



**Network of ASEAN
Chemical Biological Radiological
Defence Experts**

Recommended Operational Procedure

for

**CBR SAMPLE DOCUMENTATION
AND CHAIN OF CUSTODY**

ASEAN-CBR-ROP-002 (draft)

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Amendment Record Sheet

This form contains a record of the amendments made to the previous version of this document.

| Paragraph(s) | | Brief details of amendment | Proposed by | Approved by |
|--------------|---------------|----------------------------|-------------|-------------|
| New doc. | Previous doc. | | | |
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| | | | | |

1. Introduction

This Recommended Operating Procedure (**ROP**) outlines the principles to be followed by CBR sampling & identification teams during the documentation of the on-site sampling and on-site/off-site analysis of CBR samples, in order to maintain the integrity and chain of custody of samples and to ensure a complete documentation from the point of on-site sampling until the point of on-site/off-site analysis activities are completed and sample disposed/destroyed/stored for long-term preservation. Within this ROP some particularities of operational and forensics designated sampling are addressed.

2. Purpose

This ROP guides members of the Sampling Team (**ST**) in performing sampling & identification tasks on documenting the collection, splitting, handling, analysis and transfer of CBR samples while maintaining chain of custody.

3. Scope

This ROP sets out the general procedures and mindset to be followed, in order to:

- a. efficiently and completely document on-site activities such as sampling, detection, and identification.
- b. establish documentation and communication required for samples that are sent off-site; and
- c. maintain integrity and chain of custody of samples throughout all activities in the field (including collection of samples, sample preparation and, if applicable, on-site analysis), during transportation and while processing/handling in laboratories (be it mobile or stationery, on-site or off-site).

This ROP describes how on-site sampling and on-site/off-site analysis activities are to be documented by the ST/RT to ensure maintenance of sample's integrity and chain of custody from sampling collection to on-site/off-site analysis process appropriate for CBR samples collected at the place of CBR incident/accident/scene of criminal activity.

This ROP also describes the documentation and communication required when samples need to be sent off-site for analysis.

The scope of this ROP also covers the general principles of documenting other stages which the CBR samples might be subjected to, for example temporary storage, hand/take-over between teams/units in the field, incidents during handling and/or transportation, information/communication security and post

analysis handling, storing and/or documentation of sample destruction and closure of chain of custody.

This ROP is to be applied together with the other relevant procedures listed in paragraph 4 below.

4. References & Definitions

The following documents have been used in preparing this procedure:

- a. ASEAN-CBR-ROP-001 on CBR Sample Collection;
- b. ASEAN-CBR-ROP-003 on International Transportation of CBR samples;
- c. NATO Handbook for Sampling and Identification of Biological Chemical and Radiological Agents (SIBCRA);
- d. Krüger, S. (2005). On-Site Analysis by the Inspection Team. Sampling, Analysis, Equipment, Procedures and Strategies. In Chemical Weapons Convention Chemicals Analysis, M. Mesilaakso (Ed.). <https://doi.org/10.1002/0470012285.ch3>;
- e. IAEA-TECDOC-1092, Generic Procedures for Monitoring in a Nuclear or Radiological Emergency;
- f. UN SGM IAU CBR A/44/56L Guidelines and Procedures.

5. Acronyms

| | |
|-------|--|
| CBRO | Chemical, Biological, and Radiological |
| CMR | Confidential Material Register |
| DCN | Document Control Number |
| OCMR | On-site Confidential Material Register |
| POC | Point of Contact |
| QA/QC | Quality Assurance/Quality Control |
| QDOC | Quality document(s) |
| ROP | Recommended Operational Procedure |
| RT | Response/Reconnaissance Team |
| ST | Sampling Team |
| S&A | Sampling and Analysis |
| STL | Sampling Team Leader |

- a. **Authentic sample:** An authentic sample is collected during an operation or investigation. An authentic sample can be a liquid or solid material, a wipe, a gaseous sample adsorbed on adsorbent material, or an on-site extract of these samples.
- b. **Control Sample:** Control samples are used to assess the performance of equipment, methods and personnel at an internal/external laboratory. Control samples are prepared by spiking target agent or its products at a known concentration into a characterised matrix, preferably a matrix of a similar composition as the matrix of the authentic sample.
- c. **Field background:** When possible, field background (control) samples corresponding to each type of contamination sample are to be taken from non-contaminated proximate area/object/subject similar to contaminated area/object/subject and packaged and transported in the same manner as the samples suspected of contamination
- d. **Matrix blank:** A matrix blank consists of a characteristic matrix, preferably a matrix of a similar composition as the matrix of the authentic sample and/or the control sample. A matrix blank is used to assess the performance of equipment, methods and personnel at an internal/external laboratory. Field background samples can be/are also taken and processed for the purpose of estimating incidental or accidental contamination of samples during collection, packaging and shipping from the field. This is frequently called contamination bias.
- e. **Duplicate samples:** Duplicate samples are a pair of co-located yet independent samples that are of equally representative (in time and space) of a single sample location. They represent the same population and are carried through all steps of the sampling and analytical procedures in an identical manner. Examples of duplicates include water samples collected from the same location, or side-by-side soil samples. Duplicates provide an overall assessment of precision for the entire measurement process, and may also indicate whether contamination is homogeneous or heterogeneous
- f. **Sample:** The generic term “sample” when used without specifications applies to all types of samples given above.

6. Responsibilities

The responsibilities for the activities described herein are assigned to the personnel **documenting sample collection, handling, transferring, and overall chain of custody** for CBR samples collected at the place of CBR incident/accident/scene of criminal activity. The responsibilities of the Sampling Team Leader (STL) and the team member(s) involved in the on-site sampling and analysis procedures are described in the ROP “CBRN Sample Collection Procedures” (ASEAN-CBR-ROP-001).

Deviations/modifications to the procedures in this ROP can be undertaken if properly documented (Annex 1) to allow evaluation of the impact on the analysis results.

7. Documentation of Sampling Procedures

The on-site collection, splitting, preparation and analysis of samples as well as the results are documented in the “On-site/Field CBR Sampling and Analysis Booklet” (see Annex 2) or an electronic equivalent (both referred to as Booklet in this document) and in the Investigator/Responder Notebook/LogBook¹. All activities should be documented fully by retention of the relevant documentation.

The ST always have a copy of the the S&A data gathered on site and to provide copies of it when request by another agency.

The ST may provide the data to the other agency in electronic format.

7.1 On-site/Field Sampling and Analysis Booklet

- a. **Purpose:** The intent of this Booklet is to record activities performed with the CBR sample. This facilitates procedures to be repeated under conditions as close as possible to the original ones, and, if possible, enables identification of factors affecting the uncertainty related to these procedures.
- b. **The Booklet:** One Booklet is to be compiled for every authentic sample² and method blank. Front page of the Booklet should contain signatures (digitally³) of sampling/identification/analysis sub-team and document control number (DCN) from the OCMR (On-site Confidential Material Register)⁴. An example booklet can be found in Annex 2.
- c. **Operator authentication:** Identities of operator performing sample collection, sample preparation and analysis activities must be documented in the Booklet, and all activities are authenticated by the operator who performs the task. When the operator, who is performing the sampling task, is not able to make entries (recording) into the Booklet himself/herself, instead recording is done by other ST member (“clean”/“reporting” ST), the operator must review all entries, make corrections as

¹ Not covered in this ROP

² This usually does not include documenting/registering operational sample analysis with hand held identification devices directly in the hot zone, but only samples that would be transferred outside of the hot zone for more detailed identification and analysis on mobile/on-site/off-site analysis station/laboratory.

³ If Booklet filled in digital form

⁴ Document Registry or corresponding register is a way to record/track any document, item, evidence, sample or other information obtained, collected or created during information gathering from place of incident/accident/scene of criminal activity, irrespective if the information gathering is for purposes of operational incident management, law enforcement, causes investigation, insurance investigation or similar.

necessary and initial or digitally sign at appropriate spaces in the Booklet.

- d. **Other information:** Any other information, comments and observations to the activities that are not recorded in the Booklet are recorded in the Investigator/Responder Notebook/Logbook.
- e. **Deviations:** Any deviations from CBR sampling/recording procedures during any step of sampling, sample splitting, sample preparation or analysis, are documented in a nonconformity report (see, Annex 1; this can also be a separate section inside of the Booklet). Information to be recorded includes:
 - (i) nature of and the reason for the deviation;
 - (ii) date, time and location of the event;
 - (iii) ROP number of the procedure concerned;
 - (iv) name of the responsible supervisor;
 - (v) signature of the reporting operator/responder.
- f. **Amendments of records:** All annotations and corrections of this kind must be initialed, dated and timed (in writing or in corresponding way in digital form).
 - (i) **Physical records:** Writing errors in the Booklet or in any other written *physical documents* are corrected using a single line to strike through the incorrect entry, ensuring that the error is still readable.
 - (ii) **Digital records:** Corrections are done through track-changes or strikethrough following by inserting changes and updating document version.
- g. **Final checks:** The Sample Team Leader is to
 - (i) Ensure that everything is correctly reported and marked with the appropriate confidentiality classification (if any)
 - (ii) Ensure that all attachments (if applicable) are in place, and unused parts of the Booklet are stricken out (or digitally locked/watermarked)
 - (iii) Initial on every page of the printed Booklet (or reviews digital Booklet and password protects/locks the editing) after ensuring that the documentation is complete
 - (iv) Offer printed/digital Booklets to the law enforcement representative witnessing the activities for (digital) signature (if applicable)

7.2 Field Analytical Report

At the completion of on-site detection, identification/field analysis activities, a Field Analytical Report is to be compiled to document identification/analytical activities performed on-site in a mobile analytical station/laboratory. A method blank is handled in the same manner as the corresponding authentic sample. [Refer to Annex 2 – Field S&A Booklet Part V.(1 and 2).]

- a. **Document Reference:** The Field Analytical Report should be registered in OCMR and be issued a document reference number. The document must be handled in accordance with appropriate operational/forensic confidentiality procedures.
- b. **Supporting documents:** The following are supporting documents to the Field Analytical Report, and should also be registered in OCMR and be issued a document reference number:
 - (i) Original analysis reports (such as from field GC/MS or gamma spectrometry or PCR analysis print outs or encrypted data files) of:
 - instrument performance tests with appropriate test mixture and other QA/QC tests;
 - method blank and authentic sample analysis, if required;
 - (ii) Equipment lists and certificates for all analytical equipment associated with the on-site laboratory (this could be in electronic format).
 - (iii) The S&A Booklets
- c. **Content:** The Field Analytical Report should provide concise and summarized information about:
 - (i) The sample;
 - (ii) CBR sample collection; sample preparation;
 - (iii) Information recorded in S&A Booklets;
 - (iv) Identities of operators who performed sample analysis using on-site identification/analytical equipment;
 - (v) Information on identification/analytical equipment specs and set up; and
 - (vi) Identification/analytical results.
- d. STL () is authorized to add additional information regarding sampling and analysis activities if the need arises.

8. Chain of Custody and Confidentiality

- a. **Sample labelling:** Each sample/evidence collected must be labelled with a unique identification (ID) number. This must be the unique ID use when referring to the sample and be included in all forms of records. When a sample has been split, receptacles containing the split sample must be labelled with original sample unique ID number and its respective split fraction identification (e.g. 1 out of 3, 2 out of 3 and 3 out of 3). Fraction ID are to be included in all forms of records as well.
- b. **Formal Custodian:** A sample is considered to be under custody of Sampling team (ST) performing the sampling tasks, with formal custodian being the Sampling Team Leader (STL), if:
 - (i) A ST member has physical control of the sample;
 - (ii) The sample is under continuous visual observation by an ST member;
 - (iii) The sample is under unique seal, applied by ST member.
- g. **Sample Integrity:** Integrity of the sample will be considered compromised when for example when the sample was not under ST custody, or there's indication of tampering with sample and/or its seal. When this happens, the STL must be informed. Such a sample will not be accepted for forensics/evidentiary purposes (and can be dismissed even for providing info for operational purposes decision making).
- c. **Tamperproof Sample Seals:** A way to ensure sample integrity is to seal the vessel holding the sample with a tamperproof seal. The seal is used to ensure that the samples have not been tampered, and remain protected from unauthorized alterations. Before breaking seal to retrieve sample, ST must examines the seal to check for signs of tampering. All observations must be noted down in the appropriate space inside the S&A Booklet.
- d. **Sealing of samples:** The samples are sealed as follows:
 - (i) Original sample container is sealed at the point of collection or latest at the cold zone of the decontamination station. The original seal may be removed for splitting and another seal must be applied after splitting. These seals are recorded in the appropriate section of the S&A Booklet. After splitting, any remaining part of the original sample is kept under new seal in its original container;
 - (ii) After splitting is completed, split fractions not being used for on-site analysis will always be stored under seal. The vials may be

stored in one container, which is then sealed, or all vials may be sealed individually;

- (iii) Individual sample preparation extracts do not need to be sealed during the course of on-site analysis provided a ST member is with the samples.
- (iv) Sample to be left unattended in temporary storage of the on-site/mobile laboratory/station must be kept under seal within an appropriate storage condition. A record of these seals is kept in ST operators' logbook.

In case that the integrity of a seal is questionable the STL must be informed.

e. **Transfer of Samples:** Samples to be transferred to

- (i) Law enforcement or other agency – All transfer must be properly documented in either in the S&A Booklet and/or via a chain-of-custody form. [Refer to Annex 3 for an example of Chain-of-Custody Form.]
- (ii) Off-site to a CBR stationary Laboratory – Chain-of-custody forms shall be used to document any handover of sample. Upon completion of the mission/investigation/operation, the Chain-of-custody forms must be archived together with either the Field Analytical Report or respective S&A Booklets.

f. **Sample destruction:** Any destruction of sample (i.e. the original sample, a split fraction or a sample preparation extract) must be properly documented in the S&A Booklet and/or Field Analytical Report.

- (i) On-site – shall be verified by the STL who performed sampling and/or identification/analysis tasks or a senior official;
- (ii) Off-site – shall be verified by laboratory supervisor of the testing laboratory.

g. **Documentations:** All S&A Booklets, Chain-of-custody forms and Field Analytical Reports are to be duly tracked and recorded, inclusive of total number of pages for main document and its respective attachments and/or other support documentation.

9. Documenting Collection and Splitting of Samples

- a. The sample is collected by an CBR operator of a sampling team (ST) tasked with sampling. The CBR operator completes the 'Sample Collection' form in the S&A Booklet (refer to Annex 2 Part I), provide

personnel identification information and signs. Witness of sample collection are to be recorded as well in the S&A Booklet (refer to Annex 2 Part I and II).

- b. Sample unique identification number and/or seal number (when available) are to be recorded on the 'Sample Collection' form too (refer to Annex 2 Part I and VI).
 - c. Samples are considered split when portions are taken out from what was originally collected and the 'Sample Splitting' form (refer to Annex 2 Part IV)) must be filled. Sample splitting should be performed in accordance to ASEAN-CBR-ROP-001. The amount of each split sample reserved for off-site analysis is recorded in the 'Sample Splitting' form (refer to Annex 2 Part IV).
- Note: This form can be finalized only at the end of the operation/response.
- d. Split samples are labelled with (i) original sample unique ID and (ii) fraction ID are to be recorded into the 'Sample Splitting' form (Refer to Annex 2 Part IV and VI). Seal number (when available) for each receptacles or container holding all receptacles are be recorded as well. The seal number of the container is recorded in the Notes section of the S&A Booklet (refer to Annex 2 Part VII).

10. Documenting the Preparation and Analysis of Samples

- a. Preparation and analysis of the samples is performed in accordance with the appropriate CBR identification/analytical procedures and documented using the 'Sample Preparation and Analysis' form in the Booklet (refer to Annex 2 Parts V). If seals have been applied they are to be examined and record any observations on the form.
- b. Every analysis of a sample is to be recorded in the 'Sample Preparation and Analysis' form (refer to Annex 2 Part V(1)) and also in the logbook of the analytical instrument. The 'Analysis Summary' form (refer to Annex 2 Part V(2)) is completed for all samples that resulted in an agent identification (for example by GC/MS, Gamma spectrometry, PCR, FTIR, Raman or other identification method⁵ for CBR agents).

⁵ Level of operational/forensically validated identification/analysis method accepted in particular agency notwithstanding.

- c. Information recorded in the logbook is according to analytical protocols performed either in on-site or off-site laboratories.
- d. All operators/technicians performing sample preparation and analysis activities must document their particular involvement in an activity with their initials on printed form or logbook as well as “Personnel Handling the Sample” in the S&A Booklet (refer to Annex 2 Part II).

11. Documenting the Preparation of Samples for Transportation Off-site

- a. The STL should notify the designated supervisor (or Site/Incident Commander) immediately about the intention to send samples off-site and seek for approval⁶. The samples are packed as soon as the approval is granted.
- b. Split samples are packed according to the instructions in ASEAN-CBR-ROP-003.
- c. Transportation container and inner containers are sealed with tamperproof seals or tags together with unique identification number affixed. The unique identification numbers are to be recorded in the ‘Packing of Sample Splits’ form (refer to Annex 2 Part VI) of the S&A Booklet.
- d. The law enforcement (or other agency) may place its own security seal on the transportation container in addition to ST tags/seals if deemed necessary for reasons of confidentiality⁷.
- e. Chain-of-custody form may be used to record handing over and taking over of the samples from one party to another.
- f. The person escorting the sample will carry the chain-of-custody form with him or her. In addition, he/she will also bring along the original package content list(s) for the sample transport container(s) to the designated delivery point. No documents are to be packed in the transportation container itself⁸.

⁶ In case of law enforcement or other agency collecting samples, other protocols might be applicable.

⁷ Mostly relevant in case where sampling not directly performed (but maybe only observed/witnessed) by law enforcement/forensic operators

⁸ Unless different local regulations.

- g. After packing the samples for transport, the ST will, in appropriate secure communication channel (or in direct/in-person communication), to make arrangement with On-site Incident Commander (OIC) to arrange for transportation of the sample and provide any information required in this regard.
- h. The information needed for the preparation of identification/analysis method at the off-site CBR Laboratory shall be communicated to the POC of the laboratory via the secure communication equipment (or in direct/in-person communication).
- i. This information to be communicated includes:
 - (i) Number of samples ;
 - (ii) Type of each sample (e.g. solid, liquid, soil, water, organic extract);
 - (iii) Volume of each sample;
 - (iv) On-site analysis results (if available and applicable:
 - E.g. C: detection/identification methods result on chemistry and estimated concentration of suspected chemical agents or other toxic chemicals and/or degradation products. For instance - the agent type: organophosphorus agent type G, etc., concentration range: ppm range, 50% etc.;
 - E.g. B: results of ATP bioluminescence / spectrometry / immunoassays screenings used, mobile PCR findings, etc.
 - E.g. R: dose rate at the collection “hot spot”, type of radiation, specific (per mass/volume) activity, elemental analysis results, mobile gamma-spectrometry results, etc.

12. Documentation

- a. For documentation use Sample Collection Form, that accompanies each sample taken (refer to Annex 2 Part II);
- b. After Operator who performed the sampling task processed through the Decontamination Station, he/she must review information on the ‘Sample Collection’ form, makes corrections if required, and signs it;
- c. Any hand-over of sample material to other authorities must be recorded.

13. Copyright and Disclaimer

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Annex 1 – An Example of a Non-conformity Report Template

| | |
|---|--|
| Date | |
| Operation/Deployment Code | |
| OIC/Team Leader | |
| Sub-team Leader of the Sampling/Identification Team | |
| Non-conformity related to ROP number | |
| Location/time of non-conformity action | |

Reported by (Full name and Role): _____

Description of the non-conformity*:

Reason for deviation*

| | |
|------------------------------------|--|
| Signature of reporting team member | |
|------------------------------------|--|

*include further pages if necessary

Annex 2 – An Example of a Field/On-site Sampling & Analysis Booklet

Example of “Sample Collection Form”

Field S&A Booklet - Part I.

CBR SAMPLE COLLECTION FORM

SAMPLE IDENTIFICATION

D D M M Y Y H H M M # # # T T P

Date and

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|

 (Bar)Code ¹

| | | | | | | | |
|--|--|--|--|--|--|--|--|
| | | | | | | | |
|--|--|--|--|--|--|--|--|

¹ If not with barcode generator (if possible, barcode generator should include):

##: chronological sample number, **TT**: sample type identifier according to table below, **P**: parallels (**S** for sample; **B** for method blank)

Seal Number(s):

SAMPLE TYPE

Environmental: ☐ Aqueous (**AQ**) ☐ Soil (**SL**) ☐ Air (**AR**) ☐ Solid (**SD**)

Bulk: ☐ Solid (**BS**) ☐ Liquid (**BL**) ☐ Neat CBR Agent (**NA**) ☐ Gel (**BG**)

Wipe: ☐ Dry (**WP**) ☐ With dichloromethane (**WD**) ☐ With acetonitrile (**WA**)

Food: ☐ Solid (**FS**) ☐ Liquid (**FL**) ☐ Headspace (**FH**)

Additional Information:

SAMPLING EQUIPMENT

☐ Spatula, Spoon ☐ Trowel ☐ Syringe____ml ☐ Pipette ☐ Scissors

☐ Paint scrapper ☐ Wipe with wire ☐ Wipe with ☐ Hacksaw ☐ Chisel

☐ Air sampling ☐ Filter cassette ☐ Biological swab ☐ Impinger ☐ Tweezers

Flow rate:

☐ Other, describe:

CBR SAMPLE CONTAINER

☐ wide mouth bottle ☐ narrow mouth ☐ wide mouth jar ☐ glass vial ____ ml ☐ Air sampling tube
____ ml bottle ____ ml ____ ml

☐ Biological swab medium _____ ☐ Filter cassette

Additional Information:

ENVIRONMENTAL CONDITIONS

Temp: ____ % rel. ☐ Sunny ☐ Cloudy ☐ Rain ☐ Snow

Additional information:

DESCRIPTION OF THE SAMPLING LOCATION

Detector(s) reading(s), where/what applicable:

Detector Reading - ID: ____ Bars: ____ Dose rate: ____

NAME AND SIGNATURE

Sample collected by: _____ [Sampler]

Witnessed by: _____ [Sampling Assistant]

Sampling Team Leader: _____

Sample transported by: _____

Example of “Sampling Team Personnel Form”**Field S&A Booklet - Part II****PERSONNEL HANDLING THE SAMPLE**

| Function | Name and signature |
|---|------------------------------|
| Mission/Sampling Team leader | |
| Sampler / Witness | See ‘Sample collection’ form |
| Sampling sub-team leader (Warm person 1) | |
| Sampling assistant (Warm person 2) | |
| Sampling assistant (Warm person 3) | |
| Sample operator at Decontamination Station | |
| Operator taking notes (Cold person) | See ‘Sample collection’ form |
| Sample transporter | |
| Sub-team leader of the on-site laboratory (Identification Sub-team Leader) | |
| Chemical Analysis Technician (or N/A) | |
| Bio Analysis Technician (or N/A) | |
| Radioisotopes Analysis Technician (or N/A) | |

Example of “Field CBR Sample Extraction Form”

Field S&A Booklet - Part III**EXTRACTIONS⁹ OF WIPE/SOLID SAMPLES BEFORE SPLITTING****Original sample**Sample code: (##TTPPf¹) Seal #
signature:

| | | | | | | |
|--|--|--|--|--|----|----|
| | | | | | -- | -- |
|--|--|--|--|--|----|----|

Removal and confirmation of the seal
Correct and intact (Y/N) date, time,**Preparation**##TTPPf¹

| | | | | | | |
|--|--|--|--|--|----|---|
| | | | | | -- | 1 |
| | | | | | -- | 3 |

CH₂Cl₂ extraction

Water extraction

Date, time and initials

Seals applied for the extracted samples (if applicable)##TTPPf¹

| | | | | | | |
|--|--|--|--|--|----|---|
| | | | | | -- | 1 |
| | | | | | -- | 3 |

Seal #

Date, time, signature

¹ ##TTPPf : ##: sample number, TT: sample type letters, P: parallels (**S**: sample; **B**: method blank), F: sample splitting fraction number, f: sample preparation fraction number

⁹ Mostly applicable for selected chemical samples

Example of "Field CBR Sample Splitting Form"

Field S&A Booklet - Part IV**SAMPLE SPLITTING**

Sample code

##TTPPf)

THE ORIGINAL SAMPLE or THE EXTRACTED SAMPLE

| | | | | | | |
|--|--|--|--|--|----|--|
| | | | | | -- | |
|--|--|--|--|--|----|--|

Record of the removal or application (R/A) of seals and confirmation of the intactness and correctness (Y/N) of seals

| Seal # | R/A | Y/N | Date and time | Signature | Split fractions prepared |
|--------|-----|-----|---------------|-----------|--------------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SPLIT FRACTIONS (the sample code is not given to samples reserved for off-site analysis)

| Fraction 1, code/seal #: | Fraction 2, code/seal #: | Fraction 3, code/seal #: | Fraction 4, code/seal #: |
|---|---|--|--|
| During operation: On-site analysis <input type="radio"/> At the end of operations: Given to law enforcem. or other agency <input type="radio"/> Destroyed <input type="radio"/> | During operation: To law enforcem. or other agency reference <input type="radio"/> At the end of operations: Given to law enforcem. or other agency <input type="radio"/> Destroyed <input type="radio"/> | During operation: On-site analysis <input type="radio"/> Off-site analysis <input type="radio"/> At the end of operations: Given to law enforcem. or other agency <input type="radio"/> Destroyed <input type="radio"/> Sent off-site <input type="radio"/> weight _____ g preservative _____ _____ | During operation: Joint custody <input type="radio"/> Off-site analysis <input type="radio"/> At the end of operations: Given to law enforcem. or other agency <input type="radio"/> Destroyed <input type="radio"/> Under joint custody <input type="radio"/> Sent off-site <input type="radio"/> weight _____ g preservative _____ _____ |

| Fraction 5, seal #: | Fraction 6, seal #: | Fraction 7, seal #: | Fraction 8, seal #: |
|---|---|---|---|
| During operation: Off-site analysis <input type="checkbox"/> At the end of operation: Given to law enforcem. or other agency <input type="checkbox"/> Destroyed <input type="checkbox"/> Sent off-site <input type="checkbox"/> weight _____ g preservative _____ _____ | During operation: Off-site analysis <input type="checkbox"/> At the end of operation: Given to law enforcem. or other agency <input type="checkbox"/> Destroyed <input type="checkbox"/> Sent off-site <input type="checkbox"/> weight _____ g preservative _____ _____ | During operation: Off-site analysis <input type="checkbox"/> At the end of operation: Given to law enforcem. or other agency <input type="checkbox"/> Destroyed <input type="checkbox"/> Sent off-site <input type="checkbox"/> weight _____ g preservative _____ _____ | During operation: Off-site analysis <input type="checkbox"/> At the end of operation: Given to law enforcem. or other agency <input type="checkbox"/> Destroyed <input type="checkbox"/> Sent off-site <input type="checkbox"/> weight _____ g preservative _____ _____ |

Recommended Operations Procedure (ROP) XX, issue no _____ revision no _____ was followed for splitting.

HANDOVER OF SAMPLE FRACTION DURING OPERATION

Fraction number _____ has been handed over to law enforcement/other agency

Date

Signature of agency representative

Witness

AT THE END OF THE OPERATION

the entire sample was split ☐
the remaining of the sample ☐
was given to other agency representative

Date

Signature of agency representative

Witness

the remaining of the sample ☐
was destroyed

CERTIFICATION OF DESTRUCTION

The split fractions and remaining of the original sample marked 'Destroyed' above have been destroyed.

Date

Signature of the sub-team leader

Signature of the TL

Example of “Field CBR Sample Identification/Analysis Form” for on-site chemical analysis – GC/MS, FTIR, Raman...

Field S&A Booklet - Part V (1)

FIELD SAMPLE PREPARATION and IDENTIFICATION/ANALYSIS of CBR SAMPLES

Split sample

| | | | | | | |
|---|---|---|---|---|---|---|
| # | # | T | T | P | F | f |
| | | | | | | |

Seal number: _____ **Removed, correct and intact (Y/N) date, time and signatu** _____

WORK INSTRUCTIONS

Work instruction followed: QDOC/LAB/WI/SP2, issue no _____ revision no _____ (sample preparation)
QDOC/LAB/WI/GCMS10, issue no _____ revision no _____ (analysis)

| Sample code ¹ ##TTPFf | | | | | | | Sample Preparation Method | Date, time and initials: | Analysis, file number: |
|----------------------------------|---|---|--|--|--|----|---|--------------------------|------------------------|
| | | | | | | 1 | Example: CH ₂ Cl ₂ extraction / direct analysis, PCR, LFA | | |
| — | ” | — | | | | 2 | | | |
| — | ” | — | | | | 3 | | | |
| — | ” | — | | | | 4 | | | |
| — | ” | — | | | | 5 | | | |
| — | ” | — | | | | 6 | | | |
| — | ” | — | | | | 7 | | | |
| — | ” | — | | | | 8 | | | |
| — | ” | — | | | | 9 | | | |
| — | ” | — | | | | 10 | | | |
| — | ” | — | | | | 11 | | | |
| — | ” | — | | | | 12 | Other: _____ | | |

OFFICIAL (CLOSED)

¹ ##: sample number, TT: sample type letters, P: parallels (**S**: sample; **B**: method blank), F: sample splitting fraction, f: sample preparation fraction number

AT THE END OF THE OPERATION

The prepared sample fractions were given
to law enforcement/other agency o

Date

Signature of ISP
representative

Witness

The prepared sample fractions were destroyed
o

CERTIFICATION OF DESTRUCTION

All prepared sample fractions have been
destroyed.

Date

Signature of the sub-team
leader

Signature of the sampling
team leader

OFFICIAL (CLOSED)

Field S&A Booklet - Part V (2)**ANALYSIS SUMMARY**

FOR THE SAMPLE

| | | | | | |
|---|---|---|---|---|---|
| # | # | T | T | P | F |
| | | | | | |

| | | | |
|---------------------------|---------------------------------|----------------------|----------------|
| Compound name: | | | |
| CAS number (if available) | Sample preparation fraction (f) | Analysis file number | QA/QC OK (Y/N) |
| | | | |
| | | | |
| | | | |
| Compound name: | | | |
| CAS number (if available) | Sample preparation fraction (f) | Analysis file number | QA/QC OK (Y/N) |
| | | | |
| | | | |
| | | | |
| Compound name: | | | |
| CAS number (if available) | Sample preparation fraction (f) | Analysis file number | QA/QC OK (Y/N) |
| | | | |
| | | | |
| | | | |
| Compound name: | | | |
| CAS number (if available) | Sample preparation fraction (f) | Analysis file number | QA/QC OK (Y/N) |
| | | | |
| | | | |
| | | | |

| | | | |
|---------------------------|---------------------------------|----------------------|----------------|
| Compound name: | | | |
| CAS number (if available) | Sample preparation fraction (f) | Analysis file number | QA/QC OK (Y/N) |
| | | | |
| | | | |
| | | | |

Example of “Field CBR Sample Packing/Transfer Form”

Field S&A Booklet - Part VI

PACKING of SAMPLE SPLITS

Primary containers

The seal numbers and the weight of the primary containers (with tape and seal) are recorded in the sample splitting form on page(s)

Secondary packaging

| | |
|-----------------------|--|
| Frangible seal number | |
| Frangible seal number | |
| Frangible seal number | |
| Frangible seal number | |
| Weight | |

Intermediate packaging (if optic. seals used)

| | |
|-------------------------|--|
| Fiber optic seal number | |
| Fiber optic seal number | |
| Fiber optic seal number | |

(Bar) code/CMR Registry number of the photographs of the fiber optic seal end patterns

Outer packaging

| | |
|---------------------------|--|
| S/N number | |
| Transport tag/seal number | |
| Transport tag/seal number | |
| Transport tag/seal number | |
| Transport tag/seal number | |
| Weight | |

Packing was performed by

| | |
|-------------------------------|--|
| Packed by, name and signature | |
| Date and time | |

Notes:

Annex 3 – Example of Chain-of-Custody (Handover/Takeover) Form for CBR Sample

CHAIN OF CUSTODY FOR CBR SAMPLE COLLECTED ¹⁰

CBR Sample/Evidence reference number

| Year | | | | Month | | Day | | CBR Sample/Evidence ID | | | | | |
|------|--|--|--|-------|--|-----|--|------------------------|--|--|--|--|--|
| | | | | | | | | | | | | | |

| | Name / Function | Date/Time/Signature |
|--|--|----------------------------------|
| Collected by (Sampler) | | |
| Sampling assistant 1 | | |
| Sampling assistant 2 (comms) | | |
| Sampling team leader | | |
| Operator at Decontamination Station | | |
| Evidence was transported by | | |
| Seal number(s) on the transportation container | | |
| Evidence deposited by (name/date/time/sig) | | |
| Evidence Received by (name/date/time/sig) | | |
| Evidence disposed by (name/date/ sig) | Authorised disposal by (name/date/ sig) | Witnessed by (name/date/ sig) |

¹⁰ As supplemental part of Field S&A Booklet (to Part II./Part VI., Annex 2.) following the sample or as separate form (but following the sample)

Chain of custody

| | | |
|-------------------------------|------------------------|-----------------|
| Received by (name/sig) | Date & Time | Location |
| Reason | | |

| | | |
|-------------------------------|------------------------|-----------------|
| Received by (name/sig) | Date & Time | Location |
| Reason | | |

| | | |
|-------------------------------|------------------------|-----------------|
| Received by (name/sig) | Date & Time | Location |
| Reason | | |

| | | |
|-------------------------------|------------------------|-----------------|
| Received by (name/sig) | Date & Time | Location |
| Reason | | |

| | | |
|-------------------------------|------------------------|-----------------|
| Received by (name/sig) | Date & Time | Location |
| Reason | | |

Chain of custody attach additional pages as required