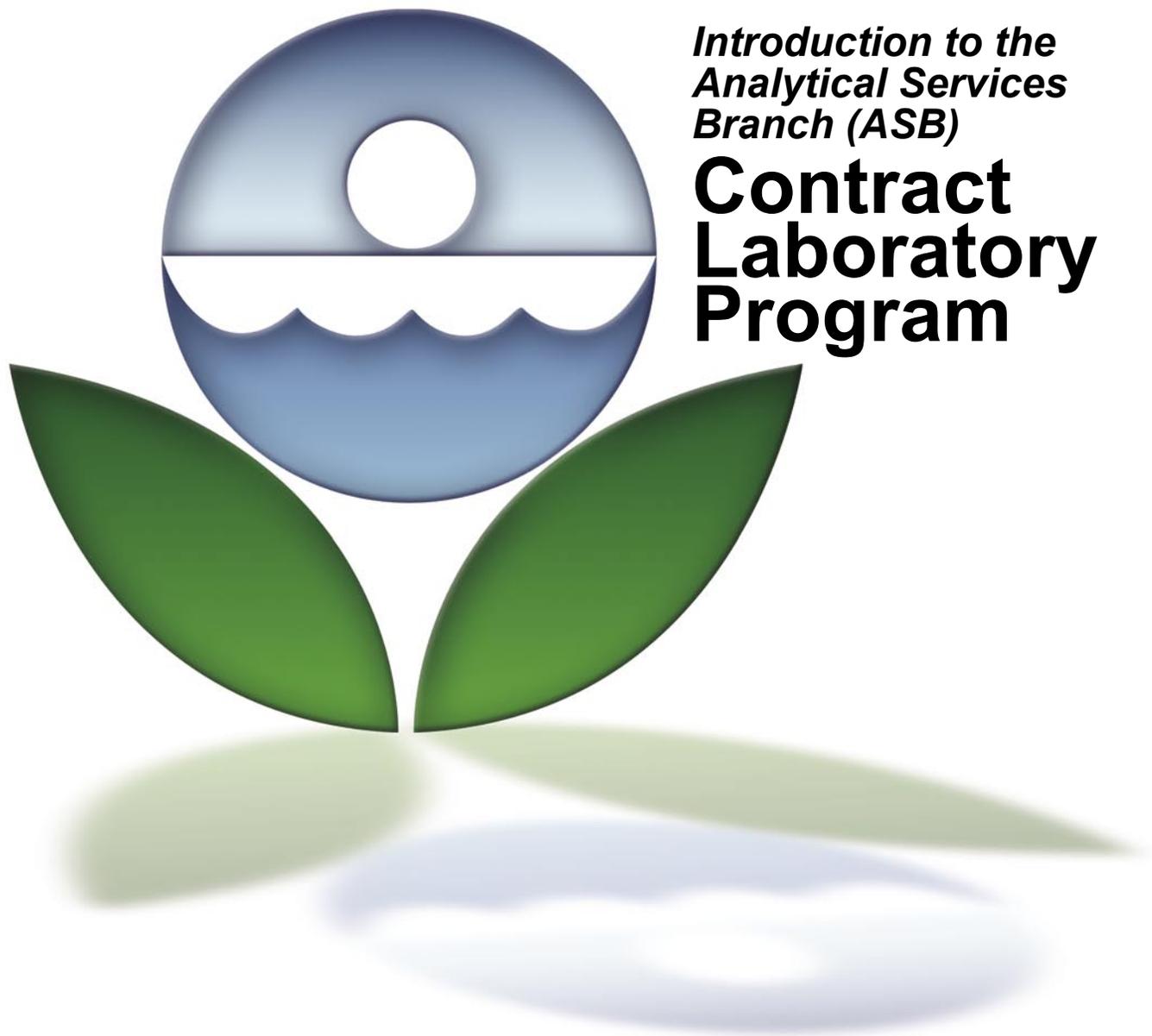


January 2007



*Introduction to the
Analytical Services
Branch (ASB)*

Contract Laboratory Program

Introduction

This document is designed primarily to educate the United States Environmental Protection Agency's (USEPA's) Superfund staff and managers [e.g., Remedial Project Managers (RPMs), On-Scene Coordinators (OSCs), Site Assessment Managers, and Risk Assessors] about how to obtain laboratory analytical services for Superfund and Brownfields sites. The Contract Laboratory Program (CLP) is administered by the Office of Superfund Remediation and Technology Innovation (OSRTI) Analytical Services Branch (ASB), Regional CLP Project Officers (CLP POs), and Regional Sample Control Center (RSCC) Coordinators. Other programs or agencies can participate in the CLP. Please refer to the CLP Participants section of Chapter 1, or [contact the Sample Management Office \(SMO\) Project Officer](#) for additional information.

CLP analytical data is used to demonstrate the nature and extent of contamination at hazardous waste sites, assess priorities for response based on risks to human health and the environment, establish appropriate cleanup actions, and determine when remedial actions are complete. Each CLP sample is properly documented to ensure timely, accurate, and complete analysis for all parameters requested, and to support the use of sample data in potential enforcement actions against Potentially Responsible Parties (PRPs). Data collected and analyzed under the CLP is not available to PRPs since the CLP is Federally funded and use by PRPs would cause a conflict of interest.

Key Information

Text in [blue](#) and underlined indicates an external link to information outside of this document.

The images below are located throughout the document to draw attention to important information and each are labeled accordingly:



Information



Note

Additional copies of this document may be downloaded from the CLP Web site at:

<http://www.epa.gov/superfund/programs/clp/guidance.htm>

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Chapter 1

Welcome to the Contract Laboratory Program (CLP)

Background



Welcome to the CLP. The CLP is a national network of United States Environmental Protection Agency (USEPA) personnel, commercial laboratories, and support contractors whose fundamental mission is to provide customers [e.g., USEPA Regions, United States Army Corp of Engineers (USACE), and other Federal, State, or Tribal Agencies] with analytical data of known and documented quality. Initiated in 1980, the CLP supports environmental data users in identifying contaminants and determining the level of contamination at Superfund hazardous waste sites prior to, during, and after site cleanup.

Benefits of the CLP

Customer satisfaction is a key factor in the design and application of all CLP services. The CLP seeks to provide its customers with timely, high-quality, high-volume, low-cost services and solutions. CLP customers receive the following benefits:

Analytical Services

- The CLP provides its customers with a full spectrum of services ranging from environmental sample analyses and electronic data review, to computerized invoicing and detailed site analytical costs.
- The CLP provides a variety of analytical services for the most commonly requested organic and inorganic analytes. The CLP [target compound and analyte lists](#) were originally derived from the USEPA Priority Pollutant list, but have been subsequently modified based on advances in analytical methods, evaluation of method performance data, and the needs of the Superfund program. The CLP has also developed several [Quick Reference Fact Sheets](#) that summarize the current analytical services provided for the Inorganic, Organic, and Organic Low Concentration programs.

Quality Assurance (QA)

- The CLP provides a comprehensive QA program through use of Performance Evaluation (PE) samples, preparation of quarterly performance reports, use of fraud detection mechanisms, performance-based scheduling, and continuous inspection of laboratory data for contractual compliance.
- To simplify the laboratory's Quality Assurance Project Plan (QAPP) development process, the CLP predefines elements such as: analytical methods; preventive laboratory equipment maintenance



Data of Known and Documented Quality:

Analytical data that adheres to EPA Order 5360.1 A2, calls for environmental programs and decisions to be supported by data of the type and quality needed and expected for their intended use. The type and quality of data needed to support CLP data users has been defined as analytical data of known and documented quality.

Download EPA Order 5360.1 A2 at

<http://www.epa.gov/quality/qs-docs/5360-1.pdf>



The CLP, Superfund's preferred data quality solution for Routine Analytical Services (RAS) is available to local, State, Federal, and Tribal agencies (see the Program Providers section of Chapter 1).



Potentially Responsible Parties (PRPs) cannot access the CLP.



The CLP provides customers with total QA.

and calibration; sample shipment chain-of-custody procedures and forms; analytical precision and accuracy (including quantitation limits for organics and inorganics); laboratory Quality Control (QC) requirements; data management; and documentation for laboratory analysis.

- CLP data is compliant with [EPA Order 5360.1 A2](#) quality requirements for data to withstand independent review and confirmation.

Enhanced Automated Services

- The CLP captures all data produced for CLP customers and maintains this historical data for the client's future use in enforcement, litigation, and Cost Recovery activities.
- The CLP offers Automated Data Processing (ADP) support such as automated data assessment and rapid electronic transfer of analytical data into users' databases.
- The CLP provides automated sample scheduling, and in certain instances, can accommodate same day scheduling.



Automated services streamline sample scheduling and analytical data assessment.

Support Services

- The CLP provides support services that allow managers to focus on site assessment activities without distraction from laboratory and data management issues.
- CLP systems collect and disseminate financial information to USEPA management for budgetary and litigation activities (see Enforcement and Cost Recovery Support section of Chapter 2).
- The [ASB staff](#) has the technical expertise to resolve any questions about sample scheduling and funding and to assist USEPA Regions in evaluating data quality and usability.



For more information on CCS, see the Data Assessment Tool (DAT) section of Chapter 2.

Cost Savings

- USEPA Headquarters assumes the CLP costs for Regional clients in Superfund lead projects.
- The CLP offers centralized, high-volume purchasing of analytical services, eliminating the duplication of effort for procurement, sample tracking, invoice processing, and analytical results compilation.
- The CLP offers competitive, low market [per sample pricing](#) for all projects and analytical services.



USEPA Headquarters assumes the costs for Regional clients.

Method Flexibility

- Customers can request a variety of data turnaround options and detection limits.
- Customers can request new and/or additional methods for analysis to meet changing requirements and technological advances.



CLP services are becoming more flexible and responsive.

CLP Successes



The CLP has several successful products, programs, and activities that have helped to provide customers with analytical technical support services to achieve and maintain data of known and documented quality.

These products, programs, and activities have vastly improved analytical response times and expanded the productivity of cleanup activities.



The CLP provides high-tech solutions to meet the customer's needs.

Development of the Data Assessment Tool (DAT)



The Analytical Services Branch (ASB) recognized the need for an analytical tool that would facilitate the rapid transfer and storage of electronic analytical data and would streamline the data validation process. To meet this challenge, the CLP developed [DAT](#), a software-driven process designed to produce enhanced CLP deliverables and more usable reports.



For more information on the Data Assessment Tools, see the Data Assessment Tool (DAT) section of Chapter 2.

DAT allows Regional data users to electronically receive data that has already been assessed by this tool. DAT rapidly transfers electronic analytical data into any client database, forgoing the need for manual data entry by the Regions. Regional data validation has typically required manual data entry of post-review data.

Overall, DAT has dramatically improved data turnaround times, making it possible to transmit electronic data to the data validators and the ultimate customers [e.g., Regional Project Managers (RPMs), site assessors, and On-Scene Coordinators (OSCs)]. ASB can now provide data assessment reports to CLP customers within 24 - 48 hours of receipt of data.

Accommodation of Sample Volume with Fast Turnaround Times

During Fiscal Year 2006, a total of 86,124 samples were analyzed under the CLP. Approximately 16% of these samples were analyzed within a 7-day turnaround time, 25% were analyzed within a 14-day turnaround time, and 59% were analyzed within a 21-day turnaround time. The CLP can also provide Preliminary Results within 48 - 72 hours, depending on the type of analysis.



The CLP can accommodate a large volume of samples from multiple sites within a short time span. Turnaround times are available to meet the needs of the customer.

Provision of Brownfields Program

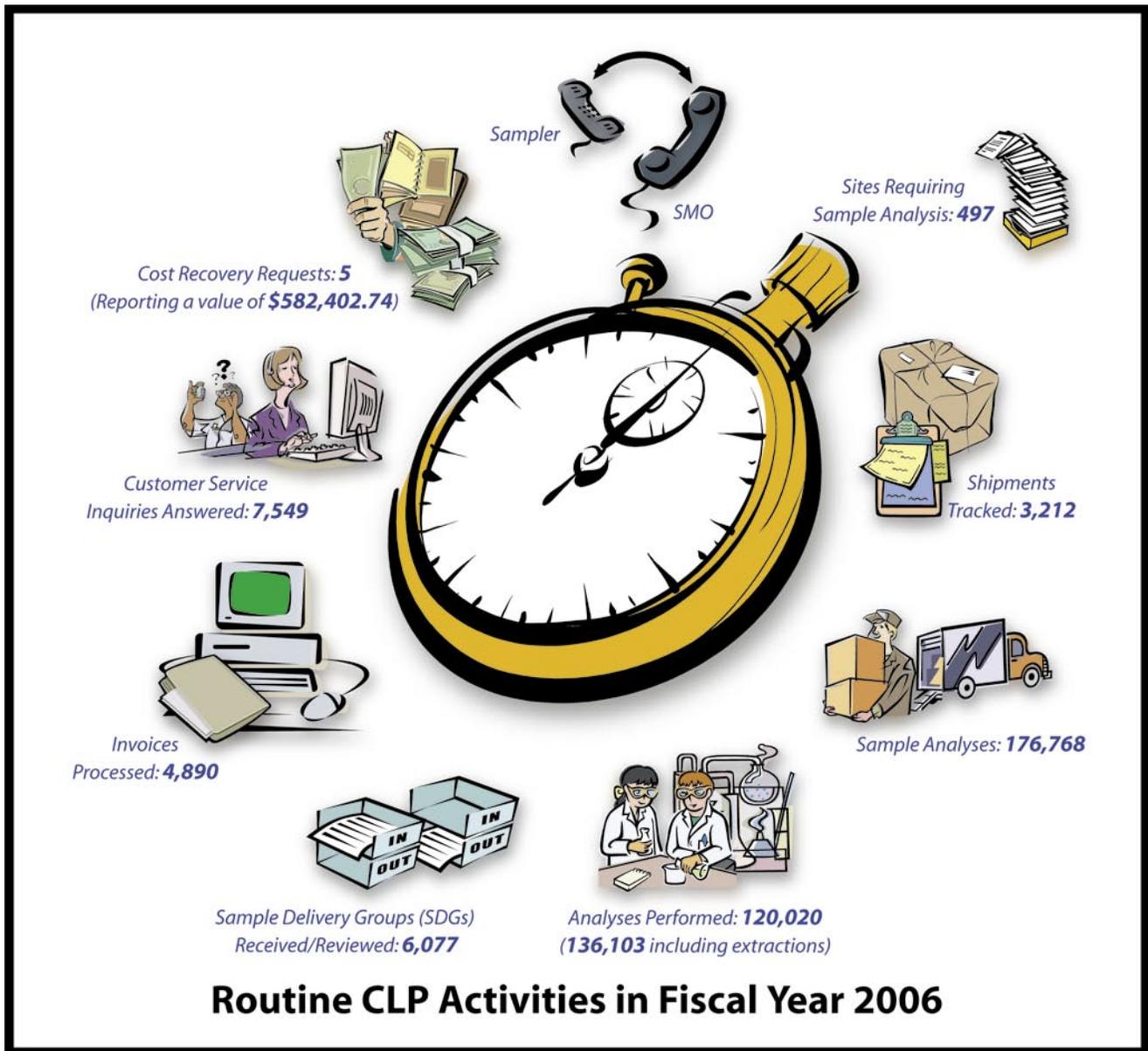
USEPA's [Brownfields Program](#) supports efforts to identify and assess potentially contaminated sites across the United States and conduct appropriate cleanup and/or release activities.

The objective of this program is to quickly make these sites safe for reuse by addressing real or perceived risks. In Fiscal Year 2006, the CLP laboratories completed 51 separate projects involving the analysis of more than 1,311 field samples for 20 Brownfields sites.



"Brownfields" are abandoned, idle, or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination.

The CLP provides Brownfields customers with certain advantages, such as comprehensive QC procedures, data turnaround options, and low market prices for high quality that may not be available through other analytical programs.



The CLP successfully supports its customers in its routine activities as well. Please see the figure above for data on routine CLP activities during Fiscal Year 2006.

Products and Services



CLP customers can combine analytical parameters and turnaround times to satisfy changing needs.

Data Analysis

The CLP provides analytical data that is used to help define the nature and extent of contamination at Superfund sites. This allows customers to:

- Assess priorities for response based on the risk to human health and the environment;
- Determine appropriate cleanup; and
- Determine when Remedial Actions (RAs) are complete.

CLP data is used in all stages of hazardous waste site investigation, including: site inspections; Hazard Ranking System (HRS) scoring; Remedial Investigation (RI) and Feasibility Study (FS); Remedial Design (RD); treatability; RA; operations and maintenance (O&M); and enforcement and litigation activities. The CLP requires that any data produced within the program be of known and documented quality.

Available Analytical Services

Currently, the CLP offers two Routine Analytical Services (RASs):

- Analysis of organic compounds in soils/sediment and water; and
- Analysis of inorganic compounds (including mercury) and cyanide in soils/sediment and water.

These types of analytical services ensure the CLP is able to meet the changing needs of its clients.

Upcoming Analytical Services and Products

The CLP is currently developing an updated inorganic analysis method, ILM06.X. Among other changes, ILM06.X will include a method for analyzing soils via Inductively Coupled Plasma-Mass Spectrometry (ICP-MS) and the addition of wipes and air filter matrices for total metals analyses.

Staged Electronic Data Deliverable (SEDD)



SEDD is an inter-agency effort to create a generic format for electronic delivery of analytical data for environmental programs. SEDD allows laboratories to meet current and future requirements for multiple programs without a complete overhaul of the laboratory EDD-producing system. For additional information about the advantages of using SEDD, please refer to the [SEDD Web site](#).

Expert Technical and Administrative Support

The CLP's staff is comprised of experts in the fields of environmental chemistry, QA, contract management, and ADP support. The CLP has numerous resources within USEPA Regions, USEPA's own laboratories, and CLP contractors. These resources enable the CLP to address and overcome technical or operational issues for the CLP customer.



Currently Available Services:

- **Analysis of Inorganic Compounds (including Mercury) and Cyanide in Soil/Sediment and Water (ILM05.4).**



Complete *Inorganic* Data Deliveries are available in 7, 14, and 21 days with Preliminary Results available within 72 hours.

- **Analysis of Organic Compounds including trace volatile, low/medium volatile, semivolatile, pesticide, and Aroclor target compounds in Water, and Soil/Sediment environmental samples (SOM01.1).**



Complete *Organic* Data Deliveries are available in 7, 14, and 21 days with Preliminary Results available in 48 hours for volatiles and 72 hours for pesticides/Aroclors.

CLP Participants

Program Users

CLP customers currently include 10 USEPA Regions, State and Tribal governments, the United States Army Corps of Engineers (USACE), the United States Bureau of Reclamation (USBR), the United States Geological Survey (USGS), and various United States Territories. The CLP is available to any governmental party (except a PRP) who needs fast, reliable, environmental data of known and documented quality at reasonable prices.



The CLP is available to Federal, State, Territorial, and Tribal agencies [see Chapter 2 How to Access the Contract Laboratory Program (CLP)].

Program Providers

The CLP is operated by a team of government offices, support contractors, and environmental laboratories. The following offices comprise the CLP:



USEPA provides oversight of all program management and QA activities.

- ASB provides government oversight of all CLP activities to ensure that clients receive data of known and documented quality.
- USEPA Regional CLP Project Officers (CLP POs) and Regional Sample Control Center (RSCC) Coordinators provide program support and oversight activities on a day-to-day basis.
- The Sample Management Office (SMO) contractor provides program management (e.g., scheduling, contract compliance tools, and invoice tracking) under the direction of ASB.
- The Quality Assurance Technical Support (QATS) contractor provides QA/QC of CLP data [e.g., PE samples, and data tape audits] under the direction of ASB.
- CLP-contracted laboratories conduct sample analysis and provide data of known and documented quality.

CLP on the Internet

CLP customers can use the Internet to access information and reference documents such as:



Information and a variety of guidance and method documents are available on the [CLP Web site](#).

- [Analytical Methods](#);
- [Quick Reference Fact Sheets](#) for the organic, inorganic, and organic low concentration analytical methods;
- [Guidance Documents](#) including National Functional Guidelines (NFGs) for data assessment and CLP Guidance for Field Samplers; and
- [CLP & ASB Contacts](#).

Chapter 2

How to Access the Contract Laboratory Program (CLP)

CLP Services and Activities



This chapter provides guidance for initiating and using CLP services. It also provides information on several CLP-related software products available to CLP customers. The CLP offers numerous advantages to its CLP and non-CLP site customers (see the Benefits of the CLP section of Chapter 1) that may not be available in other programs. You can begin using CLP services by [contacting the Analytical Services Branch \(ASB\)](#).

Initiating CLP Analytical Services

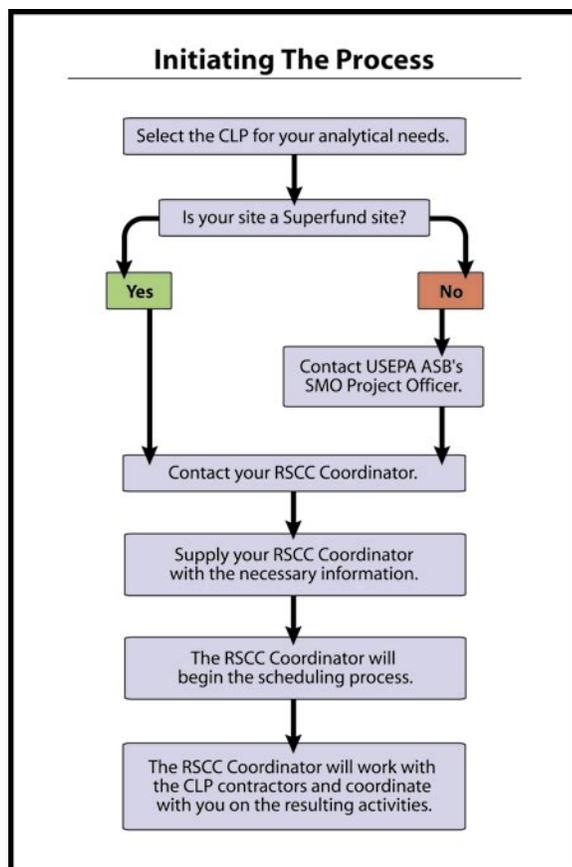
The first step in accessing CLP services is determining if the CLP is the right program for your purposes. You must also determine if the site you wish to sample from is a Superfund site. If the site is part of Superfund, follow the steps listed below. If the site is not a Superfund site, proceed to Requesting CLP Analytical Services for a Non-Superfund Site in this chapter.

Requesting Routine CLP Analytical Services for a Superfund Site

Once you have decided to use the CLP, the next step is requesting analytical services. Current and new CLP customers may request Routine Analytical Services (RAS) through a USEPA [Regional Sample Control Center \(RSCC\) Coordinator](#). The RSCC Coordinator schedules all CLP analysis requests through the Sample Management Office (SMO). SMO and the RSCC Coordinator work together during sampling events to ensure that all samples arrive at the laboratories as scheduled, and to resolve any issues that may arise during sample analysis. Each RSCC Coordinator is responsible for maintaining a working knowledge of current CLP Statements of Work (SOWs) to assist the customer in choosing the proper analytical method.

You must supply the RSCC Coordinator with the following information:

- Site name;
- Site location;
- Operable unit of the site where you want the sampling to take place (the operable unit is a specific portion of a whole site);
- Type(s) of analysis you require and any specific analytical requirements;
- Purpose of your sampling event [e.g., Site Assessment (SA), Remedial Design (RD), Remedial Action (RA)];
- Period of time during which the sampling will take place;



Each Region may have different steps for initiating analytical services. This document contains only a general description.

- Site identification numbers (e.g., CERCLIS ID, Site Spill ID);
- Data turnaround time(s) required for your project;
- Fax number for submission of Preliminary Results, if required; and
- Site-specific Quality Assurance Project Plan (QAPP).



The CLP requires “lead time” in order to secure laboratory space for sampling projects. You must contact your RSCC Coordinator to request RAS so that they will have ample time to contact SMO and set up scheduling by 3:00 PM Eastern Time Monday–Friday prior to the week of a sampling event.



There may be additional information required for your particular Region.



Non-Superfund Support

If you wish to utilize CLP services for non-Superfund activities, please [contact the SMO Project Officer \(PO\) at ASB](#). ASB will facilitate the funds transfer process and direct the sample analysis request to the appropriate USEPA Regional office.

Requesting CLP Analytical Services for a Non-Superfund Site

The CLP also provides analytical and support activities to non-Superfund analyses customers through the transfer of funds from a non-Superfund program [e.g., Resource Conservation and Recovery Act (RCRA), Office of Water (OW), Brownfields]. Please [contact the SMO Project Officer at ASB](#) for additional information or to request CLP services for your non-Superfund site.

Determining the Appropriate SOW

The next step in accessing analytical services through the CLP is deciding which analytical service(s) best meets your needs. The CLP currently offers two SOWs for CLP inorganic and organic.

Both of the SOWs provide the technical and contractual conditions for laboratories to apply USEPA/CLP analytical methods for the isolation, detection, and quantitative measurement of the most common environmental pollutants. [Contact the specified ASB Program Manager](#) for further information.

The Inorganic SOW (ILM05.4)

The Inorganic SOW sets the requirements for the analysis of 23 metals (including mercury) and cyanide in water and soil/sediment samples. Inorganic analysis is conducted using ICP-MS, Inductively Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES), Atomic Absorption (AA), and colorimetric methods. Data is delivered in 7, 14, or 21 days. The customer may specify any of the three turnaround times when requesting CLP inorganic analytical services. Preliminary Results are available within 72 hours for all turnaround times. Requests can be made for all, some, or individual Metal analyses.

For a complete list of the inorganic target analytes and more information about the inorganic analytical service, including the upcoming ILM06.X, see the [Multi-Media, Multi-Concentration, Inorganic Analytical Service for Superfund Fact Sheet](#).

The Organic SOW (SOM01.1)

The Organic SOW sets the requirements for the analysis of 52 volatile, 67 semivolatile, and 21 pesticide, and 9 Aroclor target compounds in water and soil/sediment samples. Organic compounds are analyzed using Gas Chromatography coupled with Mass Spectrometry (GC/MS) or with Electron Capture Detection (GC/ECD). Data delivery is available in 7, 14, or 21 days, any of which may be specified when requesting CLP organic analytical services. Preliminary Results are available within 48 hours for volatiles and 72 hours for semivolatiles, pesticides, and Aroclors for all turnaround times after receipt of each sample at the laboratory.

For a complete list of the organic volatile, semivolatile, pesticide, and Aroclor target compounds and more information about the organic analytical service, see the [Multi-Media, Multi-Concentration, Organic Analytical \(SOM01.1\) Fact Sheet](#).

CLP Software Tools and Products

The CLP's commitment to quality does not end with data. In an effort to bring faster and more efficient services to our customers, the CLP has developed a number of software solutions that streamline data review and Quality Control (QC), Contract Compliance Screening (CCS), and administrative tasks, while promoting the sharing of analytical information.

Data Assessment Tool (DAT)



[DAT](#) is a software-driven process designed to produce enhanced CLP deliverables and more usable reports in a standard format. DAT incorporates CCS and data evaluation



DAT integrates CLP data review software and processes.

based on National Functional Guideline (NFG) to provide USEPA customers with PC-compatible reports and electronic files that can be transferred into client databases and programs for end-users, and to provide a complete CLP data assessment package. The electronic reports reduce the need for manual data entry and duplicate entry of information. All CLP customers receive data that has been processed through CLP data assessment tools within 24 - 48 hours after the laboratory data is received. The resultant spreadsheets are electronically delivered directly via email to the Region that requested the data.

DAT does not include determination of data usability, qualification of data based on professional judgment, evaluation of data based on its intended use, or compliance with a site's Quality Assurance Project Plan (QAPP) or Sampling and Analysis Plan (SAP).

Field Operations Records Management System (FORMS) II Lite™



[FORMS II Lite](#) is designed to assist samplers with generating sample documentation and tracking samples during a sampling event. FORMS II Lite automates the creation and printing of labels and Traffic Report/Chain of Custody Records, thereby improving field time management and decreasing documentation



FORMS II Lite automates routine tasks for the sampler and streamlines data collection.

errors. FORMS II Lite captures critical collection information in an electronic format early in the field sampling process.

FORMS II Lite enables field personnel to easily document, track, and transmit field sample information. In addition, by electronically capturing this information early in the tracking and reporting process, field sampling data is readily accessible for transmittal to RSCC Coordinators and other data users.

During Fiscal Year 2006, 64 sampling organizations used the FORMS II Lite software for sampling efforts with the 10 USEPA Regions for the CLP. The organizations include 20 States/territories and Tribes and the United States Army Corps of Engineers (USACE), United States Bureau of Reclamation, and United States Fish and Wildlife. In Fiscal Year 2006, FORMS II Lite was used to process 1,031 CLP Cases comprised of 5,516 shipments that contained a total of 69,947 samples.

Web-based Invoicing System (WIS)



[WIS](#) enables authorized CLP laboratories to electronically generate and submit invoices via the Internet. WIS provides access to a CLP database containing analytical data that the laboratory has previously submitted. Laboratories can access this submitted information and create an invoice based on the original analytical results.

Sample Delivery Group (SDG) Tracking System (STS)

The laboratory can use [STS](#) to track the status of analytical data from the delivery date to the invoice payment date. The laboratory uses their assigned Lab Code, name, and Password (as assigned by SMO) to access STS.



WIS automates laboratory submission of invoices.

Enforcement and Cost Recovery Support

The CLP has established detailed procedures and documentation to ensure that the sample data is tracked from the time of sample collection to introduction as evidence in legal proceedings. The CLP also provides documentation for program analytical costs to support Superfund Cost Recovery efforts. Cost Recovery is designed to assist CLP customers in recouping the CLP analytical and cleanup costs they have spent on a hazardous waste site.

Requesting Enforcement Support

Litigation procedures often necessitate the use of CLP data generated from the analysis of samples collected. The CLP offers a variety of services to support enforcement activities that include:

- Arranging for the delivery of all laboratory and evidence documentation relating to specific sample analyses;
- Augmenting customer resources for analytical data review; and
- Assisting in arranging for expert testimony by laboratory or CLP personnel.



The CLP provides litigation support and assists customers in recouping analytical and site cleanup costs.

Customer requests for enforcement support are initially coordinated through the [SMO Project Officer](#) at ASB. ASB will review the request and determine the appropriate CLP response, including the provision of USEPA Regional or contractor resources needed to respond to the request.

Requesting Cost Recovery Support

The CLP's Cost Recovery support normally consists of financial and analytical documentation. The following forms of documentation are available to support Cost Recovery requests:

- Reports that detail all CLP analytical and management costs associated with a site;
- Lists of CLP projects associated with a site;
- Sample analysis results; and
- Lists of each invoice associated with a particular site.

Non-standard ad-hoc reports also may be prepared if necessary. If necessary, the Cost Recovery personnel will coordinate efforts with the other USEPA offices or contractor resources in order to produce or acquire Cost Recovery documentation.

Appendix A

List of Acronyms

AA	Atomic Absorption
ADP	Automated Data Processing
ASB	Analytical Services Branch
ASF	Agency Standard Format
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CCS	Contract Compliance Screening
CLP	Contract Laboratory Program
CLP PO	Contract Laboratory Program Project Officer
DART	Data Assessment Rapid Transmittal
DAT	Data Assessment Tool
FORMS II Lite	Field Operations Records Management System II Lite
GC/ECD	Gas Chromatography/Electron Capture Detection
GC/MS	Gas Chromatography/Mass Spectrometry
HRGC	High Resolution Gas Chromatography
ICP-AES	Inductively Coupled Plasma-Atomic Emission Spectroscopy
ICP-MS	Inductively Coupled Plasma-Mass Spectrometry
NFG	National Functional Guidelines
NPL	National Priorities List
O&M	Operations & Maintenance
OSC	On-Scene Coordinator
OW	Office of Water
OSRTI	Office of Superfund Remediation and Technology Innovation
PE	Performance Evaluation
PO	Project Officer
PRP	Potentially Responsible Party
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QATS	Quality Assurance Technical Support
QC	Quality Control
RA	Remedial Action
RAS	Routine Analytical Service
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RPM	Remedial Project Manager
RSCC	Regional Sample Control Center (USEPA Region)
SA	Site Assessment
SAP	Sampling and Analysis Plan
SDG	Sample Delivery Group
SEDD	Staged Electronic Data Deliverable
SMO	Sample Management Office
SOW	Statement of Work
STS	SDG Tracking System
USACE	United States Army Corps of Engineers
USBR	United States Bureau of Reclamation
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WebCCS	Web Contract Compliance Screening
WIS	Web-based Invoicing System

Appendix B

Glossary

Analyte: The element, ion, or parameter an analysis seeks to determine; the element of interest.

Analytical Services Branch (ASB): The USEPA center that directs the national Contract Laboratory Program (CLP).

Atomic Absorption (AA): A procedure for inorganic analysis based on the absorption of radiation by mercury vapor (Cold Vapor), flame, or graphite furnace.

Brownfields: Abandoned, idle, or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination.

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 of 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".

Contract Compliance Screening (CCS): The screening of electronic and hardcopy data deliverables for completeness and compliance with the contract. This screening is done under USEPA direction by the Sample Management Office (SMO) contractor.

Contract Laboratory Program (CLP): Supports the USEPA's Superfund effort by providing a range of chemical analytical services to produce environmental data of known and documented quality. This program is directed by the USEPA Analytical Services Branch (ASB).

Contract Required Quantitation Limit (CRQL): Minimum level of quantitation acceptable under the contract Statement of Work (SOW).

Cost Recovery: A legal process by which Potentially Responsible Parties (PRPs) that contributed to contamination at a Superfund site can be required to reimburse the Trust Fund for money spent during any aspect of cleanup actions by the Federal government.

Cost Recovery Request: A request issued by an Authorized Cost Recovery Requestor for detailed cost and sample documentation associated with a Superfund site.

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

Data Assessment Rapid Transmittal (DART): DART is an active notification system providing up-to-the-minute transmittal of the Contract Compliance Screening (CCS) and Computer Aided Data Review and Evaluation (CADRE) evaluation report data to Contract Laboratory Program (CLP) customers.

Data Assessment Tool (DAT): A software driven process that incorporates CCS, CADRE, and DART designed to produce enhanced CLP deliverables and more usable reports in a standard format.

Data Turnaround Time: The maximum length of time allowed for laboratories to submit analytical data to USEPA in order to avoid financial penalties (i.e., disincentives). Data turnaround time begins at the validated time of sample receipt (VTSR) at the laboratory.

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

Feasibility Study (FS): A description and analysis of potential cleanup alternatives for a site such as one on the National Priorities List (NPL). The FS usually recommends selection of a cost-effective alternative. It usually starts as soon as the Remedial Investigation (RI) is underway. Together, they are commonly referred to as the "RI/FS".

Gas Chromatography (GC): The method used to separate analytes on a stationary phase within a chromatographic column. GC is frequently used with other instruments for analyzing organic compounds:

- *Mass Spectrometry:* In volatile and semivolatile analysis, the compounds are detected by a Mass Spectrometer (MS).
- *Electron Capture:* In pesticide and Aroclor analysis, the compounds are detected by an Electron Capture Detector (ECD).

Hazard Ranking System (HRS): A numerically-based screening system that uses information from initial, limited investigations to assess the relative potential of sites to pose a threat to human health or the environment. The HRS is the principal mechanism USEPA uses to place uncontrolled waste sites on the National Priorities List (NPL).

Hazardous Waste Site: A site contaminated with substances that can pose a substantial or potential hazard to human health or the environment.

Inductively Coupled Plasma - Atomic Emission Spectroscopy (ICP-AES): A technique for the simultaneous or sequential multi-element determination of elements in solution. The basis of the method is the measurement of atomic emission by an optical spectroscopic technique. Characteristic atomic line emission spectra are produced by excitation of the sample in a radio frequency ICP.

Inductively Coupled Plasma - Mass Spectrometry (ICP-MS): A technique for the multi-element determination of elements in solution. The basis of the technique is the detection of atomic ions produced by an ICP and sorted by mass/charge ratio.

National Functional Guidelines (NFG): A document designed to offer guidance on inorganic, organic, and organic low concentration Contract Laboratory Program (CLP) analytical data evaluation and review.

National Priorities List (NPL): A list of sites for hazardous waste cleanup under the Superfund program.

Office of Solid Waste and Emergency Response (OSWER): The USEPA office that provides policy, guidance, and direction for the USEPA's OSWER programs, including Superfund.

Performance Evaluation (PE) Sample: A sample of known composition provided by USEPA for contractor analysis. Used by USEPA to evaluate contractor performance.

Pesticides: A pesticide is any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest. Pests can be insects, mice, and other animals, unwanted plants (weeds), fungi, or microorganisms like bacteria and viruses. Though often misunderstood to refer only to *insecticides*, the term pesticide also applies to herbicides, fungicides, and various other substances used to control pests. Under United States law, a pesticide is also any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.

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 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.

Quality Assurance Technical Support (QATS) Laboratory: A contractor-operated facility that provides Quality Assurance (QA) services operated under the QATS contract, awarded and administered by USEPA.

Remedial Action (RA): The construction or clean-up phase of a Superfund site cleanup.

Remedial Design: A phase of Remedial Action (RA) that follows the Remedial Investigation/Feasibility Study (RI/FS) and includes development of engineering drawings and specifications for a site cleanup.

Remedial Investigation (RI): An in-depth study designed to gather data needed to determine the nature and extent of contamination at a Superfund site, establish site cleanup criteria, identify preliminary alternatives for Remedial Action (RA), and support technical and cost analyses of alternatives. The RI is usually performed with the Feasibility Study (FS). Together they are usually referred to as the "RI/FS".

Remedial Project Manager (RPM): The USEPA or State official responsible for overseeing on-site studies and remediation activities.

Remedial Response: Long-term action that stops or substantially reduces a release or threat of a release of hazardous substances that is serious but not an immediate threat to public health.

Remediation: Cleanup or other methods used to remove or contain a toxic spill or hazardous materials from a Superfund site.

Routine Analytical Service (RAS): The standard inorganic, organic, and organic low concentration high volume, multi-component analyses available through the Contract Laboratory Program (CLP).

Regional Sample Control Center (RSCC) Coordinator: The RSCC Coordinator coordinates Regional sampling efforts.

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

Sample Management Office (SMO): A contractor-operated facility that is awarded and administered by the USEPA. SMO provides management, operations, and administrative support to the Contract Laboratory Program (CLP).

Statement of Work (SOW): A document which 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 the Superfund Amendments and Reauthorization Act (SARA) that fund and carry out USEPA 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).

Appendix C

List of Web References

Analysis of Metals (including Mercury) and Cyanide in Soil/Sediment and Water	http://www.epa.gov/superfund/programs/clp/inorg.htm
Analysis of Organic Compounds in Soil/Sediment and Water	http://www.epa.gov/superfund/programs/clp/organic.htm
Analysis of Organic Compounds (to include trace volatile, low/medium volatile, semivolatile, pesticide, and Aroclor target compounds) in Water, and Soil/Sediment environmental samples	http://www.epa.gov/superfund/programs/clp/som1.htm
Analytical Methods	http://www.epa.gov/superfund/programs/clp/methods.htm
Brownfields Program	http://www.epa.gov/swerosps/bf/
CLP Web site	http://www.epa.gov/superfund/programs/clp/
CLP & ASB Contacts	http://www.epa.gov/superfund/programs/clp/contacts.htm
DAT	http://www.epa.gov/superfund/programs/clp/dat.htm
EPA Order 5360.1 A2	http://www.epa.gov/quality/qs-docs/5360-1.pdf
FORMS II Lite	http://www.epa.gov/superfund/programs/clp/f2lite.htm
Guidance Documents	http://www.epa.gov/superfund/programs/clp/guidance.htm
Introduction to the ASB CLP	http://www.epa.gov/superfund/programs/clp/guidance.htm
Low Concentration Organic Analytical Service for Superfund (Water matrix) Fact Sheet	http://www.epa.gov/superfund/programs/clp/facts.htm#lowcon
Multi-Media, Multi-Concentration, Organic Analytical Service for Superfund Fact Sheet	http://www.epa.gov/superfund/programs/clp/facts.htm#organic
Multi-Media, Multi-Concentration Inorganic Analytical Service for Superfund Fact Sheet	http://www.epa.gov/superfund/programs/clp/facts.htm#inorganic
Per Sample Pricing	http://www.epa.gov/superfund/programs/clp/prices.htm
Quick Reference Fact Sheets	http://www.epa.gov/superfund/programs/clp/facts.htm
RSCC Coordinator Contacts	http://www.epa.gov/superfund/programs/clp/rsclist.htm
SEDD	http://www.epa.gov/superfund/programs/clp/sedd.htm
STS	http://epasmoweb.dyncorp.com/sts/index.html
Target Compounds and Analyte List	http://www.epa.gov/superfund/programs/clp/target.htm
WIS	http://www.epa.gov/superfund/programs/clp/wis.htm
