60 had an<br>unknown fill: 6<br>analysed by PINS,<br>which indicated<br>degradation products,<br>destroyed on-site |
| 24                            | 08-Aug-06                     | 122mm Borak<br>Rocket                   | 296      | Rocket canisters,<br>destroyed on-site   |
| 25                            | 03-Apr-06                     | 122mm Type<br>III or IV Borak<br>Rocket | 57       | Seven filled with<br>unidentified liquid,,<br>tested negative for CW<br>agent, destroyed on-<br>site without further<br>evaluation               |
| 26                            | 05-Apr-06                     | 122mm Borak<br>Rocket                   | 15       | Canisters, of which 2<br>empty and remaining<br>with unknown liquid<br>fill suspected to be<br>CW, destroyed                                     |
| 27                            | 15-Apr-06                     | 122mm Borak<br>Rocket                   | 8        | Canisters, destroyed<br>on-site, pre and post-<br>blast samples from the<br>destruction site<br>analysed   |
| 28                            | 17-May-06                     | 122mm Borak<br>Rocket                   | 2        | Canisters, destroyed<br>on-site, photographs of<br>items and destruction<br>operation  |
| 29                            | 26-Sept-06                    | 122mm Borak<br>Rocket                   | 3        | Empty, photographs,<br>X-ray, pre and posi-<br>blast soil samples from<br>the destruction site,<br>analysis data,<br>destroyed on-site           |
| 30                            | 13-Nov-06                     | 155mm<br>Artillery<br>Projectile        | 40       | 15 filled suspect HD,<br>20 empty; 5 drilled,<br>photographs. X-ray,<br>destroyed on-site  |
| 31                            | 07-Dec-06                     | 155mm<br>Artillery<br>Projectile        |          | Suspect HD, demilitarised, retained for identification/training purposes, to be later destroyed  |

| No. of<br>records<br>reviewed | Date of recovery/ | Munition type                    | Quantity | Remarks  |
|-------------------------------|-------------------|----------------------------------|----------|--|
| 32                            | 17-Dec-06         | 155mm<br>Artillery<br>Projectile | 114      | HD, initial tests negative for CW, destroyed on-site, photographs, pre and post-blast soil sample analysis of the destruction site   |
| 33                            | 07-Jan-07         | 155mm<br>Artillery<br>Projectile | 1        | No liquid fill, detailed<br>report, X-ray. PINS<br>conclusion empty,<br>photographs, soil<br>sample analysis report,<br>destroyed on-site  |
| 34                            | 14-Jan-07         | 155mm<br>Artillery<br>Projectile | 13       | Damaged by previous<br>demilitarisation or<br>removal of shipping<br>lug, severely<br>weathered,<br>photographs  |
| 35                            | 25-Feb-07         | 155mm<br>Artillery<br>Projectile | ī        | Item weighed and determined to be empty  |
| 36                            | 28-Feb-07         | 155mm<br>Artillery<br>Projectile | 1        | Empty, wet soil residue, detection paper and ICAM positive indicated that soil tested positive for H. photograph   |
| 37                            | 11-Mar-07         | 152mm<br>Artillery<br>Projectile | 1        | Medical issues, sample<br>taken at location of<br>recovery and clothing<br>tested positive for HD  |
| 38                            | <b>22-Mar-</b> 07 | 155mm<br>Artillery<br>Projectile | 2        | Empty, suspect HD, CAM/ICAM three bars reading, photographs, X-ray, PINS, photographs of items, destruction site and blast, soil sample analysis of destruction site report, destroyed on-site |

| No. of<br>records<br>reviewed | Date of recovery/ | Munition type                      | Quantity | Remarks   |
|-------------------------------|-------------------|------------------------------------|----------|---|
| 51                            | 21-Apr-08         | 155mm<br>Artillery<br>Projectile   | 2        | IED. leaking. detection<br>paper test<br>inconclusive,<br>photographs, destroyed<br>on-site   |
| 52                            | 16-May-08         | 122mm Rocket                       | 107      | Confirmed empty and unserviceable, photographs show items may have been previously destroyed, destroyed on-site   |
| 53                            | 17-May-08         | R-400 Aerial<br>Bomb               | 9        | Damaged, previously<br>breached, no chemical<br>fill, destroyed on-site   |
| 54                            | 14-May-08         | R-400 Aerial<br>Bomb               | 140      | Damaged, previously<br>breached, no chemical<br>fill, photographs, X-<br>ray, PINS, one sample<br>with weak indicator of<br>decon solution,<br>destroyed on-site    |
| 55                            | 19-Jun-08         | 155mm<br>Artillery<br>Projectile   | 144      | Damaged, previously demilitarised, six seemingly undamaged projectiles thoroughly assessed by PINS, X-ray, indicated presence of HD, photographs, destroyed on-site |
| 56                            | 28-Jul-08         | 122mm Firos<br>Artillery<br>Rocket | 2        | Warhead empty,<br>photographs, destroyed<br>on-site   |
| 57                            | 06-Aug-08         | 155mm<br>Artillery<br>Projectile   | 8        | Damaged, weathered,<br>previously<br>demilitarised, HD<br>traces, photographs,<br>destroyed on-site   |
| 58                            | 23-Oct-08         | 155mm<br>Artillery<br>Projectile   | 10       | Intact, full with liquid,<br>likely HD,<br>photographs, PINS,<br>destroyed on-site  |
| 59                            | 16-Aug-08         | 155mm<br>Artillery<br>Projectile   | 62       | Damaged, leaking, pre<br>and post-blast soil<br>sample analysis,<br>photographs, PINS,<br>destroyed on-site   |

| No. of<br>records<br>reviewed | Date of recovery/ Destruction | Munition type                    | Quantity | Remarks   |
|-------------------------------|-------------------------------|----------------------------------|----------|---|
| 60                            | 04-Sep-08                     | 155mm<br>Artillery<br>Projectile | 1        | Suspected HD,<br>photographs of items<br>and demolition setup.<br>destroyed on-site   |
| 61                            | 17-Nov-08                     | 155mm<br>Artillery<br>Projectile | 10       | Suspect HD, pre and post-blast soil sample of the destruction site analysis, photographs of items and demolition setup, memorandum for record, destroyed onsite |
| 62                            | 23-Nov-08                     | 155mm<br>Artillery<br>Projectile | 4        | Post-blast soil samples<br>from the destruction<br>site negative for CW<br>agent, photographs,<br>memorandum of<br>destruction, destroyed<br>on-site            |
| 63                            | 25-Nov-08                     | 155mm<br>Artillery<br>Projectile | 2        | Vapor and slosh test<br>provided negative<br>results, photographs<br>displayed welded<br>baseplates indicating<br>chemical rounds, X-<br>ray, destroyed on-site |
| 64                            | 24-Nov-08                     | 155mm<br>Artillery<br>Projectile | 1        | Unknown fill,<br>photograph of<br>demolition set-up,<br>memorandum of<br>destruction, destroyed<br>on-site  |
| 65                            | 04-Jan-09                     | 122mm Firos<br>Rocket            | 10       | Empty, photograph,<br>memorandum of<br>destruction, destroyed<br>on-site  |
| 66                            | 26-Dec-08                     | 122mm Firos<br>Rocket            | 27       | Empty, memorandum<br>of destruction.<br>photographs, destroyed<br>on-site   |

| No. of<br>records<br>reviewed | Date of recovery/ Destruction | Munition type                    | Quantity | Remarks   |
|-------------------------------|-------------------------------|----------------------------------|----------|---|
| 39                            | 01-Apr-07                     | 122mm Borak<br>Rockets           | 3        | Canisters, inert,<br>photographs, X-ray<br>indicate 40% liquid fill<br>possible rainwater,<br>destroyed on-site                               |
| 40                            | 01-Apr-07                     | 155mm<br>Artillery<br>Projectile | 1        | Visible "ballooned" burster tube, empty, unknown, photographs, X-ray, PINS analysis UKN, no residual hazard after                             |
| 41                            | 26-Mar-07                     | 155mm<br>Artillery<br>Projectile | 1        | Visible burster tube,<br>empty, unknown,<br>photographs, X-ray,<br>PINS, destruction site<br>soil sample analysis<br>report, destroyed        |
| 42                            | 23-Apr-07                     | 152mm<br>Artillery<br>Projectile | 1        | Half buried, leaking, indicator paper showed H, photograph of round and wet soil, photograph of test paper results, destroyed                 |
| 43                            | 09-Jun-07                     | 155mm<br>Artillery<br>Projectile | 1        | Photographs, post<br>initial controlled<br>detonation showing<br>black tar-like<br>substance, destroyed<br>on-site                            |
| 44                            | 01-Jul-07                     | 122mm Borak<br>Rocket            | 2        | Photographs, X-ray indicate 95% fill, pre and post-blast soil sample analysis of the destruction site indicated no CW agent, destroyed onsite |

| No. of<br>records<br>reviewed | Date of<br>recovery/<br>Destruction | Munition type                    | Quantity | Remarks   |
|-------------------------------|-------------------------------------|----------------------------------|----------|---|
| 45                            | 07-Jul-07                           | 155mm<br>Artillery<br>Projectile | 36       | Detailed report, 1 bar on CAM, solid sample taken from ground beneath the nose of the suspect 155mm chemical projectile indicated presence of HD and degradation products, destroyed on-site                      |
| 46                            | 10-Jul-07                           | 155mm<br>Artillery<br>Projectile | 23       | Demilitarised to a<br>certain extent<br>previously,<br>photographs, destroyed<br>on-site  |
| 47                            | 19-Jul-07                           | 155mm<br>Artillery<br>Projectile | 1        | Damaged, leaking,<br>tested positive for HD,<br>destroyed on-site   |
| 48                            | 30-Jul-07                           | 155mm<br>Artillery<br>Projectile | 17       | Photographs, X-ray, PINS, indication of previous decontamination, pre and post-blast soil sample analysis of the destruction site, destroyed on-site  |
| 49                            | 09-Aug-07                           | 155mm<br>Artillery<br>Projectile | I        | Damaged, black tar-<br>like substance positive<br>for degradation<br>products, post soil<br>sample analysis<br>negative for CW agent,<br>destroyed on-site  |
| 50                            | 15-Aug-07                           | 155mm<br>Artillery<br>Projectile | 1        | Damaged,<br>mushroomed around<br>tip, not breached,<br>presence of burster<br>tube and welded base<br>plate, no indication of<br>agent, photographs,<br>post-blast soil sample<br>analysis, destroyed on-<br>site |

| No. of<br>records<br>reviewed | Date of recovery/ Destruction | Munition type                      | Quantity | Remarks   |
|-------------------------------|-------------------------------|------------------------------------|----------|---|
| 51                            | 21-Apr-08                     | 155mm<br>Artillery<br>Projectile   | 2        | IED, leaking, detection<br>paper test<br>inconclusive,<br>photographs, destroyed<br>on-site   |
| 52                            | 16-May-08                     | 122mm Rocket                       | 107      | Confirmed empty and<br>unserviceable,<br>photographs show<br>items may have been<br>previously destroyed,<br>destroyed on-site                                      |
| 53                            | 17-May-08                     | R-400 Aerial<br>Bomb               | 9        | Damaged, previously<br>breached, no chemical<br>fill, destroyed on-site   |
| 54                            | 14-May-08                     | R-400 Aerial<br>Bomb               | 140      | Damaged, previously<br>breached, no chemical<br>fill, photographs, X-<br>ray, PINS, one sample<br>with weak indicator of<br>decon solution,<br>destroyed on-site    |
| 55                            | 19-Jun-08                     | 155mm<br>Artillery<br>Projectile   | 144      | Damaged, previously demilitarised, six seemingly undamaged projectiles thoroughly assessed by PINS, X-ray, indicated presence of HD, photographs, destroyed on-site |
| 56                            | 28-Jul-08                     | 122mm Firos<br>Artillery<br>Rocket | 2        | Warhead empty,<br>photographs, destroyed<br>on-site   |
| 57                            | 06-Aug-08                     | 155mm<br>Artillery<br>Projectile   | 8        | Damaged, weathered,<br>previously<br>demilitarised, HD<br>traces, photographs,<br>destroyed on-site   |
| 58                            | 23-Oct-08                     | 155mm<br>Artillery<br>Projectile   | 10       | Intact, full with liquid,<br>likely HD,<br>photographs, PINS,<br>destroyed on-site  |
| 59                            | 16-Aug-08                     | 155mm<br>Artillery<br>Projectile   | 62       | Damaged, leaking, pre<br>and post-blast soil<br>sample analysis,<br>photographs, PINS,<br>destroyed on-site   |

| No. of<br>records<br>reviewed | Date of recovery/ Destruction | Munition type                    | Quantity | Remarks   |
|-------------------------------|-------------------------------|----------------------------------|----------|---|
| 60                            | 04-Sep-08                     | 155mm<br>Artillery<br>Projectile | 1        | Suspected HD,<br>photographs of items<br>and demolition setup.<br>destroyed on-site   |
| 61                            | 17-Nov-08                     | 155mm<br>Artillery<br>Projectile | 10       | Suspect HD, pre and post-blast soil sample of the destruction site analysis, photographs of items and demolition setup, memorandum for record, destroyed onsite |
| 62                            | 23-Nov-08                     | 155mm<br>Artillery<br>Projectile | 4        | Post-blast soil samples<br>from the destruction<br>site negative for CW<br>agent, photographs,<br>memorandum of<br>destruction, destroyed<br>on-site            |
| 63                            | 25-Nov-08                     | 155mm<br>Artillery<br>Projectile | 2        | Vapor and slosh test<br>provided negative<br>results, photographs<br>displayed welded<br>baseplates indicating<br>chemical rounds, X-<br>ray, destroyed on-site |
| 64                            | 24-Nov-08                     | 155mm<br>Artillery<br>Projectile | 1        | Unknown fill,<br>photograph of<br>demolition set-up,<br>memorandum of<br>destruction, destroyed<br>on-site  |
| 65                            | 04-Jan-09                     | 122mm Firos<br>Rocket            | 10       | Empty, photograph,<br>memorandum of<br>destruction, destroyed<br>on-site  |
| 66                            | 26-Dec-08                     | 122mm Firos<br>Rocket            | 27       | Empty, memorandum<br>of destruction,<br>photographs, destroyed<br>on-site   |

| No. of<br>records<br>reviewed | Date of<br>recovery/<br>Destruction | Munition type                         | Quantity | Remarks  |
|-------------------------------|-------------------------------------|---------------------------------------|----------|--|
| 67                            | 23-Dec-08                           | 155mm<br>Artillery<br>Projectile      | 29       | Vapour and slosh tests<br>negative, post-blast<br>soil samples from the<br>destruction site<br>negative for CW agent,<br>photographs of items<br>and demolition setup,<br>memorandum of<br>destruction, destroyed<br>on-site |
| 68                            | 23-Dec-08                           | 155mm<br>Artillery<br>Projectile      | 2        | Both prepared as IED,<br>photographs of items<br>and demolition setup,<br>memorandum of<br>destruction, destroyed<br>on-site   |
| 69                            | 21-Dec-08                           | 155mm<br>Artillery<br>Projectile      | 3        | Vapour and slosh test<br>negative, post-blast<br>soil samples from the<br>destruction site<br>negative for CW agent,<br>photographs,<br>memorandum of<br>destruction, destroyed<br>on-site                                   |
| 70                            | 30-Oct-08                           | 155mm<br>Artillery<br>Projectile      | 25       | Empty casings, two<br>containing unknown<br>liquid, slosh test<br>positive, no markings,<br>photographs, destroyed<br>on-site  |
| 71                            | 04-Jul-08                           | 155mm<br>Artillery<br>Projectile      | 1        | Presence of burster<br>tube and positive<br>vapour test, HD fill,<br>photographs, destroyed<br>on-site   |
| 72                            | 05-Sep-08                           | 122mm Rocket                          | 2        | Potentially containing<br>residual nerve agent,<br>post-blast soil sample<br>analysis  |
| 73                            | 08-Jul-08                           | 122mm<br>SAKR-18<br>Rocket<br>warhead | 1        | Photographs,<br>destroyed on-site<br>without further<br>investigation  |

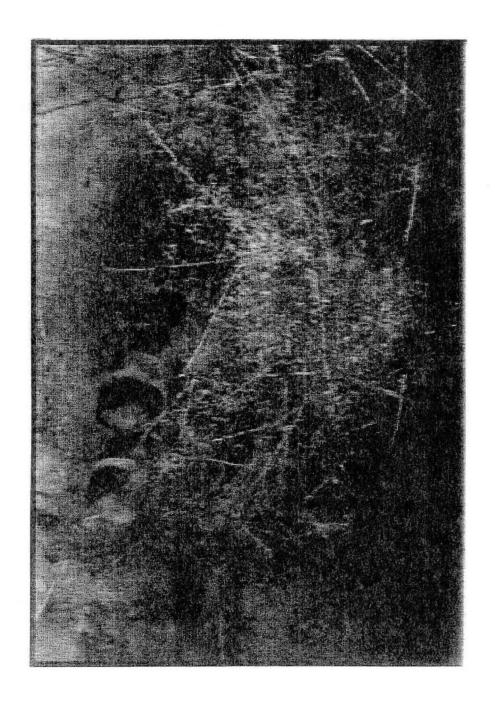
| No. of<br>records<br>reviewed | Date of<br>necovery/<br>Destruction | Munition type                        | Quantity | Remarks   |
|-------------------------------|-------------------------------------|--------------------------------------|----------|---|
| 74                            | 11-Ju!-08                           | 155mm<br>Artillery<br>Projectile     | 10       | Two assessed to be filled with suspected CW agent. multiple photographs, soil samples and item contained H/HD and degradation products, destroyed on-site |
| 75                            | 21-Jul-08                           | 155mm<br>Artillery<br>Projectile     | 2        | One empty one<br>containing CW agent,<br>photographs, destroyed<br>on-site  |
| 76                            | 14-Jun-08                           | 122mm Rocket<br>Warhead              | 6        | Empty, previously<br>demilitarised,<br>photographs, destroyed<br>on-site  |
| 77                            | 23-Jun-08                           | 500lb Aerial<br>Bomb                 | 2        | Empty, previously demilitarised, photographs  |
| 78                            | 24-Jun-08                           | 122mm Rocket<br>Warhead              | 36       | Empty warheads, clear<br>of chemical agents,<br>photographs   |
| 79                            | 24-Jun-08                           | 130mm<br>Artillery<br>Projectile     | 2        | Empty, clear of<br>chemical agents,<br>photographs  |
| 80                            | 24-Jun-08                           | 155mm<br>Artillery<br>Projectile     | 85       | Empty, clear of<br>chemical agents,<br>photographs  |
| 81                            | 24-Jun-08                           | HD-500 Aerial<br>Bomb                | 13       | Empty, clear of<br>chemical agents,<br>photographs  |
| 82                            | 24-Jun-08                           | HD-500 Aerial<br>Bomb                | 15       | Empty, clear of<br>chemical agents,<br>photographs  |
| 83                            | 30-Jun-08                           | 122mm Firos-<br>25 Rocket<br>Warhead | I        | Firos-25 nose with<br>burster tube intact,<br>photographs, destroyed<br>on-site   |
| 84                            | 30-Jun-08                           | 155mm<br>Artillery<br>Projectile     | 3        | Visual inspection for<br>empty, photographs.<br>destroyed on-site   |
| 85                            | 04-Jul-08                           | 155mm<br>Artillery<br>Projectile     | 1        | Partially demilled,<br>photographs, destroyed<br>on-site  |

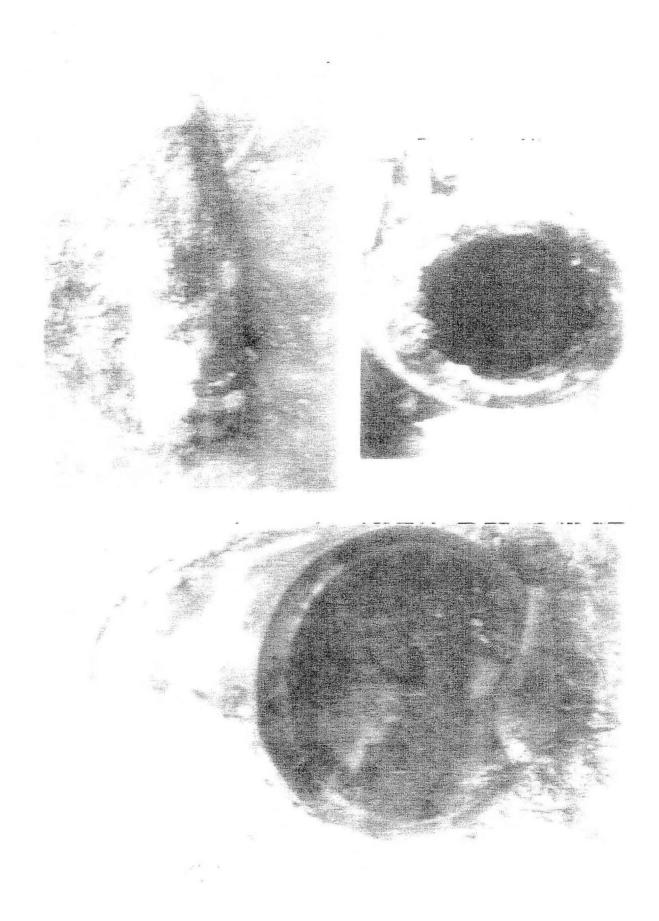
| No. of<br>records<br>reviewed | Date of<br>recovery/<br>Destruction | Munition type                       | Quantity | Remarks   |  |  |
|-------------------------------|-------------------------------------|-------------------------------------|----------|---|--|--|
| 86                            | 12-Feb-07                           | 155mm<br>Artillery<br>Projectile    | 1        | Empty, photographs, destroyed on-site   |  |  |
| 87 08-Mar-07                  |                                     | 155mm<br>Artillery 1<br>Projectile  |          | Seemed intact, burster<br>tube laying near round<br>covered in wet tar-like<br>substance, soil sample<br>positive for<br>degradation products<br>of HD, destroyed on-<br>site   |  |  |
| 88                            | 20-Jul-08                           | 155mm Artillery 2 Projectile        |          | Negative vapour tests,<br>destroyed on-site   |  |  |
| 89                            | 09-Oct-08                           | AOKH-8 a k a<br>R400 Aerial<br>Bomb | 3        | Results of slosh test,<br>and X-ray negative for<br>CW, post soil sample<br>of destruction site<br>negative, photographs,<br>memorandum of<br>destruction, destroyed<br>on-site |  |  |
| 90 13-Oct-08                  |                                     | 155mm<br>Artillery<br>Projectile    | 3        | Slosh test negative, results of post-blast soil sample at the destruction site were negative for CW agent, photographs, memorandum of destruction, destroyed on-site            |  |  |
| 91                            | 05-Dec-08                           | 122mm Firos<br>Artillery<br>Rocket  | 37       | Empty, deteriorated,<br>destroyed on-site   |  |  |
| 92                            | 05-Dec-08                           | 155mm<br>Artillery<br>Projectile    | 85       | Deteriorated, 82<br>empty, 2 possible HD<br>residue, one appeared<br>full (slosh test),<br>destroyed on-site  |  |  |
| 93                            | 06-Dec-08                           | 155mm<br>Artillery<br>Projectile    | 15       | Empty, marked "HD",<br>actual fill unknown,<br>destroyed at the site  |  |  |
| 94                            | 20-Mar-07                           | 130mm<br>Artillery<br>Projectile    | 1        | Detection paper test<br>indicated H, destroyed<br>at the site   |  |  |

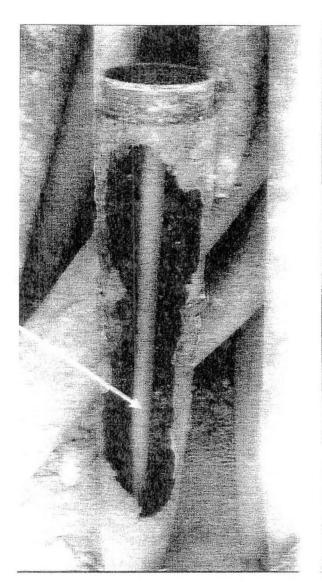
| No. of<br>records<br>reviewed | Date of<br>recovery/<br>Destruction | Munition type                    | Quantity | Remarks   |  |  |
|-------------------------------|-------------------------------------|----------------------------------|----------|---|--|--|
| 95                            | 27-Apr-08                           | 152mm<br>Artillery<br>Projectile | 1        | Slosh test positive,<br>degraded, possible<br>unknown liquid fill,<br>photographs, destroyed<br>on-site |  |  |
|                               |                                     | Total                            | 4,530    | On-site   |  |  |

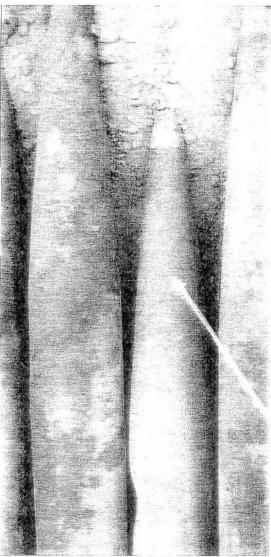
# Examples of photographs included in the records reviewed

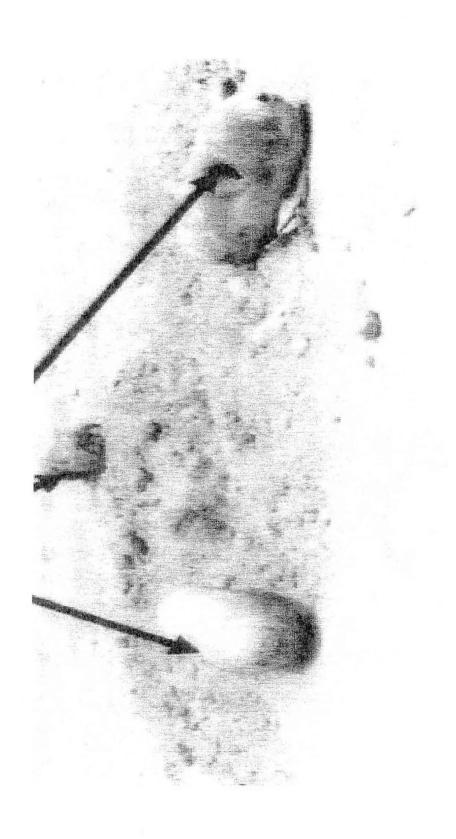
- 1. 2. 3. 4. 5.
- Photograph depicting projectiles found in a cache. Photographs of a 155mm projectile, as found Photographs of artillery rocket warheads, as found
- Photographs of R-400 aerial bombs, partially demilitarised, as found
- Photographs of set-up for demolition
- Photograph of the result of the demolition

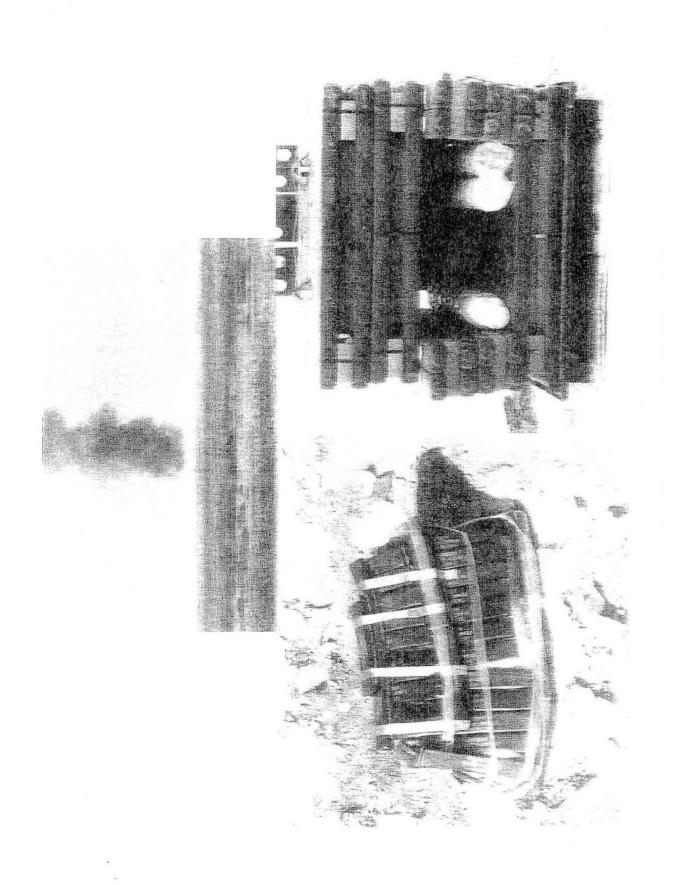














# Report of the visit conducted by the Technical Secretariat for the purpose of reviewing documentation related to the recovery and destruction of Iraqi chemical munitions

"This report has been prepared by the representatives of the Technical Secretariat (TS) and reflects the findings of the visit conducted by the TS for the sole purpose of reviewing documentation related to the recovery and destruction of Iraqi chemical munitions."

#### Background

- 1. The United Kingdom (UK) notified the Technical Secretariat (TS) in a letter (DO11790) to the Director of Verification, dated 6 April 2009, that it had recovered and destroyed 21 Iraqi CW items. In the interest of openness and transparency, the UK provided a short summary of the recovery and destruction activities carried out prior to Iraq's accession to the CWC. The UK also submitted separately to the Head of the Declarations Branch, on the same date, a declaration (DO11791) about the transfer in 2004 of four samples containing Schedule 1 chemicals from Iraq to the UK in order to confirm the presence of Schedule 1 chemicals. This was carried out for the purpose of ensuring the safety of UK military personnel and the Iraqi civilian population.
- 2. Further to that, in response to the letter dated 6 April 2009 and further communication, the TS accepted the invitation extended by the UK to review the documentation which it offered to provide. The review took place on 2 September 2009, at the Ministry of Defence (MOD) in London. The names of the TS staff who conducted the review and the UK representatives are listed in Annex 1 to this report.
- 3. The purpose of the TS visit was to review the documents voluntarily made available by the UK as proposed in its letter dated 6 April 2009 in order to demonstrate maximum transparency and cooperation. Since this activity was not a verification measure intended to confirm the destruction of the notified CW items, it was not subject to the rules contained in the Verification Annex to the Chemical Weapons Convention.
- 4. It should be indicated that, by letter dated 6 April 2009 (see above) addressed to the Director of Verification, the UK had informed the TS about the recovery and destruction of chemical munitions in Iraq; these items were believed to be Iraqi chemical munitions produced prior to 1991 and contained nerve agent (sarin).
- 5. The letter referred above further stated that the UK for security reasons has not circulated information regarding these findings. Terrorists and insurgent groups have been seeking to acquire chemical weapons and the potential use of such weapons by them poses a continuing threat to the civilian population and the Iraqi Government, as well as to the coalition forces. The submission of documents was done in April 2009, so that these could be considered in the context of Iraq's initial declaration and by that time the safety and security concerns had improved.

#### Summary of activities during the visit

- Upon arrival at London, the TS delegation was welcomed by the representatives of the UK who facilitated all entry procedures and made all logistic arrangements required during the visit. A working space with all required amenities was made available at the MOD.
- 7. The review included all available documents which covered the recovery, assessment and destruction of munitions suspected of having being designed as chemical weapons or containing a chemical fill. These listed activities were conducted during two separate periods: from 14 to 15 January 2006 and 5 May 2006. The documents reviewed comprised of two post-operational reports, one of which was supported by photographs.
- Following the review of documents made available by the UK and a subsequent discussion, a TS report was prepared summarising the findings of such review, as detailed below.

#### Summary of findings following the review of documentation made available:

· Details regarding recovery

Sixteen 122 mm AL BORAK canisters filled with suspected GB agent were released from Iraqi authority to the UK EOD and CBRN teams on 15 January 2006.

Five 122 mm AL BORAK canisters filled with suspected GB agent were obtained by the UK CBRN team on 5 May 2006.

· Assessment of recovered items

16 listed 122 mm AL BORAK canisters were confirmed by UK EOD as CW items and the canisters were immediately leak-seal packaged on-site by UK personnel until judicial authority has been granted to remove them for destruction on 15 January 2006.

5 were handed over to the UK forces immediately photographed and packaged in preparation for destruction on 5 May 2006.

Method of destruction/disposal

The canisters were transported for immediate destruction by a munitions disposal team. In both events the destruction method was an explosion in an open and secured area including the downwind locations. In order to conduct the post-destruction survey, UK personnel returned to the site to confirm the successful demolition of CW and whether there was any residual contamination on site after each destruction event. The test and detection results showed no CW or explosive contamination near the demolition crater. There was no visual indication of any liquid contamination in the area. All post-destruction surveys proved that the explosive method used was effective and no residual threat of contamination remained on-site after this operation.

## Conclusion

The documents reviewed during the visit are consistent with the information provided by the UK in the notification (DO11790), dated 6 April 2009. In the course of this review, the UK side demonstrated full transparency and cooperation in providing all requested relevant documents and photographs.

"Signed:

Date: 2 September 2009

The UK has seen this report and believes it represents an accurate description of the TS visit.

| Name             | Position |  |  |
|------------------|----------|--|--|
|                  |          |  |  |
|                  |          |  |  |
|                  |          |  |  |
|                  | 1.40     |  |  |
|                  |          |  |  |
| Representatives: |          |  |  |
|                  |          |  |  |
|                  |          |  |  |
| Nama             | Position |  |  |

# List of recovered and destroyed munitions

| Туре                          | Numbers | CW  | Filling     |           | Agent Purity | Condition    | Date of            |
|-------------------------------|---------|-----|-------------|-----------|--------------|--------------|--------------------|
|                               |         |     | Detected    | Confirmed |              | of casing    | Destruction        |
| 122mm<br>AL BORAK<br>Canister | 16      | Yes | Nerve agent | Sarin     | Variable     | Poor to good | 15 January<br>2006 |
| 122mm<br>AL BORAK<br>Canister | 5       | Yes | Nerve agent | Sarin     | Variable     | Poor to good | 05 May<br>2006     |

Annex 3
Photographs from the second destruction operation dated 5 May 2006

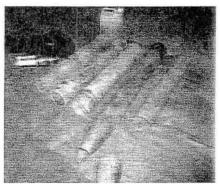


Fig1. AL BORAK canisters prior to packaging. One canister still had a fuse attached, but no rocket motors were present.



Fig2. Canister placed in barmine stack. Further barmines were then placed over the "lid" and donor charges and initiators fixed.



Fig3. Destruction site after demolition had been completed.