United States Environmental Protection Agency

Sampler's Guide

Contract Laboratory Program Guidance for Field Samplers

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LIST OF ACRONYMS

ARO	Aroclor
ASB	Analytical Services Branch
BTEX	Benzene, Toluene, Ethylbenzene, and Xylene
CBC	Chlorinated Biphenyl Congener
CDD	Chlorodibenzo-p-dioxin
CDF	Chlorodibenzofuran
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CLP	Contract Laboratory Program
CLP COR	CLP Contracting Officer's Representative
CLPSS	Contract Laboratory Program Support System
COC	Chain of Custody
CRQL	Contract Required Quantitation Limit
CVAA	Cold Vapor Atomic Absorption
CWA	Clean Water Act
DOT	Department of Transportation
DQO	Data Quality Objective
ERT	Environmental Response Team (EPA)
ET	Eastern Time
EPA	United States Environmental Protection Agency
FSP	Field Sampling Plan
GPS	Global Positioning System
HASP	Health and Safety Plan
HCN	Hydrocyanic Acid
HRSM	High Resolution Superfund Methods Multi-Media, Multi-Concentration Statement of Work
HTML	Hypertext Markup Language
IATA	International Air Transport Association
ICP-AES	Inductively Coupled Plasma-Atomic Emission Spectroscopy
ICP-MS	Inductively Coupled Plasma-Mass Spectrometry
ISM	Inorganic Superfund Methods: Multi-Media, Multi-Concentration Inorganics Analysis Statement of Work
MA	Modified Analysis
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NIOSH	National Institute for Occupational Safety and Health
NPL	National Priorities List
OSC	On-scene/on-site Coordinator
OSHA	Occupational Safety and Health Administration
OSRTI	Office of Superfund Remediation and Technology Innovation
OSWER	Office of Solid Waste and Emergency Response
PCBs	Polychlorinated Biphenyls
PHMSA	Pipeline and Hazardous Materials Safety Administration
PE	Performance Evaluation
ppb	Parts-Per-Billion
PPE	Personal Protective Equipment

ppm	Parts-Per-Million
ppt	Parts-Per-Trillion
PRP	Potentially Responsible Party
PTFE	Polytetrafluoroethylene
PVC	Polyvinyl Chloride
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QASPER	Quality Assurance Sampling Plan for Environmental Response
QATS	Quality Assurance Technical Support
QC	Quality Control
RAS	Routine Analytical Services
RPM	Remedial Project Manager
RSCC	Regional Sample Control Coordinator
SAM	Site Assessment Manager
SAP	Sampling Analysis Plan
SARA	Superfund Amendments and Reauthorization Act
SDG	Sample Delivery Group
SIM	Selected Ion Monitoring
SMC	System Monitoring Compound
SMO	Sample Management Office
SOM	Superfund Organic Methods: Multi-Media, Multi-Concentration Organics Analysis Statement of Work
SOP	Standard Operating Procedure
SOW	Statement of Work
SPLP	Synthetic Precipitation Leaching Procedure
SPP	Site Project Plan
SVOA	Semivolatile Organic Analyte
TCLP	Toxicity Characteristic Leaching Procedure
TR/COC	Traffic Report/Chain of Custody
UN	United Nations
USCG	United States Coast Guard
USDA	United States Department of Agriculture
VOA	Volatile Organic Analyte
XML	eXtensible Markup Language

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1.0 INTRODUCTION

The *Contract Laboratory Program Guidance for Field Samplers* (also referred to as the *Sampler's Guide*) describes the organizational roles and responsibilities for those who plan and conduct environmental sample collection for analysis through the United States Environmental Protection Agency (EPA) Contract Laboratory Program (CLP).

The following lists the sections of this Guide:

- Section 1, *Introduction*, introduces the structure and purpose of this document.
- Section 2, *General Sampling Information*, describes the general activities associated with environmental sampling.
- Section 3, *CLP Statements of Work*, describes the statements of work (SOWs) that define the requirements for CLP sampling.
- Section 4, *CLP Sampling Documentation*, lists the types of documentation used to track the CLP samples.
- Section 5, *The Scribe Documentation Software Tool*, provides information about Scribe, a software tool used to create sample documentation.
- Section 6, *CLP Sample Containers*, describes the types of containers required for CLP samples.
- Section 7, *CLP Sample Collection*, describes the process by which CLP samples are collected.
- Section 8, *CLP Sample Transportation and Shipping*, outlines the requirements for the packing and shipping of CLP samples.
- Section 9, *Sampler Resources*, provides links to additional information for sampling organizations.

The following lists the appendixes of this Guide:

- Appendix A, *Functions within a Sampling Project*, describes the functions within a sampling project which are taken from the Quality Assurance Project Plan (QAPP) requirements.
- Appendix B, *Sample Container Type Specifications*, lists the required containers for CLP samples.
- Appendix C, *CLP Sample Collection Requirements by Analysis Type*, contains the sample collection requirements by SOW.
- Appendix D, *CLP Sample Collection Guidelines for Soil VOA Samples by SW-846 Method 5035A and TCLP Extraction – EPA SW 846 1311, SPLP Extraction EPA SW 846 1312* provides guidelines for VOA soil samples.
- Appendix E, *General CLP Sample Collection Guidelines VOAs in Water*, provides guidelines for Volatile Organic Analyte (VOA) water samples.
- Appendix F, *Sampling Techniques and Considerations*, recommends sampling techniques.
- Appendix G, *International Shipping*, contains information regarding shipping samples to laboratories outside the United States.
- Appendix H, *Sampling Checklists*, contains checklists used to help the sampler ensure that all necessary steps are completed.
- Appendix I, *Glossary*, provides definitions for sampling terms.

If the field sampling team is planning to use the CLP, they should use this Guide to develop the Site Project Plan (SPP)/Quality Assurance Project Plan (QAPP) and Field Sampling Plan (FSP) documents.

1.1 Overview of the CLP

The CLP is a national network of EPA personnel, commercial laboratories, and support contractors whose fundamental mission is to provide environmental sample collection and analysis under the Superfund program. The Superfund program was established under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 and presently exists under the Superfund Amendments and Reauthorization Act (SARA) of 1986. The CLP is directed by the EPA Analytical Services Branch (ASB) from within the Office of Superfund Remediation and Technology Innovation (OSRTI) in the Office of Solid Waste and Emergency Response (OSWER).

The primary responsibility of the CLP is to provide analytical data of known and documented quality to CLP customers through its routine and modified chemical analytical services. The CLP provides a framework that allows data to be produced in a cost-effective and efficient manner. In addition, the CLP has established strict Quality Control (QC) procedures and detailed documentation requirements to ensure the consistent quality of the data. Current CLP data users include the EPA Regions, State and Tribal governments, and other Federal agencies.

1.1.1 Key Participants within the CLP

In coordinating Superfund sampling efforts, ASB is supported by the Sample Management Office (SMO) contractor, Quality Assurance Technical Support (QATS), Regional CLP Contracting Officer's Representative (CLP CORs), Regional Sample Control Coordinators (RSCCs), Site Assessment Managers (SAMs), On-scene/On-site Coordinators (OSCs), and Remedial Project Managers (RPMs). Samplers may work directly with the RSCC, and/or an OSC from the Site Support Personnel during a sampling event. Refer to Table 1-1 for a description of the functions performed by key participants (functions may vary by Region).

Table 1-1. Participants in the CLP Sampling Process

Participants	Responsibilities
Analytical Services Branch (ASB)	ASB directs the CLP from within the Office of Superfund Remediation and Technology Innovation (OSRTI) in the Office of Solid Waste and Emergency Response (OSWER). ASB responsibilities include: • Development of the Statements of Work (SOWs) that define required analytical methods (including QC, detection/quantitation limits, and holding times) for the analytical services procured under the CLP • Development and implementation of policies and budgets for Superfund analytical operations • Development of information management policies and products for analytical data • Management of SMO and QATS contracts • National administration, evaluation, and management of the CLP • Direction of CLP Quality Assurance (QA) activities in coordination with overall OSWER QA activities To obtain the most current ASB contact list, refer to the following Web site: http://www.epa.gov/superfund/programs/clp/contacts.htm#ASB
CLP Sample Management Office (SMO)	The contractor-operated SMO provides management, operations, and administrative support to the CLP. SMO receives Regional analytical requests, coordinates and schedules sample analyses, and tracks sample shipments. SMO also receives and checks data for completeness and compliance, processes laboratory invoices, and maintains a repository of sampling records and program data.

Participants	Responsibilities
CLP Contract Laboratories	The contractor-operated laboratories within CLP provide analytical services for the separation, detection, and quantitation of the CLP's target analytes. To obtain the most current list of CLP Contract Laboratories, refer to the following Web site: http://www.epa.gov/superfund/programs/clp/lablist.htm
Environmental Response Team (ERT)	The ERT is responsible for the development, implementation, and management of the Scribe software system. In addition, the ERT oversees the development of Scribe training webinars and on-site training.
Environmental Response Team (ERT) Support Contractors	The ERT Support Contractors provide technical and administrative support for the development, implementation, and management of the Scribe software system. In addition, the ERT Contractors support the development of Scribe training webinars and on-site training.
Regional CLP Contracting Officer's Representative (CLP COR)	The CLP COR monitors the technical performance of the contract laboratories in each Region. The CLP COR works closely with ASB Program Managers to identify and resolve laboratory technical issues, and leads laboratory on-site evaluations. To obtain the most current CLP COR contact list, refer to the following Web site: http://www.epa.gov/superfund/programs/clp/reglist.htm
Regional Sample Control Coordinator (RSCC)	In most Regions, the RSCC coordinates sampling efforts and serves as the central point-of-contact for sampling questions and problems. The RSCC works with SMO to schedule sample shipments to laboratories. In addition, the RSCC's activities may include informing SMO of sample shipment, cancellations, special instructions, and sampling issues. To obtain the most current RSCC contact list, refer to the following Web site: http://www.epa.gov/superfund/programs/clp/reglist.htm
Site Support Personnel	The Site Support Personnel consist of the EPA personnel and contractors responsible for developing the QAPP and Sampling Plan for the sampling episode at the site. It includes such personnel as the sampling team, Quality Assurance personnel, OSC, SAM, and Remedial Project Manager (RPM). In most Regions, the Site Support Personnel develop Standard Operating Procedures (SOPs) for field sampling and related procedures, and assist sampling teams in adhering to the SOPs. The sampling team determines what type(s) of CLP services will be required for a particular sampling event. The Site Support Personnel review Sampling Analysis Plans (SAPs) prepared by sampling teams and oversees sampling teams in the field. In addition, the state or territorial environmental protection agency for the location of the site provides support for the sampling event.

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2.0 GENERAL SAMPLING INFORMATION

2.1 Goals of the Sampling Process

Once the U.S. Environmental Protection Agency (EPA) has determined that physical, chemical, and/or biological testing of a site is necessary, samples of material from the site area must be collected. The type of material that must be collected and the analytical method to be used depends upon the physical location of the site, detection level(s), site history (previous sampling), and known or unknown conditions and contaminants. Samples should be collected according to the approved project and site-specific Quality Assurance Project Plan (QAPP) and Sampling Analysis Plan (SAP). This Guide does not define specific sampling procedures as these depend upon individual site conditions, Regional requirements, and acceptance and performance criteria. Since Regions may have their own specific requirements for individual sampling programs, they are responsible for generating Region-specific sampling Standard Operating Procedures (SOPs).

2.1.1 Follow the Required Sampling Procedures

It is imperative that samplers be aware of the minimum Contract Laboratory Plan (CLP) and Regional requirements that directly impact and define how a sampling event will take place. It is important to note that the procedures and guidelines set forth in this document are considered minimum CLP requirements.

The purpose of sampling is to collect representative portions from a suspected contaminated site. Sample collection is critical to determining the presence, type, concentration, and extent of environmental contamination by hazardous substances; thus, it is a crucial part of every sampling and environmental testing effort. Sampling procedures must be consistently followed to mitigate risk of error and the expense of re-sampling.

Failure to follow proper sampling and shipping procedures could result in samples that are contaminated, in broken containers, mislabeled, lost during shipping, or unusable because of a missed holding time. If procedures are inconsistently or improperly followed, any resultant analytical data may be inaccurate and may not be legally defensible.

If re-sampling is needed due to improper sampling, the sampling team may incur the laboratory cost.

2.1.2 Maintain Chain of Custody of Samples and Data

Acquiring accurate and legally defensible data is the CLP's primary objective; therefore, the sampler must collect samples according to strict sampling procedures, plans, and guidelines. EPA and many other Federal agencies use data resulting from analytical testing of samples to:

- Determine if a site is contaminated with organic and/or inorganic compounds
- Identify pollution sources
- Identify Potentially Responsible Parties (PRPs)
- Validate remedial design methodologies
- Assess response and remedial priorities
- Assess risk to human health and the environment
- Determine appropriate cleanup actions
- Determine cleanup achievements

2.1.3 Field Operation Records

Samplers should maintain complete, accurate, and legible field operations records as they perform a sampling activity. The following records are included:

- Field logbooks
- Corrective Action reports
- Sampling trip reports
- Supplemental standardized forms
- Records such as maps or photographs that document each step of the work performed in the field

Samplers should refer to their project plans for Region-specific field operations record requirements. These records are very important tools because they are considered part of the official project file when legal issues arise.

2.1.4 Comply with Safety Procedures

Care must be taken to maintain the safety of personnel collecting and handling CLP samples. If sampling requires digging in soil, utility lines (gas, soil, cable, etc.) must be marked to prevent injury or utility outage. Samples must be handled, packed, and shipped in accordance with all applicable Federal [Operational Safety and Health Administration (OSHA) and Department of Transportation (DOT)] regulations for hazardous materials. Refer to the Health and Safety Plan (HASP) for detailed site safety requirements.

2.2 Obtain Municipal Permits, Licenses, and Clearances

Before starting a sampling event, samplers must make sure to obtain the proper municipal permits, accesses to the property, and any government clearances, if required. The sampler must also contact any appropriate utility companies to ascertain where any underground pipes, cables, etc., may be located.

2.2.1 Request Access to County, State, Tribal, Military, and/or Federal Property

Proper access to perform sampling activities is important not only for legal reasons, but also to eliminate delays in work and possible refusal to allow sampling to take place. It is crucial that the appropriate permits, licenses, and clearances be secured to obtain access for sampling activities that will be performed on County, State, Tribal, military, and/or Federal property. The sampler must contact the appropriate government offices or personnel well in advance to determine what kinds of approval are required. Pre-approval may be required for specific types of sample

collection such as drilling or excavation. For example, drilling on a military base requires pre-approval. Base security may require clearances for all members of the sampling team, including subcontractors. This process may take two or more days.

2.2.2 Contact Private Property Owners

The sampler must obtain written permission from the private property owner(s) before sampling on his/her property, even if verbal permission has been granted. It is recommended that samplers obtain verbal permission prior to their arrival at the sampling location, but written permission can be obtained on the day of sampling. If a property owner refuses to grant access to his/her property, it may be necessary for the sampling organization to contact the appropriate authorities for assistance. A sampler who enters private property without permission may be subject to a charge of trespassing, and samples may be considered part of an illegal search and invalid for legal proceedings.

2.2.3 Contact Utility Companies

The sampler should contact local utility companies (e.g., power, phone, gas, cable, sanitation, etc.) at least one week prior to the sampling event to have underground cables, lines, and pipes flagged and marked. This is required by law. A national one-call directory can be found at: http://www.call811.com.

It may be necessary to turn off the utilities (i.e., electrical wires or gas lines) in order to obtain samples. The utility service(s) disruption dates should be confirmed at least two days prior to sampling activities. Samplers should follow Regional or other appropriate program procedures for the disruption of utilities.

Pre-payment of survey fees to local utility companies may be required.

2.3 Review Request for Samples

In order to prepare for the sampling event, the sampler should review the request for samples from the CLP. This information may be in the form of the "Scheduling Notification Form" from Sample Management Office (SMO), supplied by the Regional Sample Control Coordinator (RSCC), or in other forms of communication from the Region or other organization. Field team leaders should contact their RSCC or Remedial Project Manager (RPM) to review this information prior to going into the field, and assure that this information matches information in the Site Project Plan (SPP) and/or QAPP.

Use the following information for planning:

- **Sample information**: Take note of the number of samples requested, the sample matrix, and the analyses. This information will be used to determine the equipment and supplies needed for the sampling event.
- **Site location**: Determines whether there are any specific requirements for accessing/exiting the site, or for working at the site.
- **Shipping period**: Determines when the samples are to be shipped to the laboratory. It helps determine when sampling should occur.
- **Laboratory information**: Determines where the samples will be shipped.

2.3.1 Review Sample Request

The sample request determines many of the other preparatory activities for the sample event. Review the sample request for the following information:

- ☐ Determine the number and types of samples to be collected.
- ☐ Review the required sample collection method(s).
- ☐ Review decontamination procedures necessary for site.
- ☐ Make note of sample holding times and conditions.
- ☐ Determine Performance Evaluation (PE) and Quality Control (QC) sample requirements.
- ☐ Determine whether shipping cooler temperature blanks are required.

2.4 Review Project Plans

Project plans describe, in detail, the requirements for the sampling event. All field team members should be familiar with the applicable project plans prior to beginning field sampling. These plans may include the following documents.

2.4.1 Site Project Plan (SPP)

The SPP describes the requirements for any activity taking place at the site. It contains information such as site history, potential contaminants, topographical information, etc. This information may be combined into the QAPP.

2.4.2 Health and Safety Plan (HASP)

The HASP describes the measures necessary to maintain the health and safety of the sampling team during the sampling event. It can include topics such as the following:

- Organization structure
- Job hazard analysis
- Site control
- Training
- Medical surveillance
- Personal protective equipment (PPE)
- Exposure monitoring
- Thermal stress
- Decontamination
- Emergency response
- Standard operating procedures
- Confined space operations
- Spill containment

2.4.3 Quality Assurance Project Plan (QAPP)

The QAPP describes the data quality objectives and data requirements for the project, and is used by samplers to develop any subsequent plans such as the Sampling Analysis Plan (SAP) or the Field Sampling Plan (FSP).

2.5 Assemble Sampling Materials

Samplers must be prepared for a sampling project by assembling the appropriate sampling materials (equipment, supplies, sample containers, packing materials, and shipping materials).

The equipment and supplies must be properly cleaned, calibrated, and tested as necessary to meet the needs of the sampling project.

2.5.1 Equipment and Supplies

Samplers should review the project plans to determine the equipment necessary for sample collection.

The following materials should be obtained prior to a sampling event:

- Sample containers
- Shipping containers
- Packing material
- Access to the Scribe software for creating sample labels, stickers, tags, and Traffic Report/Chain of Custody (TR/COC) records
- Custody seals
- Sampling equipment such as bowls, augers, pumps, etc.
- Personal Protective Equipment (PPE)
- Internet access (either at the time of sampling or soon after the samples are shipped)

The CLP Statement of Work (SOW) may also require field samplers to provide the following:

- Cooler temperature blanks
- Trip blanks for Volatile Organic Analyte (VOA) analysis
- Preservation supplies (e.g., ice or acid)
- Specially prepared sample vials (e.g., VOA analyses)
- Utensils or equipment for handling tissue samples requested by modified analysis

2.6 Perform Readiness Review/Dry Run

A readiness review/dry run is a test run of the proposed sampling event. This is a recommended practice since it gives samplers a chance to review all plans, documentation software (i.e., Scribe), and equipment lists for accuracy and completeness prior to sampling activities. It also provides an opportunity to consult with sampling team members to make sure that all the elements are in place and everyone understands their task before actually going out to the field. Sampling project managers should provide the readiness review or dry run dates and schedules to samplers so that they can prepare accordingly.

2.7 Assess the Status of the Site and the Team

Prior to beginning the sampling, make sure that all of the preparatory work is complete and that the team is ready to begin. Some issues to consider are:

- ☐ Ensure that personnel roles and lines of authority are established.
- ☐ Ensure that permission has been granted to enter the site and collect samples.
- ☐ Ensure that utility work has been completed (if required).
- ☐ Review local weather forecast to be aware of possible dangerous weather conditions. Ensure that sampling staff are prepared for weather conditions.
- ☐ If the sampling location is inaccessible, contact the appropriate field or Regional personnel for instruction.
- ☐ Verify that the correct sampling equipment is on site.
- ☐ Ensure that personal safety measures are in place.
- ☐ Ensure that a site HASP is in place, including procedures for emergency medical treatment and first aid, evacuation procedures, emergency contacts, and location of emergency medical facilities.

- ☐ Identify and mark the sampling location with buoys, flags, or stakes according to the sampling plans, maps, and grids.
- ☐ Park the car/van away from the sampling site and turn off the engine. Be aware of car exhaust (BTEX) contamination to volatile organic samples through all procedures, including loading and unloading the coolers during the shipping.

2.8 Initiate Site Control Measures

The sampling team is responsible for controlling the site during the sampling event. Use the following guidelines to maintain site control:

- ☐ Maintain a log of authorized personnel entering the site.
- ☐ Prevent unauthorized persons from entering the site.
- ☐ Ensure that any decontamination procedures required in the HASP are in place and are followed.

2.9 Maintain Field Logbook

Samplers must maintain a field logbook that documents the field activities. The information from the field logbooks becomes evidence and can be used in court. The following list is criteria for a field log book:

- ☐ Use waterproof ink to record in the field logbook.
- ☐ Record the date and time of all entries.
- ☐ Correct any errors by crossing a line through the error, initialing the error, dating the error, and then adding the correct information.
- ☐ Document sampling project information such as:
  - Project name, ID, and location
  - Names of samplers
  - Geological observations, including maps and Global Positioning System (GPS) information
  - Atmospheric conditions
  - Field measurements
  - Sampling dates, times, and locations
- ☐ Record sampling activity information such as:
  - Sampling dates and times
  - Sample identifications
  - Sample matrices
  - Sample descriptions (e.g., odors and/or colors)
  - Number of samples taken
  - Sampling methods/equipment
- ☐ Record any and all deviations from the sampling plan.
- ☐ Record any and all difficulties in sampling and/or any unusual circumstances.

2.10 Preventing Errors

Errors in the sampling process can result in additional costs and delayed sampling results. The following section lists some of the ways to avoid common sampling errors.

Document samples correctly:

- ☐ Use the CLP Sample Number and SMO-assigned CLP Case Number correctly (sample number on each sample).
- ☐ Submit the signed TR/COC record with the sample(s).

- Accurately and legibly complete and attach a custody seal to each shipping container. (The project QAPP may also required that custody seals be attached to each sample container or plastic sample bag. Refer to the project QAPP for specific instructions.)

Collect and preserve samples correctly:

- Collect a sufficient volume of sample so that the laboratory can perform the requested analysis and quality controls, such as Matrix Spike (MS), Matrix Spike Duplicate (MSD), and Duplicates.
- Make sure that the sample is preserved, if required, and that the sample pH is within the required range.

Ship samples correctly:

- Pack bottles and containers to avoid breaking or spilling during shipping.
- For iced samples, evenly distribute bags/packets of ice throughout the cooler and between the sample containers to ensure that all samples are sufficiently cooled to a temperature of ≤6°C, but not frozen.
- Ensure that shipping containers have custody seals attached.
- Ensure that samples are shipped to the correct laboratory address.
- If samples are to be shipped internationally, additional paperwork or customs authorizations may be required. Refer to Appendix G, International Shipping for additional information.
- Upload the Electronic Chain of Custody (COC) as soon as possible after shipping.

Communicate effectively:

- It is extremely important that all parties involved in a sampling event be in contact throughout the sampling process. It has been demonstrated that approximately 50% of all sampling efforts have been negatively affected by incorrect sampling procedures and poor communication among participants.
- The key elements of communication for a sampling event include the relationship between the RSCC, SMO, the samplers in the field, and the laboratories who will be accepting the samples.
- If there are any changes to the sampling event due to a cancellation or an increase or decrease in the number of samples that will be sent to the laboratory, the sampler should contact the RSCC as soon as possible. The RSCC can work with SMO to remedy potential capacity, availability, or overbooking problems with the CLP laboratories.

2.11 Exiting the Site

The following activities take place before leaving the sampling site:

- Ensure that all equipment has been collected and removed.
- Follow Regional guidance regarding decontamination and doffing of PPE, if used.
- Follow Regional guidance for waste removal and disposal.
- Ensure that all sampling personnel have cleared the site.
- If sampling on private property, provide a sample receipt to the property owner for all samples taken and removed from the site.

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3.0 CLP STATEMENTS OF WORK

The overall requirements for sample collection, analysis, and handling under the Contract Laboratory Program (CLP) are described in the CLP Statements of Work (SOWs).

3.1 The CLP SOWs

Table 3-1 lists the CLP statements of work.

Table 3-1. CLP Statements of Work

Statement of Work	Analysis Types	Matrix Types
HRSM01.X	Chlorinated Dibenzo-p-Dioxins (CDDs) and Chlorinated Dibenzofurans (CDFs) Chlorinated Biphenyl Congeners (CBCs)	Soil, sediment, biosolids, oil, sludge, ash, tissue, water, and wipe
SOM02.X	Trace Volatile Organic Analytes (Trace VOA) Volatile Organic Analytes (VOA) Semivolatile Organic Analytes (SVOA) SVOA Selected Ion Monitoring (SIM) Pesticides Aroclors	Soil, sediment, water, Toxicity Characteristics Leaching Procedure (TCLP)/ Synthetic Precipitation Leaching Procedure (SPLP) leachate samples
ISM02.X	Metals by Inductively Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES), Inductively Coupled Plasma-Mass Spectrometry (ICP-MS), Mercury by Cold Vapor Atomic Absorption (CVAA) Spectrometry, Cyanide by Spectrophotometry	Soil, sediment, water, TCLP/SPLP leachate, and wipe samples

These statements of work are available on the U.S. Environmental Protection Agency (EPA) Web site at: http://www.epa.gov/superfund/programs/clp/analytic.htm

3.2 CLP Sample Definition

A CLP sample is defined as one discrete portion of material to be analyzed that is contained at one concentration level from one location for each individual or set of analyses – provided that the analyses are all requested for the same CLP analytical service (i.e., organic or inorganic), and identified by a unique sample number.

A sample consists of all sample aliquots (portions), provided that the analyses are all requested from the same CLP analytical program:

- for each individual or set of analytical methods
- from one location
- for one sample matrix
- at one concentration level
- for one laboratory
- for one analytical program

3.2.1 Mixed-matrix Samples

In some instances, a mixed-matrix sample may be collected which contains either a supernate (for a sediment/soil sample) or a precipitate (for a water sample). The decisions made with regard to the different matrices in such samples can have profound impacts on data usability. In this event,

samplers should consult their sampling plans and/or discuss the required procedures with the Remedial Project Manager (RPM) (or designee).

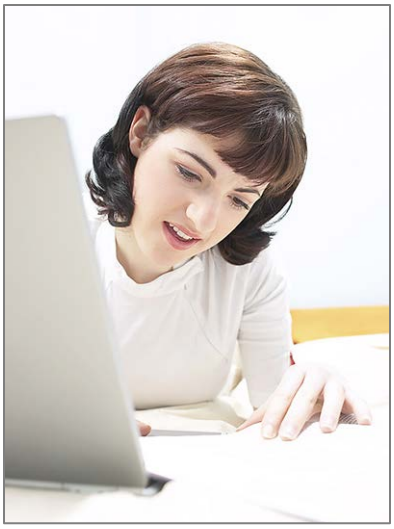
In general, it is recommended that two individual samples be collected by separating the aqueous layer from the solid/precipitate layer at the point of collection if possible. If the phases or layers cannot be separated effectively in the field at the point of collection, arrangements should be made to separate the layers under controlled conditions at the receiving laboratory. In this case, additional sample numbers will be needed for the separate phases. They should be assigned two different sample IDs (e.g., Sample IDs ABC124 and ABC125 for Sample ID ABC123), along with a note in the field sample log and in the Special Instructions section of the Chain of Custody (COC) form that the sample IDs are derived or related to the same sample. Refer to Section 5.15, Using Scribe for Mixed-matrix Samples for information on how to use the Scribe software to track mixed-matrix samples.

When samples are collected from several locations to form a composite sample, the sample should be assigned either a number from one of the locations used during collection, or a unique number that represents the composite sample, for tracking purposes. The numbering scheme used internally at a sampling event for identifying composite samples should also be documented appropriately (e.g., in the field logs).

3.3 CLP Analyses

CLP Routine Analytical Sample (RAS) analysis is generally used for Superfund sites, and includes the routine list of metals and organic analytes. The matrices can be water, leachates derived from the TCLP or SPLP soil, sediment, or wipes. Additional matrices requested under Modified Analysis (MA) may include oil, sludge, ash, construction wastes, biosolid, or tissue (non-human).

4.0 CLP SAMPLE DOCUMENTATION



The U.S. Environmental Protection Agency (EPA) Contract Laboratory Program (CLP) is required to produce accurate and legally defensible data. In order to produce legally defensible data, control of the samples must be maintained to ensure that the samples correctly represent the site and location from which they were taken. Sample documents are tools that allow EPA to maintain the chain of custody of the samples from collection, through shipping, to analysis. It also associates the sample to the sample data. Samplers should review their site-specific project plans and Quality Assurance Project Plans (QAPPs) to determine other types of documentation that must be completed for a sampling project. The following section describes the documents used to maintain the chain of custody and the tools used to create these documents.

The following table summarizes the forms used for CLP sample documentation.

Table 4-1. CLP Sample Documents

Form Type	Source	Purpose
CLP Sample Number	Assigned by sampling software (Scribe); ranges are supplied by the Regional Sample Control Coordinator (RSCC)	Identifies sample data. Associates the sample to the sample data.
CLP Case Number	Assigned by the Sample Management Office (SMO)	Identifies groups of samples collected during a single sampling event.
Traffic Report/Chain of Custody (TR/COC) Record	Created in Scribe	Tracks chain of custody of the sample and sample data.
Custody seals	Supplied by the RSCC or field sampling team	Maintains sample integrity; may indicate sample tampering or contamination if broken.
Sample labels	Created in Scribe	Affixed to the sample container to identify an individual sample.
Sample tags	Sample tag labels are created in Scribe or are handwritten by sampler	Identifies a sample bottle or container that contains a sample, provides specific analytical direction, and provides proof that a sample existed. (Sample tags are not a CLP requirement.)
Field operations records (as necessary)	Created and maintained by sampling team	Maintains a record of activities at the site.
Shipping container label (to the laboratory)	Carrier standard form	Used by the carrier to ship the samples to the laboratory.
Cooler shipping label (return from laboratory)	Carrier standard form	Used by the carrier to return the cooler to the Region.

The documentation required by a Region for a sampling event is outlined in project plans such as the QAPP, Sampling Analysis Plan (SAP), and Field Sampling Plan (FSP).

EPA recommends that a dedicated field team member be responsible for all sample documentation steps, including reviewing laboratory scheduling information, creating sample labels and Traffic Report (TR)/Chain of Custody (COC) forms in Scribe, maintaining a field operations log, and relinquishing control of the samples to the laboratory. This person should be identified in the Site Project Plan (SPP) or QAPP.

Under no circumstances should the site name appear on any documentation that is sent to the laboratory (for the CLP).

4.1 CLP Sample Numbers

A sample number is a number that is unique per sampling location and identifies each CLP sample. It is used to identify and track samples throughout the sampling and analytical processes, and is recorded on many types of sampling documentation [e.g., Traffic Report/Chain of Custody (TR/COC) records, sample labels, and sample tags].

Organic CLP Sample Numbers begin with the Regional letter code, followed by four letters and/or numbers. Inorganic CLP Sample Numbers begin with "M" followed by the Regional letter code and then four letters and/or numbers. High Resolution CLP Sample Numbers begin with "P" followed by the Regional letter code and then four letters and/or numbers. See Table 4-2 for Region and letter codes for each sample type (i.e., organic, inorganic, or high resolution).

Table 4-2. CLP Sample Number Letter Codes

Region	Letter Code		
	Organic	Inorganic	High Resolution
1	A	MA	PA
2	B	MB	PB
3	C	MC	PC
4	D	MD	PD
5	E	ME	PE
6	F	MF	PF
7	G	MG	PG
8	H	MH	PH
9	Y	MY	PY
10	J	MJ	PJ

* According to CLP guidelines, each individual inorganic water sample may be analyzed for total metals or filtered metals, but not both. Therefore, water samples collected for total metal and filtered metal analyses from the same sampling location must be assigned separate unique CLP Sample Numbers. A sampler can use the same sample number for an inorganic soil or water sample collected for total metals, mercury, and cyanide analyses.

4.1.1 Requesting Sample Numbers

CLP Sample Numbers are created in Scribe with ranges supplied by the RSCC.

4.2 CLP Case Numbers

SMO-assigned Case numbers are used to track groups of samples from a sampling event throughout the sampling and analytical processes, and are recorded on many types of sampling documentation (e.g., TR/COC records, sample labels, and/or sample tags). Samplers must correctly assign the Case number to the appropriate sample bottle or container. CLP Case Numbers should be requested from the RSCC (or designee) or they may be provided by SMO.

4.2.1 Requesting Case Numbers

Case numbers are assigned by the Sample Management Office (SMO). Samplers request the assigned sample numbers and Case numbers through the RSCC.

4.3 CLP TR/COC Records

A TR/COC record is used as physical evidence of sample custody and as a permanent record for each sample collected. A chain of custody record documents the exchange and transportation of samples from the field to the laboratory.

To meet CLP sample documentation and chain of custody requirements, the sampler must attach a separate, signed TR/COC record to each cooler they ship.

- The TR/COC record must document each sample within the cooler.
- Each TR/COC record **must be signed by the designated field sampler**, documenting that they have relinquished control of the samples.
- TR/COC records should be separated and shipped in the coolers with the samples listed on them. Do not ship samples in a cooler without the corresponding TR/COC record. This practice maintains the chain of custody for all samples in case of incorrect shipment.
- The electronic COC record should be uploaded as soon as possible after shipping.

If more than one TR/COC record is used for the samples within one cooler, all of the records must have complete header information and original signatures. Samplers are responsible for the care and custody of samples from the time of collection to the time of shipment to the laboratories for analysis. A sample is considered under custody if the following conditions are met:

- It is in possession or in view after being in possession
- It was in possession and then secured or sealed to prevent tampering
- It was in possession when placed in a secured area

Each time the custody of samples is turned over to another person, the TR/COC record must be signed off by the former custodian and accepted by the new custodian.

4.4 Chain of Custody Seals

A chain of custody seal is any adhesive label or tape that can be used to seal a sample bottle, container, plastic bag, or shipping cooler such that if it is opened or tampered with, the seal will be broken. The custody seal is used to maintain the chain of custody, as well as guard against possible sample contamination or tampering during shipping.

- Custody seals must be placed on each shipping cooler or container, and if required by the project's QAPP or FSP, on each sample bottle, container, or bag (as appropriate).
- The CLP does not provide custody seals. Custody seals should be obtained from either the RSCC or supplied by site personnel.

4.5 Sample Labels

A sample label is a sticker that is attached to a sample bottle or container that contains a field sample or quality control (QC) sample.

- Sample labels are affixed to each sample container as samples are collected in the field or affixed prior to going in the field.
- A sample label must contain, at a minimum, the sample number so that the sample can be associated with, and listed on, the associated TR/COC record.
- The sample label should also include the required analysis, CLP Case Number, and preservative used (to eliminate confusion at the laboratory). Samplers should refer to their site-specific project plans for Region-specific sample label requirements.

4.6 Sample Tags

A sample tag identifies a sample bottle or container that contains a sample. The sample tag also provides specific analytical direction and proof that a sample existed. To support the use of sample data in potential enforcement actions, samples can be identified with a sample tag. The CLP Sample Number and Case number must be recorded on a sample tag to indicate that the sample container comprises the whole sample where there is just one container of sample, or part of the indicated sample when there are multiple containers of sample.

Sample tags are not a CLP requirement. Consult with specific RSCC regarding Regional requirement. Not all EPA Regions require the use of sample tags, and field samplers should refer to their site specific project plans or contact their RSCC for Regional sample tag requirements.

4.7 Sample Weight Logs

A sample weight log (Figure 4-1) identifies the tared, sample, and final weights per bottle for samples for volatile organic chemical analysis (VOA). In order to support the Superfund Organic Method (SOM) for VOAs, samplers should enter tared and final weights per bottle in the sample weight log.

Page 1 of 2

Sample Weight Log
Chain of Custody Work Sheet

Shipped to: XYZ
Case 99991

Sampled by: ABC

CLP Sample #	A0AA1	A0AA10	A0AA11	A0AA2	A0AA3
Matrix	Soil	Soil	Soil	Soil	Soil
Analyses	CLP Semivolatiles	CLP Semivolatiles	CLP Semivolatiles	CLP Semivolatiles	CLP Semivolatiles
Preservative	None	None	None	None	None
Tag	1003	1004	1005	1006	1007
Tared Weight (g)	27.369	32.02	32.44	30.17	31.11
Final Weight (g)	27.369	37.25	37.53	35.07	31.11
Sample Weight (g)	0	5.23	5.09	4.9	0
COC #	1-082714-170055-0001	1-082714-170055-0001	1-082714-170055-0001	1-082714-170055-0001	1-082714-170055-0001
Remarks					

CLP Sample #	A0AA4	A0AA5	A0AA6	A0AA7	A0AA8
Matrix	Soil	Soil	Soil	Soil	Soil
Analyses	CLP Semivolatiles	CLP Semivolatiles	CLP Semivolatiles	CLP Semivolatiles	CLP Semivolatiles
Preservative	None	None	None	None	None
Tag	1008	1009	1001	1010	1002
Tared Weight (g)	32.234	30.56	31.046	27.119	30.579
Final Weight (g)	32.324	30.56	31.046	27.119	30.579
Sample Weight (g)	0	0	0	0	0
COC #	1-082714-170055-0001	1-082714-170055-0001	1-082714-170055-0001	1-082714-170055-0001	1-082714-170055-0001
Remarks					

Figure 4-1. Scribe Sample Weight Log

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5.0 THE SCRIBE DOCUMENTATION SOFTWARE TOOL

The U.S. Environmental Protection Agency (EPA) Analytical Services Branch (ASB) requires samplers to use the Scribe software to create documentation for all Contract Laboratory Program (CLP) sampling efforts. EPA recommends that a dedicated member of the sampling team be trained in the Scribe software, and responsible for all uses of Scribe, including the sample labels and the Traffic Report/Chain of Custody (TR/COC) forms at the sampling location. For assistance with obtaining or using the Scribe software, contact Environmental Response Team (ERT) Software Support Help Desk at 800-999-6990 from 9:00 AM - 5:00 PM ET. For additional information regarding Scribe use and training materials, refer to the following Web site: http://www.epaosc.org/Scribe

Scribe allows users to create one or more sampling projects, then enter data and create sample documents for that project. Some of the capabilities of Scribe include:

- Tracking sample numbers and Case numbers
- Associating analysis information to sample numbers
- Creating sample labels and sample tags
- Setting label size and printing labels
- Selecting sample numbers to add to the chain of custody form
- Printing chain of custody forms
- Filtering lists of samples
- Exporting sample data in the following formats: text file (.txt, .csv), spreadsheet (.xls, .wb3), HTML (.htm), XML (.xml), or QuickMap (.kml, .kmz)

The Scribe software tool allows users to track samples electronically. It can be downloaded at no charge from the EPA On Scene Coordinator Web site at http://www.ertsupport.org/downloads.htm.

Need more information?
Use this code to access the ERT User Manual for Scribe CLP Sampling or contact the ERT Software Support Help Desk at 800-999-6990.

5.1 Setting Up the Sampling Event in Scribe

Scribe allows the sampler to enter much of the information prior to the event in order to facilitate processing on the day of the event. The following sections describe how to set up the sampling event in Scribe.

5.1.1 Set Up Project

The first step for setting up Scribe is to set up the project as follows:

- ☐ Access the Scribe **New Project Wizard** to set up the sampling project.
- ☐ Enter the project **Site Name**, **Site #**, and **Region #** (required).
- ☐ Additional project information may be entered, if available.

5.1.2 Verify/Create Analysis Types

The analysis types to be used for the sampling event must be defined for the project. Refer to the site sampling plan to determine which analyses are to be used.

- Use the **Analyses** tab to display a list of all analysis types available.
- Only analyses with the Program Type of "CLP," such as "CLP ICP-AES Metals," or "CLP Semivolatiles" should be used.
- If the required analysis type is missing, it can be added manually using the **Add** button.

5.1.3 Set Default Sample Tag Information

Set up the default values for sample number and tag. This allows the sampler to increment sample and tag numbers, rather than hand entering each one.

- Select **File→Options→CLP/Tag Settings** to display the **CLP/Tag Settings** window.
- Enter the new default values and click **OK**.

Sample tags are not a CLP requirement. Please consult with specific Regional Sample Control Coordinator (RSCC) as to Regional requirement. Not all EPA Regions require the use of sample tags, and field samplers should refer to their site specific project plans or contact their RSCC for Regional sample tag requirements.

5.1.4 Indicate Modified Analysis (MA) on Scribe COC Records

When completing a TR/COC record in Scribe, indicate an MA as follows:

- Identify any samples that will be analyzed using a CLP MA by creating a new analysis within the Scribe Analyses table or at the time of entering the Analyses for the sample.
- The MA analysis should contain the Modification Reference Number within the name assigned to the analysis. For example, if a Region submits an MA for an additional analyte, and SMO assigns the Modification Reference Number 1301.0, the Scribe Analyses could be named "CLP VOA by M.A. 1301.0." The associated abbreviation for this analysis could be "VOA M.A."

Need more information?
Use this code to access the ERT User Manual for Scribe CLP Sampling or contact the ERT Software Support Help Desk at 800-999-6990.

5.1.5 Using Scribe for Mixed-matrix Samples

The Scribe **LinkSampleNo** field links the original sample to the split samples and numbers. Use Scribe to link to the two sample IDs used for the different sample phases as follows:

- Add two (2) additional samples in Scribe indicating in the matrix field which one is the liquid/aqueous phase and which one is the solid phase (i.e., ABC124 and ABC125).
- Tie the two additional samples to the original sample number using the 'LinkSampleNo' field.
  - **In Scribe**, in the **Samples** tab, click the **View** button; the **Select Columns** drop-down menu displays. Put a checkmark next to **LinkSampleNo** to make that column visible.
  - Add the 'parent' or the original field sample # in the **LinkSampleNo column** (i.e., ABC123).
  - **On the COC**, indicate in the **Special Instructions** which of the two new sample numbers the laboratory is to use for the liquid/aqueous phase and which sample number to be used for the solid phase.

5.2 Scribe CLP Analysis Codes

The following table lists the analysis codes used for CLP samples in Scribe.

Table 5-1. Scribe CLP Analysis Codes

Analysis Name	Abbreviation
Aroclors	
CLP Aroclors	ARO
High Resolution	
CLP 12 Toxic Congeners	12 Toxic CBCs
CLP 209 Congeners	209 CBCs
CLP Dioxins/Furans	CDD/CDF
Inorganics	
CLP Aluminum	Al
CLP Antimony	Sb
CLP Arsenic	As
CLP Barium	Ba
CLP Beryllium	Be
CLP Cadmium	Cd
CLP Calcium	Ca
CLP Chromium	Cr
CLP Cobalt	Co
CLP Copper	Cu
CLP Cyanide	CN
CLP Hardness	Hardness
CLP ICP-AES Metals	ICP-AES
CLP ICP-MS Metals	ICP/MS
CLP Iron	Fe
CLP Lead	Pb
CLP Magnesium	Mg
CLP Manganese	Mn
CLP Mercury	Hg
CLP Nickel	Ni
CLP Potassium	K
CLP Selenium	Se
CLP Silver	Ag
CLP Sodium	Na
CLP SPLP Alumium	SPLP Al
CLP SPLP Antimony	SPLP Sb
CLP SPLP Aroclors	SPLP ARO
CLP SPLP Arsenic	SPLP As
CLP SPLP Barium	SPLP Ba
CLP SPLP Beryllium	SPLP Be
CLP SPLP Cadmium	SPLP Cd
CLP SPLP Calcium	SPLP Ca

Analysis Name	Abbreviation
CLP SPLP Chromium	SPLP Cr
CLP SPLP Cobalt	SPLP Co
CLP SPLP Copper	SPLP Cu
CLP SPLP Cyanide	SPLP CN
CLP SPLP ICP-AES Metals	SPLP ICP-AES
CLP SPLP Iron	SPLP Fe
CLP SPLP Lead	SPLP Pb
CLP SPLP Magnesium	SPLP Mg
CLP SPLP Manganese	SPLP Mn
CLP SPLP Mercury	SPLP Hg
CLP SPLP Nickel	SPLP Ni
CLP SPLP Potasium	SPLP K
CLP SPLP Selenium	SPLP Se
CLP SPLP Silver	SPLP Ag
CLP SPLP Sodium	SPLP Na
CLP SPLP Thalium	SPLP Tl
CLP SPLP Vanadium	SPLP V
CLP SPLP Zinc	SPLP Zn
CLP TCLP Arsenic	TCLP As
CLP TCLP Barium	TCLP Ba
CLP TCLP Cadmium	TCLP Cd
CLP TCLP Chromium	TCLP Cr
CLP TCLP ICP-AES Metals	TCLP ICP-AES
CLP TCLP Lead	TCLP Pb
CLP TCLP Mercury	TCLP Hg
CLP TCLP Selenium	TCLP Se
CLP TCLP Silver	TCLP Ag
CLP Thallium	Tl
CLP Vanadium	V
CLP Zinc	Zn
Organics	
CLP PAH+PCP	PAH
CLP PAH+PCP by SIM	PAH SIM
CLP Semivolatiles	SVOA
CLP SPLP Semivolatiles	SPLP SVOA
CLP SPLP Volatiles	SPLP VOA
CLP TCLP Semivolatiles	TCLP SVOA
CLP TCLP Volatiles	TCLP VOA
CLP Trace Volatiles	TVOA
CLP Volatiles	VOA
Pesticides	
CLP Pesticides	PEST
CLP SPLP Pesticides	SPLP PEST

To avoid issues with interpretation, ensure that Total Metals and Dissolved Metals are labeled correctly.

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6.0 CLP SAMPLE CONTAINERS

The analytical protocol(s) to be used for sample analysis often requires the use of a particular type of sample container. The type of container also may depend on the sample matrix and analysis.

It is recommended that samplers use borosilicate glass containers, which are inert to most materials, when sampling for pesticides and/or other organics. Conventional polyethylene is recommended when sampling for metals because of the lower cost and absorption rate of metal ions.

Have extra containers readily available for each sampling event in case of breakage, loss, or contamination.

Containers procured for a sampling event are usually pre-cleaned and shipped ready for use from the manufacturer to the sampling site. Regardless of the type of container used, samplers must ensure that the containers have been analyzed or certified clean to levels below concern for the project (certificates must be kept on record). These containers must meet the U.S. Environmental Protection Agency (EPA) container type specifications listed in Table 6-1.

Samplers should document the lot numbers for every lot of cleaned containers used for each project and maintain corresponding certificates of analysis on file and available upon request.

Table 6-1. Sample Container Type Specifications

Reference Number	Container Type	Specifications	
		Closure	Septum
1	40 mL amber glass vial, 24 mm neck finish.	Polypropylene or phenolic, open-top screw-cap, 15 cm opening, 24-400 size.	24 mm disc of 0.005 in. Polytetrafluoroethylene (PTFE) bonded to 0.120 in. silicone for a total thickness of 0.125 in.
2	1 L high density polyethylene, cylinder-round bottle, 28 mm neck finish.	Polyethylene cap, ribbed, 28-410 size; F217 polyethylene liner.	N/A
3	8 oz short, wide mouth, straight-sided, glass jar, 70 mm neck finish.	Polypropylene or phenolic cap, 70-400 size; 0.015 in. PTFE liner.	N/A
4	4 oz (120 mL) tall, wide mouth, straight-sided, glass jar, 48 mm neck finish.	Polypropylene or phenolic cap, 48-400 size; 0.015 in. PTFE liner.	N/A
5	1 L amber round glass bottle, 33 mm pour-out neck finish.	Polypropylene or phenolic cap, 33-430 size; 0.015 in. PTFE liner.	N/A
6	Coring tool used as a transport device (e.g., 5 g Sampler).	Has built-in closing mechanism.	N/A
7	1 qt polymer zip-top bag	Has built-in closing mechanism.	N/A
8	Heavy duty aluminum foil	N/A	N/A

The information contained in this table is also cross-referenced in the sample collection parameters discussed in Appendix C. The container Reference Numbers are used in Tables C-1 to C-4 under the Container Type column. For example, samples collected for low-level soil VOA analysis may require the sampler to use pre-prepared, tared closed-system purge-and-trap vials with a preservative (refer to Appendix B). Refer to the Regional Quality Assurance Project Plan (QAPP) and Appendix D for additional references. Refer to Table B-2 for a cross reference between the analyses and the required sample container types.

7.0 CLP SAMPLE COLLECTION

Samplers should determine the types of samples or aliquots to be taken, the volumes required of each sample or aliquot, and the preservation requirements for each sample by referring to the Site Project Plan (SPP) and Contract Laboratory Program (CLP) sample requirements table in Appendix C. The following sections describe the types of samples that may be required to be collected.

7.1 Requesting the Scheduling of the Laboratory

The sampler must request that the Regional Sample Control Coordinator (RSCC) schedule the laboratory to be used for the analysis. This should be done as far in advance of the sampling event as possible.

- The sampler should specify the number of samples, analyses, etc., being shipped each week.
- When scheduling a sampling event that will last for more than one week, it is recommended that the sampler contact the RSCC (or designee) on a weekly basis to provide updates. This contact between the sampler, the RSCC (or designee), and Sample Management Office (SMO) is very important because it will ensure better availability of laboratory capacity.
- In the event that time frame or number of samples for a sampling event changes, the RSCC and SMO should be notified as soon as possible to maintain capacity at the CLP laboratory.

The CLP has the capability to schedule sampling on an emergency basis; however, the sampler must contact the RSCC (or designee) to obtain details regarding how to handle such a situation.

7.2 Preparing for the Shipping of Samples

Once the samples are collected, they will be shipped to the CLP laboratory for analysis. Samplers must have the necessary shipping supplies on site.

7.2.1 Procure Shipping Supplies

Samplers should refer to the appropriate project plans to determine the types of samples that will be taken during the sampling project to determine the necessary packaging materials to have at the site for all pertinent sample container types and sample matrices.

Samplers should also make sure to obtain the appropriate shipping paperwork (e.g., shipping forms required by the delivery service).

The CLP strongly discourages the use of vermiculite and cat litter as sources for packing material. These materials interfere with labeling and documentation and are difficult to remove from sample containers and shipping containers.

7.2.2 Laboratory Assignment Notification

The Laboratory Assignment Notification informs the sampler of the CLP laboratory(ies) that will be receiving the samples. Prior to beginning fieldwork, samplers should contact their RSCC (or designee) to obtain their Laboratory Assignment Notification(s), or they may be provided by SMO.

The Laboratory Assignment Notification applies only to work being performed under the CLP Statements of Work (SOWs).

7.2.3 Verify Laboratory Shipping Information

Samplers should make sure to have accurate laboratory contact information, including the following:

- Laboratory name
- Laboratory address
- Contact name
- Laboratory phone number

This information, which is provided on the Regional Laboratory Assignment Notification Form, is used for both Traffic Report (TR)/Chain of Custody (COC) records and shipping paperwork such as address labels and airbills. This form may be provided by SMO, or can be obtained through the RSCC prior to sampling.

7.2.4 Obtain Shipping Company Information

Samplers should also make sure to have accurate shipping company information, including the following:

- Company name
- Telephone number
- Account number
- Pickup schedule

Additional guidance will be provided by the U. S. Environmental Protection Agency (EPA) if samples are to be shipped internationally.

7.2.5 Prepare Sample Cooler Return Documentation

CLP laboratories must routinely return sample shipping coolers to the appropriate sampling office within 14 calendar days following receipt of shipment from the sampler. For sample coolers to be returned, the sampler must complete the appropriate cooler documentation and work with Regions and government agencies to provide a cost-effective mechanism for laboratories to return the empty coolers to the appropriate sampling office. The sampling cooler return documentation should be prepared in advance and provided to samplers before field activities begin.

The sampler (not the CLP laboratory) is responsible for paying for the disposition (return or disposal) of the cooler and should also include shipping airbills bearing the sampler's account number, as well as a return address, to allow for cooler return.

To maintain consistency among cooler transportation programs, samplers should do the following:

- Minimize the use of multiple transportation carriers to avoid confusion.
- Use multiple-copy labels so the laboratory and the sampling team can each retain a copy for their records.
- Prepare labels in advance so that the laboratory can simply affix a completed shipping label on the cooler.
- Include third-party billing information (i.e., their shipping account number) on labels so the laboratory will not be billed by the transportation carrier.
- Confirm that the laboratory knows which transportation carrier to use.
- Include the SMO-assigned CLP Case Number on return information.

7.3 Collecting Samples

The CLP requirements for samples are defined by the applicable CLP Statement of Work (SOW), and outlined in the following tables/tables in Appendix C. This includes CLP submission requirements such as sample volumes, preservation, and holding times.

Observe the sample collection requirements for the following SOWs when collecting analytical samples:

- Organic (SOM02.X) – Tables C-1 and C-2
- Inorganic (ISM02.X) – Table C-3
- High Resolution (Dioxin/Furan and CBCs (HRSM01.X) – Table C-4

For an explanation of the various sample types and the requirements for collecting and submitting each particular type, refer to Table 7-1.

Table 7-1. Sample Types and CLP Submission Requirements

Sample Type	Purpose	Collection[1]	CLP Sample Number
Field Sample	To analyze for target compounds of interest	Collect from areas that are known or suspected to be contaminated. Collect at the frequency specified in the Quality Assurance Project Plan (QAPP) and Sampling Plan.	Assign CLP Sample Numbers to the sample.
Field Duplicate	To check reproducibility of laboratory and field procedures To indicate non-homogeneity	Collect from areas that are known or suspected to be contaminated. Collect at the frequency specified in the QAPP and Sampling Plan.	Assign two separate (unique) CLP Sample Numbers (i.e., one number to the field sample and one to the duplicate). Submit blind to the laboratory.
Field Blank	To check cross-contamination during sample collection, preservation, and shipment, as well as in the laboratory Also to check sample containers and preservatives	Collect for each group of samples of similar matrix with the frequency specified in the QAPP and Sampling Plan. Organics - Use water (demonstrated to be free of the contaminants of concern). Inorganics - Use metal-free (deionized or distilled) water or a single clean wipe.	Assign separate CLP Sample Numbers to the field blanks.
Filter Blank	To check contamination of samples from filtering procedure	Collect when water samples are filtered by filtering blank water using the same procedure and filtering equipment that is used for samples. Use blank water (water	Assign separate CLP Sample Numbers to the filter blanks.

Sample Type	Purpose	Collection[1]	CLP Sample Number
		demonstrated to be organic-free, deionized or distilled for inorganics) and collect into sample containers.	
Temperature Blank	To provide an accurate measurement of field sample temperature upon arrival to the laboratory Also to establish whether the temperature range has been maintained while in transit	Collect for each shipping container with the frequency specified in the QAPP and Sampling Plan.	Ship together with samples from the field to the laboratory. A CLP Sample Number is not required.
Trip Blank [Volatile Organic Analysis (VOA) Only]	To check contamination of VOA samples during handling, storage, and shipment from field to laboratory	Prior to going into the field, prepare and seal one trip blank sample per shipment per matrix. Trip blanks should be matched with respect to matrix and volume of the preservatives used. Prepare trip blank samples with the same laboratory grade methanol and sodium bisulfate solution or reagent water used for field sampling. Carry each through the same sampling and handling protocols used for field samples. Aqueous trip blank samples should be prepared using water demonstrated to be free of the contaminants of concern (deionized water is appropriate). Place one trip blank sample for each matrix in each cooler used to ship VOA samples.	Assign separate CLP Sample Numbers to the trip blanks.
Equipment Blank or Rinsate Blank	To check field decontamination procedures	Collect when sampling equipment is decontaminated and reused in the field or when a sample collection vessel (bailer or beaker) will be used. Use blank water (water demonstrated to be organic-free, deionized or distilled for inorganics) and rinse water into the sample containers.	Assign separate CLP Sample Numbers to the equipment blanks/rinsate.
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) (Organic Analysis Only)	To check accuracy and precision of organic analyses in specific sample matrices	Collect from areas that are known or suspected to be contaminated. For smaller sampling events (i.e., 20 samples or less), MS/MSD additional volume should be collected in the first round of sampling and included in the first shipment of samples to the laboratory. Collect five additional vials for aqueous samples and five additional field core containers for soil VOA samples designated for MS/MSD analyses. An aqueous sample for Semivolatile Organic Analysis (SVOA) analysis would require the field sampler to collect at least 2 L of field samples and at least 2 L each for the MS and MSD samples for a total volume of 6 L. If Pesticide or Aroclor MS/MSD analyses are required for the same sample, an additional 6 L must be collected for each analysis method. Collect double volume for soil samples for MS/MSD.	Assign the same CLP Sample Number to the field sample and the extra volume for MS/MSD. Identify the sample designated for MS/MSD on the TR/COC record.

Sample Type	Purpose	Collection[1]	CLP Sample Number
		See Table C-2 and Appendix E for VOA collection volumes.	
Matrix Spike (MS) and Duplicate (Inorganic Analysis Only)	To check accuracy and precision of inorganic analyses in specific sample matrices	Collect from areas that are known or suspected to be contaminated. For smaller sampling events (i.e., 20 samples or less), Matrix Spike and Duplicates should be collected in the first round of sampling and included in the first shipment of samples to the laboratory. Additional sample volume may be required for inorganic analysis.[2]	Assign the same CLP Sample Number to the field sample and extra volume (if collected). Identify the sample(s) designated for Matrix Spike and Duplicates on the TR/COC record.
Performance Evaluation (PE) Samples	Specially-prepared Quality Control (QC) samples used to evaluate a laboratory's analytical proficiency	The PE samples contain analytes with concentrations unknown to the laboratory. Designated Regional or authorized personnel (depending on Regional policy) arrange for Case-specific CLP PE samples to be prepared and shipped by the Quality Assurance Technical Support (QATS) contractor. The PE samples can be shipped to the site, or shipped per Regional direction. QATS provides the appropriate preparation instructions and chain of custody materials.	Samplers must order PE samples and ship them to the laboratory if required by the Region.

[1] Consult Regional or Project Manager Guidance for field QC sample frequencies; laboratory QC sample frequencies are generally fixed in the laboratory subcontracts or specified in analytical methods.

[2] Double volume should be sent for inorganic aqueous MS and Duplicate samples to allow for sufficient volume for these analyses in the event that sample volume is lost as a result of samples breaking, leaking, re-extraction/redigestion, reanalysis, or laboratory accidents. Additional soil volume is not necessary for inorganic samples.

7.3.1 Field QC Samples

Field QC samples are designed to assess variability of the media being sampled and to detect contamination and sampling errors in the field. The types of field QC samples that are generally collected include the following:

- Field duplicates
- Field blanks (such as equipment, trip, or rinse blanks)

Unless otherwise instructed, field duplicate samples should remain "blind" to the laboratory (i.e., they should have separate CLP Sample Numbers).

7.3.2 Laboratory QC Samples

A laboratory QC sample is an additional analysis of a field sample, as required by the laboratory's contract. There are three types of laboratory QC samples:

- MS (for organic and inorganic samples)
- MSD (for organic samples only)
- Duplicates (for inorganic samples only)

Observe the following guidelines for collecting laboratory QC samples:

- ☐ Follow Regional guidance regarding the collection of laboratory QC samples.
- ☐ Wipes samples do not require laboratory QC samples.
- ☐ When laboratory QC is scheduled for CLP analytical work, laboratories expect one designated laboratory QC sample per Sample Delivery Group (SDG), which closes when 20 samples or more than one week is reached, whichever occurs first.
- ☐ Samplers should **select one sample per matrix per 20 samples** as a laboratory QC sample.

- Designated laboratory QC samples should be noted on the TR/COC record; the sample(s) designated for laboratory QC should be noted in "Sample Type" column.
- QC samples should be sent in the same cooler as the field samples when possible.

Field QC samples should not be designated as laboratory QC samples.

In the event of multiple sample shipments during a sampling event, it is recommended that the sampler submit laboratory QC samples in the first sample shipment, and as necessary in subsequent shipments to meet laboratory contract requirements.

7.4 Recording Samples

Samplers must use Scribe to record the samples that are collected. To record the samples:

- Access the Scribe **Sampling** tab to select the type of sampling (Air Sampling, Water Sampling, Soil/Sediment Sampling, Water Sampling).
- Enter the detailed information for the sample.
- When all information has been entered, click the **Close** button at the bottom of the page to save the entries and close the window.

Refer to Table 5-1 when referencing the CLP analysis codes.

Need more information?
Use this code to access the ERT User Manual for Scribe CLP Sampling or contact the ERT Software Support Help Desk at 800-999-6990.

For assistance while using the Scribe software, contact the ERT Software Support Help Desk at 800-999-6990 from 9:00 AM - 5:00 PM ET. Refer to the following Web site for information on the use and training of Scribe: http://www.epaosc.org/Scribe.

7.4.1 Hardcopy Recording

In the event the Scribe is unavailable, samplers must have backup hardcopy Scribe TR/COC records. For information regarding emergency backup procedures, refer to the following Web site: http://www.epa.gov/superfund/programs/clp/trcoc.htm. This should be done only in cases of power/equipment failure, and not as a matter of routine during a sampling event.

7.5 Meeting Volume, Preservation, and Holding Time Requirements

Samplers should refer to their project plans to obtain the specific sample volumes to be collected, the preservation needed for those samples, and the technical holding times under which they must submit samples to the scheduled CLP laboratory. Sample collection parameters (including sample volumes, preservatives, and technical holding times) are listed in Tables C-1 through C-4.

7.5.1 Collect Required Sample Volumes

Ensure that a sufficient volume is collected for each sample. If the sample volume does not meet the requirement set by the project plan, the laboratory may not be able to analyze the sample correctly.

Refer to Appendix E for information regarding the collection of VOAs in water. When sampling for VOAs in soils, samplers must use SW-846 Method 5035A guidelines included in Appendix D.

If a modified analysis requesting tissue samples requires processing or homogenizing, it should be performed at a sample processing facility under clean room conditions to reduce potential contamination. Tissue samples should be packed and cooled on ice immediately. Tissue samples should never be sent on Friday for Monday delivery.

7.5.2 Preserve Samples

Without preservation, some samples (e.g., VOAs) may degrade to the point that they will not provide an accurate analysis. The sampler must chemically preserve some water samples for certain analytes before shipping them to the laboratory.

Observe the following regarding preservation of samples:

- ☐ Note any visible reaction between the sample and added chemical preservative in the field record.
- ☐ Preserve and immediately cool all organic and cyanide water samples to ≤6°C, but not frozen, upon collection.
- ☐ Keep samples cooled until the time of analysis (do not freeze water samples).
- ☐ Preservation techniques vary among Regions, so the sampler should obtain Region-specific instructions and review the appropriate project plans and Standard Operating Procedures (SOPs).
- ☐ Refer to Appendix E for information regarding the collection of VOA water samples.

7.5.3 Ship Samples within Holding Times

There are two types of holding times: technical and contractual.

- **Technical holding time** is the maximum time allowed between a sample collection and the completion of the sample extraction and/or analysis.
- **Contractual holding time** is the maximum length of time that the CLP laboratory can hold the sample prior to extraction and/or analysis. The contractual holding time is the elapsed time expressed in days from the date of receipt of the sample by the laboratory until the date of its extraction and/or analysis, as described in the appropriate CLP Statement of Work.

Contractual holding times are generally set to be two days less than the technical holding times to allow for sample packing and shipping.

Samplers should ship samples to scheduled CLP laboratories as soon as possible after collection.

- ☐ Ship samples daily to CLP laboratories whenever possible.
- ☐ If samples cannot be shipped on a daily basis, they must be properly preserved and maintained to meet CLP-specified temperatures, holding times, and custody requirements.
- ☐ Uploading the electronic COC is mandatory and should be done as soon as possible after shipping.

If samplers are shipping samples after 5:00 PM ET, they must notify the RSCC (or designee) and SMO by 8:00 AM ET on the following business day. When making a Saturday delivery, samplers must notify the RSCC (or designee) and SMO as soon as possible so that SMO will receive the delivery information by 3:00 PM ET on the Friday prior to delivery.

7.6 Completing the Documentation

The sample documentation required is defined by the project plan. It is highly recommended that samplers provide documentation, even if the Region does not require it.

In general, samplers must complete the following documentation for the samples collected:

- CLP Sample Number (on the sample container or bottle)
- Sample label
- Chain of custody seals (as appropriate)
- TR/COC record
- Field operations records (as necessary)

Under no circumstances should the site name appear on any documentation being sent to the laboratory, unless the laboratory is a Regional EPA laboratory. The Region copy of the TR/COC record shall be sent to the EPA laboratory.

An example of a packaged sample is shown in Figure 7-1.

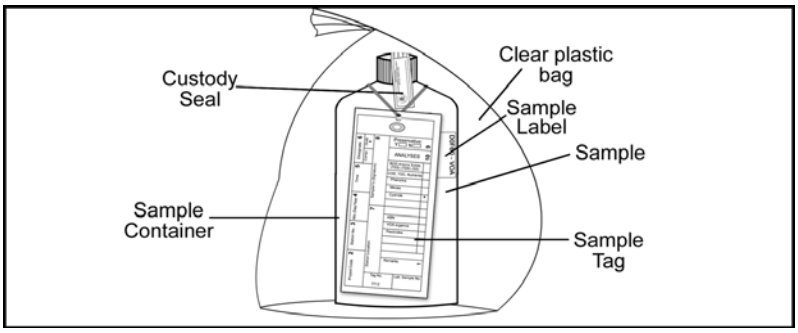

Figure 7-1. Packaged Sample with Identification and Chain of Custody Documentation (Excluding TR/COC Record)

7.6.1 Record and Label the Samples

The sample labels created in Scribe must be affixed to each sample container. A sample label contains the following information:

- Associated CLP Sample Number (either written or pre-printed)
- SMO-assigned CLP Case Number
- Preservative used
- Analysis
- Additional information such as the location or the date/time of collection

Record and label the samples collected as follows:

- ☐ Using Scribe, select the **Sampling** tab to select the type of matrix (e.g., Soil/Sediment, Water Sampling).
- ☐ Enter the Scribe **Sample Details** page to enter the analysis method, CLP Sample Number, and SMO-assigned CLP Case Number for each sample.
- ☐ Enter samples requested as a modified analysis (MA) by using the MA analysis previously created in Scribe. If the MA does not exist, refer to Section 5.1.2, Verify/Create Analysis Types to create the analysis type for the MA.
- ☐ Print two copies of the sample label and attach one to the sample container or bottle, and place the other on the sample tag that may be attached to the sample container or bottle.

- If handwriting a sample label, complete the label information using waterproof ink, place the label on the outside of the sample bottle or container, then cover the label with clear packaging tape to protect the label and maintain legibility.
- Avoid wrinkles in the tape and labels.
- Refer to Figure 7-1 to see how the sample labels are used.

If special conditions exist, use the following guidelines:

- **Water samples collected for total metal and filtered metal analyses from the same sampling location** - these samples must be assigned separate (unique) CLP Sample Numbers.
- **Tared VOA sample vials** - do not attach labels to tared VOA sample vials.

7.6.2 Complete the COC Records in Scribe

Complete the Scribe COC Record as follows:

Access the Scribe COC Page

- Select the **Chain of Custody** link under the **Sample Management** header. The ***Chain of Custody*** page displays.

Create the COC Record

- Click the **Add a Chain of Custody** button at the bottom of the page. The ***COC Details*** pop-up window displays.
- Enter the information for the COC, including selecting the **CLP format** (Inorganic, Organic, or High Resolution).

  Note: It is very important that the correct **COC Format** is selected when the COC Record is created. The user must choose the CLP format for the type of samples being submitted, as shown in Figure 7-2.

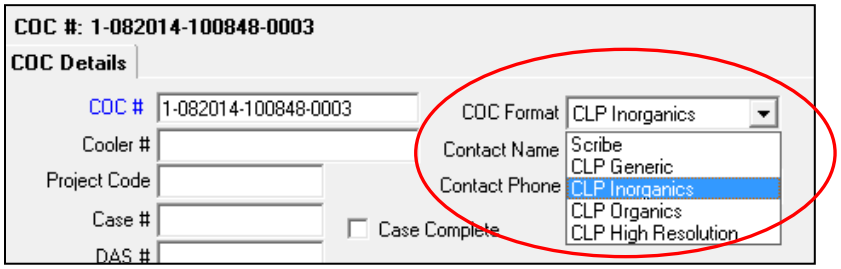

Figure 7-2. COC Details Pop-up Window

- Ensure that the **Case #** is also filled in. (If it was entered in the CLP/Tag Settings, it will automatically be filled in.)

Assign Samples to the COC Record

- Assign samples to the **COC Record** (it will filter based on selected COC format SOW).
- Ensure that all sample information has been entered.
- Enter any additional information, such as sampler name, matrix, and preservation.
- Indicate any samples that will be analyzed using a MA.
- Scribe generates a laboratory and a Regional copy of the Chain of Custody Record (see Figures 7-3 through 7-4).

Print the COC Record

- Print the **COC Record** by selecting either the **Lab Copy** or **Region Copy**. There will be a QC check; ensure that all information is filled in.
- Print as many copies of the **COC Record** as is necessary.

- Sign and submit original copies of the **COC Record**.

Certain information will not appear on the electronic COC record (e.g., matrix and preservative descriptions).

Sampler information, etc., is not added when creating the COC; it is added when editing the sample itself.

Need more information?
Use this code to access the ERT User Manual for Scribe CLP Sampling or contact the ERT Software Support Help Desk at 800-999-6990.

7.6.3 Making Manual Edits to Printed Scribe COC Records

If a Scribe COC Record has been printed and deletions or edits need to be made by the sampler, the following procedures must be followed:

- If making a deletion, correct the deletion in Scribe and reprint the COC record. Discard the original.
- If making an addition, enter the new information in Scribe and reprint the COC record. Discard the original.
- If corrections occur after shipment, adhere to Region-specific procedures and guidelines on handling hard copy COC records.

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USEPA CLP COC (LAB COPY)
DateShipped: 1/3/2014
CarrierName: FedEx
AirbillNo: ABC12345

CHAIN OF CUSTODY RECORD
Case #: 21490
Cooler #:

No: 2-010614-124708-0001
Lab: EPA Labs
Lab Contact: John Smith
Lab Phone:

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
12345-0001	B0AA0	Soil/ EPA	Grab	SVOA(21)/PR, SVOA 1723.3(21)/PR, PEST(21), ARO(21), VOA(21), VOA MA(21)	1000 (0 C), 1001 (0 C), 1002 (0 C), 1003 (0 C), 1004 (0 C), 1005 (0 C) (5)	ABC	01/03/2014 08:00	
12345-0002	B0AA1	Soil/ EPA	Grab	ARO(21), PEST(21), SVOA(21)	1006 (0 C), 1007 (0 C), 1008 (0 C), 1009 (0 C) (4)	ABC	01/03/2014 08:00	
12345-0003	B0AA2	Soil/ EPA	Grab	ARO(21), PEST(21), SVOA(21)	1010 (0 C), 1011 (0 C), 1012 (0 C), 1013 (0 C) (4)	DEF	01/03/2014 09:00	
12345-0004	B0AA3	Soil/ EPA	Grab	ARO(21), PEST(21), SVOA(21)	1014 (0 C), 1015 (0 C), 1016 (0 C), 1017 (0 C) (4)	GHI	01/03/2014 10:00	
12345-0005	B0AA4	Soil/ EPA	Grab	ARO(21), PEST(21), SVOA(21)	1018 (0 C), 1019 (0 C), 1020 (0 C), 1021 (0 C) (4)	JKL	01/03/2014 11:00	
12345-0006	B0AA5	Soil/ EPA	Grab	SVOA(21), SVOA 1723.3(21), PEST(21), ARO(21), VOA MA(21)	1022 (0 C), 1023 (0 C), 1024 (0 C), 1025 (0 C), 1026 (0 C), 1027 (0 C) (5)	DEF	01/03/2014 09:00	
12345-0007	B0AA6	Soil/ EPA	Grab	SVOA(21), SVOA 1723.3(21), PEST(21), ARO(21), VOA MA(21)	1028 (0 C), 1029 (0 C), 1030 (0 C), 1031 (0 C), 1032 (0 C), 1033 (0 C) (5)	GHI	01/03/2014 10:00	
12345-0008	B0AA7	Soil/ EPA	Grab	ARO(21), PEST(21), SVOA(21)	1034 (0 C), 1035 (0 C), 1036 (0 C), 1037 (0 C) (4)	JKL	01/03/2014 11:00	

Sample(s) to be used for Lab QC: 12345-0001 Tag 1000, 12345-0001 Tag 1001, 12345-0001 Tag 1002, 12345-0001 Tag 1003, 12345-0001 Tag 1004, 12345-0001 Tag 1005	**Shipment for Case Complete? Y**
	Samples Transferred From Chain of Custody #
Analysis Key: SVOA=CLP Semivolatiles, SVOA 1723.3=CLP SVOA MA 1723.3, PEST=CLP Pesticides, ARO=CLP Aroclors, VOA=CLP Volatiles, VOA MA=CLP VOA (MA 1722.4)	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt

Figure 7-3. Scribe Chain of Custody Record (Laboratory Copy)

Page 1 of 1

USEPA CLP COC (REGION COPY)
DateShipped: 1/3/2014
CarrierName: FedEx
AirbillNo: ABC12345

CHAIN OF CUSTODY RECORD
Field Sampler's Guide
Case #: 21490
Cooler #:

No: 2-010614-124708-0001
Lab: EPA Labs
Lab Contact: John Smith
Lab Phone:

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	Sample Type
12345-0001	B0AA0	Soil/ EPA	Grab	SVOA(21)/PR, SVOA 1723.3(21)/PR, PEST(21), ARO(21), VOA(21), VOA MA(21)	1000 (0 C), 1001 (0 C), 1002 (0 C), 1003 (0 C), 1004 (0 C), 1005 (0 C) (5)	ABC	01/03/2014 08:00	Lab QC
12345-0002	B0AA1	Soil/ EPA	Grab	ARO(21), PEST(21), SVOA(21)	1006 (0 C), 1007 (0 C), 1008 (0 C), 1009 (0 C) (4)	ABC	01/03/2014 08:00	Field Sample
12345-0003	B0AA2	Soil/ EPA	Grab	ARO(21), PEST(21), SVOA(21)	1010 (0 C), 1011 (0 C), 1012 (0 C), 1013 (0 C) (4)	DEF	01/03/2014 09:00	Field Sample
12345-0004	B0AA3	Soil/ EPA	Grab	ARO(21), PEST(21), SVOA(21)	1014 (0 C), 1015 (0 C), 1016 (0 C), 1017 (0 C) (4)	GHI	01/03/2014 10:00	Field Sample
12345-0005	B0AA4	Soil/ EPA	Grab	ARO(21), PEST(21), SVOA(21)	1018 (0 C), 1019 (0 C), 1020 (0 C), 1021 (0 C) (4)	JKL	01/03/2014 11:00	Field Sample
12345-0006	B0AA5	Soil/ EPA	Grab	SVOA(21), SVOA 1723.3(21), PEST(21), ARO(21), VOA MA(21)	1022 (0 C), 1023 (0 C), 1024 (0 C), 1025 (0 C), 1026 (0 C), 1027 (0 C) (5)	DEF	01/03/2014 09:00	Field Sample
12345-0007	B0AA6	Soil/ EPA	Grab	SVOA(21), SVOA 1723.3(21), PEST(21), ARO(21), VOA MA(21)	1028 (0 C), 1029 (0 C), 1030 (0 C), 1031 (0 C), 1032 (0 C), 1033 (0 C) (5)	GHI	01/03/2014 10:00	Field Sample
12345-0008	B0AA7	Soil/ EPA	Grab	ARO(21), PEST(21), SVOA(21)	1034 (0 C), 1035 (0 C), 1036 (0 C), 1037 (0 C) (4)	JKL	01/03/2014 11:00	Field Sample

Sample(s) to be used for Lab QC: 12345-0001 Tag 1000, 12345-0001 Tag 1001, 12345-0001 Tag 1002, 12345-0001 Tag 1003, 12345-0001 Tag 1004, 12345-0001 Tag 1005

Shipment for Case Complete? Y

Samples Transferred From Chain of Custody #

Analysis Key: SVOA=CLP Semivolatiles, SVOA 1723.3=CLP SVOA MA 1723.3, PEST=CLP Pesticides, ARO=CLP Aroclors, VOA=CLP Volatiles, VOA MA=CLP VOA (MA 1722.4)

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt

Figure 7-4. Scribe Chain of Custody Record (Region Copy)

7.6.4 Complete and Attach Custody Seals

Custody seals are usually pre-printed stickers that are signed (or initialed) and dated by the sampler after sample collection and placed on sample bottles or containers and/or shipping containers (see Figure 7-5).

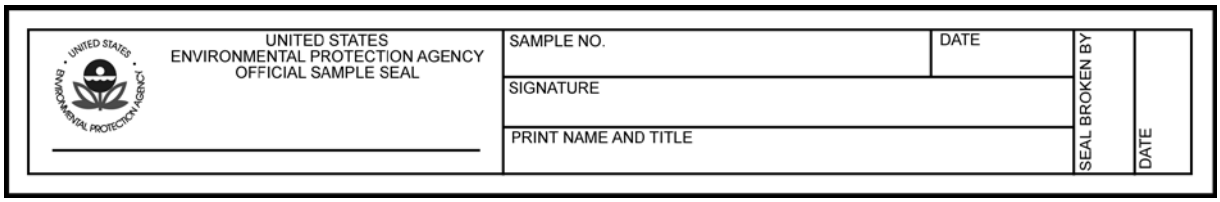


Figure 7-5. Custody Seal

The custody seal documents the person who sealed the sample container and verifies that the sample has not been tampered with. Custody seals can also be used to maintain custody of other items such as envelopes.

The use and type of custody seals can vary by Region or collecting organization. Samplers should obtain the appropriate custody seals and specific instructions for correctly attaching them from the RSCC. Note that some Regions require the sampling team to provide their own custody seals.

- Place the seals such that they will break if the sample bottle or container, or the shipping cooler or container is tampered with or opened after leaving custody of samplers.
- Custody seals should never be placed directly onto a coring tool used as a transport device (e.g., 5 g Sampler) or tared, 40 mL closed-system vials. The seals must be placed on the bag for the coring tool used as a transport device, or on the bag used to enclose the vials. Refer to Table 8-1 for details.

Instructions for completing and attaching a custody seal are included in Table 7-2.

Table 7-2. Completing and Attaching a Custody Seal

Step	Action	Important Notes
1	Record the CLP Sample Number.	The space for the CLP Sample Number does not need to be completed on custody seals being placed on the opening of a cooler, only on those being placed on the opening of sample bottles or containers.
2	Record the month, day, and year of sample collection.	
3	Sign the seal in the signature field.	
4	Print your name and title in the "Print Name and Title" field.	
5	Place the custody seal over the edge of the sample bottle or container such that it will break if tampered with.	Custody seals can be placed directly on any sample container except for coring tools used as a transport device (e.g., 5 g Samplers) and tared VOA bottles. If packing coring tools used as a transport device or tared VOA bottles, place them in a clear plastic bag and place the custody seal on the outside of the bag.
6	If possible, cover the custody seal with clear plastic tape to protect it.	Take special care to not place the protective tape over the seal in such a way that it can be removed and then re-attached without signs of tampering.

7.6.5 Complete and Attach Sample Tags

To support use of sample data in potential enforcement actions, sample characteristics other than on-site measurements (e.g., pH, temperature, conductivity) can be identified with a sample tag. Typically, site-specific information is written on the tags using waterproof ink.

Sample tags are not a CLP requirement. Please consult with specific RSCC as to Regional requirement. Not all EPA Regions require the use of sample tags, and field samplers should refer to their site specific project plans or contact their RSCC for Regional sample tag requirements.

An example of a completed sample tag is included in Figure 7-6 below:

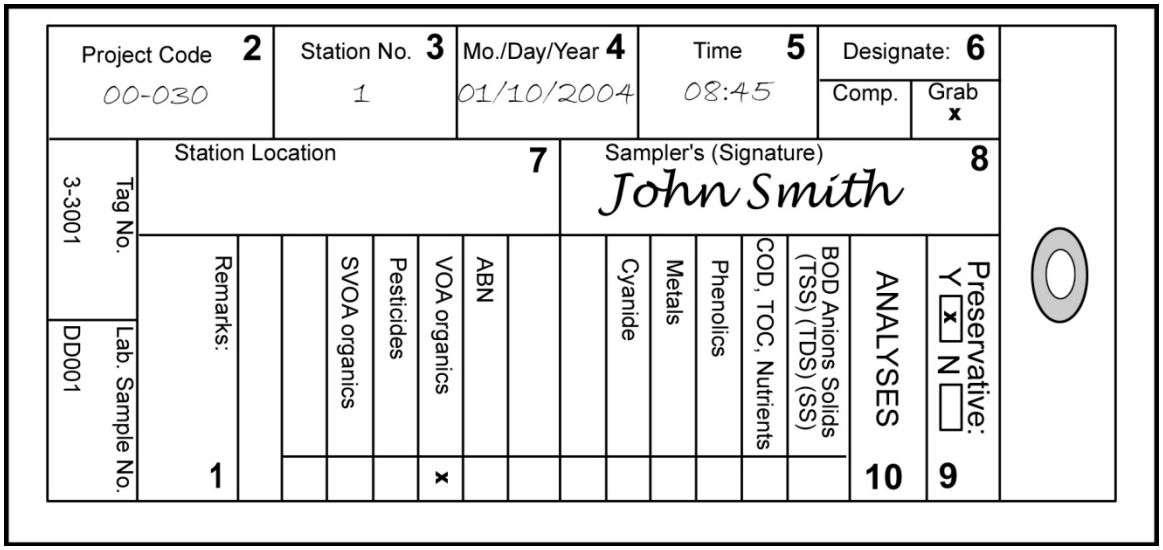


Figure 7-6. Completed Sample Tag

Complete the sample tag as follows:

- Use Scribe to create and print out multiple sample labels, one of which can be attached to the sample tag and then covered with clear packaging tape to protect the label and maintain legibility.
- If Scribe-created sample labels are not available, use the instructions for completing and attaching a handwritten sample tag in Table 7-3.
- Use waterproof ink when filling out the sample tag.
- Strike out, initial, and date any corrections.

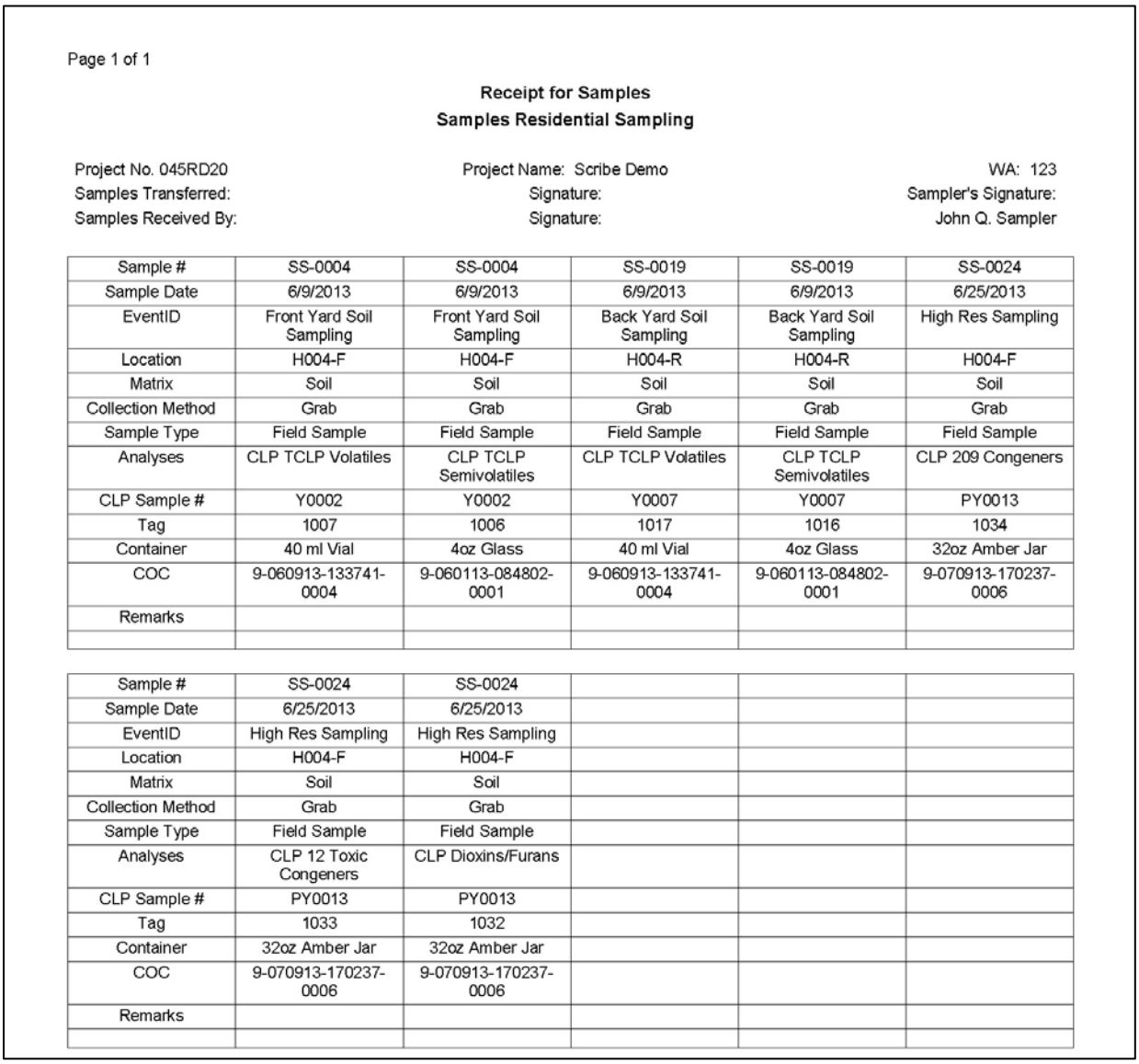
Table 7-3. Completing and Attaching a Handwritten Sample Tag

Step	Action
1	Under the "Remarks" heading, record the CLP Sample Number and SMO-assigned CLP Case number in a legible manner.
2	Record the project code (e.g., Contract number, Work Assignment number, Interagency Agreement number, etc.) assigned by EPA.
3	Enter the location number assigned by the sampling team coordinator.
4	Record the month, day, and year of sample collection.
5	Enter the military time of sample collection (e.g., 13:01 for 1:01 PM).
6	Identify the designate and place an "X" in either the composite (Comp.) or grab (Grab) sample box.
7	Record the location.
8	Sign the sample tag in the signature area.

Step	Action
9	Place an "X" in the box next to Yes or No to indicate if a preservative was added to the sample.
10	Under "Analyses," place an "X" in the box next to the parameters for which the sample is to be analyzed.
11	Leave the box for "Laboratory Sample Number" blank.
12	It is recommended that the sample tag be attached to the neck of the sample bottle or container using regular string, stretch string, or wire.

7.7 Providing a Sample Receipt

After samples have been taken from private property, the sampler should prepare a receipt for these samples and provide this receipt to the property owner. This is especially important when sampling on private property since these samples could be used during future litigation and the receipt will verify that the owner granted approval for the removal of the samples from the property. An example of a sample receipt created using Scribe is shown in Figure 7-7.



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Receipt for Samples
Samples Residential Sampling

Project No. 045RD20 | Project Name: Scribe Demo | WA: 123
Samples Transferred: | Signature: | Sampler's Signature:
Samples Received By: | Signature: | John Q. Sampler

Sample #	SS-0004	SS-0004	SS-0019	SS-0019	SS-0024
Sample Date	6/9/2013	6/9/2013	6/9/2013	6/9/2013	6/25/2013
EventID	Front Yard Soil Sampling	Front Yard Soil Sampling	Back Yard Soil Sampling	Back Yard Soil Sampling	High Res Sampling
Location	H004-F	H004-F	H004-R	H004-R	H004-F
Matrix	Soil	Soil	Soil	Soil	Soil
Collection Method	Grab	Grab	Grab	Grab	Grab
Sample Type	Field Sample	Field Sample	Field Sample	Field Sample	Field Sample
Analyses	CLP TCLP Volatiles	CLP TCLP Semivolatiles	CLP TCLP Volatiles	CLP TCLP Semivolatiles	CLP 209 Congeners
CLP Sample #	Y0002	Y0002	Y0007	Y0007	PY0013
Tag	1007	1006	1017	1016	1034
Container	40 ml Vial	4oz Glass	40 ml Vial	4oz Glass	32oz Amber Jar
COC	9-060913-133741-0004	9-060113-084802-0001	9-060913-133741-0004	9-060113-084802-0001	9-070913-170237-0006
Remarks					

Sample #	SS-0024	SS-0024			
Sample Date	6/25/2013	6/25/2013			
EventID	High Res Sampling	High Res Sampling			
Location	H004-F	H004-F			
Matrix	Soil	Soil			
Collection Method	Grab	Grab			
Sample Type	Field Sample	Field Sample			
Analyses	CLP 12 Toxic Congeners	CLP Dioxins/Furans			
CLP Sample #	PY0013	PY0013			
Tag	1033	1032			
Container	32oz Amber Jar	32oz Amber Jar			
COC	9-070913-170237-0006	9-070913-170237-0006			
Remarks					

Figure 7-7. Sample Receipt Created Using the Scribe Software

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8.0 CLP SAMPLE TRANSPORTATION AND SHIPPING

The sampling organization is responsible for the transportation and shipping of the Contract Laboratory (CLP) samples to the CLP laboratory that will be performing the analysis. The sampling organization is responsible for being in compliance with applicable packaging, labeling, and shipping requirements. Samplers are expected to review the applicable project plans to be aware of all State, Federal, Department of Transportation (DOT), and International Air Transport Association (IATA) regulations governing environmental and hazardous sample packaging.

8.1 Providing Shipment Notification

Some Regions require that samplers notify their Regional Sample Control Coordinator (RSCC) (or designee) when samples are shipped, and some Regions allow samplers to contact the Sample Management Office (SMO) directly to provide shipment notification. It is mandatory that the electronic Chain of Custody (COC) through the Contract Laboratory Program Support System (CLPSS) (aka "the SMO Portal") be submitted as soon as possible after shipping. Submitting the COC electronically sends a notification to SMO and to the laboratory that the samples have been shipped. It is recommended that samplers contact the RSCC to verify if such notification is necessary. If samplers are shipping samples after 5:00 PM ET, they must notify the RSCC (or designee) and SMO by 8:00 AM ET on the following business day.

It is strongly recommended that samplers provide shipping notification to the RSCC even if they have approval to directly notify SMO. This will assure that the Region is aware early on of any changes in the final number and timing or samples delivered.

8.2 Packing and Shipping Samples

Once the samples have been collected, it is very important that the sampler properly package the samples for shipment and ensure that the samples are sent to the appropriate laboratory as quickly as possible. Prompt and proper packaging of samples will achieve the following:

- Protect the integrity of samples from changes in composition or concentration caused by bacterial growth or degradation from increased temperatures.
- Reduce the chance of leaking or breaking of sample containers that would result in loss of sample volume, loss of sample integrity, and exposure of personnel to toxic substances.
- Help ensure compliance with shipping regulations.

One CLP sample may be contained in several bottles and vials. For example, one water sample may consist of all containers needed for three of the analytical analyses available under this service (i.e., Semivolatile Organic Analysis (SVOA) analysis, Pesticide analysis, and Aroclor analysis), even though the analyses are collected in separate containers. Therefore, the analysis to be performed and the matrix type will determine the type of container(s) that will be used, as well as the volume that must be collected for that particular sample analysis.

8.2.1 Inventory of Samples and Documentation

Inventory the contents of the shipping container against the corresponding Traffic Report (TR/COC) record when packing for shipment to laboratories. Check for the following conditions:

- Ensure that the correct number of containers have been collected for each analysis of the samples.
- Ensure that the required Performance Evaluation (PE) and Quality Control (QC) samples and cooler temperature blanks are included.
- Verify that the correct sample numbers and analyses have been assigned to each sample.

8.2.2 Shipping Regulations

Sample shipping personnel are legally responsible for ensuring that the sample shipment will comply with all applicable shipping regulations. Ensure that the following shipping regulations are adhered to if any of the following conditions apply to the samples:

- **Domestic and foreign soil movement** - follow Unites States Department of Agriculture (USDA) soil quarantine and shipping requirements.
- **Chlorinated Dibenzo-p-Dioxin (CDD) and Chlorinated Dibenzofuran (CDF)** - follow the High Resolution Superfund Method (HRSM) Statement of Work (SOW) for specific information on safety and handling of samples potentially containing CDD/CDF.
- **Radiological** - samples suspected to be radioactive must be screened; follow instructions from the Analytical Services Branch (ASB) Project Manager.
- **Dry ice** - if dry ice is used for shipping tissue samples, follow DOT and IATA regulations. Refer to the Code of Federal Regulations (49CFR 173.217) classifying dry ice as Hazard Class 9 *UN 1845* (Hazardous Material) and IATA Dangerous Goods regulations or DOT regulations and U.S. Environmental Protection Agency (EPA) guidelines. Refer to Appendix D for detailed shipping guidelines when using SW-846 Method 5035A to preserve and ship samples.

When shipping from remote locations, dry ice may used with the regular ice for the purpose of keeping the ice from melting. Wrap the dry ice in newspaper and place above any regular ice. Never place dry ice in a sealed bag or cooler.

Access more transportation and shipping information using the following Web sites:

Dangerous goods regulations
IATA Web site
http://www.iata.org/whatwedo/cargo/Pages/index.aspx

DOT/Pipeline and Hazardous Materials Safety Administration (PHMSA)
http://phmsa.dot.gov/regulations

The type of samples collected determines the type of shipping materials to be used.

- Refer to the project plan to determine which type of shipping container should be used for each type of sample being taken during the sampling event.

8.2.3 Shipping Temperature

Samples must be stored in conditions that maintain sample integrity.

- All samples should be placed in shipping containers or other suitable containers with ice to reduce the temperature as soon as possible after collection.
- Ideally, all samples should be shipped the day of collection for overnight delivery to the laboratory.
- If samples cannot be shipped on the day of collection, the sample temperature should be maintained at ≤6°C, but not frozen, until they are shipped to the laboratory.

8.2.4 Pack Shipping Containers

Packing shipping containers correctly will prevent sample containers from breaking and leaking. Pack shipping containers according to the instructions outlined in Table 8-1 to prevent shipping and leaking.

Table 8-1. Packing Samples for Shipment

Step	Action	Important Notes
1	Seal all drain holes in the shipping container, both inside and out, to prevent leakage in the event of sample breakage.	
2	Check all lids/caps to make sure the samples are tightly sealed and will not leak.	
3	Wipe loose soil residue from containers.	
4	Seal samples within a clear plastic bag.	Custody seals can be placed directly on any sample container except for coring tools used as a transport device (e.g., 5 g Samplers) and tared Volatile Organic Analysis (VOA) bottles. If packing coring tools used as a transport device or tared VOA bottles, place them in a clear plastic bag and place the custody seal on the outside of the bag.
5	Fully chill those samples requiring chilling to ≤6°C, but not frozen prior to placement within suitable packing materials.	
6	Prior to placing samples within the shipping cooler, it is recommended that samplers line shipping containers with non-combustible, absorbent packing material.	The CLP strongly discourages the use of vermiculite and cat litter as sources for packing material. These materials interfere with labeling and documentation and are difficult to remove from sample containers and shipping containers.
7	Place samples in CLEAN, sealed, watertight shipping containers (metal or hard plastic coolers).	All soil/sediment samples known to contain dioxin should be securely enclosed in metal cans (e.g., paint cans) with the lids sealed.
8	Conduct an inventory of the contents of the shipping cooler/container against the corresponding TR/COC record.	
9	Cover samples in double-bagged ice to prevent water damage to packing materials.	Do NOT pour loose ice directly into the sample cooler. The ice is used to maintain the temperature of the samples within the shipping cooler.
10	It is recommended that a temperature blank be included in an area within each shipping container which will allow for easy access by the laboratory upon opening the shipping container.	The temperature blank is generally a 40 mL vial filled with water and labeled "temperature blank" but does not have a CLP Sample Number.
11	Ensure that the site name or other site-identifying information does not appear on any documentation being sent to the laboratory.	

Step	Action	Important Notes
12	Label the outside of the shipping container with any instructions for handling, such as, "This end up," "Do not Tamper With," or "Environmental Laboratory Samples."	
13	If shipping samples containing methanol as a preservative (e.g., samples to be analyzed by SW-846 Method 5035A), use a label to indicate methanol, the United Nations (UN) identification number for methanol (UN 1230), and Limited Quantity.	

8.2.5 Include Required Paperwork

☐ Attach the necessary paperwork to the shipping cooler or acceptable container. All paperwork must be placed in a plastic bag or pouch and then secured to the underside of the shipping container lid (Figure 8-1).

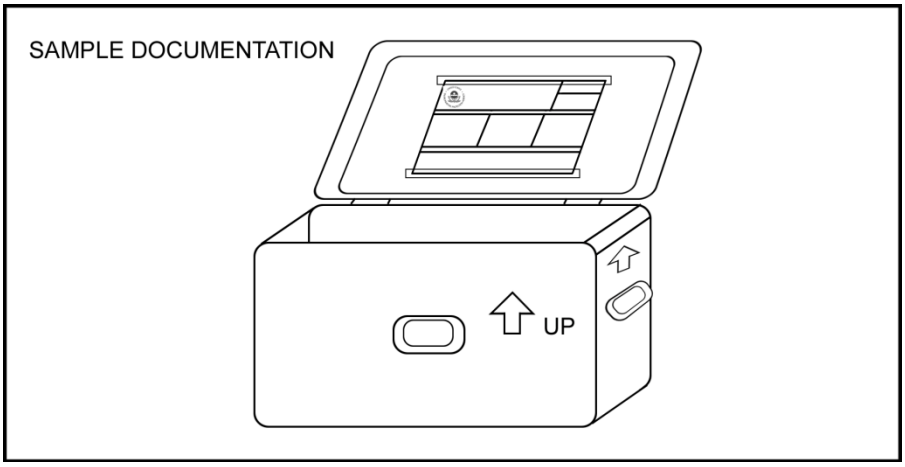


Figure 8-1. Sample Cooler with Attached TR/COC Record, PE Sample Instructions (if applicable), and Cooler Return Documentation

Required paperwork includes:

- TR/COC records
- Sample weight logs (Figure 4-1), if required for VOA samples.
- PE instruction sheets if PE samples are included in the cooler.

Contact the RSCC (or designee) for specific paperwork requirements.

8.2.6 Label and Seal Sample Shipping Coolers

After samples are packaged within shipping containers, samplers must carefully secure the top and bottom of the coolers with tape, place return address labels clearly on the outside of the container, and attach the required chain of custody seals (Figure 8-2).

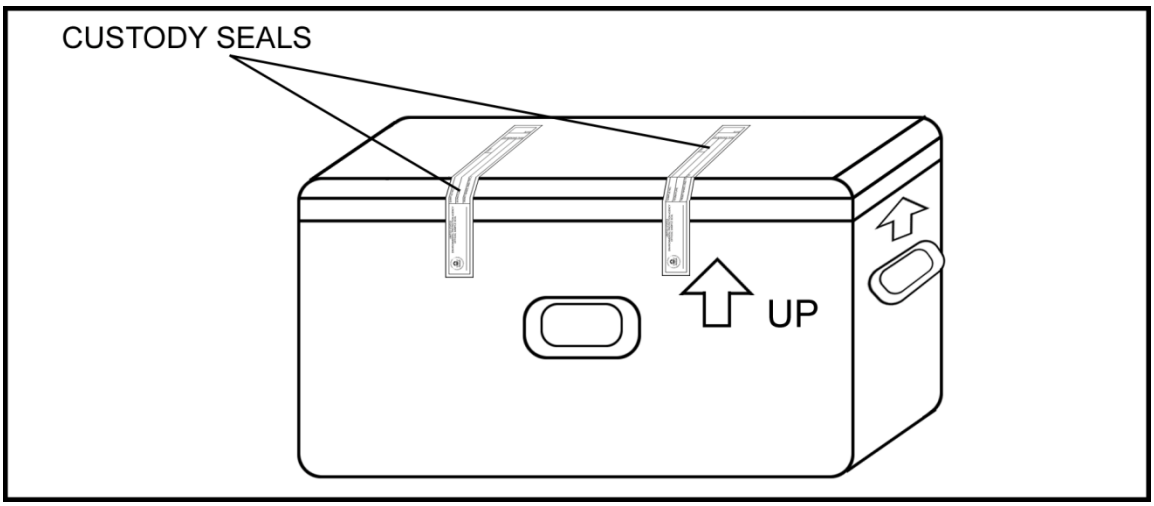


Figure 8-2. Shipping Cooler with Custody Seals

Use the following guidelines when labeling shipping containers:

- If more than one container is being delivered to a laboratory, samplers should mark each cooler as "1 of 2," "2 of 2," etc.
- An airbill, addressed to the Sample Custodian of the receiving laboratory, must be completed for each cooler shipped. Samplers should receive the correct name, address, and telephone number of the laboratory to which they must ship samples from the RSCC or SMO.
- To avoid delays in analytical testing, samplers should make sure they are sending the correct types of samples to the correct laboratory when collecting samples for multiple types of analysis. For example, inorganic samples may be shipped to one laboratory for analysis, while organic samples may need to be shipped to another laboratory.
- Be aware of the shipping company's hours of operation, shipping schedule, and pick-up/drop-off requirements.

8.2.7 Overnight Delivery

It is imperative that samples be sent via overnight delivery. Delays due to longer shipment times may cause technical holding times to expire, or the temperature to rise above the preservation limit, which in turn may destroy sample integrity or require the recollection of samples for analysis.

8.2.8 Saturday Delivery

For shipping samples for Saturday delivery, the sampler MUST notify the RSCC (or their designee) and SMO as soon as possible so that SMO will receive the delivery information by 3:00 PM ET on the Friday prior to delivery.

8.2.9 Shipment Notification

When samples are shipped to CLP Laboratories, samplers **must immediately** report all sample shipments to the RSCC (or designee) or to SMO. **Under no circumstances should the sampler contact the laboratory directly.** If samplers are shipping samples after 5:00 PM ET, they must notify the RSCC (or designee) or SMO by 8:00 AM ET on the following business day. Samplers should receive the name and phone number of the appropriate SMO coordinator to contact from the Region/RSCC. Samplers should be aware if their Region requires them to notify the RSCC (or designee) and/or SMO of sample shipment.

Samplers must provide the following information to the RSCC (or designee) or to SMO:

- Name and phone number at which they can easily be reached (preferably closest on-site phone number if still in the field)
- SMO-assigned Case number
- Number, matrix and analysis of samples being shipped, and MA number (if required)
- Name of laboratory (or laboratories) to which the samples were shipped
- Airbill number(s)
- Date of shipment
- Case status (i.e., whether or not the Case is complete)
- Problems encountered, special comments, or any unanticipated issues
- When to expect the next anticipated shipment

For Saturday delivery, samplers MUST notify the RSCC (or designee) and SMO as soon as possible so that SMO will receive the delivery information by 3:00 PM ET on the Friday prior to delivery.

8.2.10 Uploading the Electronic COC

The electronic COC record must be uploaded to SMO as soon as possible after sample shipment. The following is an overview of the steps used to upload the electronic COC:

- ☐ Using **Scribe**:
  - Under **Sample Management**, click on **Chain of Custody** link.
  - Click the **Export** button on the top of the menu bar.
  - Select the **COC XML File (.xml)** option.
  - Select the **COC(s)** to be exported.
  - Make sure that the **CLP Region Copy COC XML Template** is checked.
  - Click **OK**.
  - Provide a **filename** for the exported XML file. Per CLP guidance, the XML file name must reference the Region #; Case Number and today's date.
  - Click the **Save** button.
- ☐ Using the **Contract Laboratory Program Support System (CLPSS)**:
  - Select the **Submit Chain of Custody** task from the SMO Portal.
  - Select the **COC** file to upload.
  - Enter any **comments** associated with the COC file.
  - **Submit the file**; CLPSS provides a confirmation page.
  - **Print or download** a copy of the submission summary to keep as a record of the submission.

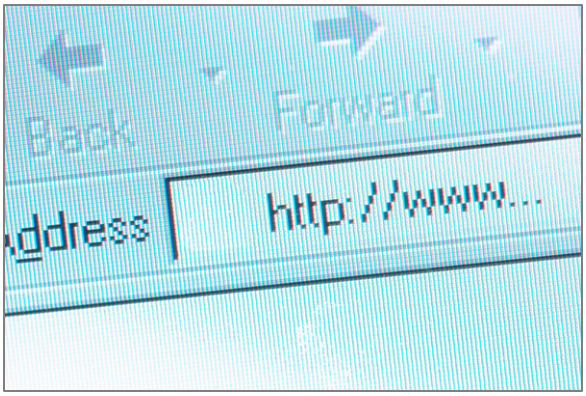
For a detailed description of how to create and upload electronic COC files using Scribe and CLPSS, refer to each system's user documentation.

8.2.11 Return Sample Shipping Coolers

CLP laboratories must routinely return sample shipping coolers within 14 calendar days following shipment receipt. Therefore, the sampler should also include cooler return instructions with each shipment. The **sampler** (not the CLP laboratory) is responsible for paying for the disposition (return or disposal) of the cooler and should also include shipping airbills bearing the sampler's account number, as well as a return address to allow for cooler return. **Samplers should use the least expensive return shipping option possible.**

9.0 SAMPLER RESOURCES

This Guide provides a summary of many of the resources used to define and manage the sampling process. The sampler may need to refer to the original source documents or Web sites for further information or clarification. The resources cited in this Guide are listed in this section.



9.1 List of Resources

Table 9-1 provides a list of resources available to samplers. These resources are referenced throughout this Guide.

Table 9-1. Resources for Samplers

Resource	Location
United States Environmental Protection Agency (EPA) Statements of Work	http://www.epa.gov/superfund/programs/clp/analytic.htm
Scribe Software Support	http://www.ertsupport.org/scribe_home.htm
Contract Laboratory Program Support System (CLPSS)	https://epasmoweb.fedcsc.com/smoportal
EPA Environmental Response Team (ERT) User Manual for Scribe Contract Laboratory Program (CLP) Sampling	http://www.epaosc.org/sites/ScribeGIS/files/Scribe%20CLP%20User%20Guide.pdf
CLP Guidance Documents	http://www.epa.gov/superfund/programs/clp/guidance.htm
Department of Transportation (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) regulations	http://phmsa.dot.gov/hazmat
Use of Dry Ice - Federal Regulations (49CFR 173.217) classified dry ice as Hazard Class 9 *UN 1845* (Hazardous Material).	http://www.gpo.gov/fdsys/pkg/CFR-2004-title49-vol2/xml/CFR-2004-title49-vol2-sec173-217.xml
International Air Transport Association (IATA) transportation regulations	http://www.iata.org
United States Department of Agriculture (USDA) Regulated Organisms and Soil Permits	http://www.aphis.usda.gov/plant_health/permits/organism/soil/
Common Ground Alliance - marking for underground utilities	http://www.call811.com

Resource	Location
Water Sampling Requirements of Dissolved Metals determinators	***EPA Method SW-3005A – Acid Digestion of Waters for Total Recoverable or Dissolved Metals for Analysis by FLAA or ICP Spectroscopy, Section 2.2:*** Dissolved metals - The sample is filtered through a 0.45-µm filter at the time of collection and the liquid phase is then acidified at the time of collection with nitric acid. Samples for dissolved metals do not need to be digested as long as the acid concentrations have been adjusted to the same concentration as in the standards. http://www.epa.gov/osw/hazard/testmethods/sw846/online/3_series.htm
	Clean Water Act (CWA), §136.3 Identification of test procedures. Table II—Required Containers, Preservation Techniques, and Holding Times [7]For dissolved metals, filter grab samples within 15 minutes of collection and before adding preservatives. For a composite sample collected with an automated sampler (e.g., using a 24-hour composite sampler; see 40 CFR 122.21(g)(7)(i) or 40 CFR Part 403, Appendix E), filter the sample within 15 minutes after completion of collection and before adding preservatives. If it is known or suspected that dissolved sample integrity will be compromised during collection of a composite sample collected automatically over time (e.g., by interchange of a metal between dissolved and suspended forms), collect and filter grab samples to be composited (footnote 2) in place of a composite sample collected automatically. http://www.ecfr.gov/cgi-bin/text-idx?SID=ed1ce4541f86f730e11600ca39e3926b&node=40:24.0.1.1.1&rgn=div5#40:24.0.1.1.1.0.1.3
EPA Method SW-846 5035A - Closed-System Purge-and-Trap Extraction for Volatile Organics in Soil and Waste Samples	http://www.epa.gov/osw/hazard/testmethods/pdfs/5035a_r1.pdf
NIOSH/OSHA/USCG/EPA Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities	http://www.osha.gov/Publications/complinks/OSHG-HazWaste/all-in-one.pdf
The Roles of Project Managers and Laboratories in Maintaining the Representativeness of Incremental and Composite Soil Samples, EPA/OSWER 9200.1-117FS	http://www.clu-in.org/download/char/RolesofPMsandLabsinSubsampling.pdf

9.2 For More Information

For more information regarding the CLP or this Guide, refer to the Superfund Analytical Services/Contract Laboratory Program Web site at:
http://www.epa.gov/superfund/programs/clp/contacts.htm#contacts

APPENDIX A FUNCTIONS WITHIN A SAMPLING PROJECT

The following table describes Quality Assurance Project Plan (QAPP) requirements taken from *EPA Requirements for Quality Assurance Project Plans* (EPA QA/R-5).

Table A-1. QAPP Requirements

Functions Within a Sampling Project	Elements of that Function
Project Management	
Project/Task Organization	Identifies the individuals or organizations participating in the project and defines their specific roles and responsibilities.
Problem Definition/Background	States the specific problem to be solved or decision to be made and includes sufficient background information to provide a historical and scientific perspective for each particular project.
Project/Task Description	Describes the work to be performed and the schedule for implementation to include: • Measurements to be made during the course of the project • Applicable technical, regulatory, or program-specific quality standards, criteria, or objectives • Any special personnel and equipment requirements; assessment tools needed • A work schedule and any required project and quality records, including types of reports needed
Quality Objectives and Criteria	Describes the project quality objectives and measurement performance criteria.
Special Training/Certification	Ensures that any specialized training for modified field sampling techniques, field analyses, laboratory analyses, or data validation should be specified.
Documents and Records	• Itemizes the information and records that must be included in the data report package and specifies the desired reporting format for hard copy and electronic forms, when used. • Identifies any other records and/or documents applicable to the project such as audit reports, interim progress reports, and final reports that will be produced. • Specifies or references all applicable requirements for the final disposition of records and documents, including location and length of retention period.
Data Generation and Acquisition	
Sampling Process Design (Experimental Design)	• Describes the experimental design or data collection design for the project. • Classifies all measurements as critical or non-critical.
Sampling Methods	• Describes the procedures for collecting samples and identifies sampling methods and equipment. Includes any implementation requirements, support facilities, sample preservation requirements, and materials needed. • Describes the process for preparing and decontaminating sampling equipment to include the disposal of decontamination by-products, selection and preparation of sample containers, sample volumes, preservation methods, and maximum holding times for sampling, preparation, and/or analysis. • Describes specific performance requirements for the method. • Addresses what to do when a failure in sampling occurs, who is responsible for corrective action, and how the effectiveness of the corrective action shall be determined and documented.
Sample Handling and Custody	• Describes the requirements and provisions for sample handling and custody in the field, laboratory, and transport, taking into account the nature of the samples, the maximum allowable sample holding times before extraction and analysis, and the available shipping options and schedules. • Includes examples of sample labels, custody forms, and sample custody logs.

Functions Within a Sampling Project	Elements of that Function
Analytical Methods	• Identifies the analytical methods and equipment required, including sub-sampling or extraction methods, waste disposal requirements (if any), and specific method performance requirements. • Identifies analytical methods by number, date, and regulatory citation (as appropriate). If a method allows the user to select from various options, the method citations should state exactly which options are being selected. • Addresses what to do when a failure in the analytical system occurs, who is responsible for corrective action, and how the effectiveness of the corrective action shall be determined and documented. • Specifies the laboratory turnaround time needed, if important to the project schedule. • Specifies whether a field sampling and/or laboratory analysis Case Narrative is required to provide a complete description of any difficulties encountered during sampling or analysis.
Quality Control (QC)	• Identifies required measurement QC checks for both the field and laboratory. • States the frequency of analysis for each type of QC check, and the spike compounds sources and levels. • States or references the required control limits for each QC check and corrective action required when control limits are exceeded and how the effectiveness of the corrective action shall be determined and documented. • Describes or references the procedures to be used to calculate each of the QC statistics.
Instrument/Equipment Testing, Inspection, and Maintenance	• Describes how inspections and acceptance testing of environmental sampling and measurement systems and their components will be performed and documented. Identifies and discusses the procedure by which final acceptance will be performed by independent personnel. • Describes how deficiencies are to be resolved and when re-inspection will be performed. • Describes or references how periodic preventative and corrective maintenance of measurement or test equipment shall be performed. • Identifies the equipment and/or system requiring periodic maintenance. • Discusses how the availability of spare parts identified in the operating guidance and/or design specifications of the systems will be assured and maintained.
Instrument/Equipment Calibration and Frequency	• Identifies all tools, gauges, instruments, and other sampling, measuring, and test equipment used for data collection activities affecting quality that must be controlled, and at specific times, calibrated to maintain performance within specified limits. • Identifies the certified equipment and/or standards used for calibration. • Describes or references how calibration will be conducted using certified equipment and/or standards with known valid relationships to nationally recognized performance standards. If no such standards exist, documents the basis for calibration. • Indicates how records of calibration shall be maintained and traced to the instrument.
Inspection/Acceptance of Supplies and Consumables	• Describes how and by whom supplies and consumables shall be inspected and accepted for use in the project. • States acceptance criteria for such supplies and consumables.
Non-direct Measurements	• Identifies any types of data needed for project implementation or decision-making that are obtained from non-measurement sources (e.g., computer databases, programs, literature files, historical databases). • Describes the intended use of data. • Defines the acceptance criteria for the use of such data in the project. • Specifies any limitations on the use of the data.
Data Management	• Describes the project data management scheme, tracing the data path from generation in the field or laboratory to their final use or storage. • Describes or references the standard record-keeping procedures, document control system, and the approach used for data storage and retrieval on electronic media.

APPENDIX B SAMPLE CONTAINER TYPE SPECIFICATIONS

Table B-1. Sample Container Type Specifications

Reference Number	Container Type	Specifications	
		Closure	Septum
1	40 mL amber glass vial, 24 mm neck finish.	Polypropylene or phenolic, open-top screw-cap, 15 cm opening, 24-400 size.	24 mm disc of 0.005 in. Polytetrafluoroethylene (PTFE) bonded to 0.120 in. silicone for a total thickness of 0.125 in.
2	1 L high density polyethylene, cylinder-round bottle, 28 mm neck finish.	Polyethylene cap, ribbed, 28-410 size; F217 polyethylene liner.	N/A
3	8 oz short, wide mouth, straight-sided, glass jar, 70 mm neck finish.	Polypropylene or phenolic cap, 70-400 size; 0.015 in. PTFE liner.	N/A
4	4 oz (120 mL) tall, wide mouth, straight-sided, glass jar, 48 mm neck finish.	Polypropylene or phenolic cap, 48-400 size; 0.015 in. PTFE liner.	N/A
5	1 L amber round glass bottle, 33 mm pour-out neck finish.	Polypropylene or phenolic cap, 33-430 size; 0.015 in. PTFE liner.	N/A
6	Coring tool used as a transport device (e.g., 5 g Sampler).	Has built-in closing mechanism.	N/A
7	1 qt polymer zip-top bag	Has built-in closing mechanism.	N/A
8	Heavy duty aluminum foil	N/A	N/A

Table B-2. Sample Container Type Specifications with Analysis

Reference Number	Analysis	Matrix	Sample Type	Container Type[2]	Specifications	
					Closure	Septum
1	VOA	Water	Samples Only	40 mL amber glass vial, 24 mm neck finish.	Polypropylene or phenolic, open-top screw-cap, 15 cm opening, 24-400 size.	24 mm disc of 0.005 in. Polytetrafluoroethylene (PTFE) bonded to 0.120 in. silicone for a total thickness of 0.125 in.
			Samples with SIM[1]			
			Samples with MS/MSD			
	VOA	Soil/Sediment[2]	**(Option 1)** Samples Only			
			(Option 1) Samples with MS/MSD			
	VOA	Soil/Sediment[2]	**(Option 2)** Samples Only			
			(Option 2) Samples with MS/MSD			
	VOA	Soil/Sediment[2]	**(Option 4)** Samples for TCLP/SPLP Only			
2	Metals/ICP-AES, Metals/ICP-MS, and/or Mercury by CVAA	Water	Samples Only	1 L high density polyethylene, cylinder-round bottle, 28 mm neck finish.	Polyethylene cap, ribbed, 28-410 size; F217 polyethylene liner.	N/A
			Samples with MS/Duplicate			
	Cyanide/ Spectrophotometric Determination	Water	Samples Only			
			Sample with MS/Duplicate			
3	SVOA	Soil/Sediment[3]	Samples Only	8 oz short, wide mouth, straight-sided, glass jar, 70 mm neck finish.	Polypropylene or phenolic cap, 70-400 size; 0.015 in. PTFE liner.	N/A
			Samples for TCLP/SPLP			
			Samples with MS/MSD			
	SVOA SIM	Soil/Sediment[3]	Samples Only			
			Samples with MS/MSD			

Reference Number	Analysis	Matrix	Sample Type	Container Type[2]	Specifications	
					Closure	Septum
	Pesticides	Soil/Sediment[3]	Samples Only			
			Samples for TCLP/SPLP			
			Samples with MS/MSD			
	Aroclors	Soil/Sediment[3]	Samples Only			
			Samples with MS/MSD			
	Metals/ICP-AES, Metals/ICP-MS, and/or Mercury by CVAA	Soil/Sediment[4]	Samples Only			
			Samples for TCLP/SPLP			
			Samples with MS/Duplicate			
	Cyanide/ Spectrophotometric Determination	Soil/Sediment[4]	Samples Only			
			Samples for SPLP			
			Samples with MS/Duplicate			
	CDD/CDF and CBC	Soil/Sediment/Oil/ Ash/Biosolid	----------			
	CDD/CDF and CBC	Tissue	----------			
4	SVOA	Soil/Sediment[3]	Samples Only	4 oz (120 mL) tall, wide mouth, straight-sided, glass jar, 48 mm neck finish.	Polypropylene or phenolic cap, 48-400 size; 0.015 in. PTFE liner.	N/A
			Samples for TCLP/SPLP			
			Samples with MS/MSD			
	SVOA SIM	Soil/Sediment[3]	Samples Only			
			Samples with MS/MSD			
	Pesticides	Soil/Sediment	Samples Only			
			Samples for TCLP/SPLP			
			Samples with MS/MSD			
	Aroclors	Soil/Sediment	Samples Only			

Reference Number	Analysis	Matrix	Sample Type	Container Type[2]	Specifications	
					Closure	Septum
			Samples with MS/MSD			
	CDD/CDF and CBC	Soil/Sediment/Oil/ Ash/Biosolid	----------			
	CDD/CDF and CBC	Tissue	----------			
5	SVOAs	Water[5]	Samples Only	1 L amber round glass bottle, 33 mm pour-out neck finish.	Polypropylene or phenolic cap, 33-430 size; 0.015 in. PTFE liner.	N/A
			Samples with MS/MSD			
	SVOA SIM	Water[5]	Samples Only			
			Samples with MS/MSD			
	Pesticides	Water[5]	Samples Only			
			Samples with MS/MSD			
	Aroclors	Water[5]	Samples Only			
			Samples with MS/MSD			
	CDD/CDF and CBC	Water	----------			
6	VOA	Soil/Sediment	**(Option 3)** Samples Only	Coring tool used as a transport device (e.g., 5 g Sampler).	Has built-in closing mechanism.	N/A
			(Option 3) Samples with MS/MSD			
7	Metals/ICP-AES	Wipe	Samples Only	1 qt polymer zip-top bag	Has built-in closing mechanism.	N/A
8	CDD/CDF and CBC	Tissue	----------	Heavy duty aluminum foil	N/A	N/A

1 Available through Modified Analysis (MA) only.

2 Vials for soil analysis are typically pre-labeled and tared. Vials for water analysis are not pre-labeled or tared.

3 If one or two extractable analyses are required for soil/sediment, only a single 8 oz. jar is required. If three extractable analyses are required, two 8 oz. jars are required. The number of jars should be doubled if MS/MSD is required

4 Only one 8 oz. jar is needed for soil/sediment when all metals (including mercury) and cyanide analyses are required for soil/sediment samples. Collect more than one jar when TCLP or SPLP are scheduled.

5 An aqueous sample for SVOA analysis would require the field sampler to collect at least 2 L of field samples and at least 2 L each for the MS and MSD samples for a total volume of 6 L. If Pesticide or Aroclor MS/MSD analyses are required for the same sample, an additional 6 L must be collected for each analysis method. Collect additional volume for MS/MSD samples to allow for sufficient volume for these analyses in the event sample volume is lost as a result of samples breaking, leaking, or laboratory accidents.

APPENDIX C CLP SAMPLE COLLECTION REQUIREMENTS BY ANALYSIS TYPE

Table C-1. Sample Collection Requirements for CLP SOW SOM02.X (Volatile Organic Analysis Only)

Analysis	Matrix	Sample Type	Container Type[1]	Minimum Number of Containers Needed				Minimum Volume/Mass[2]	Important Notes	Preservative[3]	Technical Holding Time[4]
				with Water	Dry	% Moisture	TOTAL				
VOA	Water	Samples Only	40 mL amber glass vial, 24 mm neck finish. See Table B-1, Reference Number 1.	-	-	-	**3**	Fill to capacity	Containers/vials must be filled to capacity with no headspace or air bubbles. Refer to Appendix E for samples requiring QC analyses. If amber containers are not available, the samples should be protected from light.	Preserve to a pH of 2 with HCl and cool to ≤ 6°C, but not frozen, immediately after collection. DO NOT FREEZE water samples.	14 days
		Samples with SIM[5]		-	-	-	**5**				
		Samples with MS/MSD									
	Soil/ Sediment	Samples Only	**OPTION 1** Closed-system 40 mL amber glass vial containing magnetic stirrer, 24 mm neck finish. See Table B-1, Reference Number 1.	-	3	1	**4**	5g (at least 50 g for TCLP or SPLP)	Place samples on side prior to being iced.[7] Refer to Appendix E for samples requiring QC analyses.	Frozen to < -7°C **OR** Iced to ≤ 6°C, but not frozen.	14 days **OR** 48 hours (unpreserved)[6]
		Samples with MS/MSD		-	9	3	**12**				
		Samples Only	**OPTION 2** Closed-system 40 mL amber glass vial containing magnetic stirrer, 24 mm neck finish and 5 mL water. See Table B-1, Reference Number 1.	3	-	1	**4**	5 g	Place samples on side prior to being iced.[7] Refer to Appendix E for samples requiring QC analyses.	Frozen to < -7°C **OR** Iced to ≤ 6°C, but not frozen.	14 days **OR** 48 hours (unpreserved)[6]
		Samples with MS/MSD		9	-	3	**12**				
		Samples Only	**OPTION 3** Coring tool used as a transport device. See Table B-1, Reference Number 6.	-	3	1	**4**	5 g	Refer to Appendix E for samples requiring QC analysis. Place samples on side prior to being iced.[7]	Frozen to < -7°C. **OR** Iced to ≤ 6°C, but not frozen.	14 days **OR** 48 hours (unpreserved)[6]
		Samples with MS/MSD		-	9	3	**12**				

Analysis	Matrix	Sample Type	Container Type[1]	Minimum Number of Containers Needed				Minimum Volume/Mass[2]	Important Notes	Preservative[3]	Technical Holding Time[4]
				with Water	Dry	% Moisture	TOTAL				
		Samples for TCLP/SPLP Only	**OPTION 4** Closed-system 40 mL amber glass vial 24 mm neck finish. See Table B-1, Reference Number 1.	-	4	-	**4**	25 g	Place samples on side prior to being iced.[7]	Iced to ≤ 6°C but not frozen.	14 days

Notes

1 Vials for soil analysis are typically pre-labeled and tared. Vials for water analysis are not pre-labeled or tared.

2 Minimum volume/mass to be collected in order to ensure sample analysis can be performed. Collect additional volume for MS/MSD samples to allow for sufficient volume for these analyses in the event sample volume is lost as a result of samples breaking, leaking, or laboratory accidents.

3 Check Regional guidance regarding use of acid as a preservative of samples that may contain carbonates, residual chlorine, and other oxidants.

4 Technical holding time is calculated from the time of sample collection to sample extraction, and determined as 14 days for preserved (frozen or iced) samples and 48 hours for non-preserved (iced) samples.

5 Available through Modified Analysis (MA) only.

6 Unpreserved soil samples can be frozen or iced at the time of receipt by the laboratory to increase holding time.

7 Vials are place on their side so that the septum is wet on the inside, thereby preventing vapor leaks around it, in case any bubbles form. Also, in case they freeze, you want the water to expand into the flexible septum rather than breaking the vial.

Table C-2. Sample Collection Requirements for CLP SOW SOM02.X (SVOAs, Pesticides and Aroclors)

Analysis	Matrix	Sample Type	Container Type	Minimum Volume/Mass[1]	Important Notes	Preservative/ Collection	Technical Holding Time[2]
SVOAs	Water[3]	Samples Only	1 L amber round glass bottle, 33 mm pour-out neck finish. See Table B-1, Reference Number 5.	2 L (per Test)	If amber containers are not available, the samples should be protected from light.	Cool all samples to ≤ 6°C, but not frozen, immediately after collection. DO NOT FREEZE water samples.	7 days
		Samples with MS/MSD	1 L amber round glass bottle, 33 mm pour-out neck finish. See Table B-1, Reference Number 5.	6 L			
	Soil/ Sediment[4]	Samples Only	One 8 oz short, wide mouth, straight-sided, glass jar, 70 mm neck finish or two 4 oz tall, wide mouth, straight-sided, glass jar, 48 mm neck finish. See Table B-1, Reference Numbers 3 and 4.	150 g (at least 500 g for TCLP or SPLP)		Cool all samples to ≤ 6°C, but not frozen, immediately after collection.	14 days
		Samples for TCLP/SPLP	Two 8 oz short, wide mouth, straight-sided, glass jars, 70 mm neck finish or 4 oz tall, wide mouth, straight-sided, glass jar, 48 mm neck finish. See Table B-1, Reference Numbers 3 and 4.	300 g			
		Samples with MS/MSD	Two 8 oz short, wide mouth, straight-sided, glass jars, 70 mm neck finish or 4 oz tall, wide mouth, straight-sided, glass jar, 48 mm neck finish. See Table B-1, Reference Numbers 3 and 4.	300 g			
SVOA SIM	Water[3]	Samples Only	1 L amber round glass bottle, 33 mm pour-out neck finish. See Table B-1, Reference Number 5.	2 L	If amber containers are not available, the samples should be protected from light.	Cool all samples to ≤6°C, but not frozen, immediately after collection. DO NOT FREEZE water samples.	7 days
		Samples with MS/MSD	1 L amber round glass bottle, 33 mm pour-out neck finish. See Table B-1, Reference Number 5.	6 L			
	Soil/ Sediment[4]	Samples Only	One 8 oz short, wide mouth, straight-sided, glass jar, 70 mm neck finish or two 4 oz tall, wide mouth, straight-sided, glass jar, 48 mm neck finish. See Table B-1, Reference Numbers 3 and 4.	150 g		Cool all samples to ≤ 6°C, but not frozen, immediately after collection.	14 days
		Samples with MS/MSD	Two 8 oz short, wide mouth, straight-sided, glass jars, 70 mm neck finish or four 4 oz tall, wide mouth, straight-sided, glass jar, 48 mm neck finish. See Table B-1, Reference Numbers 3 and 4.	300 g			

Table C-2. (Continued) Sample Collection Requirements for CLP SOW SOM02.X (SVOAs, Pesticides and Aroclors)

Analysis	Matrix	Sample Type	Container Type	Minimum Volume/Mass[1]	Important Notes	Preservative/ Collection	Technical Holding Time[2]
Pesticides	Water[3, 5]	Samples Only	1 L amber round glass bottle, 33 mm pour-out neck finish. See Table B-1, Reference Number 5.	2 L	If amber containers are not available, the samples should be protected from light.	Cool all samples to ≤ 6°C), but not frozen, immediately after collection. DO NOT FREEZE water samples.	7 days
		Samples with MS/MSD	1 L amber round glass bottle, 33 mm pour-out neck finish. See Table B-1, Reference Number 5.	6 L			
	Soil/ Sediment[4]	Samples Only	One 8 oz short, wide mouth, straight-sided, glass jar, 70 mm neck finish or four 4 oz tall, wide mouth, straight-sided, glass jar, 48 mm neck finish. See Table B-1, Reference Numbers 3 and 4.	150 g		Cool all samples to ≤ 6°C, but not frozen, immediately after collection.	14 days
		Samples for TCLP/SPLP	Two 8 oz short, wide mouth, straight-sided, glass jars, 70 mm neck finish or four 4 oz tall, wide mouth, straight-sided, glass jar, 48 mm neck finish. See Table B-1, Reference Numbers 3 and 4.	300 g			
		Samples with MS/MSD	Two 8 oz short, wide mouth, straight-sided, glass jars, 70 mm neck finish or four 4 oz tall, wide mouth, straight-sided, glass jar, 48 mm neck finish. See Table B-1, Reference Numbers 3 and 4.	300 g			
Aroclors	Water[3, 5]	Samples Only	1 L amber round glass bottle, 33 mm pour-out neck finish. See Table B-1, Reference Number 5.	2 L	If amber containers are not available, the samples should be protected from light.	Cool all samples to ≤ 6°C, but not frozen, immediately after collection. DO NOT FREEZE water samples.	7 days
		Samples with MS/MSD	1 L amber round glass bottle, 33 mm pour-out neck finish. See Table B-1, Reference Number 5.	6 L			
	Soil/ Sediment[4]	Samples Only	One 8 oz short, wide mouth, straight-sided, glass jar, 70 mm neck finish or 4 oz tall, wide mouth, straight-sided, glass jar, 48 mm neck finish. See Table B-1, Reference Numbers 3 and 4.	150 g		Cool all samples to ≤ 6°C, but not frozen, immediately after collection.	14 days
		Samples with MS/MSD	Two 8 oz short, wide mouth, straight-sided, glass jars, 70 mm neck finish or four 4 oz tall, wide mouth, straight-sided, glass jar, 48 mm neck finish. See Table B-1, Reference Numbers 3 and 4.	300 g			

Notes

1 Minimum volume/mass to be collected in order to ensure sample analysis can be performed.

2 This technical holding time is calculated from the time of sample collection to sample extraction. Sample extracts are to be analyzed within 40 days of extraction. It is recommended that samplers ship samples to the laboratory on the same day that they are collected, or as soon as possible thereafter.

3 An aqueous sample for SVOA analysis would require the field sampler to collect at least 2 L of field samples and at least 2 L each for the MS and MSD samples for a total volume of 6 L. If Pesticide or Aroclor MS/MSD analyses are required for the same sample, an additional 6 L must be collected for each analysis method. Collect additional volume for MS/MSD samples to allow for sufficient volume for these analyses in the event sample volume is lost as a result of samples breaking, leaking, or laboratory accidents.

4 If one or two extractable analyses are required for soil/sediment, only a single 8 oz. jar is required. If three extractable analyses are required, two 8 oz. jars are required. The number of jars should be doubled if MS/MSD is required.

5 Samplers must test for chlorine in aqueous samples in the field upon collection. Refer to the SAP and Appendix E for guidance.

Table C-3. Sample Collection Requirements for CLP SOW ISM02.X

Analysis	Matrix	Sample Type	Container Type	Minimum Volume/ Mass[1]	Important Notes	Preservative/ Collection[2]	Technical Holding Time[3]
Metals/ICP-AES, Metals/ICP-MS, and/or Mercury by CVAA	Water	Samples Only	1 L high density polyethylene, cylinder-round bottle, 28 mm neck finish. See Table B-1, Reference Number 2.	1L	DO NOT FREEZE water samples.	Acidify to pH < 2 with HNO_3 immediately after collection.[4]	6 months for all metals except Mercury (28 days)
		Samples with MS/Duplicate		2L			
	Soil/ Sediment[5]	Samples Only	One 8 oz short, wide mouth, straight-sided, glass jar, 70 mm neck finish. See Table B-1, Reference Number 3.	Fill to capacity		Cool to ≤ 6°C, but not frozen, immediately after collection.	6 months
		Samples for TCLP/SPLP					
		Samples with MS/Duplicate					
Metals/ICP-AES[6]	Wipe	Samples Only	1 qt polymer zip-top bag. See Table B-1, Reference Number 7.	N/A		Store at room temperature.	6 months
Cyanide/ Spectrophotometric Determination	Water	Samples Only	1 L high density polyethylene, cylinder-round bottle, 28 mm neck finish. See Table B-1, Reference Number 2.	1L	DO NOT FREEZE water samples.	To neutralize residual chlorine, add 0.6 g ascorbic acid for each liter of sample collected, immediately upon collection.[7] Add NaOH until pH > 10 and cool to ≤ 6°C, but not frozen, immediately after collection.	14 days
		Sample with MS/Duplicate		2L			
	Soil/ Sediment[5]	Samples Only	One 8 oz short, wide mouth, straight-sided, glass jar, 70 mm neck finish. See Table B-1, Reference Number 3.	Fill to capacity		Cool to ≤ 6°C, but not frozen, immediately after collection.	14 days
		Samples for SPLP					
		Samples with MS/Duplicate					

Notes

1 Minimum volume/mass to be collected in order to ensure sample analysis can be performed.

2 Check Regional guidance regarding use of acid as a preservative of samples that may contain carbonates, residual chlorine, and other oxidants.

3 This technical holding time is calculated from the time of sample collection to sample extraction. Sample extracts are to be analyzed within 40 days of extraction.

4 Water samples collected for total metal and filtered metal analyses from the same sampling location must be assigned separate (unique) CLP Sample Numbers.

5 Only one 8 oz. jar is needed for soil/sediment when all metals (including mercury) and cyanide analyses are required for soil/sediment samples. Collect more than one jar when TCLP or SPLP are scheduled.

6 Wipe materials have varied from laboratory tissues (e.g., Kimwipes®) to pre-moistened "baby wipes" from the nearest store.

7 Samplers must test for sulfide and oxidizing agents (e.g., chlorine) in aqueous samples in the field upon collection. Refer to the SAP and Appendix E for guidance. Sulfides adversely affect the analytical procedure. The following can be done to test for and neutralize sulfides. Place a drop of the sample on lead acetate test paper to detect the presence of sulfides. If sulfides are present, treat 25 mL more of the sample than that required for the cyanide determination with powdered cadmium carbonate or lead carbonate. Yellow cadmium sulfide or black lead sulfide precipitates if the sample contains sulfide. Repeat this operation until a drop of the treated sample solution does not darken the lead acetate test paper. Filter the solution through a dry filter paper into a dry beaker, and from the filtrate measure the sample to be used for analysis. Avoid a large excess of cadmium carbonate and a long contact time in order to minimize a loss by complication or occlusion of cyanide on the precipitated material. Sulfide removal should be performed in the field, if practical, prior to pH adjustment with NaOH.

Table C-4. Sample Collection Requirements for CLP SOW HRSM01.X [CDDs, CDFs, and CBCs]

Analysis	Matrix	Container Types	Minimum Volume/Mass[1]	Important Notes	Preservative	Technical Holding Time[2]
CDD/CDF and CBC	Water[3]	1 L amber round glass bottle, 33 mm pour-out neck finish. See Table B-1, Reference Number 5.	2L	If amber containers are not available, the samples should be protected from light.	Cool all samples to ≤ 6°C, but not frozen, immediately after collection. DO NOT FREEZE water samples. If residual chlorine is present, add 80 mg sodium thiosulfate/L of water.	1 year
	Soil/Sediment/Oil/ Ash/Biosolid	8 oz short, wide mouth, straight-sided, glass jar, 70 mm neck finish or 4 oz (120 mL) tall, wide mouth, straight-sided, glass jar, 48 mm neck finish. See Table B-1, Reference Numbers 3 and 4.	Fill to capacity		Cool all samples to ≤ 6°C, but not frozen, immediately after collection.	
	Tissue	Heavy duty aluminum foil as transport device. See Table B-1, Reference Number 8. 8 oz short, wide mouth, straight-sided, glass jar, 70 mm neck finish or 4 oz (120 mL) tall, wide mouth, straight-sided, glass jar, 48 mm neck finish. Reference Number 3 and 4 for homogenates tissue.	Fill to capacity		Cool all samples to ≤ 6°C, or freeze immediately after collection.	

Notes

[1] Minimum volume/mass to be collected in order to ensure sample analysis can be performed.

[2] This technical holding time is calculated from the time of sample collection to sample extraction. Sample extracts are to be analyzed within 40 days of extraction. It is recommended that samplers ship samples to the laboratory on the same day that they are collected, or as soon as possible thereafter.

[3] Samplers must test for chlorine in aqueous samples in the field upon collection. Refer to the SAP and Appendix E for guidance.

APPENDIX D CLP SAMPLE COLLECTION GUIDELINES FOR SOIL VOA SAMPLES BY SW-846 METHOD 5035A AND TCLP EXTRACTION – EPA SW 846 1311, SPLP EXTRACTION EPA SW 846 1312

A. Preferred Options for the Contract Laboratory Program (CLP) are Options 1, 2, 3, and 4:

This method employs sample vials that are filled and weighed in the field and never opened during the analytical process. As a result, sampling personnel should be equipped with a portable balance capable of weighing to 0.01g.

Soil samples must be placed on their sides prior to being frozen or placed on ice. Vials are place on their side so that the septum is wet on the inside, thereby preventing vapor leaks around it, in case any bubbles form. Also, in case they freeze, you want the water to expand into the flexible septum rather than breaking the vial. Dry ice or field freezers are the only options.

Option 1.

Closed-system Vials:

Container - tared or preweighed 40 mL Volatile Organic Analysis (VOA) vial containing a magnetic stir bar.

Collect 5 g of soil per vial (iced or frozen in the field). Check the pre-tared weight of the (dry) VOA vials prior to departure for the sampling event under controlled conditions. Weigh vials and soil samples to the nearest 0.01 g. This check is to ensure that the original weight was properly recorded.

Regular Samples	3 Vials - Dry (5 g soil per vial)
	1 Vial - Dry (filled with soil, no headspace)
	4 Total Vials
Regular Samples Requiring QC Analysis	9Vials - Dry (5 g soil per vial)
	3 Vial - Dry (filled with soil, no headspace)
	12 Total Vials

Option 2.

Closed-system Vials Containing Water:

Container - tared or pre-weighed 40 mL VOA vial containing a magnetic stir bar and 5 mL water.

Collect 5 g of soil per vial (iced or frozen in the field). Weigh vials and soil samples to the nearest 0.01 g.

Regular Samples	3 Vials with water added (5 g soil and 5 mL water per vial)
	1 Vial - Dry (filled with soil, no headspace)
	4 Total Vials (3 with water and 1 dry)
Regular Samples Requiring QC Analysis	9 Vials with water added (5 g soil and 5 mL water per vial)
	3 Vial - Dry (filled with soil, no headspace)
	12 Total Vials (9 with water and 3 dry)

Option 3.

Container - 5 g Samplers or equivalent and coring tool used as a transport device.

All samples should be iced or frozen in the field and bagged individually.

Regular Samples	3 Samplers (5 g soil per Sampler) 1 Vial - Dry (filled with soil, no headspace) 4 Total (3 Samplers and 1 Vial)
Regular Samples Requiring QC Analysis	9 Samplers (5 g soil per Sampler) 3 Vial - Dry (filled with soil, no headspace) 12 Total (9 Samplers and 3 Vial)

Option 4.

Closed-system Vials:

Container - tared or preweighed 40 mL VOA vial.

Collect 25 g of soil per vial (iced or frozen in the field). Check the pre-tared weight of the (dry) VOA vials prior to departure for the sampling event under controlled conditions. Weigh vials and soil samples to the nearest 0.01 g. This check is to ensure that the original weight was properly recorded.

Regular Samples	4 Vials - Dry (25 g soil per vial)

B. Options 5, 6, and 7 are NOT preferred options for the CLP:

Option 5.

Closed-system Vials:

Container - tared or preweighed 40 mL VOA vial containing a magnetic stir bar and preservative.

Collect 5 g of soil per vial and add Sodium bisulfate ($NaHSO_4$) preservative (5 mL water + 1 g $NaHSO_4$) - iced in the field.

Caution: **This option is NOT a Preferred Option for the CLP because:**

$NaHSO_4$ preservation creates low pH conditions that will cause the destruction of certain CLP target analytes (e.g., vinyl chloride, trichloroethene, trichlorofluoromethane, cis- and trans-1,3-dichloropropene). Projects requiring the quantitation of these analytes should consider alternative sample preservation methods. $NaHSO_4$ also cannot be used on carbonaceous soils. Check the soil before using this method of collection! Soil can be checked by placing a test sample in a clean vial, then adding several drops of $NaHSO_4$ solution. If the soil bubbles, use Option 5b and note this issue on the TR/COC record.

Option 5a. Samples preserved in the field

Regular Samples	3 Vials with $NaHSO_4$ preservative added (5 g soil per vial) 1 Vial - Dry (filled with soil, no headspace) 4 Total Vials (3 with $NaHSO_4$ preservative and 1 without)

Regular Samples	6 Vials with $NaHSO_4$ preservative added (5 g soil per vial)
Requiring QC Analyses	2 Vial - Dry (filled with soil, no headspace)
	8 Total Vials (6 with $NaHSO_4$ and 2 without)

Option 5b. Samples are preserved by the laboratory (No $NaHSO_4$ preservative is added to these samples in the field).

Regular Samples	3 Vials - Dry (5 g soil per vial)
	1 Vial - Dry (filled with soil, no headspace)
	4 Total Vials

Regular Samples	6 Vials - Dry (5 g soil per vial)
Requiring QC Analyses	2 Vial - Dry (filled with soil, no headspace)
	8 Total Vials

Option 6.

Methanol Preservation (medium-level analysis only):

Container - tared or pre-weighed 40 mL VOA vials containing 5 mL methanol.

Collect 5 g of soil per vial (iced in the field).

Caution: This is NOT a preferred option for the CLP because:

Samples preserved with methanol can only be analyzed by the medium-level method. Low-level Contract Required Quantitation Limit (CRQLs) cannot be achieved when samples are preserved this way. If this soil option is used, then samples for low-level analysis by one of the other options should also be collected and accompany the medium-level soil.

Additional problems associated with use of methanol as a preservative in the field include:

- Possible contamination of the methanol by sampling-related activities (e.g., absorption of diesel fumes from sampling equipment);
- Leakage of methanol from the sample vials during shipping, resulting in loss of VOAs prior to analysis.

Regular Samples	2 Vials (5 g soil and 5 mL methanol per vial)
	1 Vial - Dry (filled with soil, no headspace)
	3 Total Vials (1 with methanol and 1 dry)

Regular Samples	6 Vials (5 g soil and 5 mL methanol per vial)
Requiring QC Analyses	1 Vial -Dry (filled with soil, no headspace)
	7 Total Vials (6 with methanol and 1 dry)

If shipping samples contain methanol as a preservative, a shipping label must be used to indicate methanol. This label must also contain the United Nations (UN) identification number for methanol (UN 1230), and indicate Limited Quantity. Refer to http://www.phmsa.dot.gov for more information about the safe shipping of methanol.

Option 7.

Glass Containers filled with sample - No Headspace:

Container - 4 oz Glass Jars.

Glass container filled with soil with no headspace and iced.

Caution: This is NOT a preferred option for the CLP because:

Samples collected in this manner lose most of their volatile analytes prior to analysis when the sample containers are opened and sub-sampled in the laboratory. This option is only available due to Regional requirements.

Regular Samples	2 Glass Jars (4 oz) filled with sample, no headspace 1 Vial - Dry (filled with soil, no headspace) 3 Total Containers
Regular Samples Requiring QC Analyses	2 Glass Jars (4 oz) filled with sample, no headspace 1 Vial - Dry (filled with soil, no headspace) 3 Total Containers

C. Caution:

1. Extreme care must be taken to ensure that frozen or iced samples do not break during shipment.
2. Before adding soil to pre-weighed vials containing a stir bar, weigh the vials to confirm the tared weight. If the weight varies by more than 0.1 g, record the new weight on the label and the sample documentation. Do NOT add labels to these vials once the tared weight has been determined or confirmed.

D. Dry Samples:

All options include taking a sample in a dry 40 mL VOA vial (or a 4 oz wide mouth jar) with no headspace. No water, $NaHSO_4$, or methanol is added to this sample. This sample is taken to determine moisture content; therefore, it does not need to be tared or have a stir bar.

E. Iced or Frozen Samples:

1. Iced means cooled to ≤6°C, but not frozen, immediately after collection.
2. Frozen means cooled to ≤ -7°C immediately after collection.
3. Dry ice is not a long-term freezing agent and may contaminate samples.

F. Sample Delivery:

CLP strongly recommends that all samples reach the laboratory by COB the next day after sample collection.

G. Notes:

1. For Options 2, 5, and 6, check the weight of the pre-tared VOA vials plus liquid in the field due to the possibility that liquid leaked out during packing, transit, or deployment in the field just prior to sampling. This check is to ensure that the original weight is properly recorded.
2. For Option 5, samples can be preserved with $NaHSO_4$ either:
   - In the field; or
   - In the laboratory upon receipt. In this case, the sampler should put the following information in the Preservation Column of the TR/COC record - "To be preserved at lab with $NaHSO_4$." This Regional request should also be communicated to SMO so that the laboratory can be notified.
3. Regional QAPPs may require the use of Option 6. Note that this option is for medium-level analysis ONLY.
4. If water, methanol, or $NaHSO_4$ preservative is added to the vials in the field, a field blank containing the appropriate liquid used in the vials should be sent to the laboratory for analysis.

APPENDIX E GENERAL CLP SAMPLE COLLECTION GUIDELINES VOAs IN WATER

Regional guidance and/or specific Project Plan requirements will supersede the guidelines listed below.

Collect the following:

- At least three 40 mL glass containers with polytetrafluoroethylene (PTFE)-lined septa and open top screw-caps that are filled to capacity with no air bubbles, preserved to a pH of 2 with HCl, and cooled to ≤6°C, but not frozen, immediately after collection. DO NOT FREEZE THE SAMPLES.

Regular Samples	3 vials (40 ml filled to capacity with no headspace or air bubbles)
Regular Samples Requiring QC Analysis	3 vials for Sample (40 ml filled to capacity with no headspace or air bubbles) 1 vials for MS (40 ml filled to capacity with no headspace or air bubbles) 1 vials for MSD (40 ml filled to capacity with no headspace or air bubbles)

- If Selected Ion Monitoring (SIM) analysis is requested, at least two additional 40 mL glass containers with PTFE-lined septa and open top screw-caps that are filled to capacity with no air bubbles, preserved to a pH of 2 with HCl, and cooled to ≤6°C, but not frozen, immediately after collection.

Regular Samples With SIM Analysis	3 vials for Sample (40 ml filled to capacity with no headspace or air bubbles) 2 vials (40 ml filled to capacity with no headspace or air bubbles)

Volatile Organic Analysis (VOA) Selected Ion Monitoring (SIM) analysis is only available through Modified Analysis (MA).

Test for Carbonates, Residual Chlorine, Oxidants, and Sulfides:

- It is very important that samplers obtain Regional guidance when testing and ameliorating for:
  - Carbonates;
  - Residual chlorine (e.g., municipal waters or industrial waste waters that are treated with chlorine prior to use or discharge); or
  - Oxidants.
- VOA samples containing carbonates react with the acid preservative causing effervescence (due to formation of carbon dioxide), which can cause loss of volatile analytes.
- Residual chlorine present in VOA samples can continue to react with dissolved organic matter. This continuous reaction may lead to inaccurate quantitation of certain analytes present in the sample at the time of collection.
- Residual chlorine and oxidants present in VOA samples can cause degradation of certain volatile analytes (e.g., styrene).

Perform the following for *Pre-Preserved* Vials:

1. Pour the sample slowly down the edge of the sample vial to avoid excess aeration or agitation of the sample during filling.
2. Fill the vial completely so that a reverse (convex) meniscus is present and ensure that there are no air bubbles present (either in the body or especially at the top of the vial).

3. Place the septum on the vial so that the PTFE side is in contact with the sample, and then firmly tighten the cap.
4. Gently flip the vial a few times to ensure that the sample is mixed with the acid preservative.
5. While holding the vial upright, gently tap the sample to check for air bubbles (either in the body or especially at the top of the vial).
6. If air bubbles are present, discard the sample and select a new vial in which to recollect a new sample. Repeat Steps 1 to 5 above.
7. Do NOT mix or composite samples for VOAs.
8. Cool sample to a temperature of ≤ 6°C, but not frozen. Samplers should begin the cooling process in the field as samples are being collected. Double-bagged ice should be used. DO NOT FREEZE WATER SAMPLES.
9. Immediately transfer the vial to the sample shuttle (device that contains a "set" of VOA vials) once it has been collected. Do NOT allow ice to touch the vials.

Perform the Following for *Empty* Vials:

1. Rinse the vial with sample water prior to actual sample collection and preservation.

Regions vary in their approach to pre-rinsing and/or re-using sample vials (e.g., some Regions do not recommend pre-rinsing and/or re-use of pre-cleaned containers using sample water). Be sure to follow Regional guidance.

2. Add 1-2 mL of acid preservative to the vial. Check to ensure that the sample you are collecting requires a preservative (follow Regional guidance).
3. Pour the sample slowly down the edge of the sample vial to avoid excess aeration and agitation of the sample.
4. Fill the vial completely so that a reverse (convex) meniscus is present and ensure that there are no air bubbles present (either in the body or especially at the top of the vial).
5. Place the septum on the vial so that the PTFE side is in contact with the sample, and then firmly tighten the cap.
6. Gently flip the vial a few times to ensure that the sample is mixed with the acid preservative.
7. While holding the vial upright, gently tap the vial to check for air bubbles (either in the body or especially at the top of the vial).
8. If air bubbles are present, discard the sample and recollect a new sample using the same sample vial. Repeat Steps 1 - 7 above.
9. Check the re-collected sample for air bubbles. If air bubbles are present, additional sample water may be added to the vial to eliminate air bubbles. If there are air bubbles after three consecutive attempts to eliminate air bubbles by the addition of sample water, the entire sample and sample vial should be discarded and a new sample collected.
10. Do NOT mix or composite samples for VOAs.
11. Cool sample to a temperature of ≤ 6°C, but not frozen. Samplers should begin the cooling process in the field as samples are being collected. Double-bagged ice should be used. DO NOT FREEZE WATER SAMPLES.
12. Immediately transfer the vial to the sample shuttle (device which contains a "set" of VOA vials) once it has been collected. Do NOT allow ice to touch the vials.

Things to Remember:

- Samples must be shipped as soon as possible, preferably on the same day as sample collection to avoid exceeding sample holding times. If overnight transit is not possible, samples should be maintained at ≤ 6°C, but not frozen, until they are shipped to the laboratory.
- If samples are not preserved (a requirement for certain analytes), the technical holding time is shortened to 7 days.

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APPENDIX F SAMPLING TECHNIQUES AND CONSIDERATIONS

During a sampling event, the sampler is expected to follow prescribed sampling techniques. The sampler should also be aware of any special sampling considerations, contaminant issues, and sample compositing and mixing methods that could affect their sampling efforts.

Regional guidance will take precedence over any of the techniques and considerations listed below.

F.1 General Sampling Techniques

Information regarding surface water, sediment, soil, and groundwater sampling can be found in many documents including, but not limited to, the following sources:

- *Compendium of ERT Surface Water and Sediment Sampling Procedures*, EPA/540/P-91/005
- *Compendium of ERT Soil Sampling and Surface Geophysics Procedures*, EPA/540/P-91/006
- *Compendium of ERT Groundwater Sampling Procedures*, EPA/540/P-91/007
- *The Roles of Project Managers and Laboratories in Maintaining the Representativeness of Incremental and Composite Soil Samples*, EPA/OSWER 9200.1-117FS
- *Lead in Surface Wipe Samples*, NIOSH Method 9100, August 15, 1994
- *Elements on Wipes*, NIOSH Method 9102, March 15, 2003
- *Surface Wipe Sampling Procedure*, IH75190, Brookhaven National Laboratory, Industrial Hygiene Group, May 10, 2011
- Quality Assurance Sampling Plan for Environmental Response (QASPER) software, Version 4.1

When working with potentially hazardous materials, samplers should follow United States Environmental Protection Agency (EPA) and Occupational Health and Safety Administration (OSHA) requirements, specific health and safety procedures, and Department of Transportation (DOT) requirements.

F.2 Special Sampling Considerations

Samplers should refer to Regionally-developed standard operating procedures (SOPs) to obtain specific procedures for properly collecting and preserving samples in the field. For additional guidance regarding sampling for Volatile Organic Analyses (VOAs) in soil and water, see Appendixes D and E. Samplers should obtain Regional guidance when testing and ameliorating for:

- Carbonates in VOA soil and water
- Residual chlorine in VOA soil and water, or cyanide water
- Oxidants in VOA soil and water
- Sulfides and oxidizing agents in cyanide

F.3 Contaminant Sampling

Certain compounds can be detected in the parts-per-billion (ppb) and/or parts-per-trillion (ppt) range. Extreme care MUST be taken to prevent cross-contamination of these samples. The following precautions should be taken when trace contaminants are a concern:

- Disposable gloves should be worn each time a different location is sampled.

- When collecting both surface water and sediments, surface water samples should be collected first. This reduces the chance of sediment dispersal into surface water, and the resulting loss of surface water sample integrity.
- Sampling should occur in a progression from the least to the most contaminated area, if this information is known to the sampling team.
- Samplers should use equipment constructed of polytetrafluoroethylene (PTFE), stainless steel, or glass that has been properly pre-cleaned for the collection of samples for trace organic and/or inorganic analyses. Equipment constructed of plastic or polyvinyl chloride (PVC) should NOT be used to collect samples for trace organic compound analyses.
- Equipment constructed of stainless steel should NOT be used to collect samples for trace metals analyses.

F.4 Sample Compositing

Sample compositing is a site-specific activity that must be conducted according to the Site Activity Plan (SAP). Compositing is typically used for large sites under investigation to improve the precision (i.e., lower the variance) of the estimated average contaminant concentrations. **Samples for VOA analysis should NOT be composited to minimize loss of VOAs/analytes.**

Composite samples consist of a series of discrete grab samples that are mixed together to characterize the average composition of a given material. The discrete samples are usually of equal volume, but may be weighted to reflect an increased flow or volume. Regardless, all discrete samples must be collected in an identical manner and the number of grab samples forming a composite should be consistent. There are several compositing techniques that may be required such as:

- Flow-proportioned - Collected proportional to the flow rate during the compositing period by either a time-varying/constant volume or a time-constant/varying volume method. This technique is usually associated with wastewater or storm water runoff sampling.
- Time - Composed of a varying number of discrete samples collected at equal time intervals during the compositing period. This technique is typically used to sample wastewater and streams, and in some air sampling applications.
- Areal - Collected from individual grab samples collected in an area or on a cross-sectional basis. Areal composites are comprised of equal volumes of grab samples where all grabs are collected in an identical manner. This technique is typically used for estimating average contaminant concentrations in soils or sediments. This technique is useful when contaminants are present in nugget form (i.e., TNT chunks, lead shot, etc.), thus exhibiting large differences in concentration over a small sample area.
- Vertical - Collected from individual grab samples but taken from a vertical cross section. Vertical composites are comprised of equal volumes of grab samples where all grab samples are collected in an identical manner. Examples would include vertical profiles of a soil borehole or sediment columns.
- Volume - Collected from discrete samples whose aliquot volumes are proportional to the volume of sampled material. Volume composites are usually associated with hazardous waste bulking operations where the sample represents combined or bulked waste.

When compositing solid or tissue samples (i.e., sediment, soil, or sludge) for analysis of compounds present in trace quantities, use a stainless steel or PTFE bowl and spatula.

F.5 Sample Mixing and Homogenizing

Mixing of the sample for the remaining parameters is necessary to create a representative sample media. It is extremely important that solid samples be mixed as thoroughly as possible to ensure that the sample is as representative as possible of the sample location. Refer to the project-specific SAP regarding instructions on removal of any extraneous materials (e.g., leaves, sticks, rocks, etc.). The mixing technique will depend on the physical characteristics of the solid material (e.g., particle size, moisture content, etc.). (Grinding and homogenization of tissue is easier when it is partially

frozen.) The mixing container should be large enough to hold the sample volume and accommodate the procedures without spilling. Both the mixing container (generally a bowl or tray) and the mixing implement should be properly decontaminated before use. Samples should be homogenized according to procedures listed in the project-specific SAP. Table F-1 provides a short procedure for mixing a soil sample with a small particle size (less than 1/4 in) and filling sample containers in the field.

Table F-1. Mixing a Sample and Filling Sample Containers

Step	Action
1	Roll the contents of the compositing container to the middle of the container and mix.
2	Quarter the sample and move to the sides of the container.
3	Mix each quarter individually, then combine and mix OPPOSITE quarters, then roll to the middle of the container.
4	Mix the sample once more, and then quarter the sample again.
5	Mix each quarter individually, then combine and mix ADJACENT corners, then roll to the middle of the container. The goal is to achieve a consistent physical appearance before sample containers are filled.
6	Flatten piled material into an oblong shape.
7	Using a flat-bottomed scoop, collect a strip of soil across the entire width of the short axis and place it into a sample container.
8	Repeat Step 7 at evenly-spaced intervals until the sample containers are filled.
9	Record the approximate quantity of each subsample in the field log book.

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APPENDIX G INTERNATIONAL SHIPPING

The following section provides information on shipping Contract Laboratory Program (CLP) samples to laboratories outside the United States.

G.1 United Parcel Service (UPS) Procedure for Shipping to Canada

1. Introduction

The Standard Operating Plan (SOP) defines the responsibilities and procedures for shipping to Canada labs. This document covers the export shipping process.

2. Overview

UPS will provide pick-up and delivery service for small package (weighing less than 150 lbs. each) shipments to labs in Canada. This document outlines the requirements and processes with regards to these export shipments.

3. Contact Information

UPS Strategic Support for Government Accounts	1.800.877.1497/ www.strategicsupport.com
UPS International Customer Service	1.800.782.7892/ www.ups.com/international
Shelly O'Leary, UPS Account Manager for EPA	404.402.9827/ shellyoleary@ups.com

4. Product Profile

Service Level – Under WWX5, EPA receives government pricing for shipments via UPS *Worldwide Express Saver* service. This service provides guaranteed delivery within 1 – 3 business days, by end of day, to Canada. The maximum weight per package is 150 lbs. (70 kg.), maximum length is 108 in. (270 cm.) per package and the maximum dimensions are 165.0 in. (419.10 cm) per package, length and girth combined.

5. Commercial Invoice

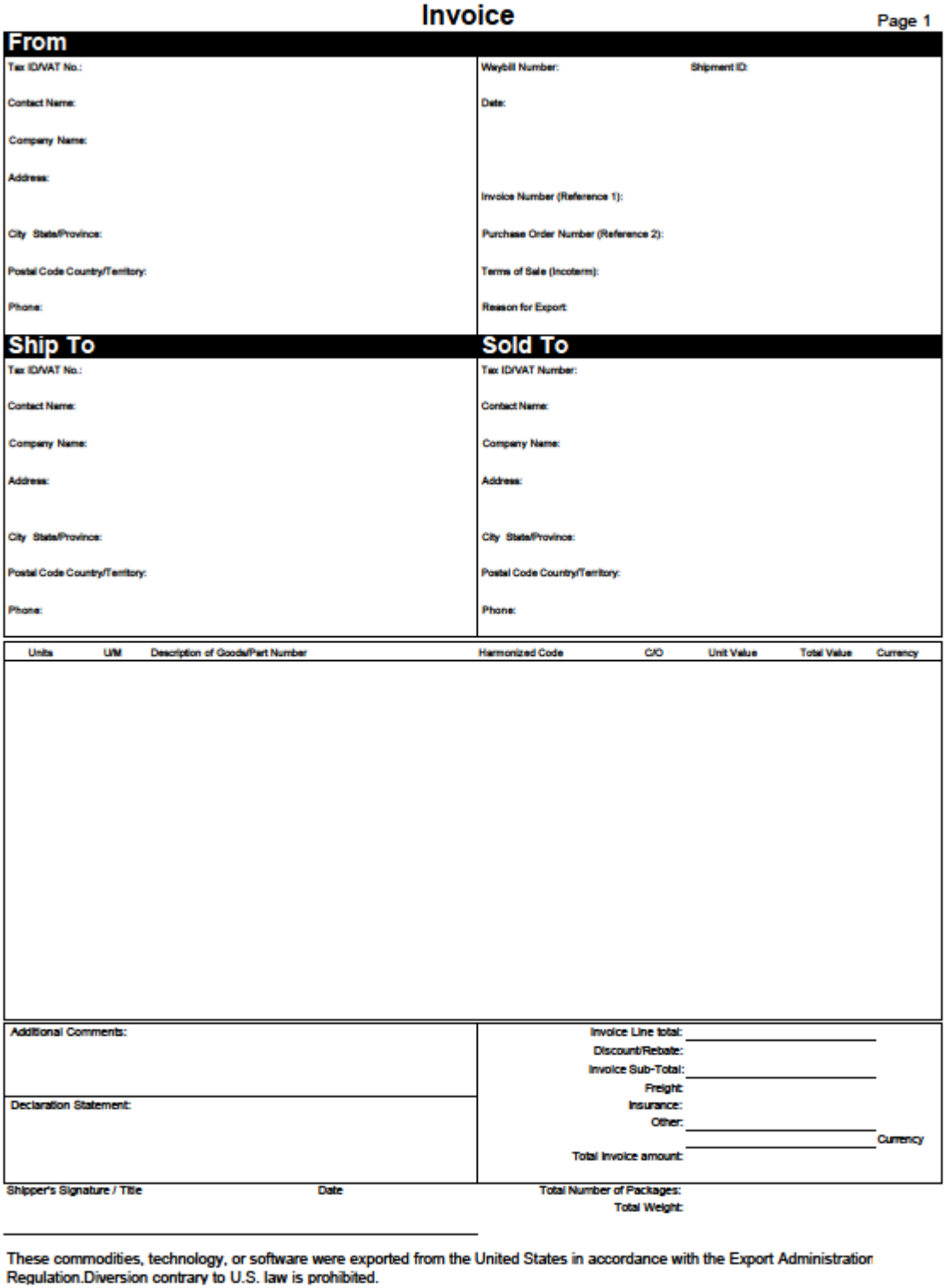
A commercial invoice form is used for all shipments containing non-documents. The commercial invoice is the primary document used for importation control, valuation, and duty determination. This document identifies the products being shipped.

The form should include:

- Complete name and address information for both shipper and consignee
- **Phone numbers** for both shipper and consignee
- Terms of Sale (Incoterm)
- Reason for export
- A complete description of the item
- What is the item?
- What is the item used for?
- Harmonized Tariff Codes, if known
- Country of origin (where manufactured) for each commodity
- Number of units, unit value, and total value (purchase price) of each item
- Number of packages and total weight
- Shipper's signature and date

- A nominal or fair market value must be stated for items of no commercial value

Commercial Invoice Template –



Invoice

Page 1

From

Tax ID/VAT No.:
Contact Name:
Company Name:
Address:
City State/Province:
Postal Code Country/Territory:
Phone:

Waybill Number: Shipment ID:
Date:
Invoice Number (Reference 1):
Purchase Order Number (Reference 2):
Terms of Sale (Incoterm):
Reason for Export:

Ship To

Tax ID/VAT No.:
Contact Name:
Company Name:
Address:
City State/Province:
Postal Code Country/Territory:
Phone:

Sold To

Tax ID/VAT Number:
Contact Name:
Company Name:
Address:
City State/Province:
Postal Code Country/Territory:
Phone:

Units	U/M	Description of Goods/Part Number	Harmonized Code	C/O	Unit Value	Total Value	Currency

Additional Comments:

Declaration Statement:

Invoice Line total:
Discount/Rebate:
Invoice Sub-Total:
Freight:
Insurance:
Other:
Currency
Total Invoice amount:

Shipper's Signature / Title Date

Total Number of Packages:
Total Weight:

These commodities, technology, or software were exported from the United States in accordance with the Export Administration Regulation.Diversion contrary to U.S. law is prohibited.

Figure G-1. Commercial Invoice Template

6. Packing with Coolants and Refrigerants (Dry Ice)

Coolants and refrigerants are used to keep temperature-sensitive products cold or frozen while in transit. Dry ice (frozen carbon dioxide) and gel packs are the most common types of coolant / refrigerants used for transportation.

International Air Shipments Containing Dry Ice

International **Air** shipments containing dry ice require the shipper to have a UPS International Special Commodities contract. For more information, please contact the UPS Hazardous Materials Support Center at 1-800-554-9964, or visit our online UPS Guide for Shipping International Dangerous Goods.

View UPS Guide for Shipping International Dangerous Goods

International Dry Ice Packages Shipped via Air Service Require the Following Under IATA:

- Process through WorldShip 2008 version 10.0 (or higher), CampusShip or compliant software
- An acceptance audit is performed
- Mark the outer carton with:
  - The words "Dry Ice" of "Carbon Dioxide, Solid" and "UN1845"
  - The amount of dry ice contained in the package in KG
  - Class 9 Diamond label

Requirements for Preparing Your Dry Ice Shipments:

- Fill any empty space in your package with appropriate packing material to prevent product movement in transit.
- Wrap temperature-sensitive products in two watertight plastic bags or use absorbent material along with a plastic liner.
- Avoid shipping temperature-sensitive products over the weekend.
- Wrap the refrigerant in paper or another carton to slow the melting rate and prevent excess space when using dry ice.
- Do not place the refrigerant at the bottom of the package because cold air will not circulate.
- Do not seal the inner insulated container when using dry ice. Venting is required to allow some carbon dioxide gas to escape the package.

* UPS CampusShip is a web-based, UPS-hosted shipping solution that helps to increase efficiency and reduce costs. See QuickStart Guide, July 2010, links following below.

7. Additional Information

Common items that may be hazardous and require the shipper to have a UPS International Special Commodities contract. For more information, please contact the UPS Hazardous Materials Support Center at 1-800-554-9964, or visit our online UPS Guide for Shipping International Dangerous Goods.

Descriptions that Indicate Dangerous Goods – watch for any of the following descriptions that could indicate Dangerous Goods or Hazardous Materials:

- Acidic
- Caustic
- Combustible Communicable
- Compressed Gas
- Corrosive
- Explosive
- Flammable
- Infectious
- Inflammable
- Poison
- Radioactive
- Refrigerated

- Toxic
- Volatile

Note: This is only a sampling of trigger terms which should prompt further questions about a shipment. There are many more, and it is hoped that seeing these will lead you to think about other general terms that may warrant further investigation.

8. Tools and Resources

UPS Global - http://global.ups.com/international-shipping-cost/

Access UPS Global website to get up-to-date information on everything international, including information on how to prepare an international shipment, track your package, import/export country regulations and international forms.

How to Process International Package using UPS CampusShip

http://www.ups.com/media/en/CampusShip_admin_QuickStart_Guide.pdf
http://www.ups.com/media/en/CampusShip_shipping_QuickStart_Guide.pdf

Step-by-Step Instructions for International Shipping

Step 1. Verify That Your Commodity Can Be Shipped

Determine if service restrictions apply to either your country of origin or country of destination.

Check for Embargoed/Suspended Service

Verify that your commodity can be shipped to or from the United States and a specific country.

Check List of UPS Export Prohibited Articles

Step 2. Select an International Service If price and time are your primary considerations in selecting an international service, use the Service Comparison tool on UPS CampusShip to find the guaranteed delivery time and price of every service available to and from the United States and a specific country.

Step 3. Choose an International Billing Option

UPS international billing options give you the flexibility to bill charges in a way that best suits your business model. Whichever option you select, you can be assured that UPS will accurately bill your international charges.

Learn More About International Billing Options

Step 4. Create Required Documentation

Find out what export documentation is required for your shipments and how to complete each form.

Learn How to Create Documentation

Step 5. Prepare Your Shipment

Use the following resources to learn more about preparing your shipment.

Learn How to Prepare Your International Shipment
Learn What Packing Materials to Use for Your International Shipment
Identify Specific Weight and Size Limitations
Convert the Weight, Length, Area, and Volume of Your Shipment

Decide whether to declare a value for high value items. UPS's liability is limited to US$100.00 for loss or damage on domestic or international packages with no declared value. If the value of your goods exceeds US$100.00, you can declare a higher value, up to US$50,000.00 per package. For packages that exceed the maximum declared value, a waiver must be obtained. Refer to the applicable terms and conditions of service for additional limits and restrictions.

Learn More About Declared Value

Step 6. Ship Your Package

Use UPS CampusShip or Internet Shipping on ups.com to prepare your international shipping label and the international forms required for certain shipments.

Step 7. Get Your Shipment to UPS

If you don't have an automatic scheduled pickup, UPS On-Call Pickup® gives you the convenience of having shipments picked up at your location. With one pickup request, UPS will pick up all ground, air, and international shipments. UPS On-Call Pickup can be scheduled at ups.com or by calling 1-800-PICK-UPS®. A pickup may be scheduled for the same day or a future day. Or you can conveniently ship your UPS package at one of our thousands of locations including The UPS Store® and UPS Drop Boxes.

Find Locations

Step 8. Check Your Shipment Status

Since every UPS package is assigned a unique tracking number, you can access information about your shipments whenever you like, and as often as you like. Tracking information about your shipments is always available at ups.com, by e-mail, and through optional services.

Track Your Shipment
Learn About More Ways to Track

G.2 Completed Customs Forms Example

Shipping samples to an international laboratory requires the completion of a customs form. The following is an example of a correctly completed customs form for shipment to a laboratory in Canada.

DEPARTMENT OF HOMELAND SECURITY
U.S. Customs and Border Protection

OMB No. 1651-0098
Exp. 08-31-2014

NORTH AMERICAN FREE TRADE AGREEMENT
CERTIFICATE OF ORIGIN

19 CFR 181.11, 181.22 Bill of Lading / Air Waybill No: A99F99VKR9L

1. EXPORTER NAME AND ADDRESS	2. BLANKET PERIOD
US EPA 980 COLLEGE STATION RD ATHENS, GA 30605 United States TAX IDENTIFICATION NUMBER: 11-1111111	FROM 12/MAY/2014 TO 13/MAY/2014
3. PRODUCER NAME AND ADDRESS	**4. IMPORTER NAME AND ADDRESS**
XYZ Laboratory 530 St. Clair Ave W TORONTO, ON M6C0A2 Canada TAX IDENTIFICATION NUMBER: 99-9999999	XYZ Laboratory 530 St. Clair Ave W TORONTO, ON M6C0A2 Canada TAX IDENTIFICATION NUMBER: 99-9999999

5. DESCRIPTION OF GOOD(S)	6. HS TARIFF CLASSIFICATION NUMBER	7. PREFERENCE CRITERION	8. PRODUCER	9. NET COST	10. COUNTRY OF ORIGIN
Infiltrex Water Sampler Stainless Steel Columns w 250g XAD resin (adsorbent)Scientific Testing Only	HS Code 9015.90	A	NO(1)	NO	CA
Wound Glass fiber filter catridges with samples for Scientific Testing Only. Not for resale, no com value	HS Code 9015.90	A	NO(1)	NO	CA

I CERTIFY THAT:

- THE INFORMATION ON THIS DOCUMENT IS TRUE AND ACCURATE AND I ASSUME THE RESPONSIBILITY FOR PROVIDING SUCH REPRESENTATIONS. I UNDERSTAND THAT I AM LIABLE FOR ANY FALSE STATEMENTS OR MATERIAL OMISSIONS MADE ON OR IN CONNECTION WITH THIS DOCUMENT;
- I AGREE TO MAINTAIN AND PRESENT UPON REQUEST, DOCUMENTATION NECESSARY TO SUPPORT THIS CERTIFICATE, AND TO INFORM, IN WRITING, ALL PERSONS TO WHOM THE CERTIFICATE WAS GIVEN OF ANY CHANGES THAT COULD AFFECT THE ACCURACY OR VALIDITY OF THIS CERTIFICATE;
- THE GOODS ORIGINATED IN THE TERRITORY OF ONE OR MORE OF THE PARTIES, AND COMPLY WITH THE ORIGIN REQUIREMENTS SPECIFIED FOR THOSE GOODS IN THE NORTH AMERICAN FREE TRADE AGREEMENT AND UNLESS SPECIFICALLY EXEMPTED IN ARTICLE 411 OR ANNEX 401, THERE HAS BEEN NO FURTHER PRODUCTION OR ANY OTHER OPERATION OUTSIDE THE TERRITORIES OF THE PARTIES; AND
- THIS CERTIFICATE CONSISTS OF 2 PAGES, INCLUDING ALL ATTACHMENTS.

11.	11a. AUTHORIZED SIGNATURE		11b. COMPANY	
	11c. NAME		11d. TITLE	
	11e. DATE	11f. TELEPHONE NUMBER ▶	*(Voice)*	*(Facsimile)*

CBP Form 434 (04/11)

Figure G-2. International Shipping Form (1 of 6)

PAPERWORK REDUCTION ACT STATEMENT: An agency may not conduct or sponsor an information collection and a person is not required to respond to this information unless it displays a current valid OMB control number and an expiration date. The control number for this collection is 1651-0098. The estimated average time to complete this application is 15 minutes. If you have any comments regarding the burden estimate you can write to U.S. Customs and Border Protection, Office of Regulations and Rulings, 799 9th Street, NW., Washington DC 20229.

NORTH AMERICAN FREE TRADE AGREEMENT CERTIFICATE OF ORIGIN INSTRUCTIONS

For purposes of obtaining preferential tariff treatment, this document must be completed legibly and in full by the exporter and be in the possession of the importer at the time the declaration is made. This document may also be completed voluntarily by the producer for use by the exporter. Please print or type:

FIELD 1: State the full legal name, address (including country) and legal tax identification number of the exporter. Legal taxation number is: in Canada, employer number or importer/exporter number assigned by Revenue Canada; in Mexico, federal taxpayer's registry number (RFC); and in the United States, employer's identification number or Social Security Number.

FIELD 2: Complete field if the Certificate covers multiple shipments of identical goods as described in Field #5 that are imported into a NAFTA country for a specified period of up to one year (the blanket period). "FROM" is the date upon which Certificate becomes applicable to the good covered by the blanket Certificate (it may be prior to the date of signing this Certificate). "TO" is the date upon which the blanket period expires. The importation of a good for which preferential treatment is claimed based on this Certificate must occur between these dates.

FIELD 3: State the full legal name, address (including country) and legal tax identification number, as defined in Field #1, of the producer. If more than one producer's good is included on the Certificate, attach a list of additional producers, including the legal name, address (including country) and legal tax identification number, cross-referenced to the good described in Field #5. If you wish this information to be confidential, it is acceptable to state "Available to CBP upon request". If the producer and the exporter are the same, complete field with "SAME". If the producer is unknown, it is acceptable to state "UNKNOWN".

FIELD 4: State the full legal name, address (including country) and legal tax identification number, as defined in Field #1, of the importer. If the importer is not known, state "UNKNOWN"; if multiple importers, state "VARIOUS".

FIELD 5: Provide a full description of each good. The description should be sufficient to relate it to the invoice description and to the Harmonized System (H.S.) description of the good. If the Certificate covers a single shipment of a good, include the invoice number as shown on the commercial invoice. If not known, indicate another unique reference number, such as the shipping order number.

FIELD 6: For each good described in Field #5, identify the H.S. tariff classification to six digits. If the good is subject to a specific rule of origin in Annex 401 that requires eight digits, identify to eight digits, using the H.S. tariff classification of the country into whose territory the good is imported.

FIELD 7: For each good described in Field #5, state which criterion (A through F) is applicable. The rules of origin are contained in Chapter Four and Annex 401. Additional rules are described in Annex 703.2 (certain agricultural goods), Annex 300-B, Appendix 6 (certain textile goods) and Annex 308.1 (certain automatic data processing goods and their parts). NOTE: In order to be entitled to preferential tariff treatment, each good must meet at least one of the criteria below.

Preference Criteria

A The good is "wholly obtained or produced entirely" in the territory of one or more of the NAFTA countries as referenced in Article 415. Note: The purchase of a good in the territory does not necessarily render it "wholly obtained or produced". If the good is an agricultural good, see also criterion F and Annex 703.2. *(Reference: Article 401(a) and 415)*

B The good is produced entirely in the territory of one or more of the NAFTA countries and satisfies the specific rule of origin, set out in Annex 401, that applies to its tariff classification. The rule may include a tariff classification change, regional value-content requirement, or a combination thereof. The good must also satisfy all other applicable requirements of Chapter Four. If the good is an agricultural good, see also criterion F and Annex 703.2. *(Reference: Article 401(b))*

C The good is produced entirely in the territory of one or more of the NAFTA countries exclusively from originating materials. Under this criterion, one or more of the materials may not fall within the definition of "wholly produced or obtained", as set out in article 415. All materials used in the production of the good must qualify as "originating" by meeting the rules of Article 401(a) through (d). If the good is an agricultural good, see also criterion F and Annex 703.2. *Reference: Article 401(c).*

D Goods are produced in the territory of one or more of the NAFTA countries but do not meet the applicable rule of origin, set out in Annex 401, because certain non-originating materials do not undergo the required change in tariff classification. The goods do nonetheless meet the regional value-content requirement specified in Article 401(d). This criterion is limited to the following two circumstances:

1. The good was imported into the territory of a NAFTA country in an unassembled or disassembled form but was classified as an assembled good, pursuant to H.S. General Rule of Interpretation 2(a), or
2. The good incorporated one or more non-originating materials, provided for as parts under the H.S., which could not undergo a change in tariff classification because the heading provided for both the good and its parts and was not further subdivided into subheadings, or the subheading provided for both the good and its parts and was not further subdivided.

NOTE: This criterion does not apply to Chapters 61 through 63 of H.S. (Reference: Article 401(d))

E Certain automatic data processing goods and their parts, specified in Annex 308.1, that do not originate in the territory are considered originating upon importation into the territory of a NAFTA country from the territory of another NAFTA country when the most-favored-nation tariff rate of the good conforms to the rate established in Annex 308.1 and is common to all NAFTA countries. *(Reference: Annex 308.1)*

F The good is an originating agricultural good under preference criterion A, B, or C above and is not subject to a quantitative restriction in the importing NAFTA country because it is a "qualifying good" as defined in Annex 703.2, Section A or B (please specify). A good listed in Appendix 703.2B.7 is also exempt from quantitative restrictions and is eligible for NAFTA preferential tariff treatment if it meets the definition of "qualifying good" in Section A of Annex 703.2. NOTE 1: This criterion does not apply to goods that wholly originate in Canada or the United States and are imported into either country. NOTE 2: A tariff rate quota is not a quantitative restriction.

FIELD 8: For each good described in Field #5, state "YES" if you are the producer of the good. If you are not the producer of the good, state "NO" followed by (1), (2), or (3), depending on whether this certificate was based upon: (1) your knowledge of whether the good qualifies as an originating good; (2) your reliance on the producer's written representation (other than a Certificate of Origin) that the good qualifies as an originating good; or (3) a completed and signed Certificate for the good, voluntarily provided to the exporter by the producer.

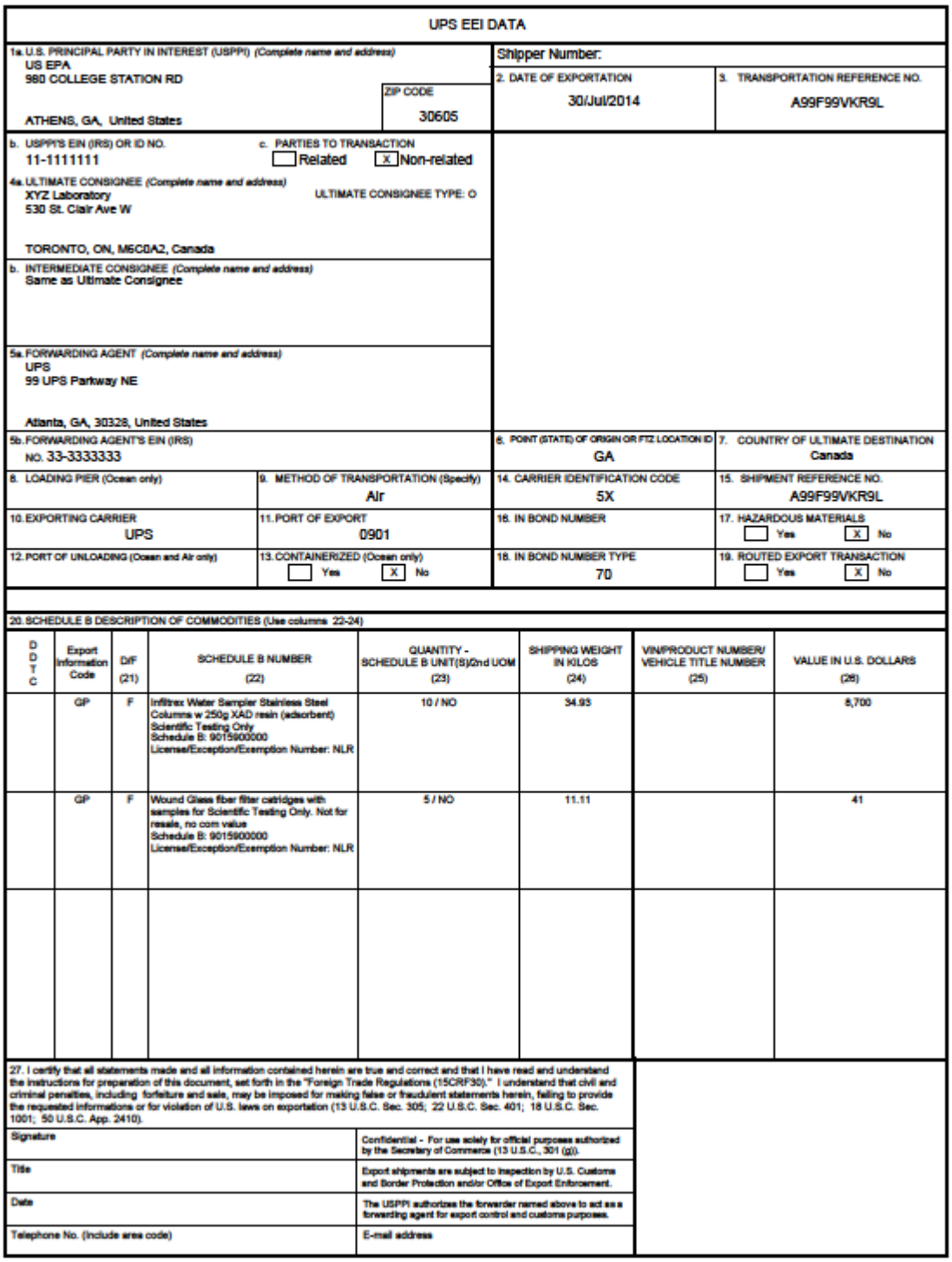
FIELD 9: For each good described in field #5, where the good is subject to a regional value content (RVC) requirement, indicate "NC" if the RVC is calculated according to the net cost method; otherwise, indicate "NO". If the RVC is calculated over a period of time, further identify the beginning and ending dates (MM/DD/YYYY) of that period. *(Reference: Article 402.1, 402.5).*

FIELD 10: Identify the name of the country ("MX" or "US" for agricultural and textile goods exported to Canada; "US" or "CA" for all goods exported to Mexico; or "CA" or "MX" for all goods exported to the United States) to which the preferential rate of CBP duty applies, as set out in Annex 302.2, in accordance with the Marking Rules or in each party's schedule of tariff elimination.
For all other originating goods exported to Canada, indicate appropriately "MX" or "US" if the goods originate in that NAFTA country, within the meaning of the NAFTA Rules of Origin Regulations, and any subsequent processing in the other NAFTA country does not increase the transaction value of the goods by more than seven percent; otherwise indicate "JNT" for joint production. *(Reference: Annex 302.2)*

FIELD 11: This field must be completed, signed, and dated by the exporter. When the Certificate is completed by the producer for use by the exporter, it must be completed, signed, and dated by the producer. The date must be the date the Certificate was completed and signed.

CBP Form 434 (04/11)

Figure G-3. International Shipping Form (2 of 6)



UPS EEI DATA

1a. U.S. PRINCIPAL PARTY IN INTEREST (USPPI) (Complete name and address)
US EPA
980 COLLEGE STATION RD
ATHENS, GA, United States
ZIP CODE 30605

Shipper Number:

2. DATE OF EXPORTATION: 30/Jul/2014

3. TRANSPORTATION REFERENCE NO.: A99F99VKR9L

b. USPPI'S EIN (IRS) OR ID NO.: 11-1111111

c. PARTIES TO TRANSACTION: [ ] Related [X] Non-related

4a. ULTIMATE CONSIGNEE (Complete name and address)
XYZ Laboratory
530 St. Clair Ave W
TORONTO, ON, M6C0A2, Canada
ULTIMATE CONSIGNEE TYPE: O

b. INTERMEDIATE CONSIGNEE (Complete name and address)
Same as Ultimate Consignee

5a. FORWARDING AGENT (Complete name and address)
UPS
99 UPS Parkway NE
Atlanta, GA, 30328, United States

5b. FORWARDING AGENT'S EIN (IRS) NO.: 33-3333333

6. POINT (STATE) OF ORIGIN OR FTZ LOCATION ID: GA

7. COUNTRY OF ULTIMATE DESTINATION: Canada

8. LOADING PIER (Ocean only):

9. METHOD OF TRANSPORTATION (Specify): Air

14. CARRIER IDENTIFICATION CODE: 5X

15. SHIPMENT REFERENCE NO.: A99F99VKR9L

10. EXPORTING CARRIER: UPS

11. PORT OF EXPORT: 0901

16. IN BOND NUMBER:

17. HAZARDOUS MATERIALS: [ ] Yes [X] No

12. PORT OF UNLOADING (Ocean and Air only):

13. CONTAINERIZED (Ocean only): [ ] Yes [X] No

18. IN BOND NUMBER TYPE: 70

19. ROUTED EXPORT TRANSACTION: [ ] Yes [X] No

20. SCHEDULE B DESCRIPTION OF COMMODITIES (Use columns 22-24)

DDTC	Export Information Code	D/F (21)	SCHEDULE B NUMBER (22)	QUANTITY - SCHEDULE B UNIT(S)/2nd UOM (23)	SHIPPING WEIGHT IN KILOS (24)	VIN/PRODUCT NUMBER/ VEHICLE TITLE NUMBER (25)	VALUE IN U.S. DOLLARS (26)
	GP	F	Infiltrex Water Sampler Stainless Steel Columns w 250g XAD resin (adsorbent) Scientific Testing Only Schedule B: 9015900000 License/Exception/Exemption Number: NLR	10 / NO	34.93		8,700
	GP	F	Wound Glass fiber filter catridges with samples for Scientific Testing Only. Not for resale, no com value Schedule B: 9015900000 License/Exception/Exemption Number: NLR	5 / NO	11.11		41

27. I certify that all statements made and all information contained herein are true and correct and that I have read and understand the instructions for preparation of this document, set forth in the "Foreign Trade Regulations (15CRF30)." I understand that civil and criminal penalties, including forfeiture and sale, may be imposed for making false or fraudulent statements herein, failing to provide the requested informations or for violation of U.S. laws on exportation (13 U.S.C. Sec. 305; 22 U.S.C. Sec. 401; 18 U.S.C. Sec. 1001; 50 U.S.C. App. 2410).

Signature

Title

Date

Telephone No. (Include area code)

Confidential - For use solely for official purposes authorized by the Secretary of Commerce (13 U.S.C., 301 (g)).

Export shipments are subject to inspection by U.S. Customs and Border Protection and/or Office of Export Enforcement.

The USPPI authorizes the forwarder named above to act as a forwarding agent for export control and customs purposes.

E-mail address

Page 1

Figure G-4. International Shipping Form (3 of 6)

Invoice

Page 1

FROM	
Tax ID/EIN/VAT No.: 11-1111111 Contact Name: Bob Smith US EPA 980 COLLEGE STATION RD ATHENS, GA 30605 United States Phone: 7065551212	Waybill Number:A99F99VKR9L Shipment ID: A99F99VKR9L Date: 30/JUL/2014 Invoice No: PO No: Terms of Sale (Incoterm): Reason for Export: Point of Origin: GA UPS to File AES: Y Other Government Agency License or Permit: C33
SHIP TO	**SOLD TO INFORMATION**
Tax ID/VAT No.: 99-9999999 Contact Name:Sample Receiving XYZ Laboratory 530 St. Clair Ave W TORONTO, ON M6C0A2 Canada Phone: 4165551212	Tax ID/VAT No.:99-9999999 Contact Name:Sample Receiving XYZ Laboratory 530 St. Clair Ave W TORONTO, ON M6C0A2 Canada Phone:4165551212

Units	U/M	Description of Goods/Part No. Exception	Harm. Code	C/O	Unit Value	Total Value
10	NMB	Infiltrex Water Sampler Stainless Steel Columns w 250g XAD resin (adsorbent)Scientific Testing Only NLR	HS Code 9015.90	CA	870.00	8,700.00
5	NMB	Wound Glass fiber filter catridges with samples for Scientific Testing Only. Not for resale, no com value NLR	HS Code 9015.90	CA	8.25	41.25

Additional Comments:

Declaration Statement:
Canadian Goods returned. Nor for Resale, No Commercial Value, Scientific Testing Only. These commodities are licensed for the ultimate destination shown. Diversion contrary to United Staes Law is Prohibited. I Declare all the information contained in this invoice to be true and correct.

Shipper Date

Invoice Line Total:	8,741.25
Discount/Rebate:	0.00
Invoice Sub-Total:	8,741.25
Freight:	0.00
Insurance:	0.00
Other:	0.00
Total Invoice Amount:	8,741.25

Total Number of Packages: 3 Currency: USD
Total Weight: 101.5 LBS

These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to U.S. law prohibited.

Figure G-5. International Shipping Form (4 of 6)

Invoice

Page 1

FROM	
Tax ID/EIN/VAT No.: 11-1111111 Contact Name: Bob Smith US EPA 980 COLLEGE STATION RD ATHENS, GA 30605 United States Phone: 7065551212	Waybill Number:A99F99VKR9L Shipment ID: A99F99VKR9L Date: 30/JUL/2014 Invoice No: PO No: Terms of Sale (Incoterm): Reason for Export: Point of Origin: GA UPS to File AES: Y Other Government Agency License or Permit: C33
SHIP TO	**SOLD TO INFORMATION**
Tax ID/VAT No.: 99-9999999 Contact Name:Sample Receiving XYZ Laboratory 530 St. Clair Ave W TORONTO, ON M6C0A2 Canada Phone: 4165551212	Tax ID/VAT No.:99-9999999 Contact Name:Sample Receiving XYZ Laboratory 530 St. Clair Ave W TORONTO, ON M6C0A2 Canada Phone:4165551212

Units	U/M	Description of Goods/Part No. Exception	Harm. Code	C/O	Unit Value	Total Value
10	NMB	Infiltrex Water Sampler Stainless Steel Columns w 250g XAD resin (adsorbent)Scientific Testing Only NLR	HS Code 9015.90	CA	870.00	8,700.00
5	NMB	Wound Glass fiber filter catridges with samples for Scientific Testing Only. Not for resale, no com value NLR	HS Code 9015.90	CA	8.25	41.25

Additional Comments:

Declaration Statement:
Canadian Goods returned. Nor for Resale, No Commercial Value, Scientific Testing Only. These commodities are licensed for the ultimate destination shown. Diversion contrary to United Staes Law is Prohibited. I Declare all the information contained in this invoice to be true and correct.

Shipper Date

Invoice Line Total:	8,741.25
Discount/Rebate:	0.00
Invoice Sub-Total:	8,741.25
Freight:	0.00
Insurance:	0.00
Other:	0.00
Total Invoice Amount:	8,741.25

Total Number of Packages: 3 Currency: USD
Total Weight: 101.5 LBS

These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to U.S. law prohibited.

Figure G-6. International Shipping Form (5 of 6)

Invoice

Page 1

FROM	
Tax ID/EIN/VAT No.: 11-111111 Contact Name: Bob Smith US EPA 980 COLLEGE STATION RD ATHENS, GA 30605 United States Phone: 7065551212	Waybill Number:A99F99VKR9L Shipment ID: A99F99VKR9L Date: 30/JUL/2014 Invoice No: PO No: Terms of Sale (Incoterm): Reason for Export: Point of Origin: GA UPS to File AES: Y Other Government Agency License or Permit: C33
SHIP TO	**SOLD TO INFORMATION**
Tax ID/VAT No.: 99-9999999 Contact Name:Sample Receiving XYZ Laboratory 530 St. Clair Ave W TORONTO, ON M6C0A2 Canada Phone: 4165551212	Tax ID/VAT No.:99-9999999 Contact Name:Sample Receiving XYZ Laboratory 530 St. Clair Ave W TORONTO, ON M6C0A2 Canada Phone:4165551212

Units	U/M	Description of Goods/Part No. Exception	Harm. Code	C/O	Unit Value	Total Value
10	NMB	Infiltrex Water Sampler Stainless Steel Columns w 250g XAD resin (adsorbent)Scientific Testing Only NLR	HS Code 9015.90	CA	870.00	8,700.00
5	NMB	Wound Glass fiber filter catridges with samples for Scientific Testing Only. Not for resale, no com value NLR	HS Code 9015.90	CA	8.25	41.25

Additional Comments:

Declaration Statement:
Canadian Goods returned. Nor for Resale, No Commercial Value, Scientific Testing Only. These commodities are licensed for the ultimate destination shown. Diversion contrary to United Staes Law is Prohibited. I Declare all the information contained in this invoice to be true and correct.

Shipper Date

Invoice Line Total:	8,741.25
Discount/Rebate:	0.00
Invoice Sub-Total:	8,741.25
Freight:	0.00
Insurance:	0.00
Other:	0.00
Total Invoice Amount:	8,741.25

Total Number of Packages: 3 Currency: USD
Total Weight: 101.5 LBS

These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to U.S. law prohibited.

Figure G-7. International Shipping Form (6 of 6)

APPENDIX H SAMPLING CHECKLISTS

Table H-1: Personnel Preparation Checklist

(Page 1 of 1)

Personnel Briefing	Yes	No	Comments
1. Did you review sampling team responsibilities and identify individual(s) responsible for corrective actions?			
2. Did you ensure that you have met the appropriate personal safety and protection requirements?			
3. Did you identify sampling locations and receive permission to access them, as appropriate?			
4. Did you contact the appropriate utility companies PRIOR to the start of sampling?  By law, utility companies must be contacted prior to the start of digging/sampling so that any underground utilities (gas lines, water lines, electrical lines, etc.) can be marked. A list of one-call centers for each state may be found at: http://www.call811.com.			
5. If sampling on private property, do you have sample receipts to provide to the property owner for all samples taken and removed from the property?			
6. Have you determined the number and type of samples to be collected?			
7. Did you review sample collection methods?			
8. Have you reviewed sample container requirements?			
9. Did you review decontamination requirements, procedures, and locations?			
10. Did you determine holding times and conditions?			
11. Did you determine Performance Evaluation (PE) and Quality Control (QC) sample requirements?			
12. Have you obtained shipping cooler temperature blanks, if required?			
13. Did you review sample label and tag requirements?			
14. Did you review Traffic Report/Chain of Custody (TR/COC) record and custody seal requirements?			
15. Have you obtained the laboratory name, shipping addresses, and telephone number?			
16. Did you review cooler return instructions?			
17. Have you obtained shipping company information (name, telephone number, account number, pickup schedule)?			
18. Have you obtained shipping schedules?			
19. Did you review shipment reporting requirements and the appropriate contact names and telephone numbers for reporting?			

Personnel Briefing	Yes	No	Comments
20. Have you included any sampler comments regarding sampling issues (e.g., low volumes, matrix, suspected concentrations based on field measurements)?			

Table H-2: General Sample Collection Checklist

(Page 1 of 1)

General Sample Collection	Yes	No	Comments
1. Did you identify and mark the sampling location with buoys, flags, or stakes according to the sampling plans, maps, and grids?			
2. If the sampling location is inaccessible, did you contact the appropriate field or Regional personnel for instructions?			
3. Did you use the correct sampling equipment?			
4. Did you follow the correct decontamination procedures?			
5. Did you follow the correct collection procedures?			
6. Did you use the correct sample containers for each sample collected?			
7. Did you use certified clean containers for all samples? Are certificates kept on record?			
8. Did you use certified clean water for all field, trip, equipment and rinsate blanks? Are certificates kept on record?			
9. Did you collect the correct volume for each sample?			
10. Did you collect the correct type of sample, including primary samples and Quality Control (QC) samples?			
11. Did you properly preserve each sample collected?			
12. Did you correctly document and label each sample with all necessary information?  Under no circumstances should the site name appear on any documentation being sent to the laboratory, unless the laboratory is a Regional U.S. Environmental Protection Agency (EPA) laboratory. Then the Region copy of the TR/COC record shall be sent to the EPA laboratory.			
13. If sampling on private property, did you provide a sample receipt to the owner of the property for all samples taken and removed from the property?			

Table H-3: Completing Field Logbook Checklist

(Page 1 of 1)

Completing Field Logbook	Yes	No	Comments
1. Did you use waterproof ink when writing in the field logbook?			
2. Did you document sampling project information such as: • Project name, ID, and location • Names of samplers • Geological observations, including maps • Atmospheric conditions • Field measurements • Sampling dates, times, and locations?  Under no circumstances should the site name appear on any documentation being sent to the laboratory, unless the laboratory is a Regional EPA laboratory. Then the Region copy of the TR/COC record shall be sent to the EPA laboratory.			
3. Did you record sampling activity information such as: • Sampling dates and times • Sample identifications • Sample matrices • Sample descriptions (e.g., odors and/or colors) • Number of samples taken • Sampling methods/equipment • Description of QC samples?			
4. Did you document any and all deviations from the sampling plan?			
5. Did you document any and all difficulties in sampling and/or any unusual circumstances?			
6. Were all errors corrected by crossing a line through the error, initialing the error, dating the error, and then adding the correct information?			

Table H-4: Completing Handwritten Sample Labels Checklist

(Page 1 of 1)

Completing Handwritten Sample Labels	Yes	No	Comments
1. Did the Regional Sample Control Coordinator (RSCC) provide Contract Laboratory Program (CLP) Sample Numbers and Sample Management Office (SMO)-assigned CLP Case Numbers?			
2. If additional CLP Sample Numbers were needed, did you contact the appropriate Regional personnel?			
3. Were the CLP Sample Numbers and SMO-assigned CLP Case Numbers on the labels correct? Organic CLP Sample Numbers begin with the Regional letter code, followed by letters and numbers. Inorganic CLP Sample Numbers begin with "M," followed by the Regional letter code, and then letters and numbers.			
4. Were samples uniquely numbered and designated to only one sample?  Samples collected for total metal and filtered metal analyses must receive separate, unique, CLP Sample Numbers.			
5. Were QC samples numbered accordingly?			
6. Were the specific requirements followed for total and filtered metals analysis, QC and Performance Evaluation (PE) samples, and SW-846 Method 5035A?			
7. Were all temperature blanks labeled with "TEMPERATURE BLANK"?			
8. Was a sample label containing the CLP Sample Number, SMO-assigned CLP Case Number, location, concentration, preservative, and the analysis, attached to each sample bottle or container as the sample was collected?  Under no circumstances should the site name appear on any documentation being sent to the laboratory, unless the laboratory is a Regional EPA laboratory. Then, the Region copy of the TR/COC record shall be sent to the EPA laboratory.			
9. Was clear tape placed over the sample labels to protect the labels from moisture and to help the labels adhere to the sample bottle?  Use only CLEAR tape over the sample labels and avoid wrinkles in the tape and the sample labels.			
10. Were all errors corrected by crossing a line through the error, initialing the error, dating the error, and then adding the correct information?			

Table H-5: Completing Handwritten Sample Tags & Custody Seals Checklists

(Page 1 of 1)

Completing Handwritten Sample Tags	Yes	No	Comments
1. Was waterproof ink used on the sample tags?			
2. If Regionally required for individual sample containers, was the project code on the sample tag completed?			
3. Was the location number on the sample tag completed?			
4 Was the date filled in using the format MM/DD/YYYY?			
5. Was the time of sample collection indicated in military time format HH:MM?			
6. Was the box checked indicating composite or grab sample?			
7. Was the location on the sample tag completed?			
8. Did you indicate whether or not the sample was preserved by checking "yes" or "no"?			
9. Was the appropriate analysis indicated on the sample tag?			
10. Were the appropriate CLP Sample Number and SMO-assigned CLP Case Number indicated and cross-referenced with the numbers on the sample label?			
11. Did you sign the sample tags?			
12 Did you attach the sample tag to the neck of the sample bottle with string, stretch string, or wire?  Do **NOT** use wire to attach a sample tag to a metal sample.			
13. Were all errors corrected by crossing a line through the error, initialing the error, dating the error, and then adding the correct information?			
Completing Custody Seals	**Yes**	**No**	**Comments:**
1. Did you sign and date the custody seal?			
2. Did you attach a completed custody seal to the sample bottle, container, or plastic bag, placing the seal over the cap or lid of each sample bottle or container or on the bag opening such that it will be broken if the sample bottle, container, or bag is opened or tampered with?			
3. As appropriate, did you attach the completed custody seal to the sample shipping container or cooler, placing the seal such that it will be broken if the container or cooler is opened or tampered with?			
4. Were all errors corrected by crossing a line through the error, initialing the error, dating the error, and then adding the correct information?			

Table H-6: Packing Sample Container Checklist

(Page 1 of 1)

Packing Sample Container	Yes	No	Comments
1. Did you follow all State, Federal, Department of Transportation (DOT), and International Air Transportation Association (IATA) regulations governing the packaging of environmental and hazardous samples?  If samples contain methanol preservation (e.g., samples to be analyzed by SW-846 Method 5035A), refer to the packaging instructions in Appendix D.			
2. Were all CLP Sample Numbers, SMO-assigned CLP Case Numbers, analyses, labels, tags, and custody seals attached to the correct sample containers?			
3. Is modified analysis indicated if requested?			
4. Was an inventory conducted of CLP Sample Numbers, SMO-assigned CLP Case Numbers, analyses, and containers, and verified against the TR/COC records?			
5. Were the correct number and type of Performance Evaluation (PE) and Quality Control (QC) samples collected?			
6. Were all sample containers sealed in clear plastic bags with the sample label and tag visible through the packaging?			
7. Were all soil/sediment samples known or suspected to contain dioxin securely enclosed in metal cans (e.g., paint cans) with the lids sealed?			
8. Was suitable absorbent packing material placed around the sample bottles or containers?			
9. Were the outsides of metal containers labeled properly with the CLP Sample Number, SMO-assigned CLP Case number, and the analysis of the sample inside?			

Table H-7: Packing Shipping Container Checklist

(Page 1 of 1)

Packing Shipping Container	Yes	No	Comments
1. Were you shipping samples in a clean waterproof metal or hard plastic ice chest or cooler in good condition?			
2. Were all non-applicable labels from previous shipments removed from the container?			
3. Were all inside and outside drain plugs closed and covered with suitable tape (e.g., duct tape)?			
4. Was the inside of the cooler lined with plastic (e.g., large heavy-duty garbage bag)?			
5. Was the lined shipping cooler packed with noncombustible absorbent packing material?			
6. Were sample containers placed in the cooler in an upright position not touching one another?			
7. Was a sample shipping cooler temperature blank included in the cooler?			
8. Did the documentation in the cooler only address the samples in that cooler?			
9. Was the site name absent from all documentation?  Under no circumstances should the site name appear on any documentation being sent to the laboratory, unless the laboratory is a Regional EPA laboratory. Then the Region copy of the TR/COC record shall be sent to the EPA laboratory.			
10. Was there sufficient packing material around and in between the sample bottles and cans to avoid breakage during transport?			
11. If required, was double-bagged ice placed on top and around sample bottles to keep the samples cold at ≤ 6°C?  Do not pack loose ice into the cooler.			
12. Was the top of the plastic liner fastened and secured with tape?			
13. Was a completed custody seal placed around the top of the fastened plastic liner (if required by the Region)?			
14. Were all sample documents enclosed within the cooler (e.g., TR/COC record, PE instructions, and cooler return instructions) in a waterproof plastic bag?			
15. Was the plastic bag, containing the documentation, taped to the underside of the cooler lid?			
16. Were cooler return instructions and airbills taped to the underside of the cooler lid?			
17. Was the return address of the cooler written with permanent ink on the underside of the cooler lid?			
18. Was tape placed around the outside of the entire cooler and over the hinges?			
19. Were the completed custody seals placed over the top edge of the cooler so the cooler cannot be opened without breaking the seals?			
20. Was the return address label attached to the top left corner of the cooler lid?			
21. Were instructional labels attached to the top of the cooler, as necessary (e.g., "This End Up," "Do Not Tamper With," or "Environmental Laboratory Samples")?			

Packing Shipping Container	Yes	No	Comments
22. Have all US DOT regulations been met for the shipment when shipping hazardous samples?			
23. If shipping samples containing methanol as a preservative (e.g., samples to be analyzed by SW-846 Method 5035A), was a label used to indicate methanol, the United Nations (UN) identification number for methanol (UN 1230), and Limited Quantity?			

Table H-8: Shipping & Reporting CLP Samples Checklist

(Page 1 of 1)

Shipping CLP Samples	Yes	No	Comments:
1. Did you follow all State, Federal, Department of Transportation (DOT), and International Air Transportation Association (IATA) regulations governing the shipment of environmental and hazardous samples?			
2. Was a separate airbill filled out for each cooler being shipped?			
3. Was the airbill filled out completely, including correct laboratory name, address, and telephone number, identification of recipient as "Sample Custodian," and appropriate delivery option (e.g., overnight or Saturday)?			
4. Was the completed airbill attached to the top of the cooler with the correct laboratory address?			
5. If more than one cooler was being shipped to the same laboratory, were they marked as "1 of 2," "2 of 2," etc.?			
6. Were the samples being shipped "overnight" through a qualified commercial carrier?			
7. Did you export the electronic COC XML file from Scribe?			
8. Did you upload the electronic COC XML file using the Submit Chain of Custody task in CLPSS?			
Reporting CLP Samples	**Yes**	**No**	**Comments:**
1. Did you contact the RSCC (or designee) or the Contract Laboratory Program Sample Management Office (SMO) on the same day samples were shipped?			
2. If the samples were shipped after 5:00 PM Eastern Time (ET), were they reported to the RSCC (or designee) or to SMO by 8:00 AM ET the following business day?			
3. Did you notify the RSCC (or designee) or SMO so that SMO will receive the delivery information by 3:00 PM ET on Friday for sample shipments that will be delivered to the laboratory on Saturday?			
4. Did you provide the RSCC (or designee) or SMO with: • Your name, phone number, and Region number; • Case Number of the project; • Modified Analysis Number, if requested; • Exact number of samples, matrix(ces), and type of analysis; • Laboratory(ies) to which the samples were shipped; • Carrier name and airbill number; • Date of shipment; • Date of next shipment; and • Any other information pertinent to the shipment?			

APPENDIX I GLOSSARY

Analyte -- The element, compound, or ion that is determined in an analytical procedure; the substance or chemical constituent of interest.

Analytical Services Branch (ASB) -- Directs the Contract Laboratory Program (CLP) from within the United States Environmental Protection Agency's (EPA's) Office of Superfund Remediation and Technology Innovation (OSRTI) in the Office of Solid Waste and Emergency Response (OSWER).

Aroclor -- Polychlorinated biphenyls (PCBs) or a class of organic compounds with 1 to 10 chlorine atoms attached to biphenyl and a general chemical formula of $C_{12}H_{10-x}Cl_x$. PCBs, commercially produced as complex mixtures containing multiple isomers at different degrees of chlorination, were marketed in North America under the trade name Aroclor.

Case -- A finite, usually predetermined, number of samples collected over a given time period from a particular site. Case numbers are assigned by the Sample Management Office (SMO). A Case consists of one or more Sample Delivery Groups (SDGs).

Chlorinated Dibenzo-p-Dioxin/Chlorinated Dibezofuran (CDD/CDF) -- A group of organic compounds of tetra- through octa-chlorinated dibenzo-p-dioxins (CDDs) and dibenzofurans (CDFs).

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) -- First authorized by Congress in December 1980, and amended in 1986, CERCLA provided broad Federal authority to respond directly to the release or possible release or hazardous substances that may endanger human health or the environment. CERCLA also established a Trust Fund to provide for cleanup when no responsible party could be identified; hence, CERCLA is commonly referred to as "Superfund."

Congener -- The chlorinated congeners of biphenyl.

Contract Laboratory Program (CLP) -- A national program of commercial laboratories under contract to support the EPA's nationwide efforts to clean up designated hazardous waste sites by providing a range of chemical analytical services to produce environmental data of known and documented quality. This program is directed by EPA's Analytical Services Branch (ASB).

Contract Laboratory Program Contracting Officer's Representative (CLP COR) -- Monitors technical performance of the contract laboratories in each Region.

Contract Laboratory Program Sample Management Office (CLP SMO) -- A contractor-operated facility operated under the CLP, awarded and administered by the EPA, which provides necessary management, operations, and administrative support to the CLP. SMO coordinates and schedules sample analyses, tracks sample shipments and analyses, receives and tracks data for completeness and compliance, and processes laboratory invoices.

Custody Seal -- An adhesive label or tape that is used to seal a sample bottle or container that maintains chain of custody and that will break if the sample bottle or container is opened or tampered with.

Cyanide (Total) -- Cyanide ion and complex cyanides converted to hydrocyanic acid (HCN) by reaction in a reflux system of a mineral acid in the presence of magnesium ion.

Data Quality Objective (DQO) -- The requirements established to maintain the quality of the data being collected.

Data Validation -- Data validation is based on Region-defined criteria and limits, professional judgment of the data validator, and (if available) the Quality Assurance Project Plan (QAPP) and Sampling and Analysis Plan (SAP).

Duplicate -- Sample required by the laboratory's contract to check the accuracy and precision of inorganic analyses. It is a second aliquot of the same sample to determine the precision of the method.

Equipment Blank -- A sample used to check field decontamination procedures. See Field Blank.

Field Blank -- Any blank sample that is submitted from the field. Each field blank is assigned its own unique EPA sample number. A field blank checks for cross-contamination during sample collection, sample shipment, and in the laboratory. A field blank includes trip blanks, rinse blanks, equipment blanks, etc.

Field Duplicate -- Checks reproducibility of laboratory and field procedures and indicates non-homogeneity.

Field QC Sample -- Used to detect for contamination or error in the field.

Field Sample -- Primary sample material taken out in the field from which other samples, such as duplicates or split samples are derived. A field sample can be prepared in the field and sent for analysis in one or multiple containers, and is identified by a unique EPA sample number.

Field Sampling Plan (FSP) -- Developed to outline the actual steps and requirements pertaining to a particular sampling event, and explains, in detail, each component of the event to all involved samplers.

Holding Time -- The elapsed time expressed in hours, days, or months from the date of collection of the sample until the date of its analysis.

> **Contractual** -- The maximum length of time that the CLP laboratory can hold samples prior to extraction and/or analysis, and are described in the CLP analytical services Statements of Work (SOWs).
>
> **Technical** -- The maximum length of time that samples may be held from time of collection to time of preparation and/or analysis and still be considered valid.

Laboratory Blank -- See Method Blank.

Laboratory Duplicate -- A sample required by the laboratory's contract to check the precision of inorganic analyses.

Laboratory QC Sample -- An additional volume of an existing sample, as required by the laboratory's contract, used to detect contamination or error in the laboratory's practices.

Matrix -- The predominant material of which a sample to be analyzed is composed.

Matrix Spike (MS) -- Sample required by the laboratory's contract to check the accuracy of organic and inorganic analyses. It is an aliquot of a sample (water or soil) that is fortified (spiked) with known quantities of a specific compound and subjected to the entire analytical procedure. See Matrix Spike Duplicate.

Matrix Spike Duplicate (MSD) -- Sample required by the laboratory's contract to check the accuracy and precision of organic analyses. It is a second aliquot of the same matrix as the Matrix Spike (MS) that is spiked to determine the precision of the method. See Matrix Spike.

Method Blank -- An analytical control consisting of all reagents, internal standards and surrogate standards [or System Monitoring Compounds (SMCs) for volatile organic analysis], that is carried throughout the entire analytical procedure. The method blank is used to define the level of laboratory, background, and reagent contamination, also referred to as laboratory blank when defining the level of laboratory contamination.

Modified Analysis (MA) -- A change in the technical requirements that fall outside the scope of the Statement of Work (SOW).

Performance Evaluation (PE) Sample -- A sample of known composition provided by the EPA Region for contractor analysis. Used by EPA to evaluate contractor performance.

Pesticides -- Substances intended to repel, kill, or control any species designated a "pest," including weeds, insects, rodents, fungi, bacteria, and other organisms. Under the CLP, only organochlorine pesticides are analyzed (e.g., DDT, Dieldrin, Endrin, etc.).

Polychlorinated Biphenyls (PCBs) -- A group of toxic, persistent chemicals used in electrical transformers and capacitors for insulating purposes, and in gas pipeline systems as a lubricant. The sale and new use of PCBs were banned by law in 1979.

Quality Assurance (QA) -- An integrated system of management activities involving planning, implementation, assessment, reporting, and quality improvement to ensure that a process, item, or service is of the type and quality needed and expected by the customer.

Quality Assurance Project Plan (QAPP) -- Document written to meet requirements outlined in the document *EPA Guidance for Quality Assurance Project Plans* (EPA QA/R-5). Prepared in advance of field activities and used by samplers to develop any subsequent plans such as the Sampling Analysis Plan (SAP) or the Field Sampling Plan (FSP).

Quality Control (QC) -- The overall system of technical activities that measures the attributes and performance of a process, item, or service against defined standards to verify that they meet the stated requirements established by the customer; operational techniques and activities that are used to fulfill requirements for quality.

Regional Sample Control (RSCC) Coordinator -- In most Regions, coordinates sampling efforts and serves as the central point of contact for sampling questions and problems. Also assists in coordinating the level of Regional sampling activities to correspond with the monthly projected demand for analytical services.

Regional Site Manager -- Coordinates the development of data quality objectives and oversees project-specific remedial or removal contractors, State officials, or private parties conducting site sampling efforts.

Rinsate Blank -- A sample used to check decontamination procedures. Also see Field Blank.

Routine Analytical Service (RAS) -- The standard inorganic and organic analyses available through the CLP.

Sample -- A discrete portion of material to be analyzed that is contained in single or multiple containers, and identified by a unique sample number.

Sample Delivery Group (SDG) -- A unit within a sample Case that is used to identify a group of samples for delivery. An SDG is defined by the following, whichever is most frequent:

- Each Case of field samples received; or
- Each 20 field samples (excluding PE samples) within a Case; or
- Each 7 calendar day period (3 calendar day period for 7-day turnaround) during which field samples in a Case are received (said period beginning with the receipt of the first sample in the SDG).

In addition, all samples and/or sample analyses assigned to an SDG must have been scheduled under the same contractual turnaround time. Preliminary Results have no impact on defining the SDG. Sample may be assigned to SDGs by matrix (e.g., all soil samples in one SDG, all water samples in another) at the discretion of the laboratory.

Sample Label -- An identification label attached to a sample bottle or container to identify the sample.

Sample Number -- A unique number used to identify and track a sample. This number can be recorded on a sample label or written on the sample bottle or container using indelible ink.

Sample Tag -- A tag attached to a sample that identifies the sample and maintains chain of custody.

Sampling Analysis Plan (SAP) -- A document that explains how samples are to be collected and analyzed for a particular sampling event.

Scribe -- A stand-alone Windows-based desktop application that samplers can use to automatically create and generate sample documentation prior to and during sampling events.

Semivolatile Organic Analyte (SVOA) -- A compound amenable to analysis by extraction of the sample using an organic solvent.

Standard Operating Procedure (SOP) -- A written document that details the method for an operation, analysis, or action with thoroughly prescribed techniques and steps, and that is officially approved as the methods for performing certain routine or repetitive tasks.

Statement of Work (SOW) -- A document that specifies how laboratories analyze samples under a particular Contract Laboratory Program (CLP) analytical program.

Superfund -- The program operated under the legislative authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Superfund Amendments and Reauthorization Act (SARA), that funds and carries out EPA removal and remedial activities at hazardous waste sites. These activities include establishing the National Priorities List (NPL), investigating sites for inclusion on the list, determining their priority, and conducting and/or supervising cleanup and other remedial actions.

Superfund Amendments and Reauthorization Act (SARA) -- The 1986 amendment to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

Traffic Report/Chain of Custody (TR/COC) Record -- A record that is functionally similar to a packing slip that accompanies a shipment of goods. Used as physical evidence of sample custody and functions as a permanent record for each sample collected.

Trip Blank -- A sample used to check for contamination during sample handling and shipment from field to laboratory. Also see Field Blank.

Volatile Organic Analyte (VOA) -- A compound amenable to analysis by the purge-and-trap technique. Used synonymously with the term purgeable compound.