DEPARTMENT OF LABORATORY SCIENCES

SUPERBIA IN RE GERENDA

USAPHCR-EUROPE

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DLS Customer Guide

Ver. 3 • Rev. 5 • 23 Apr 10

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FOREWORD

The DLS Customer Guide is designed to provide a customer friendly reference for using DLS services. The DLS Customer Guide is designed in Adobe Acrobat Reader 7 (or greater) Portable Document Format (PDF) with embedded hyper links to external web sites, e-mail addresses, download links, and internal bookmarks for ease of use. External **links** (web sites, downloads, and e-mail addresses) are indicated in underlined blue text and Internal **bookmarks** and **Hyperlinks** are indicated by bold blue text. Clicking on either of these two hyperlinks will take you directly to the web site, e-mail address, or referenced section of the DLS Customer Guide.

All text in the Table of Contents (TOC) [pages 1 through 6] of the DLS Customer Guide are bookmarks. Clicking on any entry or analyte listed in the TOC will take you directly to that section in the Customer Guide. All pages have a Table of Contents (TOC) or TOC Analytes link in the upper right hand corner of the page (**bold blue text**). Clicking on this link will take you to the referenced section for quick access to the other TOC links.

DISCLAIMER

The DLS Customer Guide is provided in both controlled (DLS staff use) and uncontrolled (customer use) copy formats. Due to the wide geographic distribution and turnover in customers (e.g., deployment) DLS does not maintain a list of recipients and automatically provide updated copies. The contents of the DLS Customer Guide are subject to change based on method revisions, updates or changes. DLS is not responsible for any sampling errors incurred by the customer. Please routinely visit the USAPHC(P) PHRC-Europe web site to ensure you are using the current revision of the DLS Customer Guide. You can download your copy at our web site.

USAPHC(P) PHCR-Europe DLS Customer Guide

USAPHC(P) PHCR-EUROPE DLS MISSION STATEMENT

Provide sound science for risk-based decision making based on honest, ethical data reporting.

The Department of Laboratory Sciences maintains an **ISO/IEC** 17025:2005 nationally and internationally accredited laboratory, operating under an ISO 9001:2008 Registered Quality Management System and an ISO 14001:2004 Registered Environmental Management System. These Internationally recognized Accreditations and Registrations comprise the DLS' Quality System (QS) and serve as the backbone that enables us to provide quality environmental laboratory services supporting the Health Promotion and Preventive Medicine Programs of our National Military Strategy in the U.S. European Command (**EUCOM**), U.S. Central Command (**CENTCOM**), and U.S. Africa Command (**AFRICOM)** areas of responsibility.

DLS Undergoing Transition

Effective 01 October 2009, the Army Medical Command initiated the transition of the United States Army Center for Health Promotion and Preventive Medicine (USACHPPM) to the United States Army Public Health Command (Provisional). USACHPPM-Europe will transition to the Public Health Command Region - Europe. When the transition is complete, DLS will become the USAPHC PHCR-Europe (formerly known as USACHPPMEUR), Department of Laboratory Sciences (DLS).

DLS Quality Policy

The Department of Laboratory Sciences' (DLS) Quality Policy is the foundation upon which DLS' future success will be achieved and is an accurate representation of top management's vision, strategy, and commitment to Quality.

The purpose of the Quality Management System (QMS), that encompasses all aspects of the DIN EN ISO/IEC 17025:2005, ISO 9001:2008, and ISO 14001:2004 Standards, is to provide a defined Quality framework for all DLS employees to work within that highlights their relevance and importance in the system and organization, guides them in their daily work-related duties and decision-making, and defines ethical rules and boundaries. This type of management system creates an open and honest work environment that promotes trust in the QMS and the Management Review Team (MRT) and is flexible enough to allow implementation and growth of identified opportunities for improvement.

The DLS MRT is fully committed to the achievement of the following goals:

- the highest ethical and professional practices by all DLS Staff,
- the best level of quality in testing as required by our customers,
- excellent customer service,
- continual improvement of the effectiveness of the Quality System, and
- compliance with the requirements of ISO/IEC 17025, ISO 9001, and ISO 14001 Standards, as well as those of applicable accrediting, regulatory, and/or legal bodies.

With these goals in mind, the MRT has defined the following Quality Objectives for DLS Staff:

Produce quality analytical data by,

- maintaining qualified, competent well-trained staff through external and internal training opportunities,
- monitoring laboratory performance through data review and validation, equipment maintenance and verification, and the Quality Control (QC) and Proficiency Test (PT) programs, and
- the continuous review of the QMS to identify areas for improvement with Quality System Review (QSR) and Management Review Team (MRT) meetings, internal and external audits, and corrective and preventive actions.

PROVIDE EXCELLENT SERVICE TO OUR CUSTOMERS BY,

- carefully selecting our contractors and vendors to provide quality supplies and laboratory information,
- carefully planning our work and services to meet specified requirements, Data Quality Objectives (DQOs), and/or Memorandum of Understanding (MOU) for projects, products, or contracts,
- seeking feedback from our customers on how we can improve our service to them through customer surveys, meetings, or telephone consults, and providing feedback and follow-up to them,
- assisting each other to go above and beyond in all aspects of our work in order to delight the customer, and
- looking for innovative solutions and promoting technological advancements.

All DLS personnel are required to be thoroughly familiar with the necessary QMS documentation and fully implement the quality policies and procedures in every aspect of their work. This policy shall be reviewed by the MRT on an annual basis, or as required for continuing suitability.

The Quality Policy statement is issued under the authority of the DLS Laboratory and Technical Director (chief executive).

DLS ENVIRONMENTAL POLICY

DLS is fully committed to being an environmentally responsible neighbor to both our immediate community and the global neighborhood in which we live and work. Our commitment to environmental stewardship enhances our reputation and engenders trust with our customers as we do everything practical to protect the environment from which we derive our business. DLS continuously builds on our knowledge base, maintains awareness of environmental issues and legal requirements, and communicates our goals through continuing education and training programs. Appropriate and timely use of technological resources by qualified personnel is the cornerstone for continually improving the DLS Environmental Program while ensuring our commitment to conservation of natural resources. Top management wholly supports the following tenets of our Environmental Policy and provides them as guidance to all DLS' employees:

Prevention of Pollution

DLS utilizes safe technologies and operating procedures designed to minimize risks for its employees and neighboring communities. DLS makes every effort to prevent our work from impacting negatively on the environment by implementing analytical procedures that minimize our consumption of materials and reduce our waste generation. DLS purchases state-of-the-art instrumentation, and complies with established regulations for the safe treatment and disposal of generated waste.

Compliance

DLS employs procedures to meet, and when possible, surpass the compliance require-

ments of U.S. Military regulations and applicable legal and statutory requirements. Management monitors changes in legal or military requirements in order to guarantee the ability of DLS to be compliant. DLS establishes and meets its own standards to support pollution prevention goals, when legal requirements and regulations are nonexistent.

Continual Improvement

DLS actively seeks opportunities to improve our adherence to the principles of environmental management. Our main focus is the continual assessment of our environmental aspects, impacts, objectives and targets using sound scientific data, and by conducting regular internal audits to ensure compliance with our policies and procedures. DLS employees are encouraged to continually seek ways to minimize the production of chemical waste and usage of resources, while adhering to established recycling and waste management practices. As an environmentally responsible organization, DLS strives to improve our own environmental performance by promoting our own conservation efforts.

Communication

DLS communicates our tenets and mandates to stakeholders to ensure full role and responsibility awareness and solicits input on our environmental program. We also solicit input from our vendors and contract labs via surveys to share environmental management ideas and practices. DLS reports the progress of our environmental program and our significant environmental aspects to the public via our public internet website :

USAPHC(P) PHRC-Europe DLS Environmental Management System Initiatives

Section 1 • Introduction

The DLS Customer Guide will assist you with the four main steps of submitting samples to the Department of Laboratory Sciences, United States Army Public Health Command (Provisional) Public Health Command Region - Europe (DLS, USAPHC(P) PHCR-Europe):

- Submitting a Request for Services
- Collecting and handling samples correctly
- Completing the required paperwork
- Shipping samples to DLS

Customer Base

The Department of Laboratory Sciences' primary mission is to support Army environmental and occupational health programs internal to USAPHC(P) PHCR-Europe. However, other Department of Defense and Federal agencies are supported on a reimbursable basis.

DLS Structure

DLS consists of four divisions: Inorganic Chemistry & Toxicology Division (ICTD), Organic Chemistry & Toxicology Division (OCTD), Quality Assurance Division (QAD), and Customer Support Division (CSD). Arrangements for sample analysis are made through the Customer Support Division.

Analyses Available

A list of the analyses available at DLS is included in **Appendix D**. We may be able to accommodate other requests through qualified contract laboratories or, if projected sample load is significant, through in-house method development. Implementation and validation of new procedures is time-consuming and usually requires six months to a year or more to complete. At the conclusion of this work, the implementation analyst(s), respective Division Chief/Deputy Chief, Chiefs, QAD & DLS will review and approve the following documentation and data in order to establish an in-house method: 1) valid instrument calibration, 2) acceptable Quality Control (QC) results, 3) full Method Detection Limit (MDL) study, 4) Initial Demonstration of Capability studies (IDC), 5) Draft Standard Operating Procedure (SOP) and/or Work Instruction (WI) and 6) any additional required documentation and/or data.

Quality Assurance

We provide quality data that are supported by several accreditations, registrations, and certifications (see **Appendix C**). Our data is recognized nationally and internationally through the laboratory's accreditation with our registrar the **Deutsches Akkreditierungssystem Prüfwesen GmbH** (DAP) to the DIN EN ISO/IEC 17025:2005 standard. Effective 23 December 2009, all German accrediting bodies merged to the **Deutsche Akkreditierungsstelle** (DAkkS). The DAkkS is now the only accreditation body in Germany. The current accredita-

tions remain valid until the expiration of the accreditation, but are now monitored by the DAkkS.

MATRICES ANALYZED

Matrices routinely analyzed by DLS and our US and German Contract Laboratories:

- Air Sampling Tubes (AST)
- Bottled Water (BW)
- Bulk Liquid (BL)
- Bulk Solid or Sludge (BS)
- Drinking Water (DW)
- Filters (FL)
- Groundwater (GW)
- Oil (O)
- Organic Vapor Monitors (OVM)
- Paint Chips (PC)
- Raw Water (RW)
- Soil (SL)
- Wastewater (WW)
- Wipes (WP)

SAMPLE ANALYSIS PRIORITY

DLS (D) provides in-house, German Contract Laboratory (G) and US (CONUS) Contract Laboratory (U) analytical services and three levels of sample priority:

Routine (R)

Standard laboratory priority *[Routine Priority lowest cost]*

Immediate (I)

Elevated laboratory priority based upon potential health risk, environmental damage risk, or high cost for delay. A brief written justification is required. *[Immediate Priority is 150% of the routine cost]*

Emergent (E)

Highest laboratory priority based upon the potential acute health risk, environmental damage risk, or excessive cost for delay. A written justification is required. *[Emergent Priority is 200% of the routine cost]*

TURNAROUND TIME (TAT) GOALS

Laboratory Turnaround Time (TAT) for all analyses are goals and are not guaranteed. Sample workload and laboratory manpower can impact on the ability of the laboratory to meet the

TAT goal. TAT is expressed in calendar days.

TAT is defined as the time from receipt of samples at the laboratory performing the analysis (USAPHC(P) PHCR-Europe DLS, German Contract or CONUS contract laboratory) to the dispatch of analytical data by commercial carrier, certified mail or transmittal of the Electronic Data Deliverable (Emergent and Immediate Priority samples).

TAT calculation for contract laboratories starts from the day the sample is delivered to the laboratory performing the analysis and not the date the samples are delivered to USAPHC(P) PHCR-Europe DLS. Shipping to most German contract labs requires 1 work day and 2 work days to USAPHC(P) (Aberdeen Proving Ground, MD). An additional 2 days may be required if the contract laboratory sub-contracts the analysis to one of their contract labs.

The shipment times are not included in the respective laboratory's published TAT goals.

Please see **Table 1.1** for recent TAT performance for DLS and its contract labs and use it as a guide to determine the overall project priority required:

Department of Laboratory Sciences (DLS) In-house TAT Goals:

Routine Priority: 14 day turnaround time (***goal***)
Immediate Priority: 7 day turnaround time (***goal***)
Emergent Priority: 72–96 hour (test dependent) turnaround time (***goal***). *Note: Gross Alpha Activity & Gross Beta Activity in water will not be accepted with Emergent Priority.*

German Contract Laboratory TAT Goals:

RADS: 30 day turnaround time (***goal***). *Note: Includes Radon in air and drinking water, and Radium 226 & 228 in drinking water.*
Routine Priority: 14 day turnaround time (***goal***)
Immediate Priority 7 day turnaround time (***goal***)
Emergent Priority: 72–96 hour (test dependent) turnaround time (***goal***)

CONUS Contract Laboratory TAT Goals:

Routine Priority: 30 day turnaround time (***goal***) *Note: Includes Gross Alpha Activity & Gross Beta Activity in soil, Radium 226 & 228 in water and soil, Strontium 90 in water, Tritium in water and soil, and Uranium in water.*
Immediate Priority 14 day turnaround time (***goal***)
Emergent Priority: 7 day (test dependent) turnaround time (***goal***)

Emergent Priority turnaround time is method dependent. It is important to note that some analyses are time intensive and cannot be performed in a 72 to 96 hour TAT. In such cases, your data will be forwarded to you as it is available.

Qualitative ID of Unknown Materials (Qual-ID) is not associated with the three standard DLS Priority turnaround time goals. Samples will be handled in accordance with the Priority

requested but sometimes even Emergent Priority samples may require 30 to 90 days or more to complete depending upon the complexity and number of analytical procedures required for complete contaminant ID.

If there is cause for your results to be delayed beyond the expected TAT goal, you will be contacted by a DLS Division Chief or by CSD personnel with an explanation.

The following table contains the average Total Laboratory Turnaround Time (TLTAT) ± Standard Deviation (SD) in calendar days with the minimum and maximum achieved TLTAT for all samples submitted to DLS and its contract laboratories for FY09. The TLTAT is calculated in calendar days from receipt of the samples at USAPHC(P) PHCR-Europe DLS until the analytical data are reported to the customer by USAPHC(P) PHCR-Europe DLS, and therefore includes the shipping time to the contract laboratories. Customers may use this as a guide in selecting the required sample priority for their projects after consulting **Appendix D** to determine which laboratory will be performing the desired analysis.

TABLE 1.1: FY09 TOTAL LABORATORY TURNAROUND TIME (CALENDAR DAYS)

LAB	Priority	AVG TAT	SD	MIN TAT	MAX TAT	% of Samples Reported in TAT Goal
DLS	Emergent	1.9	0.5	< 1	3	100.0
	Immediate	4.6	1.8	< 1	8	99.1
	Routine	10.3	4.7	< 1	24	96.6
GCL	Emergent	9.3	0.0	7	13	—
	Immediate	22.2	1.2	8	11	—
	Routine	24.4	9.5	5	72	—
UCL	Emergent	9.3	3.1	14	21	—
	Immediate	9.8	1.2	21	24	—
	Routine	33.8	8.0	7	49	—

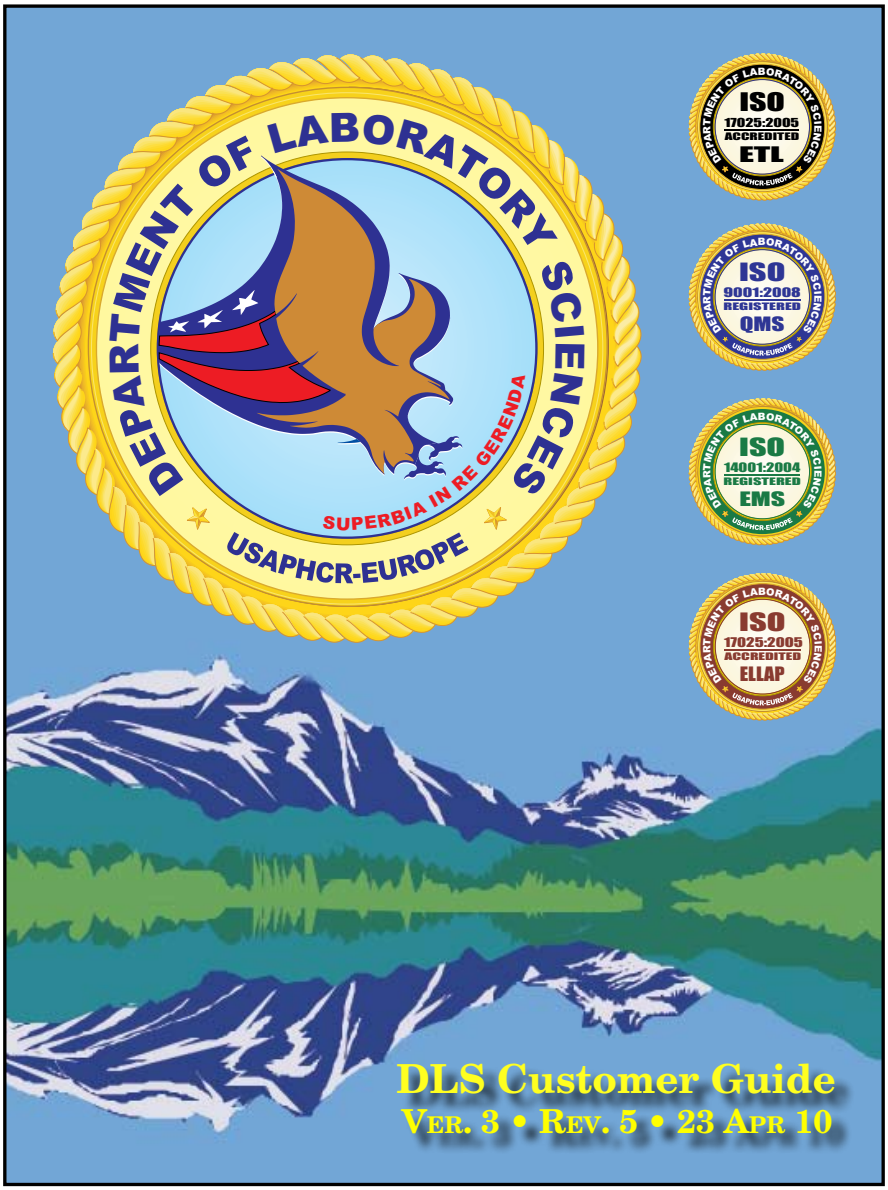
DLS: Department of Laboratory Sciences (DLS) USAPHC(P) PHCR-Europe
GCL: German Contract Laboratories
UCL: US (CONUS) Contract Laboratories

CHAIN OF CUSTODY

If necessary, samples can be handled as if they are of an evidentiary nature. The possession of these samples must be traceable from the time the samples are collected until the analysis is completed and the samples are released for disposal (see **Section 3, Chain of Custody Form [CSD Form 7]**.

SAMPLE COLLECTION KITS

Sample collection kits for water and soil analytes that contain bottles, preservatives, ice packs, media, and coolers are available directly from CSD. DLS charges on a case by case basis for sampling kits requested for contingency purposes. The request for sample collection kits should be made on the **Request for Laboratory Services (CSD Form 1)**. If you cannot use the sample collection kit at the expected time, the preservatives are stable for one year from preparation date. Please do not use an expired sampling kit. Contact CSD to obtain the procedures for returning a kit for proper disposal or to obtain a new, in-date kit.



SECTION 2 • HOW TO CONTACT DLS

Customer Support Division (CSD)

Most communication with DLS occurs through CSD. If our CSD professionals cannot answer your questions, you will be referred to the appropriate analyst or division chief. DLS-Hotline e-mail messages can be viewed by all DLS personnel thereby allowing the most qualified DLS professional to provide a timely and direct answer to your problem or inquiry.

CSD E-mail

DLS Hotline E-mail [usachppmeur.dlshotline@amedd.army.mil]

CSD Telephone

DSN: 314-486-7052 or 314-486-8381 (alternate)
Civilian: 06371-86-7052 / 8381 (In Germany, GE)
Civilian Outside GE: (+49) 6371-86-7052 / 8381
Civilian from the US: 011-49-6371-86-7052 / 8381

CSD Facsimile (FAX)

DSN: 314-486-7054 or 314-486-8788 (alternate)
Civilian: 06371-86-7054 / 8788 (In Germany, GE)
Civilian Outside GE: (+49) 6371-86-7054
Civilian from the US: 011-49-6371-86-7054

CSD Military Postal Shipping Address

United States Army PHC(P) PHCR-Europe
Department of Laboratory Sciences
ATTN: MCHB-AE-LS Customer Support Division (WK4UPX)
CMR 402
APO AE 09180

CSD German Postal Shipping Address

United States Army PHC(P) PHCR-Europe
Department of Laboratory Sciences
ATTN: MCHB-AE-LS Customer Support Division (WK4UPX)
Kirchberg Kaserne Gebäude 3809, Raum 110
D-66849 Landstuhl, Germany

Finance: DoD Accounts Manager

All reimbursable work requires funding to be in place ***prior*** to submission of samples. Submit a Military Interdepartmental Purchase Request (MIPR, DD Form 448) to one of the addresses below. Other government affiliates should contact the DoD Accounts Manager.

DoD Accounts Manager E-mail

DLS Hotline E-mail [usachppmeur.dlshotline@amedd.army.mil]

DoD Accounts Manager Telephone

DSN: 314-486-7744 or 314-486-8381 (alternate)
Civilian: 06371-86-7744 / 8381 (In Germany, GE)
Civilian Outside GE: (+49) 6371-86-7744 / 8381
Civilian from the US: 011-49-6371-86-7744 / 8381

DoD Accounts Manager Facsimile (FAX)

DSN: 314-486-7054 or 314-486-8788 (alternate)
Civilian: 06371-86-7054 / 8788 (In Germany, GE)
Civilian Outside GE: (+49) 6371-86-7054
Civilian from the US: 011-49-6371-86-7054

DoD Accounts Manager Military Postal Shipping Address

United States ArmyPHC(P) PHCR-Europe
Department of Laboratory Sciences
ATTN: MCHB-AE-LS DoD Accounts, Customer Support Division (WK4UPX))
CMR 402
APO AE 09180

DoD Accounts Manager German Postal Shipping Address

United States Army PHC(P) PHCR-Europe
Department of Laboratory Sciences
ATTN: MCHB-AE-LS DoD Accounts, Customer Support Division (WK4UPX))
Kirchberg Kaserne Gebäude 3809, Raum 110
D-66849 Landstuhl, Germany

DLS Price List

A price list is available upon request. Prices for Immediate and Emergent Priority turnaround times are 150% and 200% of the routine price, respectively. Please contact CSD to obtain price quotes for specific projects or analyses.

Customers are provided periodic statements that include the cost of all samples submitted plus shipping charges.

Common Finance and Billing Questions:

- How much does it cost?
- How much money is left in my MIPR?

Please send all questions and inquiries to the DLS Hotline address at:

DLS Hotline E-mail [usachppmeur.dlshotline@amedd.army.mil]

Section 3 • Sample Submission

Overview

Prior to submitting samples to DLS, financing must be arranged through our **DoD Accounts Manager (see Section 2)**. The next step is to submit your Request for Laboratory Services (RLS) form. Your request will be reviewed by CSD first and given a Service Request Number (SRN). The Chief or Deputy Chief of the analytical division performing analysis will review your request. You will be contacted if there are any questions or modifications that are needed. Once your RLS form has been accepted, CSD will notify you on the acceptance of your request and provide you with your SRN and Methods of Analysis form(s). The Methods of Analysis form is created for the matrix type(s) that will be submitted based on your RLS form and identifies the method(s) by which your samples will be analyzed. When you receive the Methods of Analysis form(s), carefully review it to ensure the methods are the ones that you requested or require. If not, contact CSD immediately. Once you are issued your SRN you may submit samples to DLS on the agreed upon date. Customers are strongly encouraged to check with your courier in advance of the sampling date and pre-arrange shipping times and dates before sampling. This will help to ensure sample pick-up is possible when sampling/packing event is completed. Sampling events should be scheduled to preclude the delivery of samples to DLS after 1200 hours on Fridays, Holidays, and weekends to ensure samples can be analyzed with in hold times and with out additional cost for weekend processing. Please contact CSD to update and re-accept the RLS and to issue an updated Methods of Analysis form if necessary if you need to change the scheduled work (i.e., number of samples submitted, analyses requested, or the agreed delivery date).

The proper forms must be submitted with the samples to ensure accurate and efficient processing into the DLS system.

Sample Handling & Collection

General Notes

Ensure you clearly mark all samples and annotate the paperwork when known contaminants such as Hydrogen Sulfide are present in the samples or if you suspect or have noticed an unusual odor or physical characteristic of the samples. These observations are important in protecting the health of all individuals who handle the samples.

Samples suspected to be contaminated with or collected from areas suspected to have been previously contaminated with Chemical Warfare (CW) / Biological Warfare (BW) agents or exposed to Toxic Industrial Chemicals (TIC) / Toxic Industrial Materials (TIM) ***must*** be **SCREENED** and found to be **NEGATIVE** prior to shipment to DLS. The screen findings ***must*** be marked as such on the sample container and on the accompanying paperwork. ***Do not send samples known to be contaminated with CW/BW agents.***

When requesting water analysis, please ensure that the selected matrix matches with the actual sample matrix. BW should only be used for bottled or packaged water, DW only for

finished (potable) drinking water, RW for water that is used for the production of drinking water of any source and stage of treatment, BL for other water samples such as ground water or water from monitoring wells for contaminated site assessments, or water from swimming pools or sea water, and WW for waste water or storm water. Selecting the correct matrix and communicating the type/source of water helps to prevent delays in performing sample analysis, the generation of invalid analytical data, and damage or even destruction of trace level analytical instrumentation.

Trip blanks (also known as Field Reagent Blanks) are provided by CSD as required and must be included when the samples are returned to CSD. **Note**: Trip blanks ***must never*** be opened and ***must always*** be kept with the samples. Trip blanks are used to determine whether method analytes or other interferences are present during transportation or handling. ***Note: DLS prepares Trip Blanks with reagent water without adding the preservatives Ascorbic acid (VOC Blanks) or Sodium Thiosulfate (EDB/DBCP, Pesticides Blanks).***

Equipment blanks (also known as rinseate blanks) ***must*** be collected like a regular sample, but without adding the preservatives Ascorbic acid (VOC equipment blanks) or Sodium thiosulfate (EDB/DBCP, Pesticides equipment blanks).

Avoid transporting samples (water, soil, or air sampling media) for the analysis of volatile organic compounds in an enclosed vehicle trunk. Fuel fumes and exhaust gases are likely sources of contamination.

Collection of Liquid Samples

Some sampling containers supplied by DLS contain required preservatives. ***Do not rinse*** the containers prior to filling, and do not allow overflowing.

With some sampling containers there are preservatives that ***must*** be added to the sampling container ***after*** the sample has been collected. The preservative will be provided in a separate vial or container with the sample container. Please ensure the correct sequence of sampling and preservation is followed.

- Gently invert the containers several times after filling to ensure adequate mixing of the preservative with the sample.
- Keep cool (1 – 6 °C) when required by method (see **Appendix D**) and protect from sunlight or other intense light sources.
- If providing your own containers and preservatives, a guide for sample collection is located in **Appendix D**. Please ensure you annotate all added preservatives on the container.

Note: If you are collecting liquid samples that will be frozen ***DO NOT*** fill the container

to the rim. Please leave sufficient head space in the container to allow of expansion of the liquid when it freezes.

Deployment Drinking Water Screening Kit

The Deployment 40 mL Drinking Water Kit was developed to screen drinking water for a limited list of contaminants. The Deployment 40 mL Drinking Water Kit ***can not*** be used for drinking water compliance testing. Due to the reduced sample volume of the Kit, full quality control procedures are not possible for all methods (i.e., dealing with matrix interference or problems that would require repeat analysis). ***The Deployment 40 mL Drinking Water Kit is not suitable for raw water, surface water, groundwater, or any bulk liquid sampling and testing.***

Bottled / Packaged Water

DLS is able to perform all drinking water analyses according to **Appendix D** on Bottled/Packaged water samples. Required sample holding time, storage and preservation requirements do not apply to bottled water. However the date and time when the sample was received at DLS will be recorded as the official sampling date and time and, where necessary, sample aliquots for requested analyses will be prepared. The sample aliquots will be preserved and stored, according to **Appendix D** and extracted/analyzed within holding times stipulated by the analytical procedures.

Collection and Handling of Raw Water Samples

Raw water samples consist mainly of three types of water sources; surface water, groundwater under the direct influence of surface water (GWUDISW), and groundwater. Raw Water is taken from the environment for the production of drinking water by subsequent treatment or purification.

Surface water is defined as water sampled from a lake, river or stream. Surface water sources tend to have significant occurrence of biological matter (e.g., leaves and plant matter) as well as insects and multi-cellular organisms. When sampling stationary surface waters (e.g., lakes and ponds), consideration should involve possible stratification layers at various depths. When sampling from rivers and streams, consideration needs to be given to depth and velocity of water movement.

GWUDISW is any water below the surface of the ground with significant occurrence of insects or other microorganisms, algae, or large diameter pathogens such as Giardia lamblia; or significant and relatively rapid shifts in water characteristics, such as turbidity, temperature, conductivity, or pH, which closely correlate to climatological or surface water conditions.

Groundwater is defined as any water derived from an underground source where geological structure allows for the filtration of the water prior to reaching an underground aquifer.

For all other analyses, add the preservatives according to **Appendix D**.

Metals Analysis of Raw Water Samples

For metals analysis, it is important to analyze for dissolved metals only in order to avoid a possible bias of the results due to the presence of sediment or suspended matter. For this purpose, the sample must be filtered through a 0.45 µm filter ***prior to*** adding the acid. Since it is not feasible to perform filtration in the field, these samples should be forwarded to DLS without acid preservation.

Upon receipt at DLS, raw water samples submitted for metals analyses will be evaluated based upon the following criteria.

- If the sample was ***not*** acidified, the sample will be filtered through a 0.45 µm filter, the preservative will be added and only the filtered water will be analyzed for dissolved metals.

- If the sample ***was*** acidified to a pH less than 2 and the sample has a turbidity ***less*** than 1 nephelometric turbidity unit (NTU) the analysis will proceed in accordance with the standard procedure and will be analyzed without further treatment. The < 1 NTU criteria is not a method requirement for raw water dissolved metals analysis by EPA Methods 200.7 & 200.8. The < 1 NTU is used as a check that the sample was filtered in the field prior to acidification or that the sample has low content of suspended matter and therefore, should contain only dissolved metals.

- If the sample ***was*** acidified and either the turbidity is determined to be ***above*** 1 NTU or sediment is present in the sampling container, the ICTD technical manager will contact the customer and ask how to proceed with the analysis. The customer will be provided two analytical options:

  Analytical Option 1: The sample will be filtered through a 0.45 µm filter and ***only*** the filtered water will be analyzed for total filterable metals. A result comment will be added to the Certificate of Analysis indicating that the probability is high that the data are biased due to the presence of particulate material in the acidified sample.

  Analytical Option 2: The sample will be digested and analyzed for total recoverable metals. A result comment will be added to the Certificate of Analysis indicating that the probability is high that the data is biased due to the acidification of the sample containing sediment.

  Upon request and approval of the customer the analysis will proceed by one of the above two methods.

Volatile Organic Compounds (VOC) Analysis of Raw Water Samples

Raw water samples will be analyzed for VOC by EPA method 524.2 unless the sample contains sediment, large amounts of suspended matter, or a separate organic layer. To prevent serious damage or contamination of the trace level analytical instrumentation, samples containing sediment, large amounts of suspended matter, or a separate organic layer must be analyzed by EPA 8260C after customer notification.

Collection and Handling of Groundwater and Aqueous Bulk Liquid Samples

All information provided under Collection and Handling of Raw Water Samples applies for metals analysis on groundwater and bulk liquid samples that are not Raw Water samples. However, based on project needs, DLS can perform the analysis of dissolved and/or total metals. It is advised to submit the samples unacidified to the laboratory where the samples will either be filtered and acidified (dissolved metals) or digested (total methods). If both dissolved and total metals analyses are required, please submit a second sample aliquot.

The default method for VOC analysis for this type of sample is EPA 8260C in conjunction with EPA 5030C. However, upon customer request these samples may be analyzed by EPA 524.2 as long as the sample does not contain sediment, large amounts of suspended matter, or a separate organic layer.

Collection and Handling of Wastewater Samples

Wastewater samples should be collected from the final effluent of the wastewater treatment plant immediately prior to distribution into the natural waters of the Host Nation. However, there may be occasion when sampling within the wastewater plant is necessary. For these incidences, close coordination with the laboratory is essential.

Analysis of wastewater for metal concentration must be preceded by an acid digestion at the laboratory.

Collection of Water Samples for Perchlorate Analysis

Sampling for Perchlorate ***must*** be performed under sterile conditions to prevent possible biodegradation under anaerobic conditions. For this purpose, DLS provides a special Perchlorate sampling kit consisting of a sterile disposable 20 mL syringe, a sterile syringe filter, and a sterile sample container. Remove the sterile syringe from its package and draw up 20 mL of the sample. Remove the sterile syringe filter from its package without touching the exit Luer Lock connection. Connect the filter to the syringe making sure that no water from the syringe drops on the exterior of the filter. Open a sterile sample container without touching the interior. Using gentle pressure, pass the sample through the filter into the sample container. During this process do not let the syringe or filter make contact with the sample container. After filtration, seal the sample container tightly. Syringes and filters are ***single*** use items and ***must*** be discarded after each sample. For samples where the presence of suspended matter or sediment does not allow filtration, transfer the sam-

ple directly by filling the sampling container not more then 50% of its volume to prevent anaerobic conditions.

Collection of Water Samples for Volatile Organic Compounds (VOC) Analysis

It is important when collecting aqueous VOC (includes BTEX, CHC and TTHM) and EDB/DBCP samples that no air bubbles are generated or pass through the sample as the sample bottle is being filled. Any air trapped in the sample bottle after it is filled and sealed (headspace) may adversely affect the quality of the analytical data.

VOC (also BTEX, CHC, and TTHM) samples are to be collected *in triplicate* into 40 mL amber glass vials containing 25 mg ascorbic acid. Four drops of 2X hydrochloric acid (HCl, 2X = 1 part concentrated HCl added to 1 part H_20 = 6N HCl) ***must*** be added to ensure a pH of < 2. EDB/DBCP samples are to be collected in triplicate into 40 mL amber glass vials with a Teflon™ lined cap containing 3 mg of sodium thiosulfate.

Samples submitted for the determination of TTHM-Potential shall be collected in triplicate and ***must not*** contain ascorbic acid or HCl.

Collection of Soil, Sludge, and Bulk Solid Samples

Completely fill the sample containers unless otherwise instructed.

Ensure the sample taken represents the sampling site and avoid adding rocks, roots or leaves whenever possible.

Keep the samples cool (1 – 6 °C) when required by method (see **Appendix D**) and protect from sunlight or other intense light sources.

Collection of Solid Material Samples for Volatile Organic Compound (VOC) Analysis

DLS provides VOC analysis for soil, sludge, or bulk solid samples when collected with the following sampling protocols:
Low VOC Concentration Procedure (target analyte concentration ≤ 0.4 mg/kg) with and without field preservation, and High VOC Concentration Procedure.

LOW CONCENTRATION PROCEDURE WITH FIELD PRESERVATION.

The Low Concentration Procedure with field preservation is the default sampling protocol.

Samples must be collected in triplicate in pre-weighed 40 mL VOC vials provided by DLS that contain 10 mL of Sodium bisulfate solution and a stir bar. One sample per set of up to 20 samples must be collected in quadruplicate.

Samples must be stored at 1-6°C and analyzed within 14 days of collection.

LOW CONCENTRATION PROCEDURE WITHOUT FIELD PRESERVATION

The Low Concentration Procedure without field preservation should only be used if the sample contains carbonate compounds and if immediate freezing or refrigeration is available and sample delivery to DLS can be accomplished within 24 hours from sampling.

Samples must be collected in triplicate in pre-weighed 40 mL VOC vials provided by DLS that contain 10 mL of reagent water and a stir bar. One sample per set of up to 20 samples must be collected in quadruplicate.

Samples must be refrigerated to 1-6°C and analyzed at DLS within 48 hours of collection. The holding time can be extended to 14 days if samples are frozen to -8 to -18°C immediately after sample collection or if refrigerated samples (1-6°C) are frozen to -8 to -18°C within 48 hours of their collection. When freezing ensure the sample vial is in a tilted position to avoid vial breakage. Do not freeze the samples to temperatures below –18°C as this creates problems with vial seals and may result in target analyte loss upon sample thawing!

HIGH CONCENTRATION PROCEDURE

The High Concentration Procedure should only be used if high target analyte concentrations (> 0.4 mg/kg) are expected or if the sample contains carbonate compounds and sampling by the Low VOC Procedure without field preservation is not an option.

Samples must be collected in a pre-weighed 40 mL VOC vial provided by DLS that contains 10 mL of Methanol.

Methanol is a volatile liquid! Ensure that you minimize the time the vial is uncapped and immediately recap the vial after adding the sample to prevent solvent loss.

The vials must be stored at 1-6°C and analyzed at DLS within 14 days of collection.

Note: One additional 40 ml VOC vial filled with sample with minimal headspace must be collected with each sample collected in Methanol by the High Concentration Procedure for dry weight determination and possible VOC screening. This vial must not contain any preservative and must be stored at 1-6°C.

PRECAUTIONS / CONCERNS WITH HIGH AND LOW VOC PROCDURE SAMPLE COLLECTION

To prevent target analyte loss, collect samples in a manner that minimizes sample handling and agitation. The use of a closed sampling device such as a 10 mL plastic syringe with the Luer lock end completely removed (cut off) is highly recommended. Collect a sample plug of 4-6 g. To determine the appropriate amount of soil, collect test samples and determine the sample mass by use of a field analytical balance, if available. When the use of a balance is not practical, please use the following procedure: Mark the lowest point of the liquid meniscus in the sampling vial with a permanent

marker. Measure the distance between the bottom of the vial and the meniscus mark and add a mark at the midpoint of the distance. Then add soil up to the midpoint mark.

Don't collect too much sample! Too much sample amount may not be properly preserved or may interfere with the solvent's ability to extract the target analytes. It may also impede the laboratory's ability to analyze the sample or even damage the analytical instrumentation.

Do not collect Carbonate containing samples by Low VOC Concentration procedure with field preservation. Soils containing Carbonate will form Carbon dioxide gas upon contact with the acidic Sodium bisulfate solution. The sample will be invalid for VOC analysis, and it may even shatter the vial when capped, due to pressure buildup.

Clean soil/sediment from the glass threads on the vial and don't over tighten the cap. Ensure a leak free seal with the septum cap. Evaporation of target analytes may occur or the vial may leak resulting in loss of sample integrity and invalid analytical data.

Don't spill preservative liquid. Spilling the liquid may harm you and the environment. Determination of the actual sample amount will also not be possible when any of the liquid is lost and the quality of the analytical data will be compromised. If liquid was spilled or evaporated, don't submit the vial for analysis. Therefore, it is a good idea to request spare sample vials with the sampling kit and return unused and/or compromised sample vials to DLS for proper disposal.

Don't place additional labels or sealing tape on vials. Vials were pre-weighed at DLS prior to shipment and upon return to DLS, the vials must be re-weighed. Any additional labels or sealing tape will not allow proper determination of the actual sample mass.

Collect Low and High VOC Concentration Samples when VOC target analyte concentrations are unknown. Low VOC Concentration procedure samples cannot be diluted. If sampling was performed only by the Low VOC Concentration procedure and analysis determined that target analyte concentrations were > 0.4 mg/kg the data must be qualified as an estimate. Submitting samples for analysis by both the High and Low VOC procedures will help to ensure that samples with high VOC concentrations can be reported without qualification.

Collection of Samples for Qualitative Identification of Unknown Materials

In order to ensure quality analytical data to support identification, it is extremely important to provide as much information as possible when submitting samples. Examples include shipping documentation, container labels, Material Safety Data Sheets (MSDS), communication memos, or historical documents. Also helpful is information regarding the location, including the type of business, factory or industry, types of machinery, or other materials located at the scene. If possible, photographs of the bulk sample, containers, sampling site and/or peripheral structures or surroundings are also highly valuable. In addition to addressing potential safety concerns, the information provided may assist

our laboratory to more carefully target analytical procedures in turn providing analytical data of maximum quality and minimizing data reporting time.

Sampling for Explosives

Soil and water samples for the analysis of explosives have a 3 day holding time and the analysis is performed at a local contract laboratory. One option to ensure that samples can be processed within sample holding time is the direct delivery to the contract laboratory. However, this must be coordinated with CSD well ahead of the scheduled sampling date. CSD personnel will provide you a fact sheet on the requirements for delivery of samples to the contract laboratory and guidance on how to ensure sample tracking and assign DLS Sample ID numbers.

Collection of Industrial Hygiene Samples

All IH samples for organic target analytes will be sent to US (CONUS) contract laboratory or to a German contract laboratory. When planning to sample for a parameter not listed in **Appendix D, Table D.9: Organic Analytes IH** or **Appendix D, Table D.10: Inorganic Analytes IH** please contact DLS to obtain information on sampling media that are suitable for the analyte(s) of interest. C/DC, ICTD or OCTD will provide information if one of DLS' contract laboratories can perform analysis for the requested parameter and if sampling for several target analytes can be performed together on a single IH sampling media, or if individual sampling must be performed.

Prior to sampling, ensure IH media are ***not*** expired.

A minimum of two field blanks must be included with every set of 10 or fewer filter samples submitted for the analysis of asbestos and other fibers in air filters. The blank media are used to ensure the integrity of samples and the absence of interferences.

The blank media and the media used for sampling ***must*** originate from the same lot number.

A minimum of two fiber filter (asbestos) trip blanks must be included with every set of 10 or fewer fiber (asbestos) filter samples submitted for analysis. Filters used for collection must be from the same lot number as blank filters. The average blank filter fiber count is required for the calculation of fiber sample results. A new media lot blank may be submitted to validate the integrity of the lot prior to use. If this is requested, it must be clearly noted on the RLS as a lot blank and not a field blank.

When submitting IH samples for analysis of fingerprint compounds please include a bulk sample (5 mL) of the suspected source substance.

Avoid transporting air sampling media for the analysis of organic compounds in an enclosed vehicle trunk. Fuel fumes and exhaust gases are likely sources of contamination.

If samples are being collected for analysis of lead (Pb) in accordance with the requirements for Environmental Lead Laboratory Accreditation Program (ELLAP) (see **Appendix D, Table D.10: Inorganic Analytes IH**), please check the appropriate box…

❑ ***Request lead (Pb) samples be analyzed IAW ELLAP criteria. "Wipes" used for sampling must meet ASTM E1792 specs.***

…on the RLS form (CSD Form 1) and on any additional paperwork submitted (CSD Form 2, CSD Form 3, CSD Form 6, etc.) with the samples.

Note: "Wipes" used for the Environmental Lead (Pb) Laboratory Accreditation Program (ELLAP) must meet ASTM E1792 specifications. Ghost Wipes™ (Environmental Express catalog number SC-4200 [200 pk], SC-4210 [500 pk], SC-4250 [1000 pk], or equivalent) meet the ASTM requirements. Customers should provide proof to the laboratory that the wipes used for sampling meet ASTM specifications to ensure all ELLAP requirements are met.

PROPER SAMPLE LABELING

Use ***indelible ink*** on labels and use a clearly defined sample identification numbering scheme known to the project officer. Include the:

- Sample ID or customer Field ID should be limited to 20 characters including spaces and dashes. The charaacter limit of our Laboratory Information Management System (LIMS) for Field ID.
- Sample location (plesse provide ARLOC or WIC codes for Army and Air Force, respectively).
- Date (see **Section 3, Sampling Date Protocol**) for preferred date protocol).
- Time collected as Coordinated Universal Time (UTC) formerly known as Greenwich Mean Time (GMT) or state ***XX.XX Hrs Local Time*** to allow CSD will convert to our time zone.
- Collector's initials.
- GPS data should be included when available.

Accurately reference each sample on the forms submitted to DLS.

Sampling Date Protocol

DLS requests customers use the following protocol for recording the date of sample collection: Day / Month (3 Letter Abbreviation) / Year (4 digits)

Requested date format example: 01 Jan 2008

DLS receives samples from our valued customers located in many areas of the world and

from different cultural backgrounds who may use different forms of recording the date. Using the DLS recommended date protocol will prevent confusion for the laboratory and delays in processing and analysis. When samples are received with a sampling date recorded, for example, as 01.06.08, it can cause significant delays in the initial processing of the samples. CSD staff must first determine if the samples were submitted by a US customer (06 Jan 08) or an EU customer (01 Jun 08) to ensure proper sample handling and computer entry. Please use the Day / Month (3 Letter Abbreviation) / Year (4 digit) date protocol. ***Thanks for your cooperation!***

PROPER SAMPLE PACKAGING

Check that all sample bottle lids are on tight and not leaking.

Line the appropriate size cooler *generously* with packing material.

Wrap glass containers individually with sufficient packing material to prevent container breakage.

Include frozen ice packs for samples that require cooling. Ice packs should be frozen for at least 2 days prior to use.

- Large Ice Chest (~70 quarts) use approximately 24 large cooler packs (weight of large pack ~0.65 Kg each)

- Medium Ice Chest (~48-52 quarts) use approximately 18 large cooler packs (weight of large pack ~0.65 Kg each)

- Small Ice Chest (~20 quarts) use approximately 6 large cooler packs (weight of large pack ~0.65 Kg each)

Do not use ice unless cooler packs are unavailable. If you do use ice, double bag it so the bottle labels do not get wet.

If you are collecting samples and the ambient outside temperature is above 15 °C (> 59 °F), it is recommended that you “pre-cool” your samples (if possible) after collection prior to packing for shipment to USAPHC(P) PHCR-Europe DLS. This will help to ensure that the samples arrive at USAPHC(P) PHCR-Europe DLS within the required temperature range. The samples should be placed in a refrigerator designated for environmental samples (i.e., no food or drink - Safety First) and cooled to between 1 – 6 °C before packing. When packing, use ice packs that have been frozen solid for at least a full day prior to being used for shipping.

Place forms ***inside a sealed plastic bag*** within the cooler.

Instructions for DLS CSD Sample Submission Forms

The proper CSD form must be submitted with the samples. Be sure to complete the forms completely to prevent any delays in processing your samples. The following is a guideline for selecting the correct form to match the sample type. All forms are provided in **Appendix E** and may be reproduced.

CSD Form 1 – Request for Laboratory Services (RLS)

As soon as possible but at least two weeks prior to the sampling event (three weeks if you are requesting a sampling kit) a RLS form with all information fields filled out completely (**Figure 3.1: Example: Request for Laboratory Services Form**) ***must*** be sent to DLS. The RLS may be hand delivered, mailed, faxed, or sent electronically to the central e-mail account: **usachppmeur.dlshotline@amedd.army.mil** For Quarterly, Semi Annual and Annual monitoring events, you can submit your requests up to two months before the scheduled sampling date.

The request will be evaluated against analysis availability and sample load at the predicted date of sample submission. An acceptance, request for delayed sampling, or lack of availability of the required analyses will be noted on the form, and the customer will be notified by telephone, fax or e-mail. If high sample load prevents analysis at the requested time, an alternate submission date will be suggested by DLS. Completed customer RLS forms will be reviewed by CSD staff at least quarterly; however, if samples are not received within 90 days of the scheduled delivery date entered on the RLS form (180 days for Program 47 deployment samples), the original request shall be considered invalid and a new **RLS** form must be submitted to CSD in order to schedule sample submittal.

Note: The Field ID field in our Laboratory Information Management System (LIMS is limited to 20 characters including spaces and dashes. Please keep this in mind when assigning your Field IDs. ***If your Field ID exceeds 20 characters DLS will truncate it at the 20th character.***

Once completed and accepted the RLS serves as the formal ***contract*** for analytical services between DLS and the customer. The customer generated RLS communicates the specific customer requirements and expectations to the laboratory. DLS either accepts, modifies or rejects the RLS to document our ability to satisfy the stipulated requirements and returns an Adobe™ Acrobat® pdf copy of the RLS and the Methods of Analysis form(s) to the customer by e-mail (when possible). After the contract (RLS) is approved and accepted by both DLS and the customer, any subsequent changes to the accepted RLS ***must*** be coordinated and agreed to by ***both*** parties.

CSD will assign a ***Service Request Number*** (SRN) to your RLS. When requesting changes or inquiring about the status of your samples, please use the SRN provided in the DLS e-mail notification of RLS acceptance for your project. Note that if you do request changes to your RLS the review process described earlier must be completed again to ensure DLS can meet your needs. NOTE: The project number is a customer defined field. You can use

FIGURE 3.1: EXAMPLE: COMPLETED REQUEST FOR LABORATORY SERVICES FORM

CSD Form 1
Version 4.1
Revised: Apr. 2010

USAPHC(P) PHCR-Europe
DEPARTMENT OF LABORATORY SCIENCES (DLS)

MCHB-AE-LS

Request for Laboratory Services

Customer Address:	USACHPPMEUR, CMR 402, APO AE 09180			**DLS SRN:**	10-556
Project Officer:	C, CSD (OEF SIPRNET Message)		**Request Date (DDMMMYYYY):**	04-Aug-2010	
TEL:	314-486-7052 / 8381	**FAX:** 314-486-7054 / 8788	**Email:**	usachppmeur.dlshotline@amedd.army.mil	
Division:	CSD	**Program:** 47	**Installation Site:**	Not Disclosed	**ARLOC / WIC:** N/A
Source of Funds:	GWOT		**MIPR No.:**	OIF	
Project Number:	TBD	**COLLECTION Date:** 18-Aug-2010		**DELIVERY Date:**	20-Aug-2010
DLS Sampling Kit Required:	YES	**Date Kit Required:** 16-Aug-2008		**Kit Shipped By:**	Pick-up at DLS
Analysis Priority Requested:	DLS In-House Turnaround Time (TAT) Goals		**Justification (see Note 2):**	Acute Health Risk (See Below)	

Field tests indicated the presumptive positive presence of cyanide, heavy metals, and a strong organic odor in a water sample. The Post has been placed on bottled water. Possible distribution system contamination/adulteration. Request a complete OEBGD analysis. The results are needed ASAP!

Note 1: Sample Priorities are associated with Turnaround Time (TAT) ***goals*** and not guarantees. TAT is defined as the number of calendar days from sample receipt at the laboratory to the transmittal of data by Electronic Data Deliverable (EDD), carrier, FAX, or certified mail. The DLS "in-house" TAT ***goals*** are: Routine: 14 days, Immediate: 7 days, and Emergent: 48-96 Hrs. (test dependent). Qualitative ID of Unknown Materials from samples of unknown origin may require 30–90 days or more to complete.

Note 2: Immediate / Emergent analysis priority ***requires*** a written statement documenting the ***risk*** that justifies the elevated priority.

Note 3: This Request for Laboratory Services will be cancelled 90 calendar days after the Projected Delivery Date unless the Project Officer provides a written confirmation of an updated Delivery Date.

Note 4: DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

Note 5: DLS will batch hard copy Certificates of Analysis (CofA) and send them to the customer once a week unless an alternate delivery schedule is established with CSD. I accept the terms of CofA delivery: YES I will contact CSD with my delivery needs.

Note 6: Unless noted below, I (the customer) hereby authorize DLS when necessary to sub-contract requested analyses to an accredited Contract Laboratory to meet my requirements.

☐ *I do **NOT** authorize DLS to sub-contract analyses. Please contact me before sending my samples to a contract lab (CL).*

Projected Samples & Analyses Required	Matrix	Quantity	Remarks	CL
Metals: Al, Sb, Br, Ca, Cd, Cr, Fe, Cu, Ag, Zn, Se	DW	1		
Non-Metals: Cyanide, Ammonia, TDS, pH, Alkalinity	DW	1		
Color, Odor, Nitrate, Nitrite, Kjeldahl Nitrogen	DW	1		
Other: Asbestos, Gross Alpha/Beta Activity	DW	1		
Organics: VOC, PAH, PCB, Pesticides, Herbicides	DW	1		
Carbamates, Adipate/Phthalate, Dalapon, Surfactants	DW	1		

☐ ***Request lead (Pb) samples be analyzed IAW ELLAP criteria. "Wipes" used for sampling must meet ASTM E1792 specs.***

Customer Comments

Deployment Team will pick-up the OEBGD kit form CSD. Samples will be hand delivered to CSD. We will email the DLS Hot-Line or call to confirm samples are in route.

For Laboratory Use Only: Inorganic Analyses				***For Laboratory Use Only: Organic Analyses***			
☐ Accept	☐ Reject	Date:	Initials:	☐ Accept	☐ Reject	Date:	Initials:
DLS Comments				**DLS Comments**			

Please contact us. DLS professionals would be delighted to help answer any of your questions and concerns!

	DSN	Commercial	Use our preferred email address to ensure a quick response.	
TEL	314-486-8381 / 7052	+49 (06371) 86-8381 / 7052	**Email**	usachppmeur.dlshotline@amedd.army.mil
FAX	314-486-7054 / 8788	+49 (06371) 86-7054 / 8788	**Web Site**	www.chppmeur.healthcare.hqusareur.army.mil

up to 20 characters including spaces. If you do not assign a project number, the CSD staff will assign the SRN as the project number.

CSD Form 2 – Request for Laboratory Analysis: Industrial Hygiene Bulk Sample

- Use this form for bulk solid or bulk liquid samples (including Qualitative ID of Unknown Materials).
- This form may be used for several samples but only one type of analysis should be included per form.
- Attach available information on the suspected contaminant [*e.g.,* manufacturers' information or Material Safety Data Sheet (MSDS)].

CSD Form 3 – Request for Laboratory Analysis: Industrial Hygiene Air Sample

- Use this form for filters, passive monitors, and air sampling tubes.
- This form may be used for several samples but only one type of analysis should be included per form.
- Flow rate, collection time, and volume must be included.
- At least two blank media per 10 samples must be submitted. The blank media are used to ensure the integrity of samples and the absence of interferences. The blank media and the media used for sampling ***must*** originate from the same lot number.

CSD Form 4 – Request for Laboratory Analysis: Aqueous Bulk Liquid Profile Sheet

- Use this form for aqueous samples that are potable water or raw (source) water used for the porduciton of drinking water or potable water.
- Use only one form per sampling site.
- Complete the information boxes at the top of the page.
- Place an X in the box next to each analysis requested.

CSD Form 5 – Request for Laboratory Analysis: Finished Drinking (Potable) Water Profile Sheet

- Use this form for drinking water only. Please use CSD Form 11 for bottled or packaged water samples.
- Use only one form per sampling site.
- Complete the information boxes at the top of the page.
- Place an X in the box next to each analysis requested.
- On-site temperature and pH ***must*** be provided by the customer when requesting Langelier Index.

CSD Form 6 – Request for Laboratory Analysis: Customer Defined

- This form can be used for a broad range of matrices and analyses. It is best used when submitting a mix of samples or numerous samples for few analyses (e.g., 20

samples for Pb and Cu, 20 VOCs).

- Specify any special requests in the 'remarks' section of the form.

CSD Form 7 – Chain of Custody

- This form documents the possession and transfer of a sample for evidentiary purposes. A properly completed CSD Form 1 – Request for Laboratory Services ***must*** be submitted prior to the submission of the samples that ***must*** be accompanied by CSD Form 7.
- Custody begins with the individual performing the sampling and in some instances, with the source of the sampling containers. The form ***must*** be signed by the collecting official and all subsequent individuals who take custody of the samples.
- For samples that require refrigerated shipping, ice chests can be sent via commercial carrier without formal chain of custody procedures on the ice chest when the following precautions are taken: 1) Samples are properly sealed with "evidence tape," 2) properly sealed samples are placed in an internal container that is sealed with "evidence tape" or another suitable alternative, and 3) CSD Form 7 is attached to the outside of this container by the individual who packaged the samples in the container. These procedures allow the recipient who unpacks the samples and accepts custody to re-establish custody and document that the samples were not tampered with, through inspection of both the outside container and the samples.
- Samples that do not require refrigeration and are not time sensitive should be sent by the ***United States Postal Service using Registered Mail with a Return Receipt Request*** to ensure a proper chain of custody.
- Errors in form completion ***must*** be corrected by drawing a single line through the error, the correct information entered, and followed by the individual who made the correction initialing and dating the entry.
- CSD Form 7 is normally required only when the data generated from analysis of the samples is required for adjudication.
- If you require legally defensible "chain of custody" please contact CSD for detailed discussions on sample labeling, packing, and shipping procedures.

CSD Form 8 – Request for Laboratory Analysis: Bioassay

- Radionuclide analysis of urine and stool are available through a contract lab. DLS acts ***only*** as a shipping agent for bioassay samples. The Contract laboratory will return bioassay data directly to the customer and not DLS.
- This analysis typically takes 90 – 180 days.
- Contact CSD for instructions on shipping bioassay samples.

CSD Form 9 – Deployment Drinking Water Screening Kit

- The use of the Deployment Drinking Water Screening Kit is ***limited*** to the analysis of ***finished*** or ***potable*** drinking water.
- Use this form for the Deployment Drinking Water Screening Kit reduced volume analytical screening procedures.

- Please use one form per kit and sample site.
- Complete the information boxes at the top of the form.
- The Drinking Water Screening Kit can only be requested as a complete kit. It is not possible to request only selected analyses or target analytes.

CSD Form 10 – Request for Laboratory Analysis: Soil / Sludge / Bulk Solid Profile Sheet

- Use this form for soil, sludge and/or bulk solid samples.
- Use only one form per sampling site.
- Complete the information boxes at the top of the page.
- Place an X in the box next to each analysis requested.

CSD Form 11 – Request for Laboratory Analysis: Bottled / Packaged Water Profile Sheet

- Use this form for bottled or packaged water samples.
- Use only one form per sampling site.
- Complete the information boxes at the top of the page.
- Place an X in the box next to each analysis requested

CSD Form 13 – Request for Laboratory Analysis: Wastewater Profile Sheet

- Use this form for wastewater ***only***
- Use only one form per sampling site.
- Complete the information boxes at the top of the page.
- Place an X in the box next to each analysis requested.

CSD Form 14 – Request for Laboratory Analysis: Raw Water (DW Source Water) Profile Sheet

- Use this form for the analysis of raw or source water used for the production of drinking or potable water. Please use CSD Form 5 for finished drinking or potable-water samples or CSD Form 11 for bottled or packaged water samples.
- Use only one form per sampling site.
- Complete the information boxes at the top of the page.
- Place an X in the box next to each analysis requested.
- On-site temperature and pH ***must*** be provided by the customer when requesting Langelier Index.

Sample Shipment and Delivery

CSD can assist you in arranging sample shipment with a commercial carrier. Sample shipments billed to our commercial shipping account number will be invoiced to your account. Contact CSD staff for current contract information.

Recommended Sample Shipment Methods outlines shipping procedures. Contact CSD to determine the best means of sample shipment.

Sample delivery after duty hours on week days, weekends or holiday delivery ***must*** be coordinated with CSD well in advance of the requested delivery date and time. Sampling and shipment of samples with holding times less than 7 calendar days and/or samples that must be kept at 1 – 6° C require planning and coordination with CSD and the carrier to ensure that sample delivery is not delayed by weekends or by US or Host Nation Holidays.

Hand carried samples with short holding times ***must*** be delivered to CSD prior to 1400 hours Monday through Friday to ensure samples are processed into the LIMS (Laboratory Information Management System) and released to the analytical division prior to the close of business on the day of sample receipt. ***After hours, weekend or holiday delivery is only available when the customer has coordinated with CSD well in advance of the requested non-duty delivery date or time.***

TABLE 3.1: RECOMMENDED SAMPLE SHIPMENT METHODS	
• With long holding times • Not requiring refrigeration	• For immediate or emergent analysis • With short holding times • That must be refrigerated
— Can be sent by —	***— Must be sent by —***
✓ Commercial Carrier — Within Germany: United Parcel Service (UPS) — Outside Germany: Federal Express (FedEx) & DHL Worldwide ✓ Hand Carry ✓ Air Mobility Command (AMC) ✓ Military Postal Service ✓ U.S. Postal System	✓ Overnight service via Commercial Carrier — Within Germany: United Parcel Service (UPS) — Outside Germany: Federal Express (FedEx) & DHL Worldwide ✓ Hand Carry
Check with the carrier to ensure delivery date!	

Air Mobility Command (AMC) flights may also be used to ship samples. A Transportation Control and Movement Document must accompany your shipment (**DD Form 1384**). Refer to **Appendix B** for instructions on completing this form. Once an AMC shipment has been arranged be sure to provide CSD with the Transportation Control Number (TCN), flight number, and departure time. This information ensures that CSD can track your shipment and arrange for its delivery to CSD.

SAMPLE RECEIPT AND PROCESSING

Upon receipt at CSD the samples and associated paperwork will be checked against the original RLS. After verification of sample integrity, the samples will be processed into the LIMS

and receive unique DLS Sample Numbers. You will be informed by CSD personnel of any deviation from requirements according to Appendix D [holding time exceeded, temperature or pH requirements not met, presence of free Chlorine, air bubbles in VOC (includes BTEX, CHC, and TTHM) or EDB/DBCP samples, or missing Blanks] that may compromise the analytical results. You will be contacted by either CSD or the technical manager of the respective division and notified of the problem and requested to make a decision on whether to proceed with the analysis. With your approval to proceed samples will be processed and the deviation(s) from **Appendix D** will be documented in the LIMS as sample comments. If the condition of a submitted sample does not allow the generation of valid analytical data (for example the use of incorrect sampling container/IH sampling media or insufficient sample amount), the technical manager will inform you that the sample was rejected.

If the actual sample matrix differs from the matrix originally selected on the RLS, DLS may need to assign a more suitable sample matrix in the LIMS. In this case, an updated Methods of Analysis form will be sent to you to notify you of the changes prior to starting the analytical work.

Upon receipt of IH sampling media, C/DC, ICTD/OCTD will verify that the correct sampling media have been used in accordance with requirements of the analytical procedure or guidance from the laboratory that will perform the analysis. The sampling information provided on **CSD Form 3** will be entered into the LIMS and reported on the Certificate of Analysis. ***Note: DLS will neither verify the correctness of submitted data nor will DLS perform result calculations, with the exception of NIOSH 7400, based on the submitted information.***

Sample Retention and Disposal

Samples and sample extracts will remain under refrigeration or other appropriate storage in DLS for at least thirty days following issue of the DLS official Certificate of Analysis ***unless the customer requests a longer sample retention time.*** Samples and sample extracts will be disposed of in accordance with applicable laboratory Standard Operating Procedure (SOP).

Results

Data will not be released until reviewed and verified by the appropriate Technical Manager or Division Chief (Organic and/or Inorganic). Sample results (data) will only be released to the project officer or designated representative (***must be authorized, in writing, by the project officer and provided to CSD***).

Preliminary results will be reported in an Electronic Data Deliverable (EDD) for Immediate and Emergent Priority samples as individual sets of analyses are completed and for all projects when all analyses are completed. The official DLS ***Certificate of Analysis*** will be delivered via commercial carrier or certified Military Postal Service (MPS). ***Please sign and date the certified mail receipt.*** Customers can arrange through a CSD representative to collect and sign for certificates in the CSD office, building 3809, room 113.

SECTION 4 • FREQUENTLY ASKED QUESTIONS (FAQ)

Forms FAQ

Q I am conducting my quarterly/annual sampling. Do I really need to submit another Request for Laboratory Services form? Couldn't you just use the last one I submitted?

A new Request for Laboratory Services form must be submitted for every project. This form is considered to be the contract between DLS and the customer for the specific sampling event and is used to predict and schedule workload.

Q I've already submitted a Request for Laboratory Services Form (CSD Form 1), is it really necessary to submit a Request for Laboratory Analysis Form with the samples?

Yes. The Request for Laboratory Analysis form provides the laboratory with information about the samples and acts as a "Receipt" of the samples submitted. The information on this form will be entered into our LIMS database and will appear on the Certificate of Analysis. A Request for Laboratory Analysis form must be submitted for each sampling event or site.

Q I have some definite changes in my Request for Laboratory Services Form that the lab might find useful (e.g., matrix changes from drinking water to salt water). Do I really need to contact anyone about that?

Yes. Once the Request for Laboratory Services Form has been accepted by DLS, any changes/updates need to be coordinated through CSD. Acceptance is based on available staff, instrumentation, methodology, and current workload; any changes to the request may require adjustments to sampling date(s), TAT, etc.

Q Which CSD Form do I use?

There is no "clear-cut" answer to this question. Most of our forms are applicable to different matrices and have been designed for ease of use. DLS has forms for several specific matrices and a Generic form (i.e., **CSD Form 6**) for other samples. If you cannot decide which form is best to use, consult **Section 3, Instructions for DLS CSD Sample Submission Forms** or contact CSD for assistance.

Q I only need a receipt for my samples; do I need to complete a CSD Form 7 (Chain of Custody)?

No. The Customer Support Division can send an e-mail notification of sample receipt upon request. CSD Form 7 should only be used when a true chain of custody is needed. See **Section 3 Chain of Custody** for more information on completing **CSD Form 7** (Chain of Custody).

Project Coordination FAQ

Q Who can I speak with concerning sample submission, analysis, kits, accounts, prices, and payment methods?

The Customer Support Division is the portal to the laboratory at DSN: 314-486-8381, 314-486-7053, or 314-486-7744. CSD can provide answers to most of your questions. If you have a question regarding specific methods, results, billing, etc., we can put you in contact with the appropriate authority. If you are a customer using DLS services on a reimbursable basis the first step is to arrange for payment of the requested DLS services with DLS' **DoD Accounts Manager**.

Q What is the best way to contact the lab?

You can contact CSD by phone (DSN: 314-486-8381, 314-486-7053, or 314-486-7744), fax (DSN: 314-486-7054), or e-mail. If e-mailing your questions/concerns, please send your message to our **DLS Hotline E-mail**. The hotline is available to all DLS staff members and is checked several times a day.

Q I am new, so in layman's terms, how does this whole sample submission system work?

At least two (2) weeks prior to your sampling date, submit a Request for Laboratory Services (RLS) form. You should get a response from us within 48 hours informing you whether or not your request was accepted (based on projected and current workload). If the RLS is accepted, you will receive a copy of your RLS form signed by one or both DLS analytical division chiefs indicating acceptance of the work along with a corresponding Methods of Analysis form. Please review the Methods of Analysis form carefully to ensure the methods selected meet your requirements. When you receive the accepted RLS form and the Methods of Analysis form, collect the samples on the scheduled date and complete the appropriate Request for Laboratory Analysis (RLA) form with the sampling information. Ship the samples and RLA to DLS. After analysis, the results will be released and Certificates of Analysis printed. The Certificates will be forwarded to you via appropriate means (DHL, UPS, Certified Mail, etc.). You will also receive an Electronic Data Deliverable (EDD) in Excel format by e-mail when all sample analyses in your project have been completed.

Q What are the turnaround time (TAT) options and how do I determine the proper priority to place on my samples?

DLS offers three levels of sample priorities for in-house and contract laboratory work based upon laboratory turnaround time (TAT) goals: Routine Priority (14 day TAT), Immediate Priority (7 day TAT), and Emergent Priority (72 – 96 hour TAT). The TAT listed for each priority is a ***goal***, not a guarantee. All RADS samples and most contract laboratory procedures require longer time to analyze and the TAT goals listed above may not apply. Check with CSD for current laboratory TATs. Please use the criteria listed in **Section 1, Turnaround Time (TAT) Goals** to set your sample analysis priority:

Routine - standard laboratory priority.

Immediate - based upon potential health risk or high cost for delay. A brief written justification is required.

Emergent - based upon the potential acute health risk or excessive cost for delay. A written justification is required.

It is important to note that some analyses are time intensive and cannot be performed in a 72 to 96 hour TAT. In such cases, your data will be forwarded to you as it is available. Additionally, if there is cause for your results to be delayed, you should be contacted by a DLS Division Chief with an explanation. Please note that qualitative contaminant ID of samples of unknown origin or unknown identifications may require 30 to 90 days or more.

Q **I have a big project coming up. I am going to need kits, containers, preservatives, and schedule pickups from various points in the region. How far in advance should I plan to coordinate a project of this size?**

If you have a big sampling project, it is best to coordinate with CSD as soon as possible (at least 3 to 4 weeks in advance). This gives the lab time to prepare your kits, coordinate shipping services, and plan for the workload. Additionally, it allows time to make adjustments should any problems arise.

Sampling Kits FAQ

Q **How do I order a kit?**

If you require a sampling kit please submit your request at least three weeks prior to the anticipated sample collection date. The Request for Laboratory Services form has a section where you can order a kit. Place an “X” in the “Kit Required” box and then fill in the date it is needed. CSD will prepare the kit and ship it to your location.

Q **Will I get everything I need in a kit? How easy are the kits to use?**

Yes. Each kit will have the appropriate containers, preservatives, trip blanks, and packing/shipping materials for the analyses you have requested. In most cases, the only thing you will need to do is fill the containers (they already contain the proper preservative). Some samples may require the addition of preservative(s) after filling. In these cases, the preservatives are in separately labeled vials with instructions for use included.

Q **What if I don’t get everything in my kit or I notice something is missing?**

Contact CSD. In many cases, individual analytes are grouped together for collection in a single

container. CSD personnel can help you determine if this is the case. If there is something missing, CSD will ensure you get the supplies via the quickest shipping method.

Sampling FAQ

Q How many Trip Blanks / Field Reagent Blanks are needed in a kit? Would there be a situation where I will need more?

Usually, there is one set of trip blanks per project. If there are special requirements (e.g., separate sites to be sampled on different dates) it is important to specify the need for extra trip blanks. CSD prepares the blanks based on the information provided on the Request for Laboratory Services form and includes them in the DLS supplied Sampling Kit.

Q Why do I have to send blanks with my samples?

Blanks are a valuable and an important factor in distinguishing between true and/or falsely elevated results. The Trip Blanks / Field Blank must accompany the samples throughout collection, transport, and shipment of the samples and sample containers. The purpose of the Trip Blank / Field Reagent Blank is to determine a possible contamination during sampling, shipping, or storage of the sample with target analytes or with substances that might interfere with the method. Lot blanks are required for both organic and metal IH samples and are highly recommended for sampling containers that were not provided by DLS. Analysis of the lot blanks allows the laboratory to: 1) determine the integrity of the sampling media / containers, 2) check for contamination originating from the manufacturer, or 3) use them for quality control spikes that are required by the analytical method. It is the customer's responsibility to ensure that blanks for all customer supplied media and containers are submitted for analysis.

Q Can I use baby wipes for metals wipe sampling?

Baby wipes and other similar commercially acquired materials are ***not*** appropriate for environmental sampling as they do not completely dissolve during the digestion process. Wipes submitted for metals analysis should be approved for environmental sampling. At least 3 additional wipes should be submitted along with samples in order for the laboratory to check for background contamination and use as quality control samples. ***Note: "Wipes" used for the Environmental Lead (Pb) Laboratory Accreditation Program (ELLAP) must meet ASTM E1792 specifications. Ghost Wipes™ (Environmental Express catalog number SC-4200 [200 pk], SC-4210 [500 pk], SC-4250 [1000 pk], or equivalent) meet the ASTM requirement. Customers should provide proof to the laboratory that the wipes used for sampling meet ASTM specifications to ensure all ELLAP requirements are met.*** Ghost Wipes are preferred and should be used for all wipes used to determine the presence or absence of metals.

Q How much sample is really needed?

It is important to follow the sampling guidelines listed in **Appendix D**. The minimum volume of sample is based on analytical method requirements.

Q What happens if I don't collect all vials required for a specific method as stipulated in Appendix D (e.g., VOC, TTHM, Pesticides, Herbicides, etc.)?

For VOC samples (including TTHM, BTEX, and CHC), the contents of a container cannot be re-used once the sampling container is opened due to the volatile nature of target analytes. The two extra vials are required for confirmational (verification) analyses. In the event of elevated results or unacceptable quality control, one or both of the extra vials are analyzed. Without these extra vials the confirmation would not be possible and the data would have to be qualified. For other analyses such as herbicides, EDB/DBCP, or pesticides, the additional vials are mandatory to perform all Quality Control required by the analytical method. Without these extra vials the data would require qualification.

Q Is it really necessary to use preweighed filters for total or respirable dust (Particulates Not Otherwise Regulated, Total or Respirable) analysis? Don't all filters weigh the same?

The method specifically requires the media to be pre-weighed for this analysis. This value is an important part in the calculation of the results. Blanks (2 per 10 samples) are also very important for this method, since they are used to account for any difference between the balances used to do the pre-weight and post-weight.

Q When sampling for Perchlorate, I touched the outlet of the sterile syringe filter with my hands. Can I still use it for collecting the sample?

No, because samples for Perchlorate analysis ***must*** be collected under sterile conditions. The sterile syringe filter needs to be replaced if you touched the outlet of the syringe filter or if it had contact with unfiltered water. However, if no spare sterile filter is on hand, fill the sample container with about 20 mL unfiltered water (the head space in the sample container should prevent biodegradation of Perchlorate under anaerobic conditions). Make sure you document the deviation from default sampling protocol on the sample container and associated paperwork.

Q When samples contain high concentrations of suspended solids how can I sample water for Perchlorate?

It may not be possible to perform sterile filtration of samples containing excessive amounts of suspended matter, because the filter becomes clogged. Therefore, when samples contain high concentrations of suspended solids, collect about 50 mL of unfiltered water in the sample container and document on the label and paperwork that the sample was not filtered.

Shipping FAQ

Q How do I ship samples?

Depending on your geographical location, there may be several shipping options. CSD recommends you first contact FedEx, DHL or UPS and determine if one or all of these commercial carriers service your location: **FedEx**, **DHL Worldwide**, **UPS**. Please contact CSD for more information and assistance.

Q How do I pack samples? How do I know that I did a good job packing my kit to ensure the least amount of bottle breakage?

There is no way to guarantee that there will be no breakage; however, liberal use of bubble wrap or other suitable packing material will minimize the possibility. If there are special temperature requirements, be sure to leave enough space to add ice packs. Additionally, be sure to fill extra spaces with packing material.

Q What Customs value should I assign to my shipment of samples to USAPHC(P) PHCR-Europe?

No sample shipment should be valued over 25 U.S. Dollars. If you assign a higher dollar value, the shipment may be held in Customs.

Q Can I combine equipment with my sample shipment?

No. The equipment should be shipped separately so you can assign an appropriate customs value and avoid delays due to clearance issues associate with equipment shipments.

Q Why do I have to spell out "U. S. Army" in the USAPHC(P) PHCR-Europe address?

This is done to let the carrier know the shipment is an ***Army*** shipment and will expedite the customs clearance process.

Results FAQ

Q Is there a way for me to receive my results via e-mail/phone?

Currently, DLS does not offer ***official*** analytical results via e-mail/phone. They are only available on the *Certificate of Analysis*. Division Chiefs can e-mail preliminary results in an Electronic Data Deliverable (EDD, MS Excel file) or based upon urgency, provide telephonic release of limited data followed by e-mail of an EDD. Telephonic release is ***not*** a routine procedure.

Q I cannot find a Certificate of Analysis from the previous project. Can I get a reprint?

Yes. Provide the sample/project information to CSD and a reprinted Certificate of Analysis can be generated.

Q Is it possible that I received a Corrected Report without first receiving an original Certificate of Analysis?

Yes. Since reviewed and validated results in LIMS are visible as an Electronic Data Deliverable (EDD) to project officers even before a Certificate of Analysis is issued, the DLS policy requires the generation of a Corrected Report for each result that was modified after the data validation process even if an original Certificate of Analysis was not submitted to the customer.

Q Can DLS give my Certificates of Analysis to a colleague? Can DLS give me the results from someone else's (XYZ) project?

Under normal circumstances, DLS will not release results to anyone other than the project officer. The project officer must submit a written request to DLS to authorize the release of data from one of his/her project(s) to another individual.

Q If I (the Project Officer) want someone other than myself to receive a copy of the final Electronic Data Deliverable (EDD) what should I do?

Send an e-mail to the **DLS Hotline** requesting an additional POC receive the EDD. You will need to include your project number, the DLS SRN assigned by CSD, the name, and e-mail address of the additional POC.

Q I submitted a sample of unknown origin for Qualitative ID of Unknown Materials four weeks ago. Why haven't I received my results?

The Qualitative ID of Unknown Materials (i.e., qualitative contaminant screens performed on samples of unknown composition and origin) is not a quick or simple analysis. Depending on the matrix, there may be many different time intensive analytical procedures involved and it could take up to 90 days for final results. If you have a question as to the status of your results, please contact CSD.

Other FAQ

Q If I have a complaint, a positive note, or a suggestion that I think the lab could use to improve the service/performance, how should I submit this?

All comments are welcome and can be provided through the **DLS Hotline**, telephone, face to face conversations or meetings, notes included with request forms, or with the DLS Electronic Customer Satisfaction survey. Electronic Customer Satisfaction surveys will be sent by CSD randomly with the final EDD at project completion. If you receive a survey, please take a moment to let us know how we are doing. If you don't receive a survey but would like to complete one, contact CSD by phone or e-mail and ask to be sent an electronic survey. ***We***

value your input! All comments are read by our Management Review Team and acted on accordingly.

Q An individual has been exposed to a radiological contaminant. Can DLS analyze a urine specimen from the individual to determine the amount of exposure?

DLS does not perform radiological testing of bioassay samples; however, we have a contracted laboratory that performs analyses for Americium-241, Cesium-137, Depleted Uranium, Radium 226, and Tritium in Urine. Other radiological bioassays may also be available. Please contact the Customer Support Division for specific instructions on the collection, shipment, and requirements for radiological testing.

COMMON SAMPLE SUBMISSION PROBLEMS & CONCERNS

This section is included in order to avoid problems that might delay or prohibit the analysis of your samples.

Bulk asbestos

Bulk asbestos samples ***must*** be delivered in a wide mouth ***glass*** jar.

Shipping with Ice

Sample labels fall off or are unreadable if they get wet. If you must ship with ice, please ensure that the ice is well contained in leak proof bags. ***Please always seal forms in a separate plastic bag.***

Total Nitrate/Nitrite and Total Nitrate/Nitrite (Preserved)

This analyte appears twice on CSD Form 5 for drinking water. The individual analytes Nitrate and Nitrite ***must*** be analyzed within 48 hours of collection. Therefore, if you expect your samples will arrive within 48 hours, mark the appropriate boxes for the 48 hour holding time group on the CSD Forms for Nitrate, Nitrite and Total Nitrate/Nitrite. Your samples will be analyzed for Nitrate, Nitrite and the sum of these two analytes will be reported as Total Nitrate/Nitrite. If you know or suspect your samples will not arrive at DLS within 48 hours, request "Total Nitrate/Nitrite (Preserved)" and submit a "preserved" sample (see **Appendix D**). Note: When samples arrive past their 48 hour hold time for Nitrate, Nitrite and Total Nitrate/Nitrite, as an alternative the laboratory can analyze for Total Nitrate/Nitrite (Preserved) from the ammonia sample bottle, if it was submitted.

Total Phosphorus and o-Phosphate

Ortho-Phosphate ***must*** be analyzed within 48 hours of collection. If you expect your samples will arrive within 48 hours, mark the appropriate boxes for the 48 hour holding time group on the CSD Forms. If you know or suspect your samples will not arrive at DLS within 48 hours, request "Total Phosphorus" and submit a "preserved" metals sample (see **Appendix D**). Note: When samples arrive past their 48 hour hold time for o-phosphate as

an alternative the laboratory can analyze for Total Phosphorous from the metals sample bottle if it was submitted.

BLANKS

Blanks are a common source of confusion because there are different kinds of blanks:

Equipment Blank

The **Equipment Blank**, sometimes referred to as the rinseate blank, is a reagent grade aqueous or organic solution that is as free of analyte as possible and is transported to the site, opened in the field, poured over or through the sample collection device, collected in a sample container and shipped to the laboratory. This serves as a check on sampling device cleanliness, and will be affected by the site and sample handling conditions. This type of blank will be analyzed in the laboratory just like any other sample. The project officer should check to see that there are no problems with the equipment blank when results are received.

Lot Blank

The Lot Blank must be provided to the lab UNOPENED. The purpose of the lot blank is to ensure the sampling media is free of interference and to determine the desorption efficiency of the media. This is most often used with industrial hygiene media (filters, badges, charcoal tubes, wipes, etc.). Lot blanks are required for both organic and metal IH samples and are highly recommended for sampling containers that were not provided by DLS. Analysis of the lot blanks allows the laboratory to: 1) determine the integrity of the sampling media / containers, 2) check for contamination originating from the manufacturer, or 3) use them for quality control spikes that are required by the analytical method.

Field Reagent Blank (FRB) or Trip Blank

The Field Reagent Blank (FRB) or Trip Blank is required to identify possible interferences associated with the shipping, collection and storage of the sample(s).

FRBs are required for the analysis of VOCs (includes BTEX, CHC, and TTHM), EDB/DBCP, Chlorinated Pesticides & PCB. Please ensure you submit triplicate FRBs for VOC or TTHM, and duplicate FRBs for EDB/DBCP or Chlorinated Pesticides & PCB. FRBs must be handled along with each sample set, which is composed of the samples collected from the same general sample site at approximately the same time. FRBs for these analyses are prepared by the laboratory during kit preparation. FRB sample bottles are filled with reagent water, sealed, and shipped to the sampling site with the empty sample bottles. FRBs must remain sealed until analysis and must be shipped back to the laboratory with the filled sample bottles. Holding time of FRBs start with sampling date of associated samples. Preservatives must not be added to the FRB and Trip Blanks due to the potential for preservative decomposition when sampling kits are stored under deployment conditions.

The IH Trip Blank is a sampling media (from the same lot used for sample collection) that is opened and recapped in the field immediately AFTER the sampling event was performed and then kept together with the sample(s) all the time to identify possible inference(s) or contamination from shipping and storage of the sample(s).

REQUIRED BLANKS:

Regular Water Sampling Kits

VOC Field Reagent Blank (FRB) or Trip Blank must be submitted in triplicate. A combined EDB/DBCP and Chlorinated Pesticides & PCB Trip Blank is required in duplicate. The combined EDB/DBCP and Chlorinated Pesticides & PCB Trip Blank is also known as a SVOC Trip Blank. Note: When requesting / sampling for EDB/DBCP or Chlorinated Pesticides & PCB, the submission of a single set of duplicate trip blanks is still required.

Deployment Drinking Water Screening Kits

The Deployment Drinking Water Screening Kit contains only a single VOC FRB/Trip Blank (no SVOC FRB/Trip Blank).

IH Samples

Two lot blanks per ten samples. Our industrial hygiene analytical runs require that we spike blank filters with a known amount of analyte. This lets us know if there is any substance on the media that interferes with recovery of the specific analyte. This spike test is most meaningful if we are using filters from the same lot as the samples. Therefore, for the best quality data send two additional blanks per sample shipment.

IH Samples Submitted for Asbestos and Fiber Counting

Two lot blanks ***must*** be submitted.

FINGERPRINT COMPOUNDS

A bulk sample (about 5 mL in a 40 mL vial) of the compound should be submitted for use as a method reference. If a bulk sample is not submitted and the laboratory has no suitable reference material on hand, a single compound analyte such as n-Hexane, n-Decane, or Toluene may be used as calibration standard. This will be annotated as result comment on the Certificate of Analysis.

Please ensure the vial containing the bulk sample is sealed tightly and preferably shipped separately to ensure that submitted media will not be contaminated.

SECTION 5 • CUSTOMER SATISFACTION

The Department of Laboratory Sciences values you as a customer. Our staff is dedicated to providing quality service. DLS may send an Electronic Customer Satisfaction survey after your project is completed. If you receive a survey, please take the time to complete it. DLS' Management Review Team reads and discusses each survey. If necessary, corrective or preventive action will be initiated. If you did not receive an Electronic Customer Satisfaction survey and you would like to complete one, please contact the Customer Support Division using the DLS hotline address. Alternatively, you may also provide comments or complaints directly to the DLS Hotline, by telephone, during face to face conversations or meetings with DLS staff, or by attaching a note to your request form. Comments provided through these mechanisms will also be reviewed, discussed, and followed up (if required) by the DLS Management Review Team.

The key to good customer service is communication. Please keep us informed by phone, fax, or e-mail of any changes in your sampling dates, number of samples, or requirements. We in turn will keep you informed of changes or problems as they arise.

Customers are encouraged to arrange a tour of our laboratory facilities and/or conduct a customer audit. To arrange a tour or audit, please contact the Quality Assurance Division at DSN 314-486-7771 or 314-486-6409 or send your request to:

DLS Hotline E-mail [usachppmeur.dlshotline@amedd.army.mil]

APPENDIX A • ABBREVIATIONS

3M™	Minnesota Mining and Manufacturing
°C	Degrees Celsius (Centigrade)
#X	Dilution Factor (e.g., 4X = 1 part neat material plus 3 parts diluent)
A	Table Abbreviation for the matrix Air
AMC	Air Mobility Command
AOX	Adsorbable Organically Bound Halogens
AST	Air Sampling Tube
ASTM	American Society for Testing Materials
BIA	Berufsgenossenschaftliches Institut für Arbeitsschutz (German Institute for Occupational Safety and Health)
BL	Bulk Liquid
BOD	Biological Oxygen Demand
BS	Bulk Solid
BTEX	Benzene, Toluene, Ethylbenzene & Xylene (all isomers)
BW	Bottled / Packaged Water
CHC	Chlorinated Hydrocarbons
CL	Contract Laboratory
COD	Chemical Oxygen Demand
CONUS	Continental United States
CSD	Customer Support Division
CT	Charcoal Tube
CU	Color Units
D	Table Abbreviation for USAPHC(P) PHCR-Europe Department of Laboratory Sciences (DLS)
DAkkS	Deutsches Akkreditierungsstelle (German Accreditation Body)
DAP	Deutsches Akkreditierungssystem Prüfwesen, GmbH (German Accreditation System for Testing Ltd.)
DEHA/DEHP	Di(2-ethylhexyl)adipate / Di(2-ethylhexyl)phthalate
DFG	Deutsche Forschungsgemeinschaft (German Research Society)
DIN	Deutsches Institut für Normung (German Institute for Standardization)
DLS	Department of Laboratory Sciences
DoD	Department of Defense

DSN	Defense Switched Network (telephone)
DW	Drinking Water
EDB/DBCP	Ethylene Dibromide (1,2-Dibromoethane) / 1,2-Dibromo-3-chloropropane
ELLAP	Environmental Lead (Pb) Laboratory Accreditation Program
EN	Europäische Normung (European Norm)
EOX	Extractable Organically Bound Halogens
EPA	Environmental Protection Agency
EU	European Union
FEP	Tetrafluoroethylene & Hexafluoropropylene Co-polymer
FIA	Flow Injection Analysis
FL	Filter
FLAAS	Flame Atomic Absorption Spectroscopy
FTIR	Fourier Transform Infrared Spectrophotometer
g	Gram(s)
G	Table Abbreviation for “German” Contract Laboratory (CL)
GC-ECD	Gas Chromatography – Electron Capture Detector
GC-µECD	Gas Chromatography – micro-Electron Capture Detector
GC-FID	Gas Chromatography – Flame Ionization Detector
GC-MS	Gas Chromatography – Mass Spectrometry
GC-MSD	Gas Chromatography – Mass Selective Detector
GC-MSD, P&T	Gas Chromatography – Mass Selective Detector – Purge & Trap
GC-NPD	Gas Chromatography – Nitrogen Phosphorus Detector
GFAAS	Graphite Furnace Atomic Absorption Spectroscopy
GFPC	Gas Flow Proportional Counter
GW	Groundwater
GWUDISW	Ground Water Under the Direct Influence of Surface Water
H_2SO_4	Sulfuric Acid
HAA5	Haloacetic Acids Five (sum of: dibromoacetic acid, dichlororacetic acid, monobromoacetic, acid, monochloroacetic, acid, and trichloroacetic acid)
HCl	Hydrochloric Acid
HNO_3	Nitric Acid
HOI	Hydrocarbon Oil Index
HPLC	High Performance Liquid Chromatography
HPLC PCR	High Performance Liquid Chromatography Post Column Reactor

HRGC/HRMS	High Resolution Gas Chromatography / High Resolution Mass Spectrometry
IC	Ion Chromatograph
ICP-AES	Inductively Coupled Plasma – Atomic Emission Spectroscopy
ICP-MS	Inductively Coupled Plasma – Mass Spectrometer
ICTD	Inorganic Chemistry & Toxicology Division
ID	Identification
IH	Industrial Hygiene
ISE	Ion Selective Electrode
ISO	International Organization for Standardization
L	Liter
LC-MSD	Liquid Chromatograph - Mass Spectrometer
LC-MS/MS	Liquid Chromatograph - Mass Spectrometer / Mass Spectrometer
LIMS	Laboratory Information Management System
LM	Lösungsmittel (solvents) i.e., LM Method #2 / Method #4, Analytical Methods for Air Analysis of Solvent Mixtures
LOQ	Limit of Quantitation
MCE	Mixed Cellulose Ester
MCL	Maximum Contaminant Level
MDL	Method Detection Limit (the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero)
min	Minute
MIPR	Military Interdepartmental Purchase Request
mL	Milliliter
MOC	Mineral Oil Content
MRT	Management Review Team
MPS	Military Postal Service
MSDS	Material Safety Data Sheet
NaOH	Sodium Hydroxide
N/C Analyzer	Nitrogen/Carbon Analyzer
ND	Not Determined
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Unit
NQA-USA	National Quality Assurance - USA

O	Oil
OCTD	Organic Chemistry & Toxicology Division
OSHA	Occupational Safety and Health Administration
ORBO™	Type of Collection Media Provided by Supelco®
OVM	Organic Vapor Monitor
PAH	Polycyclic Aromatic Hydrocarbon
PC	Paint Chips
PCB	Polychlorinated Biphenyl
PCM	Phase Contrast Microscope
PE	Polyethylene or Nalgene Plastic
PHRC-E	Public Health Command Region - Europe ([formerly the United States Army Health Promotion and Preventive Medicine - Europe (USACHPPMEUR)]
PLM	Polarized Light Microscope
PSU	Polysulfone
PVC	Polyvinyl Chloride
QAD	Quality Assurance Division
RLA	Request for Laboratory Analysis Form
RLS	Request for Laboratory Services Form
RT	Room Temperature
RW	Raw Water
S	Soil, Sludge, or Bulk Solid
SAE	Sampling and Analytical Error (OSHA Methods)
SD	Standard Deviation
SEM	Scanning Electron Microscope
SI	International System of Units or *Système International d'Unités*
SKC™	SKC Inc., manufacturer of air sampling supplies
SL	Soil
SM	Standard Methods for the Examination of Water and Waste Water
SOP	Standard Operating Procedure
SRN	Service Request Number
SVOC	Semivolatile Organic Compound
TCN	Transportation Control Number

TDAAS	Thermal Decomposition, Amalgamation, and Atomic Absorption Spectrophotometry
TDS	Total Dissolved Solids
TEM	Transmission Electron Microscopy
TIC	Toxic Industrial Chemicals
TIM	Toxic Industrial Materials
T of C	Table of Contents
TOC	Total Organic Carbon
TON	Threshold Odor Number
TR	Technische Richtlinie (Technical Guidance)
TSS	Total Suspended Solids
TTHM	Total Trihalomethanes
U	Table Abbreviation for “United States” Contract Laboratory (CL)
US	United States
USAPHC(P)	United States Army Public Health Command (Provisional) [formerly the United States Army Center for Health Promotion and Preventive Medicine (USACHPPM)]
USGS	United States Geoglical Survey
VDI	Verein Deutscher Ingenieure (German Society of Engineers)
VOC	Volatile Organic Compound
W	Table Abbreviation for Water (drinking water, groundwater, packaged/ bottled water, or bulk liquid)
WP	Wipe
WW	Wastewater
X#	Multiplication Factor (e.g., X2 = Unit times 2)

APPENDIX B • AMC SHIPPING

AIR MOBILITY COMMAND (AMC)

Samples can be sent to USAPHC(P) PHCR-Europe DLS via Air Mobility Command (AMC) flights. However, this should be your last option as many times these flights are delayed, diverted or canceled. Deployed locations electing to use AMC flights to deliver samples need to check with AMC to ensure this option is available.

DLS prefers to send sample collection kits via commercial carriers because they can easily be tracked using the internet; however, sampling collection kits can also be sent to customers via AMC flights. To ship sampling kits via AMC, DLS will need the customer's DODAAC, Unit address with APO, DSN phone number and the POE (three letter destination code).

TRANSPORTATION CONTROL AND MOVEMENT DOCUMENT (TCMD)

The DD Form 1384 (TCMD) is used to request a shipment via AMC. Contact your local Air Mobility Command Flight for procedures and applicable codes. Use the following table to complete the TCMD (an example **DD Form 1384** can be found in Appendix E).

Table B.1 — Transportation Control Document - DD Form 1384

BLOCK	BLOCK ID	ENTER THIS INFORMATION
1	Document ID	TX1
2	TRLR Cont	00000
3	Consignor	Your DODAAC, Your Unit, Your APO
4	Comm: Spec. Handling	MZ
5	Air Dim	A
6	POE	Enter three letter destination code from Table B.2
7	POD	RMS (Ramstein)
8	Mode	F
9	Pack	BX
10	Transportation Control Number (TCN)	DODDAC, Julian date, shipment number e.g., WK4UPX82340001XXX
11	Consignee	WK4UPX, USAPHC(P) PHCR-Europe, CMR 402, APO AE 09180
12	Priority	1
13	RDD	If shipment requires re-icing – 999 If no special handling is required – leave blank
15	Date Shipped	Julian date of shipment
17	Tr. Account	A2DR
18	Carrier	AMC
21	Remarks	Contents of parcel

Table B.1 — Transportation Control Document - DD Form 1384		
BLOCK	**BLOCK ID**	**ENTER THIS INFORMATION**
22	Pieces	Total number of pieces in shipment
23	Weight	Combined weight in shipment
24	Cube	Combined cubic measurement of shipment
31	Remarks	U.S. Army Public Health Command (Provisional) Public Health Region - Europe Department of Laboratory Sciences, ATTN: MCHB-AE-LS (CSD) CMR 402, APO AE 09180 (DSN 314-486-7052)

Table B.2 — Point of Embarkment / Destination Codes	
POE/ POD CODE	**LOCATION**
ADA	Incirlik and Izmir, Turkey
AVB	Aviano, Italy
CHQ	Souda Bay, Greece
NAP	Naples, Italy
RMS	Ramstein, Germany
SIZ	Sigonella, Italy (also used for Vicenza, Italy)

MILITARY SHIPMENT LABEL

Each piece of the shipment must have a Military Shipment Label (**DD Form 1387**, contact your local TMO for help, an example DD Form 1387 can be found in Appendix E) attached to the side of the parcel. Use the following table to complete the shipment label.

Table B.3 — Military Shipment Label - DD Form 1387		
	BLOCK ID	**ENTER THIS INFORMATION**
1	TCN	The TCN used on the TCMD
2	Postage Data	Leave Blank
3	From	Your DODAAC, Your Unit, Your APO
4	Type Service	Leave Blank
5	Ship To (POE)	Three letter code from Table B.2
6	Transportation Priority	1
7	POD	RMS
8	Project	Leave Blank
9	Ultimate Consignee	U.S. Army Public Health Command (Provisional) Public Health Region - Europe Department of Laboratory Sciences, ATTN: MCHB-AE-LS (CSD) CMR 402, APO AE 09180 (DSN 314-486-7052)
10	Weight	Weight of this piece

Table B.3 — Military Shipment Label - DD Form 1387		
	Block ID	**Enter This Information**
11	RDD	If shipment requires re-icing – 999 If no special handling is required – leave blank
12	Cube	Cubic measurement of this piece
13	Charges	Leave Blank
14	Date Shipped	Julian date of the shipment
15	FMS Case Number	Leave Blank
16	Piece Number	Number of this piece
17	Total Pieces	Total number of pieces in this shipment

Declaring Dangerous Goods

Class 8 Dangerous Goods in Excepted Quantities must be declared. All liquid preservatives used are Class 8 Dangerous Goods. The requirements for Excepted Quantities are defined as: No more than 30 mL of preservative for primary container (sample container) and no more than 1 L total preservative for secondary container (ice chest). DLS sampling kits conform to these requirements.

The following statement must be added to the TCMD and the Shipment Label:

Hazardous materials in excepted and limited quantities in accordance with Air Force Interservice Manual 24-204, TM 38-250, NAVSUP PUB 505, MCO P4030.19I, DLAI 4145.3, DCMAD1, CH3.4 (HM24) 12 October 2004

Appendix C • Quality Assurance

DLS' Motto

Our motto ***"Pride in Performance"*** echoes our goal which is to produce quality data meeting required specifications at all times by discipline and attention to detail. Quality improvement is a continuous process that is constantly being implemented by DLS to provide our customers with a quality product and the best possible level of customer service. *DLS' ultimate goal is to* ***delight*** *all our customers with our quality, value and customer service*!

Laboratory Accreditations & Registrations

DLS maintains several nationally and internationally recognized independent 3rd party accreditations, registrations, and certifications to ensure the quality of your data.

ISO/IEC 17025:2005 Accredited ETL

Environmental Testing Laboratory (ETL)
Registrar: **Deutsches Akkreditierungssystem Prüfwesen GmbH**
DAR Registration Number: DAP-PL-3000.00
Registration Period: 04 July 2006 to 03 July 2011
DLS Scope of Accreditation

ISO 9001:2008 Registered QMS

Quality Management System (QMS)
Registrar: **National Quality Assurance • USA**
Certificate Number: 12741 (reissued 20 July 2009)
Registration Period: 28 July 2008 to 28 July 2011

ISO 14001:2004 Registered EMS

Environmental Management System (EMS)
Registrar: **National Quality Assurance • USA**
Certificate Number: EN12741
Registration Period: 28 July 2008 to 28 July 2011

ISO/IEC 17025:2005 Accredited ELLAP

Environmental Lead (Pb) Laboratory Accreditation Program (ELLAP)
Registrar: **American Industrial Hygiene Association**
Laboratory Number: 102192
Registration Period: 30 September 2008 to 01 October 2010
DLS ELLAP Scope of Accreditation

Laboratory Proficiency Studies

DLS is a regular participant in the following Proficiency Testing Programs:

American Industrial Hygiene Association (AIHA)

- Bulk Asbestos Proficiency Analytical Testing (BAPAT)
- Environmental Lead (Pb) Proficiency Analytical Testing (ELPAT)
- Metals & Asbestos Fibers on Air Filters Performance Evaluation (PE)

Analytische Qualitätssicherung (AQS) Baden Württemberg

- Drinking Water, Groundwater, & Wastewater Performance Evaluations (PE)

Environmental Resource Associates (ERA, A2LA Accredited)

- Environmental Radioactivity Performance Evaluation (PE)
- Soil Performance Evaluation (PE)
- Water Pollution Performance Evaluation (PE)
- Water Supply Performance Evaluation (PE)

Research Triangle Institute (RTI)

- Navy Asbestos Identification Proficiency Testing Program (NAIPTP)

Laboratory Proficiency Studies Provided by DLS

Fluoride Proficiency Program (FPP)

The USAPHC(P) PHCR-Europe DLS Fluoride Proficiency Program (FPP) is a voluntary, free-of-charge program available to DoD installations in Europe to provide an external validation of drinking water fluoride monitoring results. Participation in the FPP can ensure that fluoride monitoring is accurate and U.S. personnel receive properly fluoridated drinking water. DLS sends FPP kits quarterly to sites performing fluoride monitoring for their installation. The site analyzes the sample and sends their results back to DLS. DLS compares the results to the known value and issues a report. The site can use the report to verify the accuracy of the monitoring instrumentation, the competency of personnel performing the analysis and/or adjust their fluoride methodologies. For more information contact the DLS QAD at DSN 486-6409 or commercial, +49-6371-866409.

APPENDIX D • ANALYTES & METHODS

SAMPLE PRESERVATION

If not otherwise stated use the correct personal protective equipment (PPE) of safety glasses, gloves, and protective clothing when working with acids or bases.

Temperature Control

Maintain a temperature of 1 – 6 °C. Refer to **Section 3 Proper Sample Packing** in the Customer Guide for guidance on ice chests and cool packs.

Acid to pH < 2

Strictly adhere to acid type listed in the Tables of Appendix D. See **Appendix D Table D.13** for the preparation of acid solutions and the specific quantities of acid to be added to the different volume sample containers.

A 2X solution refers to a solution containing one part of concentrated acid and one part of reagent water.

A 4X solution refers to a solution containing one part of concentrated acid and three parts of reagent water.

When preparing these solutions, always add the concentrated acid to the reagent water to prevent spattering.

Acids listed in Appendix D are either:

HCl — Hydrochloric Acid (2X)
HNO_3 — Nitric Acid (4X)
H_2SO_4 — Sulfuric Acid (2X)

Base to pH > 12

NaOH: Sodium Hydroxide, NaOH is a highly caustic base provided in solid pellet form.

1000 mL bottle: Add 16 NaOH pellets and mix well after sampling.
500 mL bottle: Add 8 NaOH pellets and mix well after sampling.
40 mL bottle: Add 1 NaOH pellet and mix well after sampling.

TABLE D.1: ORGANIC ANALYTES

Procedure	Matrix Code	Preservative	Container	MAX Holding Time	Volume or Mass	Method	LAB
Aldehydes (Reported as Formaldehyde)	WW	1 – 6 °C	Glass Teflon™ Lined Cap	48 Hours	500 mL	In-House Steam Distillation UV/VIS	G
AOX (DOC is required)	W, WW	1 – 6 °C HNO_3 to pH < 2	Glass Teflon™ Lined Cap	5 Days	500 mL	DIN EN ISO 9562 H14	G
BTEX	See VOC						D
BTEX & CHC	See VOC						D
CHC	See VOC						D
Carbamate Pesticides	W	1 – 6 °C 4 mg Sodium Thiosulfate 400 mg Potassium Dihydrogen Citrate	Glass Teflon™ Lined Cap	28 Days	40 mL Vials (2 each)	EPA 531.2	D
Di(2-ethylhexyl)adipate (DEHA) and Di(2-ethyl-hexyl)phthalate (DEHP)	W	1 – 6 °C 50 mg Sodium Sulfite HCl to pH < 2	Amber Glass Teflon™ Lined Cap	14 Days	1000 mL	EPA 525.2	D
Dioxin	W	1 – 6 °C 80 mg Sodium Thiosulfate If pH > 9 adjust to pH 7-9 with H_2SO_4	Amber Glass Teflon™ Lined Cap	1 Year	1000 mL	EPA 1613	G
	S	None	Amber Glass Teflon™ Lined Cap	1 Year	1000 g	EPA 1613	G
Diquat & Paraquat	W	1 – 6 °C 100 mg Sodium Thiosulfate 5 mL H_2SO_4 to pH < 2	Amber PVC & Amber PVC Cap	7 Days	1000 mL	EPA 549.2	U
DOC	W, WW	1 – 6 °C	Glass Teflon™ Lined Cap	48 Hours	500 mL	DIN EN 1484 H3	G
Ethylenedibromide (EDB) & 1,2-Dibromo-3-chloro-propane (DBCP)	W	1 – 6 °C 3 mg Sodium Thiosulfate ***No headspace***	Amber Glass Teflon™ Lined Cap	14 Days	40 mL Vials (3 each)	EPA 504.1	D
Endothall	W	1 – 6 °C 40 mg Sodium Thiosulfate	Amber Glass Teflon™ Lined Cap	7 Days	500 mL	EPA 548.1	U
EOX	W, WW	1 – 6 °C	Glass Teflon™ Lined Cap	7 Days	100 mL	DIN 38409 H8	G

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TABLE D.1: ORGANIC ANALYTES

Procedure	Matrix Code	Preservative	Container	MAX Holding Time	Volume or Mass	Method	LAB
Explosives	W	1 – 6 °C	Amber Glass Teflon™ Lined Cap	7 Days	1000 mL	CAD 13.2	U
	W	1 – 6 °C	Amber Glass Teflon™ Lined Cap Wrapped in Aluminum Foil	3 Days	1000 mL	DIN 38407 F21	G
	S	1 – 6 °C	Amber Glass Teflon™ Lined Cap Wrapped in Aluminum Foil	3 Days	100g	DIN 38407 F21	G
Glyphosate & AMPA (Aminomethyl-phosphonic acid)	W	1 – 6 °C 4 mg Sodium Thiosulfate 400 mg Potassium Dihydrogen Citrate	Amber Glass Teflon™ Lined Cap	14 Days	40 mL Vials (2 each)	EPA 547	D
	W	1 – 6 °C 50 mg Sodium Thiosulfate	Amber Glass Teflon™ Lined Cap	5 Days	1000 mL	DIN 380407-F22	G
Haloacetic Acids Five (HAA5)	DW	1 – 6 °C 35 mg Ammonium Chloride	Amber Glass Teflon™ Lined Cap	14 Days	125 mL	EPA 552.2 or EPA 552.3	U
Herbicides, Chlorinated	W	1 – 6 °C 2 mg Sodium Sulfite	Amber Glass Teflon™ Lined Cap	14 Days	40 mL (3 each)	EPA 515.4	D
	S	1 – 6 °C	Glass Teflon™ Lined Cap	5 Days	100 g	DIN 38407 F14 (mod.)	G
Herbicides, Triazine (Atrazine, Simazine, Desethylatrazine)	W	1 – 6 °C 50 mg Sodium sulfite, HCl pH <2	Amber Glass Teflon™ Lined Cap	7 Days	1000 mL	DIN EN ISO 11369 F12	D
	S	HCl pH <2 1 – 6 °C	Amber Glass Teflon™ Lined Cap	5 Days	100 g	DIN EN ISO 11369 F12 (mod.)	G
Hydrocarbon Oil Index (HOI)	W, WW	1 – 6 °C	100 g	14 Days	1000 mL	ISO 9377-2:2000	D
	W, WW	1 – 6 °C	Glass Teflon™ Lined Cap	5 Days	500 mL	DIN EN ISO 9377-2 (H53) GC/FID	G
Mineral Oil Content	S	1 – 6 °C	Glass Teflon™ Lined Cap	7 Days	100 g	ISO 16703:2004 GC/FID	D
	S	1 – 6 °C	Glass Teflon™ Lined Cap	5 Days	100 g	ISO/TR 11046 GC/FID	G

DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

TABLE D.1: ORGANIC ANALYTES

Procedure	Matrix Code	Preservative	Container	MAX Holding Time	Volume or Mass	Method	LAB
Nitrated Organic Solvents	WW	1 – 6 °C	Amber Glass Teflon™ Lined Cap	7 Days	1000 mL	DIN 38407 F2 (mod.)	G
Oil & Grease (Saponifiable)	WW	1 – 6 °C	Glass Teflon™ Lined Cap	48 Hours	1000 mL	In-House Gravimetric Method	G
PCB (As Aroclor)	W	1 – 6 °C 3 mg Sodium Thiosulfate	Amber Glass Teflon™ Lined Cap	7 Days	40 mL Vial (3 each)	EPA 505	D
PCB (6 Selected Congeners)	S	1 – 6 °C	Glass Teflon™ Lined Cap	6 Months	100 g	DIN EN ISO 11369 F12	G
	O	1 – 6 °C	Amber Glass Teflon™ Lined Cap	6 Months	40 mL	DIN EN ISO 11369 F12 (mod.)	G
PCP	S	1 – 6 °C	Amber Glass Teflon™ Lined Cap	5 Days	100 gL	DIN EN ISO 11369 F12 (mod.)	G
Pesticides, Chlorinated	W	1 – 6 °C 3 mg Sodium Thiosulfate	Amber Glass Teflon™ Lined Cap	7 Days	40 mL Vial (3 each)	EPA 505	D
	W	1 – 6 °C 50 mg Sodium Sulfite HCl to pH < 2	Amber Glass Teflon™ Lined Cap	14 Days	1000 mL	DIN IEN ISO 10695 F6	G
	S	1 – 6 °C	Amber Glass Teflon™ Lined Cap	5 Days	100 g	DIN EN 10382	G
Pesticides, Organophosphorus	W	1 – 6 °C 50 mg Sodium Sulfite HCl to pH < 2	Amber Glass Teflon™ Lined Cap	14 Days	1000 mL	DIN EN ISO 10695 F6 (mod.)	G
	S	1 – 6 °C	Amber Glass Teflon™ Lined Cap	5 Days	100 g	DIN EN ISO 10695 F6 (mod.)	G
Phenols, Chlorinated	W, WW	1 – 6 °C H_2SO_4 to pH < 2 1g $CuSO_4$	Amber Glass Teflon™ Lined Cap	48 Hours	1000 mL	In-House GC-MSD	G
Phenols, Total (Reported as Phenol)	W, WW	1 – 6 °C HCL to pH < 2	Amber Glass Teflon™ Lined Cap	48 Hours	500 mL	DIN EN ISO 14402	G

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TABLE D.1: ORGANIC ANALYTES

Procedure	Matrix Code	Preservative	Container	MAX Holding Time	Volume or Mass	Method	LAB
PAH	W	1 – 6 °C – 100 mg Sodium Thiosulfate HCl to pH < 2	Amber Glass Teflon™ Lined Cap	7 Days	1000 mL	EPA 550	D
	S	1 – 6 °C	Glass Teflon™ Lined Cap	5 Days	100 g	DIN EN 15527	G
Qualitative Identification of Contaminants in Samples of Unknown Origin	W	1 – 6 °C	Amber Glass Teflon™ Lined Cap	Varies	1000 mL	Various	D
	S	1 – 6 °C	Glass Teflon™ Lined Cap	Varies	500 g	Various	D
Surfactants Anionic	W, WW	1 – 6 °C 3 mL Chloroform	Glass Teflon™ Lined Cap	5 Days	500 mL	DIN EN 903 H24	G
Surfactants Cationic (Disulfine Blue Active Substances)	W, WW	1 – 6 °C H_2SO_4 to pH < 2	Glass Teflon™ Lined Cap	14 Days	2000 mL	DIN 38409 H20	G
Surfactants Non-ionic	W, WW	1 – 6 °C	Glass Teflon™ Lined Cap	8 Days	2000 mL	DIN 38409 H23-2	G
Surfactants Perfluorinated (PFS)	W, WW	1 – 6 °C	Glass Teflon™ Lined Cap	14 Days	500 mL	In-House LC-MS/MS	G
	S	1 – 6 °C	Glass Teflon™ Lined Cap	14 Days	100 g	In-House LC-MS/MS	G
Toxicity, Acute (Daphnia Magna)	WW	Freeze -5 to -40 ºC	PE	14 Days Frozen	500 mL	DIN 38412 L 30	G
Toxicity, Fish	WW	1 – 6 °C	PE	48 Hours 10 ºC 10 Days @ 4 ºC	4000 mL	DIN 38412 L31	G
Toxaphene (in conjunction with Chlorinated Pesticides)	W	1 – 6 °C 3 mg Sodium Thiosulfate	Amber Glass Teflon™ Lined Cap	7 Days	40 mL Vial (3 each)	EPA 505	D
Toxaphene	W	1 – 6 °C 50 mg Sodium Sulfite	Amber Glass Teflon™ Lined Cap	7 Days	1000 mL	EPA 508	D
Trihalomethane Potential	***Finished*** DW Only	1 – 6 °C ***No headspace***	Amber Glass Teflon™ Lined Cap	14 Days	40 mL Vial (3 each)	EPA 524.2	D

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TABLE D.1: ORGANIC ANALYTES

Procedure	Matrix Code	Preservative	Container	MAX Holding Time	Volume or Mass	Method	LAB
TTHM	DW	1 – 6 °C 25 mg Ascorbic Acid HCl to pH < 2 ***No headspace***	Amber Glass Teflon™ Lined Cap	14 Days	40 mL Vial (3 each)	EPA 524.2	D
VOC Panels: 1) BTEX, 2) BTEX & CHC, 3) CHC, 4) Total VOC	S Gas	Ambient Temperature	Tedlar Bag	48 Hours	2000 mL	In-House GC-MSD	G
			Charcoal Tube	7 Days			
	W	1 – 6 °C 25 mg Ascorbic Acid HCl to pH < 2 ***No headspace***	Amber Glass Teflon™ Lined Cap	14 Days	40 mL Vial (3 each)	EPA 524.2, EPA 8260C (**see Table D.1 Notes**)	D
	WW	1 – 6 °C 25 mg Ascorbic Acid HCl to pH < 2 ***No headspace***	Amber Glass Teflon™ Lined Cap	14 Days	40 mL Vial (3 each)	EPA 8260C	D
VOC Panels: 1) BTEX, 2) BTEX & CHC, 3) CHC, 4) Total VOC	S	1 – 6 °C 2 g Sodium Bisulfate in 10 mL Water	40 mL Amber Glass Vial Teflon™ Lined Cap **PREWEIGHED**	14 Days	40 mL Vial (3 each) Approximately 5 g Soil (Actual mass determined at DLS)	EPA 8260C / 5035A Low VOC Procedure	D
		1 – 6 °C 10 mL Water	40 mL Amber Glass Vial Teflon™ Lined Cap **PREWEIGHED**	48 Hours	40 mL Vial (3 each) Approximately 5 g Soil (Actual mass determined at DLS)	EPA 8260C / 5035A Low VOC Procedure	D
			To extend holding time to 14 days immediately freeze sample to –8 to –18 °C or within 48 hours of initial sample collection and storage at 1-6 °C.				
		10 mL of Methanol (CH_3OH) 1 – 6 °C	40 mL Amber Glass Vial Teflon™ Lined Cap **PREWEIGHED**	14 Days	40 mL Vial* Approximately 5 g Soil (Actual mass determined at DLS)	EPA 8260C / 5035A High VOC Procedure	D
			**** NOTE: A second 40 mL vial filled with sample with minimal headspace must accompany the 40 mL vial that contains approximately 5 g of Soil in 10 mL of methanol.***				

— TABLE D.1 NOTES —

DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

TABLE D.1: ORGANIC ANALYTES

Procedure	Matrix Code	Preservative	Container	MAX Holding Time	Volume or Mass	Method	LAB

All abbreviations and acronyms are defined in Appendix A
BTEX/CHC & VOC: If the method was not specified by customer, EPA 524.2 will be the default method for raw water samples unless the sample contains sediment, suspended matter, or a separated organic phase.
D: Department of Laboratory Sciences (ISO 17025:2005 accredited)
G: German Contract Laboratory (ISO 17025:2005 accredited)
U: US Contract Laboratory (ISO 17025:2005 accredited)

DW: Drinking Water & Bottled/Packaged Water – *only!*
O: Oil
PE: Polyethylene or Nalgene™ Plastic
PVC: Polyvinyl Chloride
S: Soil, Sludge, or Bulk Solid
W: Water (drinking water, raw water, groundwater, Bottled/Packaged Water, or bulk liquid)
WW: Wastewater – *only!*
See Table D.13: Acid Preservation for specifics on acid concentrations and volumes required.

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TABLE D.2: INORGANIC METAL & OTHER ELEMENT ANALYTES

Analyte	Matrix Code	Preservative	Container	MAX Holding Time	Volume or Mass	Method	LAB
Aluminum (Al)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	250 mL	DIN EN ISO 11885 E22	G
					1000 mL	EPA 200.7, EPA 200.8	D
	WW				1000 mL	EPA 200.7	D
Antimony (Sb)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	250 mL	DIN EN ISO 11885 E22	G
					1000 mL	EPA 200.7, EPA 200.8	D
	WW				1000 mL	EPA 200.7	D
Arsenic (As)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	250 mL	DIN EN ISO 11885 E22	G
					1000 mL	EPA 200.7, EPA 200.8	D
	WW				1000 mL	EPA 200.7	D
	S	1 – 6 °C if Wet Ambient RT if Dry	PE or Glass Teflon™ Lined Cap	6 Months	100 g	EPA 6010B	D
Barium (Ba)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	250 mL	DIN EN ISO 11885 E22	G
					1000 mL	EPA 200.7, EPA 200.8	D
	WW				1000 mL	EPA 200.7	D
	S	1 – 6 °C if Wet Ambient RT if Dry	PE or Glass Teflon™ Lined Cap	6 Months	100 g	EPA 6010B	D
Beryllium (Be)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	250 mL	DIN EN ISO 11885 E22	G
					1000 mL	EPA 200.7, EPA 200.8	D
	WW				1000 mL	EPA 200.7	D
	S	1 – 6 °C if Wet Ambient RT if Dry	PE or Glass Teflon™ Lined Cap	6 Months	100 g	EPA 6010B	D

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TABLE D.2: INORGANIC METAL & OTHER ELEMENT ANALYTES

Analyte	Matrix Code	Preservative	Container	MAX Holding Time	Volume or Mass	Method	LAB
Boron (B)	W	HNO_3 to pH < 2	PE	6 Months	250 mL	DIN EN ISO 11885 E22	G
	DW				100 mL	EPA 200.7	D
Cadmium (Cd)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	250 mL	DIN EN ISO 11885 E22	G
					1000 mL	EPA 200.7, EPA 200.8	D
	WW				1000 mL	EPA 200.7	D
	S	1 – 6 °C if Wet Ambient RT if Dry	PE or Glass Teflon™ Lined Cap	6 Months	100 g	EPA 6010B	D
Calcium (Ca)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	250 mL	DIN EN ISO 11885 E22	G
	W, WW				1000 mL	ASTM D6919	D
	DW					EPA 200.7	D
	S	1 – 6 °C if Wet Ambient RT if Dry	PE or Glass Teflon™ Lined Cap	6 Months	100 g	DIN EN ISO 11466	G
Chromium (Cr) (Total)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	250 mL	DIN EN ISO 11885 E22	G
					1000 mL	EPA 200.7, EPA 200.8	D
	WW				1000 mL	EPA 200.7	D
	S	1 – 6 °C if Wet Ambient RT if Dry	PE or Glass Teflon™ Lined Cap	6 Months	100 g	EPA 6010B	D
Chromium VI (Cr+6)	W, WW	1 – 6 °C NaOH to pH > 10	Glass Teflon™ Lined Cap	5 Days	250 mL	DIN 38405-D24	G
Cobalt (Co)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	250 mL	DIN EN ISO 11885 E22	G
					1000 mL	EPA 200.7, EPA 200.8	D
	WW				1000 mL	EPA 200.7	D
	S	1 – 6 °C if Wet Ambient RT if Dry	PE or Glass Teflon™ Lined Cap	6 Months	100 g	EPA 6010B	D
Copper (Cu)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	250 mL	DIN EN ISO 11885 E22	G
					1000 mL	EPA 200.7, EPA 200.8	D
	WW				1000 mL	EPA 200.7	D
	S	1 – 6 °C if Wet Ambient RT if Dry	PE or Glass Teflon™ Lined Cap	6 Months	100 g	EPA 6010B	D
Iron (Fe)	DW, W, WW	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	1000 mL	EPA 200.7	D
	S	1 – 6 °C if Wet Ambient RT if Dry	PE or Glass Teflon™ Lined Cap	6 Months	100 g	EPA 6010B	D

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TABLE D.2: INORGANIC METAL & OTHER ELEMENT ANALYTES

Analyte	Matrix Code	Preservative	Container	MAX Holding Time	Volume or Mass	Method	LAB
Lead (Pb)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	250 mL	DIN EN ISO 11885 E22	G
					1000 mL	EPA 200.7, EPA 200.8	D
	WW	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	1000 mL	EPA 200.7	D
	S	1 – 6 °C if Wet Ambient RT if Dry	PE or Glass Teflon™ Lined Cap	6 Months	100 g	EPA 6010B, EPA 7000B	D
Lead & Copper (EPA Rule)	DW	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	1000 mL	EPA 200.7, EPA 200.8	D
Magnesium (Mg)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	250 mL	DIN EN ISO 11885 E22	G
	W, WW				1000 mL	ASTM D6919	D
	DW					EPA 200.7	D
	S	1 – 6 °C if Wet Ambient RT if Dry	PE or Glass Teflon™ Lined Cap	6 Months	100 g	DIN EN ISO 11466	G
Manganese (Mn)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	250 mL	DIN EN ISO 11885 E22	G
					1000 mL	EPA 200.7, EPA 200.8	D
	WW				1000 mL	EPA 200.7	D
	S	1 – 6 °C if Wet Ambient RT if Dry	PE or Glass Teflon™ Lined Cap	6 Months	100 g	EPA 6010B	D
Mercury (Hg)	W	10 mL Stabilization Solution (50 mg $K_2Cr_2O_7$ in 10 mL 2X HNO_3)	Borosilicate Glass, PSU or FEP	6 Months	1000 mL	DIN EN 1483 E12	G
		Note: Stabilized sample ***must*** have a pH < 1 & a red-yellow color. If pH & color are not achieved add additional stabilization solution until a pH < 1 & a red-yellow color is achieved.					
	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	28 Days	1000 mL	EPA 200.8	D
		Note: Sample turbidity must be less than 1 NTU.					
	WW	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	28 Days	1000 mL	EPA 7473	D
	S	1 – 6 °C if Wet Ambient RT if Dry	PE or Glass Teflon™ Lined Cap	28 Days	100 g	EPA 7473	D
				6 Months	100 g	DIN EN 1483	G
Molybdenum (Mo)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	250 mL	DIN EN ISO 11885 E22	G
					1000 mL	EPA 200.7, EPA 200.8	D
	WW				1000 mL	EPA 200.7	D
	S	1 – 6 °C if Wet Ambient RT if Dry	PE or Glass Teflon™ Lined Cap	6 Months	100 g	EPA 6010B	D

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TABLE D.2: INORGANIC METAL & OTHER ELEMENT ANALYTES

Analyte	Matrix Code	Preservative	Container	MAX Holding Time	Volume or Mass	Method	LAB
Nickel (Ni)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	250 mL	DIN EN ISO 11885 E22	G
					1000 mL	EPA 200.7, EPA 200.8	D
	WW				1000 mL	EPA 200.7	D
	S	1 – 6 °C if Wet Ambient RT if Dry	PE or Glass Teflon™ Lined Cap	6 Months	100 g	EPA 6010B	D
Phosphorus (P) [Total (P)]	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	250 mL	DIN EN ISO 11885 E22	G
	DW				1000 mL	EPA 200.7	D
Potassium (K)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	250 mL	DIN EN ISO 11885 E22	G
	W, WW				1000 mL	ASTM D6919	D
	DW					EPA 200.7	D
	S	1 – 6 °C if Wet Ambient RT if Dry	PE or Glass Teflon™ Lined Cap	6 Months	100 g	DIN EN ISO 11466	G
Selenium (Se)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	250 mL	DIN 28405 D23	G
					1000 mL	EPA 200.7, EPA 200.8	D
	WW	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	1000 mL	EPA 200.7	D
	S	1 – 6 °C if Wet Ambient RT if Dry	PE or Glass Teflon™ Lined Cap	6 Months	100 g	EPA 6010B	D
Silicon (Si)	W	HNO_3 to pH < 2	PE	6 Months	1000 mL	EPA 200.7	D
Silver (Ag)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	250 mL	DIN EN ISO 11885 E22	G
					1000 mL	EPA 200.7, EPA 200.8	D
	WW				1000 mL	EPA 200.7	D
	S	1 – 6 °C if Wet Ambient RT if Dry	PE or Glass Teflon™ Lined Cap	6 Months	100 g	EPA 6010B	D
Sodium (Na)	DW	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	1000 mL	EPA 200.7	D
	W, WW					ASTM D6919	D
	S	1 – 6 °C if Wet Ambient RT if Dry	PE or Glass Teflon™ Lined Cap	6 Months	100 g	DIN EN ISO 11466	G
Tin (Sn)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	1000 mL	EPA 200.7, EPA 200.8	D
	WW					EPA 200.7	

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TABLE D.2: INORGANIC METAL & OTHER ELEMENT ANALYTES

Analyte	Matrix Code	Preservative	Container	MAX Holding Time	Volume or Mass	Method	LAB
Thallium (Tl)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	250 mL	DIN EN ISO 11885 E22	G
					1000 mL	EPA 200.8	D
	WW				1000 mL	EPA 200.7	D
	S	1 – 6 °C if Wet Ambient RT if Dry	PE or Glass Teflon™ Lined Cap	6 Months	100 g	EPA 6010B	D
Uranium (U)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	1000 mL	EPA 200.7, EPA 200.8	D
	S	1 – 6 °C if Wet Ambient RT if Dry	PE or Glass Teflon™ Lined Cap	6 Months	100 g	EPA 6010B	D
Vanadium (V)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	1000 mL	EPA 200.7, EPA 200.8	D
	WW					EPA 200.7	
Zinc (Zn)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	250 mL	DIN EN ISO 11885 E22	G
	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	1000 mL	EPA 200.7, EPA 200.8	D
	WW					EPA 200.7	D
	S	1 – 6 °C if Wet Ambient RT if Dry	PE or Glass Teflon™ Lined Cap	6 Months	100 g	EPA 6010B	D

— TABLE D.2 NOTES —

All abbreviations and acronyms are defined in Appendix A
FEP: Tetrafluoroethylene & Hexafluoropropylene Copolymer
D: Department of Laboratory Sciences (ISO 17025:2005 accredited)
G: German Contract Laboratory (ISO 17025:2005 accredited)
U: US Contract Laboratory (ISO 17025:2005 accredited)
DW: Drinking Water & Bottled/Packaged Water – *only!*
NTU: Nephelometric Turbidity Unit

PE : Polyethylene or Nalgene™ Plastic
PSU: Polysulfone
RT: Room Temperature
S: Soil, Sludge, or Bulk Solid
W: Water (drinking water, raw water, groundwater, Bottled/Packaged Water, or bulk liquid)
WW: Wastewater – *only!*
See Table D.13: Acid Preservation for specifics on acid concentrations and volumes required.

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TABLE D.3: INORGANIC NON-METAL ANALYTES

Analyte	Matrix Code	Preservative	Container	MAX Holding Time	Volume or Mass	Method	LAB
Alkalinity	W, WW	1 – 6 °C	PE or Glass Teflon™ Lined Cap	14 Days	500 mL	SM 2320B	D
Ammonia	W, WW	1 – 6 °C H_2SO_4 to pH < 2	PE or Glass Teflon™ Lined Cap	28 Days	500 mL	EPA 350.3, ASTM D6919	D

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TABLE D.3: INORGANIC NON-METAL ANALYTES

Analyte	Matrix Code	Preservative	Container	MAX Holding Time	Volume or Mass	Method	LAB
Acid Capacity (pH 8.2 or 4.3)	W	1 – 6 °C	Glass Teflon™ Lined Cap	48 Hours	250 mL	DIN 38409 H7	G
Asbestos	DW	1 – 6 °C	PE or Glass Teflon™ Lined Cap	48 Hours	500 mL	EPA 100.2	U
Base Capacity (pH 8.2)	W	1 – 6 °C	Glass Teflon™ Lined Cap	48 Hours	250 mL	DIN 38409 H7	G
BOD (COD is required)	W	1 – 6 °C	Glass Teflon™ Lined Cap	48 Hours	1000 mL	DIN EN 1899-2 H52	G
						DIN EN 1899-1 H51	G
	WW	1 – 6 °C	PE or Glass Teflon™ Lined Cap	48 Hours	1000 mL	DIN EN 1899-1 H51	G
	To extend holding time to 30 Days freeze sample immediately after collection (-5 to -40 °C). The extended holding time is only valid if the sample (W, WW) was frozen immediately after collection.						
Bromate	DW	1 – 6 °C	PE	5 Days	100 mL	DIN EN ISO 15061 D34	G
Bromide	W	None	PE or Glass Teflon™ Lined Cap	28 Days	500 mL	DIN EN ISO 10303 D19	G
	W, WW					EPA 300.0	D
Carbon Dioxide (Free)	W	1 – 6 °C	Glass Teflon™ Lined Cap	48 Hourss	250 mL	DIN 38405 D8	G
Chloride	W	None	PE or Glass Teflon™ Lined Cap	28 Days	500 mL	DIN EN ISO 10303 D19	G
	W, WW				250 mL	EPA 300.0	D
Chlorite	DW	1 – 6 °C, NaOH to pH > 12	PE	7 Days	100 mL	DIN EN ISO 10304-4 D25	G
	To extend holding time to 30 Days freeze sample immediately after collection to –18 °C (or less) or within 7 days of sample collection at 1-6 °C.						
COD	W, WW	H_2SO_4 to pH < 2	PE or Glass Teflon™ Lined Cap	28 Days	500 mL	DIN 38409 H41	G
Color, Apparent	W, WW	1 – 6 °C	PE Teflon™ Lined Cap	48 Hours	250 mL	SM 2120B	D
Conductivity	W, WW	1 – 6 °C	PE or Glass Teflon™ Lined Cap	28 Days	500 mL	SM 2510B	D
	W	1 – 6 °C	PE	48 Hours	100 mL	DIN EN 27888 C8	G
Cyanide, Free	W	1 – 6 °C NaOH to pH > 12	PE or Glass Teflon™ Lined Cap	14 Days	500 mL	SM4500-CN-F	D
Cyanide, Total	W, WW	1 – 6 °C NaOH to pH > 12	Glass Teflon™ Lined Cap	48 Hours	250 mL	DIN EN 14403 D6	G
Dry Weight	S	1 – 6 °C	Glass Teflon™ Lined Cap	6 Months	50 g	DIN EN 14346	G
DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.							

TABLE D.3: INORGANIC NON-METAL ANALYTES

Analyte	Matrix Code	Preservative	Container	MAX Holding Time	Volume or Mass	Method	LAB
Dry Weight, Percent	S	1 – 6 °C	Glass Teflon™ Lined Cap	6 Months	50 g	In-house Method	D
Fluoride	W	None	PE or Glass Teflon™ Lined Cap	28 Days	500 mL	DIN 38405 D4	G
	W, WW				250 mL	EPA 300.0	D
Hardness (Calculated from the Ca & Mg data)	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	500 mL	SM 2340B	D
Hydrogen Sulfide	W	1 – 6 °C 0.5 mL 2N Zinc Acetate NaOH to pH > 9	Amber Glass Teflon™ Lined Cap	7 Days	500 mL	DIN 38405 D26	G
Kjeldahl Nitrogen	W	1 – 6 °C H_2SO_4 to pH < 2	PE or Glass Teflon™ Lined Cap	28 Days	1000 mL	DIN EN 25663 H11	G
Langelier Index	DW	***Langelier Index or Saturation Index requires on-site temperature and pH be supplied by the Customer. Additionally customers must request TDS, alkalinity and calcium analyses.***					D
Nitrate, as N	W	1 – 6 °C	PE or Glass Teflon™ Lined Cap	48 Hours	500 mL	DIN EN ISO 10304 D19	G
	W, WW			48 Hours	250 mL	EPA 300.0	D
	DW	1 – 6 °C	PE or Glass Teflon™ Lined Cap	Chlorinated DW 14 Days	250 mL	EPA 300.0	D
Nitrite, as N	W	1 – 6 °C	PE or Glass Teflon™ Lined Cap	48 Hours	500 mL	DIN EN 26777 D10	G
	W, WW				250 mL	EPA 300.0	D
Odor	W	1 – 6 °C	PE or Glass Teflon™ Lined Cap	48 Hours	1000 mL	SM 2150B	D
Oxidizability	W	1 – 6 °C H_2SO_4 to pH < 2	Glass Teflon™ Lined Cap	7 Days	1000 mL	DIN EN ISO 8467 H5	G
o-Phosphate, as P	W	1 – 6 °C	PE or Glass Teflon™ Lined Cap	48 Hours	500 mL	DIN EN ISO 6878 D11	G
	W, WW				250 mL	EPA 300.0	D
Perchlorate	W	1 – 6 °C Sterile Filtration Head Space	PE	28 Days	20 mL	EPA 331.0	D
	WW	1 – 6 °C Head Space	PE	28 Days	50 mL	In-House CAD 110.2	U
pH	S	1 – 6 °C	PE or Glass Teflon™ Lined Cap	7 Days	100 g	EPA 9045C	D
	BL, WW	1 – 6 °C No Headspace	PE or Glass Teflon™ Lined Cap	7 Days	250 mL	EPA 9040C	D
	DW, GW					EPA 150.1	D
DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.							

Table D.3: Inorganic Non-Metal Analytes

Analyte	Matrix Code	Preservative	Container	MAX Holding Time	Volume or Mass	Method	LAB
pH after $CaCO_3$ Saturation	W	1 – 6 °C	Glass Teflon™ Lined Cap	48 Hours	250 mL	DIN 38404 CS	G
Settleable Matter (by volume)	W	1 – 6 °C	PE	48 Hours	1000 mL	DIN 38409 H9	G
Sulfate	DW	1 – 6 °C	PE or Glass Teflon™ Lined Cap	28 Days	500 mL	DIN EN ISO 10304 D19	G
	W, WW	1 – 6 °C	PE or Glass Teflon™ Lined Cap	28 Days	250 mL	EPA 300.0	D
Sulfite	WW	1 – 6 °C	PE	48 Hours	50 mL	DIN EN ISO 10304 D20	G
TDS	W, WW	1 – 6 °C	PE or Glass Teflon™ Lined Cap	7 Days	500 mL	SM 2540C	D
Total Nitrate/ Nitrite	W, WW	H_2SO_4 to pH < 2	PE or Glass Teflon™ Lined Cap	28 Days	250 mL	EPA 300.0	D
Total Bound Nitrogen (TN)	W, WW	1 – 18 °C	PE	28 Days	100 mL	DIN EN 12260 H34	G
TOC	W, WW	1 – 6 °C, H_3PO_4 to pH < 2	PE or Glass Teflon™ Lined Cap	7 Days	100 mL	DIN EN 1484 H3	G
	W	1 – 6 °C, HCl to pH < 2	PE or Glass Teflon™ Lined Cap	28 Days	40 mL Vial (3 each)	EPA 415.3	D
Total Phosphorus	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	1000 mL	EPA 200.7	D
	W, WW	None	PE	6 Months	250 mL	DIN EN ISO 11885 E22	G
TSS	W, WW	1 – 6 °C	PE or Glass Teflon™ Lined Cap	7 Days	1000 mL	USGS I-3765-85	D
Turbidity	W, WW	1 – 6 °C	PE or Glass Teflon™ Lined Cap	48 Hours	250 mL	EPA 180.1	D

— Table D.3 Notes —

All abbreviations and acronyms are defined in Appendix A
D: Department of Laboratory Sciences (ISO 17025:2005 accredited)
DW: Drinking Water & Bottled/Packaged Water – *only!*
G: German Contract Laboratory (ISO 17025:2005 accredited)
S: Soil, Sludge, or Bulk Solid
PE: Polyethylene or Nalgene™ Plastic
U: US Contract Laboratory (ISO 17025:2005 accredited)
W: Water (drinking water, raw water, groundwater, Bottled/ Packaged Water, or bulk liquid)
WW: Wastewater – *only!*
See Table D.13: Acid Preservation for specifics on acid concentrations and volumes required.

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TABLE D4.: RADIONUCLIDE ANALYTES

Analyte	Matrix Code	Preservative	Container	MAX Holding Time	Volume or Mass	Method	LAB
Gross Alpha & Gross Beta Activity	W, WW	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	1000 mL	EPA 900	D
	S	None	Glass Teflon™ Lined Cap	6 Months	500 g	In-house AB003	U
Radium-226	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	3000 mL	In-house MB-403	G
						In-house R6001	U
Radium-228	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	3000 mL	In-house MB-403	G
						In-house R8001	U
Radon-222	A	None	Nuclear Trace Detector Provided by Contract Lab	1 Month	N/A	In-house	G
	W	1 – 6 °C	Glass with Glass Stopper	7 Days	250 mL (2 each) or 500 mL (2 each)	In-house LAURA-A-03	G
Strontium-90	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	3000 mL	In-house S9001	U
Tritium	W	None	PE or Glass Teflon™ Lined Cap	6 Months	500 mL	EPA H-02	U
	S	1 – 6 °C	Glass Teflon™ Lined Cap		500 g	In-house AB003	
Uranium	W	HNO_3 to pH < 2	PE or Glass Teflon™ Lined Cap	6 Months	3000 mL	ASTM D5174	U

— TABLE D.4 NOTES —

All abbreviations and acronyms are defined in Appendix A
A: Air
D: Department of Laboratory Sciences (ISO 17025:2005 accredited)
G: German Contract Laboratory (ISO 17025:2005 accredited) or for Radon-222 in Air analysis *only* Certified for workplace related analysis of Radon-222 by the German Office for Radiation Protection (Bfs)
U: US Contract Laboratory (ISO 17025:2005 accredited)

PE: Polyethylene or Nalgene™ Plastic
W: Water (drinking water, raw water, groundwater, Bottled/Packaged Water, or bulk liquid)
WW: Wastewater – *only!*
See Table D.13: Acid Preservation for specifics on acid concentrations and volumes required.

DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

TABLE D.5: DEPLOYMENT DRINKING WATER SCREENING KIT: ORGANIC ANALYTES

Vial Name	Matrix	Method	Method	MAX Holding Time	Volume	Preservation	LAB
Carbamates & Glyphosate	DW	Aldicarb	EPA 531.2	28 Days	40 mL	1 – 6 °C 4 mg Sodium Thiosulfate 1.2 mL Chloroacetic Acid Buffer	D
		Aldicarb Sulfone					
		Aldicarb Sulforxide					
		Carbofuran					
		Oxamyl (Vydate)					
		Glyphosate	EPA 547	14 Days			
Diquat	DW	Diquat	In-house LC-MSD	7 Days	40 mL	1 – 6 °C 4 mg Sodium Thiosulfate H_2SO_4 to pH < 2	D
Endothall	DW	Endothall	EPA 548.1	7 Days	40 mL	1 – 6 °C 4 mg Sodium Thiosulfate HCl to pH < 2	U
Haloacetic Acids	DW	Dibromoacetic Acid	EPA 552.2 or EPA 552.3	14 Days	40 mL (2 each)	1 – 6 °C 5 mg Ammonium Chloride	U
		Dichloroacetic Acid					
		Monobromoacetic Acid					
		Monochloroacetic Acid					
		Trichloroacetic Acid					
		Haloacetic Acids Five (HAA5)					
Herbicides	DW	Dalapon	EPA 514.4	14 Days	40 mL (2 each)	1 – 6 °C 4 mg Sodium Thiosulfate	D
		2,4-D					
		2,4-DB					
		Dichlorprop (2,4-DP)					
		Dinoseb					
		Pentachlorophenol (PCP)					
		Picloram					
		2,4,5-T					
		2,4,5-TP (Silvex)					

DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

TABLE D.5: DEPLOYMENT DRINKING WATER SCREENING KIT: ORGANIC ANALYTES

Vial Name	Matrix	Method	Method	MAX Holding Time	Volume	Preservation	LAB
Pesticides & PCB	DW	Heptachlor Epoxide	EPA 505	7 Days	40 mL (2 each)	1 – 6 °C 4 mg Sodium Thiosulfate	D
		Alachlor		14 Days			
		Aldrin					
		Atrazine					
		Chlordane (technical)					
		Dieldrin					
		Endrin					
		Haptachlor					
		Hexachlorbenzene					
		Hexachlorocyclopentadiene					
		Lindane					
		Methoxychlor					
		PCB as Aroclor					
		Simazine					
		Toxaphene					
SVOC		Anthracene	In-house GC-MSD	14 Days	40 mL (2 each)	1 – 6 °C 3 mg Sodium Sulfite HCl to pH < 2	D
		Benz[a]anthracene					
		Benzo[a]pyrene					
		Benzo[b]fluoranthene					
		p,p'-DDD					
		p,p'-DDE					
		p,p'-DDT					
		Di(2-ethylhexyl)adipate					
		Di(2-ethylhexyl)phthalate					

DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

TABLE D.5: DEPLOYMENT DRINKING WATER SCREENING KIT: ORGANIC ANALYTES

Vial Name	Matrix	Method	Method	MAX Holding Time	Volume	Preservation	LAB
VOC	DW	Benzene	EPA 524.2	14 Days	40 mL (2 each)	1 - 6 °C 25 mg Ascorbic Acid, HCl to pH < 2 ***No Headspace***	D
		Bromodichloromethane					
		Bromoform					
		Carbon tetrachloride					
		Chlorobenzene					
		Chloroform					
		Dibromochloromethane					
		1,2-Dibromoethane					
		1,2-Dibromo-3-chloropropane					
		1,2-Dichlorobenzene					
		1,4-Dichlorobenzene					
		1,2-Dichloroethane`					
		1,1-Dichloroethene					
		cis-1,2-Dichloroethene					
		trans-1,2-Dichloroethene					
		1,2-Dichloropropane					
		cis-1,3-Dichloropropene					
		trans-1,3-Dichloropropene					
		Ethylbenzene					
		Hexachlorobutadiene					
		Methylene chloride					
		Naphthalene					
		Styrene					
		Tetrachloroethene (PCE)					
		Toluene					
		Total Trihalomethanes (TTHM)					
		1,2,4-Trichlorobenzene					
		1,1,1-Trichloroethane					
		1,1,2-Trichloroethane					
		Trichloroethene (TCE)					
		Vinyl chloride					
		Xylenes, total					

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TABLE D.5: DEPLOYMENT DRINKING WATER SCREENING KIT: ORGANIC ANALYTES

Vial Name	Matrix	Method	Method	MAX Holding Time	Volume	Preservation	LAB

— TABLE D.5 NOTES —

Acronyms: All acronyms defined in Appendix A
D: Department of Laboratory Sciences (ISO 17025:2005 accredited)
SEE TABLE D.13: Acid Preservation for specifics on acid concentrations and volumes required.
NOTE: The Deployment Drinking Water Screening Kit was developed to screen drinking water for a limited list of contaminants. The Deployment Drinking Screening Water Kit ***cannot*** be used for drinking water compliance testing. The reduced sample volumes of the Kit do not allow for full quality control procedures to be performed for all methods and is not suitable for dealing with matrix interference problems and repeat analyses are severely limited due to the reduced sample volumes of the Kit. ***The Deployment Drinking Water Screening Kit is not suitable for raw water, groundwater, surface water, or any bulk liquid sampling and testing.***

DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

TABLE D.6: DEPLOYMENT DRINKING WATER SCREENING KIT: INORGANIC METAL & OTHER ELEMENT ANALYTES:

Vial Name	Matrix	Analyte	Method	MAX Holding Time	Vial Required	Preservative	LAB
Metals + Mercury	DW	Boron (B)	EPA 200.7	6 Months	125 mL	HNO_3 to pH < 2	D
		Iron (Fe)					
		Magnesium (Mg)	EPA 200.7 or ASTM D6919				
		Sodium (Na)					
		Aluminum (Al)	EPA 200.7 or EPA 200.8				
		Antimony (Sb)					
		Arsenic (As)					
		Barium (Ba)					
		Beryllium (Be)					
		Cadmium (Cd)					
		Chromium (Cr)					
		Copper (Cu)					
		Lead (Pb)					
		Manganese (Mn)					
		Molybdenum (Mo)					
		Nickel (Ni)					
		Selenium (Se)					
		Uranium (U)					
		Vanadium (V)					
		Thallium (Tl)	EPA 200.8				
		Mercury (Hg)					

— TABLE D.6 NOTES —

All abbreviations and acronyms are defined in Appendix A
D: Department of Laboratory Sciences (ISO 17025:2005 accredited)
SEE TABLE D.13: Acid Preservation for specifics on acid concentrations and volumes required.
NOTE: The Deployment Drinking Water Screening Kit was developed to screen drinking water for a limited list of contaminants. The Deployment Drinking Screening Water Kit ***cannot*** be used for drinking water compliance testing. The reduced sample volumes of the Kit do not allow for full quality control procedures to be performed for all methods and is not suitable for dealing with matrix interference problems and repeat analyses are severely limited due to the reduced sample volumes of the Kit. ***The Deployment Drinking Water Screening Kit is not suitable for raw water, groundwater, surface water, or any bulk liquid sampling and testing.***

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TABLE D.7: DEPLOYMENT DRINKING WATER SCREENING KIT: INORGANIC NON-METAL ANALYTES:

Vial Name	Matrix	Analyte	Method	MAX Holding Time	Volume	Preservative	LAB
Color, Apparent, Conductivity, pH, TDS & Turbidity	DW	Color, Apparent	SM 2120B	48 Hours	125 mL	1 – 6 °C ***No Headspace***	D
		Turbidity	EPA 180.1				
		pH	EPA 150.1	7 Days			
		TDS	SM 2540C				
		Conductivity	SM 2510	28 Days			
Chloride, Fluoride & Sulfate	DW	Chloride	EPA 300.0	28 Days	40 mL	1 – 6 °C	D
		Fluoride					
		Sulfate					
Cyanide	DW	Cyanide, Free	SM 4500-CN-F	14 Days	40 mL	1 – 6 °C NaOH to pH > 12	D
Nitrate / Nitrite	DW	Total Nitrate/ Nitrite	EPA 300.0	28 Days	40 mL	1 – 6 °C H_2SO_4 to pH < 2	D
Perchlorate	DW	Perchlorate	EPA 331.0	28 Days	40 mL	1 – 6 °C, ***Fill vialon 2/3 full!***	D
TOC	DW	TOC	EPA 415.3	28 Days	40 mL	1 – 6 °C HCl to pH < 2	D
					40 mL	1 – 6 °C H_2SO_4 to pH < 2	U

— TABLE D.7 NOTES —

All abbreviations and acronyms are defined in Appendix A
D: Department of Laboratory Sciences (ISO 17025:2005 accredited)
SEE TABLE D.13: Acid Preservation for specifics on acid concentrations and volumes required.
NOTE: The Deployment Drinking Water Screening Kit was developed to screen drinking water for a limited list of contaminants. The Deployment Drinking Screening Water Kit ***cannot*** be used for drinking water compliance testing. The reduced sample volumes of the Kit do not allow for full quality control procedures to be performed for all methods and is not suitable for dealing with matrix interference problems and repeat analyses are severely limited due to the reduced sample volumes of the Kit. ***The Deployment Drinking Water Screening Kit is not suitable for raw water, groundwater, surface water, or any bulk liquid sampling and testing.***

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TABLE D.8: DEPLOYMENT DRINKING WATER SCREENING KIT: RADIONUCLIDE ANALYTES:

Vial Name	Matrix	Analyte	Method	MAX Holding Time	Volume	Preservative	LAB
Gross Alpha & Gross Beta Activity	DW	Gross Alpha Activity	EPA 900	6 Months	125 mL & 250 mL	HNO_3 to pH < 2	D
		Gross Beta Activity					

DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

TABLE D.8: DEPLOYMENT DRINKING WATER SCREENING KIT: RADIONUCLIDE ANALYTES:

Vial Name	Matrix	Analyte	Method	MAX Holding Time	Volume	Preservative	LAB

— TABLE D.8 NOTES —

All abbreviations and acronyms are defined in Appendix A
D: Department of Laboratory Sciences (ISO 17025:2005 accredited)
SEE TABLE D.13: Acid Preservation for specifics on acid concentrations and volumes required.
NOTE: The Deployment Drinking Water Screening Kit was developed to screen drinking water for a limited list of contaminants. The Deployment Drinking Screening Water Kit ***cannot*** be used for drinking water compliance testing. The reduced sample volumes of the Kit do not allow for full quality control procedures to be performed for all methods and is not suitable for dealing with matrix interference problems and repeat analyses are severely limited due to the reduced sample volumes of the Kit. ***The Deployment Drinking Water Screening Kit is not suitable for raw water, groundwater, surface water, or any bulk liquid sampling and testing.***

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TABLE D.9: ORGANIC ANALYTES IH

Analyte	Sampling Method	Analysis Method ①	Sampler / Media	Sampling Rate	Sample Volume	Max Holding Time / Storage	LAB
Acetic Acid	NIOSH 1603	NIOSH 1603	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	0.01 – 1.0 L/min	20 – 300 L	7 Days RT	U
Acetone	NIOSH 1300	NIOSH 1300 GC-MS	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	0.01 – 0.2 L/min	0.5 – 3 L	14 Days 1 - 6 °C	G
		NIOSH 1300					U
Benzene	NIOSH 1501	DIN 38407 F9 mod. GC-MS	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	≤ 0.2 L/min	5 – 30 L	14 Days RT	G
		NIOSH 1501					U
	3M™	NIOSH 1501	OVM 3M™ 3520	0.25 – 8 Hours②	③	21 Days RT	U
Carbon Tetrachloride (Tetrachloromethane)	NIOSH 1003 OSHA 7	DIN 48407 F4 mod. GC-MS	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	0.01 – 0.2 L/min	3 – 150	14 Days RT	G
	OSHA 7	NIOSH 1003		≤ 0.2 L/min	15 L		U
Desflurane	OSHA 29 mod.	OSHA 29 mod.	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	≤ 0.1 L/min	10 L	15 Days 1 – 6 °C	U
	3M™	OSHA 29 mod.	OVM 3M™ 3520	0.25 L/min 8 Hours ②	③	21 Days RT	U
Elemental Carbon (Diesel Particulate, Diesel Engine Emission)	NIOSH 5040	BIA 7050	Quartz Fiber Filter 37 mm Diameter	2 – 4 L/min	142 – 19,000 L	Not Defined	G
	BIA 7050		Glass Fiber Filter 47 or 70 mm Diameter	2 – 10 L/min	500 – 1000 L	28 Days RT	

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TABLE D.9: ORGANIC ANALYTES IH

Analyte	Sampling Method	Analysis Method ①	Sampler / Media	Sampling Rate	Sample Volume	Max Holding Time / Storage	LAB
Ethanol (Ethyl Alcohol)	NIOSH 1400	NIOSH 1400 GC-MS	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	0.01 – 0.2 L/min	0.1 – 1 L	14 Days -5 to -40 °C	G
		NIOSH 1400					U
Ethylacetate	NIOSH 1457	NIOSH 1457 GC-MS	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	0.01 – 0.2 L/min	0.1 – 10 L	6 Days 1 – 6 °C	G
	NIOSH 1457	NIOSH 1457	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	0.01 – 0.2 L/min	0.1 – 10 L	6 Days 1 – 6 °C	U
Ethylbenzene	NIOSH 1501	DIN 38407 F9 mod. GC-MS	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	≤ 0.2 L/min	1 – 24 L	14 Days RT	G
		NIOSH 1501					U
	3M™	NIOSH 1501	OVM 3M™ 3520	0.25 L/min 8 Hours ②	③	21 Days RT	U
Fingerprint Compounds *(Diesel, Kerosene, JP8, MOGAS, Mineral Spirits, Naphtha, Petroleum Ether, Stoddard Solvent)*	NIOSH 1550	NIOSH 1550 GC-MS	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	0.01 – 0.2 L/min	1.3 – 20 L	7 Days RT	G
		NIOSH 1550					U
Formaldehyde	NIOSH 2541	NIOSH 2541	Solid Sorbent Tube 10% 2-Hydroxy-methylpiperidine on XAD-2 120mg / 60mg.	0.01 – 0.1 L/min	1 – 36 L	21 Days RT	U
	NIOSH 2016	NIOSH 2016	Diffuse Sampler SKC UMEX 100	0.25 – 24 Hours	③	21 Days 1 – 6 °C	U
Glutaraldehyde	NIOSH 2532	NIOSH 2532	Solid Sorbent Tube Silica Gel coated with 2,4-Diphenyl-hdrazine HCl 300 mg / 150 mg	0.05 – 0.5 L/min	1 – 30 L	30 Days RT	U
Halothane	OSHA 29	OSHA 29	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	≤0.1 L/min	10 L	15 Days 1 – 6 °C	U
	3M™		OVM 3M™ 3520	0.25 L/min 8 Hours ②	③	21 Days RT	
Hexamethylene Diisocyanate (HDI)	OSHA 42	OSHA 42	Treated Filter (ORBO 80 Filter or equivalent)	1 L	15 – 240 L	Not Defined	U

DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

TABLE D.9: ORGANIC ANALYTES IH

Analyte	Sampling Method	Analysis Method ①	Sampler / Media	Sampling Rate	Sample Volume	Max Holding Time / Storage	LAB
Iso-Butylacetate	NIOSH 1450	NIOSH 1450 GC-MS	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	0.01 – 0.2 L/min	1 – 10 L	14 Days RT	G
		NIOSH 1450					U
Isoflurane (Forane)	OSHA 29 mod.	OSHA 29 mod.	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	≤ 0.1 L/min	10 L	15 Days 1 – 6 °C	U
	3M™		OVM 3M™ 3520	0.25 L/min 8 Hours ②	③	21 Days RT	
Isopropanol (Isopropylalcohol, 2-Propanol)	NIOSH 1400	NIOSH 1400 GC-MS	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	0.01 – 0.2 L/min	0.3 – 3 L	14 Days -5 to -40 °C	G
		NIOSH 1400					U
Methylene Chloride (Dichloromethane)	NIOSH 1005	DIN 48407 F4 mod. GC-MS	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	0.01 – 0.2 L/min	0.5 – 2.5 L	14 Days 1 – 6 °C	G
		NIOSH 1005					U
Methylethyl Ketone (MEK, 2-Butanone)	NIOSH 2500	NIOSH 2500 GC-MS	Solid Sorbent Tube, beaded carbon 150 mg / 75 mg	0.01 – 0.2 L/min	0.25 – 12 L	90 Days -5 to -40 °C	G
	OSHA 16	OSHA 16	Solid Sorbent tube, silica 200 mg / 100m g	0.1 L/min	3 L	15 Days -5 to -40 °C	U
Methylisoamyl Ketone (MIAK)	NIOSH 1300	NIOSH 1300 GC-MS	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	0.01 – 0.2 L/min	1 – 10 L	14 Days 1 – 6 °C	G
		NIOSH 1300 mod					U
Methylisobutyl Ketone (MIBK)	NIOSH 1300	NIOSH 1300 GC-MS	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	0.01 – 0.2 L/min	1 – 10 L	14 Days 1 – 6 °C	G
		NIOSH 1300					U
Methyl Methacrylate	NIOSH 2537	NIOSH 2537	Solid Sorbent Tube, XAD 2 400 mg / 200 mg	0.01 – 0.05 L/min	1 – 8 L	32 Days 1 – 6 °C	U
Pentachlorophenol (PCP)	VDI 3870 / 4301	VDI 3870 / 4301	Filter, Polyurethane Foam	3.5 L/min	≥420 L	14 Days 1 – 6 °C	G
Propylene Glycol Monomethylether Acetate (PGMEA) Methoxy-propyl-acetate	NIOSH 1450	NIOSH 1450 GC-MS	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	0.01 – 0.2 L/min	1 – 10 L	14 Days 1 – 6 °C	G

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TABLE D.9: ORGANIC ANALYTES IH

Analyte	Sampling Method	Analysis Method ①	Sampler / Media	Sampling Rate	Sample Volume	Max Holding Time / Storage	LAB
Sevoflurane	OSHA 29 mod	OSHA 29 mod.	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	0.1 L/min	10 L	15 Days 1 – 6 °C	U
	3M™		OVM 3M™ 3520	0.25 L/min 8 Hours ②	③	21 Days RT	
Tert-Butylacetate	NIOSH 1450	NIOSH 1450 GC-MS	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	0.01 – 0.2 L/min	1 – 10 L	14 Days RT	G
		NIOSH 1450					U
Tetrachloroethene (PCE)	NIOSH 1003	DIN 48407 F4 mod. GC-MS	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	0.01 – 0.2 L/min	0.2 – 40 L	14 Days 1 – 6 °C	G
		NIOSH 1003					U
Toluene	NIOSH 1501	DIN 38407 F9 mod. GC-MS	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	≤ 0.2 L/min	1 – 8 L	14 Days 1 – 6 °C	G
		NIOSH 1501					U
	3M™	NIOSH 1501	OVM 3M™ 3520	0.25 L/min 8 Hours ②	③	21 Days RT	U
Toluene Diisocyanate (2,4-TDI / 2,6-TDI)	OSHA 42	OSHA 42	Treated Filter (ORBO 80 or Equivalent)	1 L/min	15 – 240 L	Not Defined	U
Xylenes, Total (Sum of ortho-, meta- & para-xylene)	NIOSH 1501	DIN 38407 F9 mod. GC-MS	Solid Sorbent Tube Coconut Shell Charcoal 100 mg / 50 mg	≤ 0.2 L/min	2 – 23 L	14 Days 1 – 6 °C	G
		NIOSH 1501					U
	3M™	NIOSH 1501	OVM 3M™ 3520	0.25 L/min 8 Hours ②	③	21 Days RT	U

— TABLE D.9 NOTES —

All abbreviations and acronyms are defined in Appendix A
BIA: Berufsgenossenschaftliches Institut für Arbeitsschutz (German Institute for Occupational Safety and Health)
D: Department of Laboratory Sciences (ISO 17025:2005 accredited)
DFG: Deutsche Forschungsgemeinschaft (German Research Society)
G: German Contract Laboratory (ISO 17025:2005 accredited)
RT: Room Temperature
U: US Contract Laboratory (ISO 17025:2005 accredited)
VDI: Verein Deutscher Ingenieure (German Society of Engineers)
① All Organic IH analyses are performed at contract laboratories. When the methodology allows, a local contract lab will be used to perform the analysis.
② The recommended sampling time is 8 hours. However, if the target analyte's concentration is high, short term sampling may be performed.
③ When calculating the sample volume, please refer to the manufacturer references on sampling rates.
NOTE: *The quality of your data can be compromised by the quality of the containers, preservatives, sampling technique, temperature control, packaging, and shipping employed. Please ensure you use* ***only*** *environmentally certified containers, collection media of a single lot that has* ***not*** *expired, appropriate analytical quality preservatives (e.g., ACS, trace metal analyzed, etc.), and you use approved sample collection procedures.*

DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

TABLE D.10: INORGANIC ANALYTES IH

Analyte	Method	Sampler & Media	Sampling Rate / Container	Volume or Mass		LAB
				Minimum	Maximum	
Aluminum (Al)	NIOSH 7300	Filter 0.8 µm Cellulose Ester Membrane (MCE)	1 – 4 L/min	5 L	100 L	D
Asbestos Fibers (SEM)	VDI 3492	Filter Polycarbonate Membrane Capillary Gold Plated 0.8 µm Pore Size	8 – 30 L/min	3840 L	14400 L	G

DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

TABLE D.10: INORGANIC ANALYTES IH

Analyte	Method	Sampler & Media	Sampling Rate / Container	Volume or Mass		LAB
				Minimum	Maximum	
Asbestos Fibers (TEM)	NIOSH 7402	Filter 0.45 to 1.2 µm Cellulose Ester Membrane (MCE) 0.25 mm Conductive Cowl on Cassette	0.5 – 16 L/min	400 L	Adjust volume to achieve 100 – 1300 fibers/mm^2	U
Asbestos, Bulk	EPA 600 R93 -116	Bulk	Large Mouthed Glass Jar	1 g of Material	10 g of Material	D
Arsenic (As)	NIOSH 7300	Filter 0.8 µm Cellulose Ester Membrane (MCE)	1 – 4 L/min	5 L	2000 L	D
Beryllium (Be)	NIOSH 7300	Filter 0.8 µm Cellulose Ester Membrane (MCE)	1 – 4 L/min	13 L	2000 L	D
Cadmium (Cd)	NIOSH 7300	Filter 0.8 µm Cellulose Ester Membrane (MCE)	1 – 4 L/min	13 L	2000 L	D
Chromium (Cr)	NIOSH 7300	Filter 0.8 µm Cellulose Ester Membrane (MCE)	1 – 4 L/min	5 L	1000 L	D
Chromium VI (Cr+6)	BIA 6665	Filter Quartz Fiber Membrane 37 mm	1 – 4 L/min	120 L	480 L	G
Cobalt (Co)	NIOSH 7300	Filter 0.8 µm Cellulose Ester Membrane (MCE)	1 – 4 L/min	25 L	2000 L	D
Copper (Cu)	NIOSH 7300	Filter 0.8 µm Cellulose Ester Membrane (MCE)	1 – 4 L/min	5 L	1000 L	D

DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

TABLE D.10: INORGANIC ANALYTES IH

Analyte	Method	Sampler & Media	Sampling Rate / Container	Volume or Mass		LAB
				Minimum	Maximum	
Fiber Counting (Asbestos) [Bulk sample desired]	NIOSH 7400 Counting Rules A	Filter 0.45 to 1.2 µm Cellulose Ester Membrane (MCE) 0.25 mm Conductive Cowl on Cassette	0.5 – 16 L/min (Maximum 2.5 L/min for Excursion)	400 L (Minimum 48 L for Excursion)	1300 L (Reduce volume if 5 mg of dust will be exceeded)	D
	NIOSH 7400 Counting Rules A or B					U
Iron (Fe)	NIOSH 7300	Filter 0.8 µm Cellulose Ester Membrane (MCE)	1 – 4 L/min	5 L	100 L	D
Lead (Pb)	NIOSH 7300	Filter 0.8 µm Cellulose Ester Membrane (MCE) 37 mm	1 – 4 L/min	200 L	1500 L	D
	EPA 7000B					
Lead Based Paint	EPA 7000B	Bulk (chips)	Rigid Container	1 g	1 g	D
Lead Wipes (ELLAP)	EPA 7000B,	Ghost Wipes™ (preferrred)	Rigid Container	100 cm²	1000 cm²	D
	OSHA 125					
	Note: "Wipes" used for the Environmental Lead (Pb) Laboratory Accreditation Program (ELLAP) must meet ASTM E1792 specifications. Ghost Wipes™ (Environmental Express catalog number SC-4200 [200 pk], SC-4210 [500 pk], SC-4250 [1000 pk], or equivalent) meet the ASTM requirements. Customers should provide proof to the laboratory that the wipes used for sampling meet ASTM specifications to ensure all ELLAP requirements are met.					
Manganese (Mn)	NIOSH 7300	Filter 0.8 µm Cellulose Ester Membrane (MCE)	1 – 4 L/min	5 L	200 L	D
Metals Screen Wipes (*Metals Analyzed: Be, Cd, Co, Cr, Cu, Fe, Mn, Ni, Pb, & Zn)*	OSHA 125	Ghost Wipes™ (preferrred)	Rigid Container	100 cm²	1000 cm²	D
Metals Screen Wipes (Metals Analyzed: As, Cr, Cu, & Pb)	DIN EN ISO 11885 E22	Smear Tabs ***(preferred)*** Filter Whatman 41 or 42	Zip Lock Bag	10 x 10 cm	10 x 10 cm	G
Molybdenum (Mo)	NIOSH 7300	Filter 0.8 µm Cellulose Ester Membrane (MCE)	1 – 4 L/min	50 L	2000 L	D
Nickel (Ni)	NIOSH 7300	Filter 0.8 µm Cellulose Ester Membrane (MCE)	1 – 4 L/min	5 L	1000 L	D
Particulates Not Otherwise Regulated, Total (Dust, Total)	NIOSH 0500	Filter 37 mm 5 µm PVC **PREWEIGHED**	1.0 – 2.0 L/min	25 L	133 L (Reduce volume if 5 mg of dust will be exceeded)	U
Particulates Not Otherwise Regulated, Respirable (Dust, Respirable)	NIOSH 0600	Filter 37 mm 5 µm PVC **PREWEIGHED**	1.7 L/min	20 L	400 L	U
DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.						

TABLE D.10: INORGANIC ANALYTES IH

Analyte	Method	Sampler & Media	Sampling Rate / Container	Volume or Mass		LAB
				Minimum	Maximum	
Tin (Sn)	NIOSH 7300	Filter 0.8 µm Cellulose Ester Membrane (MCE)	1 – 4 L/min	5 L	1000 L	D
Zinc (Zn)	NIOSH 7300	Filter 0.8 µm Cellulose Ester Membrane (MCE)	1 – 4 L/min	5 L	200 L	D

— TABLE D.10 NOTES —

All abbreviations and acronyms are defined in Appendix A
BIA: Berufsgenossenschaftliches Institut für Arbeitsschutz (German Institute for Occupational Safety and Health)
D: Department of Laboratory Sciences (ISO 17025:2005 accredited)
G: German Contract Laboratory (ISO 17025:2005 accredited)
U: US Contract Laboratory (ISO 17025:2005 accredited)
SEM: Scanning Electron Microscopy
TEM: Transmission Electron Microscopy
NOTE: *The quality of your data can be compromised by the quality of the containers, preservatives, sampling technique, temperature control, packaging, and shipping employed. Please ensure you use* ***only*** *environmentally certified containers, collection media of a single lot that has* ***not*** *expired, appropriate analytical quality preservatives (e.g., ACS, trace metal analyzed, etc.), and you use approved sample collection procedures.*

DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

TABLE D.11: CONTENTS DLS OEBGD SAMPLING KIT

Analyte(s)	Sample Container				Preservative that *must* be added to each container *after* sampling	LAB
	Size	Number	Type	Preservative		
Carbamates, Glyphosate & AMPA	40 mL	2	Glass Teflon™ Lined Cap	4 mg Sodium Thiosulfate	None	D
EDB / DBCP	40 mL	3	Amber Glass Teflon™ Lined Cap	3 mg Sodium Thiosulfate	None	D
Pesticides, & PCB as Aroclor						
Herbicides	40 mL	3	Amber Glass Teflon™ Lined Cap	2 mg Sodium Sulfite	None	D
SVOC Blank Prepared at the laboratory with reagent water prior to shipment	40 mL	2	Amber Glass Teflon™ Lined Cap	None	None	D
VOC	40 mL	3	Amber Glass Teflon™ Lined Cap	25 mg Ascorbic Acid	4 Drops HCl	D
VOC Blank (Prepared at the laboratory with reagent water prior to shipment)	40 mL	3	Amber Glass Teflon™ Lined Cap	None	4 Drops HCl added during laboratory preparation	D
Alkalinity, Conductivity, pH, & TDS	500 mL	1	PE or Glass Teflon™ Lined Cap	None	None	D

DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

TABLE D.11: CONTENTS DLS OEBGD SAMPLING KIT

Analyte(s)	Sample Container				Preservative that *must* be added to each container *after* sampling	LAB
	Size	Number	Type	Preservative		
Ammonia & Total Nitrate / Nitrite	500 mL	1	PE or Glass Teflon™ Lined Cap	H_2SO_4 to pH < 2	None	D
Asbestos	500 mL	1	PE or Glass Teflon™ Lined Cap	None	None	U
Cyanide, Free	500 mL	1	Amber Glass Teflon™ Lined Cap	8 NaOH Pellets	None	D
Endothall	500 mL	1	Amber Glass Teflon™ Lined Cap	40 mg Sodium Thiosulfate	None	U
Adipate (DEHA) / Phthalate (DEHP)	1000 mL	1	Amber Glass Teflon™ Lined Cap	50 mg Sodium Sulfite	5 mL HCl	D
Gross Alpha / Beta	1000 mL	1	PE or Glass Teflon™ Lined Cap	None	5 mL HNO_3	D
Ions, Turbidity, Color, Odor, Nitrate, Nitrite, Total Nitrate / Nitrite	1000 mL	1	PE or Glass Teflon™ Lined Cap	None	None	D
Dioxin	1000 mL	1	Amber Glass Teflon™ Lined Cap	100 mg Sodium Thiosulfate	None	G
Diquat / Paraquat	1000 mL	1	Amber PVC & Amber PVC Cap	100 mg Sodium Thiosulfate	5 mL H_2SO_4	U
Metals, Hardness	1000 mL	1	PE or Glass Teflon™ Lined Cap	None	5 mL HNO_3	D
PAH	1000 mL	1	Amber Glass Teflon™ Lined Cap	100 mg Sodium Thiosulfate	5 mL HCl	D

— TABLE D.11 NOTES —

All abbreviations and acronyms are defined in Appendix A
D: Department of Laboratory Sciences (ISO 17025:2005 accredited)
G: German Contract Laboratory (ISO 17025:2005 accredited)
U: US Contract Laboratory (ISO 17025:2005 accredited)
OEBGD: Overseas Environmental Baseline Guidance Document (OEBGD)
PE: Polyethylene or Nalgene™ Plastic
PVC: Polyvinyl Chloride
See Table D.13: Acid Preservation for specifics on acid concentrations and volumes required.

DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

TABLE D.12: DEPLOYMENT DRINKING WATER SCREENING KIT: CONTENTS

Vial Name	Sample Container				Preservative that *must* be added to each container *after* sampling	LAB
	Size	Number	Type	Preservative		
Chloride, Sulfate, Fluoride	40 mL	1	Amber Glass	None	None	D

DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

TABLE D.12: DEPLOYMENT DRINKING WATER SCREENING KIT: CONTENTS

Vial Name	Sample Container				Preservative that *must* be added to each container *after* sampling	LAB
	Size	Number	Type	Preservative		
Cyanide	40 mL	1	Amber Glass Teflon™ Lined Cap	4 Drops 10N NaOH	None	D
Diquat	40 mL	1	Amber Glass Teflon™ Lined Cap	4 mg Sodium Thiosulfate	4 Drops H_2SO_4	D
Endothall	40 mL	1	Amber Glass Teflon™ Lined Cap	4 mg Sodium Thiosulfate	4 Drops HCl	U
Glyphosate / Carbamates	40 mL	1	Amber Glass Teflon™ Lined Cap	4 mg Sodium Thiosulfate, 1.2 mL Chloroacetic acid buffer	None	D
Gross Alpha/Beta	125 mL	1	Amber Glass Teflon™ Lined Cap	8 Drops HNO_3	None	D
	250 mL	1	PE	15 Drops HNO_3		
Haloacetic Acids	40 mL	2	Amber Glass Teflon™ Lined Cap	5 mg Ammonium Chloride	None	U
Herbicides	40 mL	2	Amber Glass Teflon™ Lined Cap	4 mg Sodium Thiosulfate	None	D
Metals + Mercury	125 mL	1	Amber Glass Teflon™ Lined Cap	8 Drops HNO_3	None	D
Nitrite / Nitrate	40 mL	1	Amber Glass Teflon™	4 Drops H_2SO_4	None	D
Perchlorate	40 mL	1	Amber Glass Teflon™ Lined Cap	None	None	D
Pesticides / PCB	40 mL	2	Amber Glass Teflon™ Lined Cap	4 mg Sodium Thiosulfate	None	D
pH, Color, Cond, TDS, Turb	125 mL	1	Amber Glass Teflon™ Lined Cap	None	None	D
SVOC	40 mL	2	Amber Glass Teflon™ Lined Cap	3 mg Sodium Sulfite	4 Drops HCl	D
TOC	40 mL	1	Amber Glass Teflon™ Lined Cap	3 Drops HCl	None	D
	40 mL	1	Amber Glass Teflon™ Lined Cap	4 Drops H_2SO_4	None	U
VOC	40 mL	2	Amber Glass Teflon™ Lined Cap	25 mg Ascorbic Acid	4 Drops HCl	D
VOC Blank	40 mL	1	Amber Glass Teflon™ Lined Cap	Prepared with reagent water at the laboratory prior to shipment		D

— TABLE D.12 NOTES —

DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

TABLE D.12: DEPLOYMENT DRINKING WATER SCREENING KIT: CONTENTS

Vial Name	Sample Container				Preservative that *must* be added to each container *after* sampling	LAB
	Size	Number	Type	Preservative		

All abbreviations and acronyms are defined in Appendix A
D: Department of Laboratory Sciences (ISO 17025:2005 accredited)
PE: Polyethylene or Nalgene™ Plastic
See Table D.13: Acid Preservation for specifics on acid concentrations and volumes required.
NOTE: The Deployment Drinking Water Screening Kit was developed to screen drinking water for a limited list of contaminants. The Deployment 40 mL Drinking Water Kit ***cannot*** be used for drinking water compliance testing. The reduced volume (40 mL) of the Kit does not allow for full quality control procedures to be performed for all methods and is not suitable for dealing with matrix interference problems and repeat analyses are severely limited due to the 40 mL volume of the Kit. ***The Deployment 40 mL Drinking Water Kit is not suitable for raw water, groundwater, surface water, or any bulk liquid sampling and testing.***

DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

TABLE D.13: ACID PRESERVATION

Preparation of Acid Preservatives

Acid Formula & Nomenclature		Dilution Factor	Acid	Reagent Grade Water
HCl	Hydrochloric Acid	2X	1 volume concentrated acid	1 volume
HNO_3	Nitric Acid	4X	1 volume concentrated acid	3 volumes
H_2SO_4	Sulfuric Acid	2X	1 volume concentrated acid	1 volume

Recommended Quantity of Acid for Each Container Size for pH < 2

Container Size	40 mL	125 mL	250 mL	500 mL	1000 mL
Quantity of Acid (2X or 4X)	4 Drops	0.5 mL	1.0 mL	2.5 mL	5.0 mL

— TABLE D.13 NOTES —

All abbreviations and acronyms are defined in Appendix A
NOTE: *The quality of your data can be compromised by the quality of the containers, preservatives, sampling technique, temperature control, packaging, and shipping employed. Please ensure you use* ***only*** *environmentally certified containers, collection media of a single lot that has* ***not*** *expired, appropriate analytical quality preservatives (e.g., ACS, trace metal analyzed, etc.), and you use approved sample collection procedures.*

DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

Appendix E • DLS CSD & AMC Forms

DLS has created Adobe© Acrobat™ Portable Document Format (pdf) forms with "Usage Rights Enabled" in Adobe Acrobat 7 Reader™ (or greater) available for your use. You may request CSD to e-mail the forms to you, or you can download them 24/7 from the **USAPHC(P) PHCR-Europe public web site DLS Publications Page** or directly using one of the links below.

How To Use "Usage Rights Enabled" PDF Forms

If you are using Adobe Acrobat 7 Reader™ (or greater) the DLS CSD Forms have "Usage Rights Enabled" in Adobe Acrobat 7 Reader™ (or greater) that will allow the user to save a copy of the Form to their computer storage system. This will allow the user to either print a hard copy of the Form or simply attach the pdf file to your e-mail for submission to the DLS Hotline. Please be advised that once saved you will not be able to delete any information you have entered into the Form. Therefore, it is recommended that you enter your contact information: name, phone and fax numbers, and e-mail address (i.e., all the information that will not change) and save the Form(s) with a new name as a template (e.g., CSD_Form_1_Template.pdf). This will allow you to open the required form with your corresponding information already populated into the Form. You can then enter the Project Specific information and either print the Form and submit the printed copy, save the Form with a unique name (e.g., CSD_Form_1_Project_12345.pdf) and submit the pdf Form by e-mail to CSD via the **DLS Hotline**.

While you can open and re-use any of the saved Forms (template or project unique [e.g., CSD_Form_1_Project_12345.pdf]), you will not be able to delete any of the information that has been entered into a saved Form. You will be able to add new information; however, if you are not careful the probability is high that you might send unwanted or incorrect information with a new project request.

If you have any questions please contact CSD for assistance with the Usage Rights Enabled Adobe Acrobat 7 Reader™ Forms.

Usage Rights Enabled PDF Forms Download Link

CSD Form 1 – Request for Laboratory Services

CSD_Form_1_SaveEnabled.pdf

CSD Form 2 – RLA: Industrial Hygiene Bulk Sample

CSD_Form_2_SaveEnabled.pdf

CSD Form 3 – RLA: Industrial Hygiene Air Sample

CSD_Form_3_SaveEnabled.pdf

CSD Form 4 – RLA: Aqueous Bulk Liquid Profile Sheet

CSD_Form_4_SaveEnabled.pdf

CSD Form 5 – RLA: Finished Drinking (Potable) Water Profile Sheet

CSD_Form_5_SaveEnabled.pdf

CSD Form 6 – RLA: Customer Defined

CSD_Form_6_SaveEnabled.pdf

CSD Form 7 – Chain of Custody

CSD_Form_7_SaveEnabled.pdf

CSD Form 8 – RLA: Bioassay

CSD_Form_8_SaveEnabled.pdf

CSD Form 9 – RLA: Deployment Drinking Water Screening Kit

CSD_Form_9_SaveEnabled.pdf

CSD Form 10 – RLA: Soil / Sludge / Bulk Solid Profile Sheet

CSD_Form_10_SaveEnabled.pdf

CSD Form 11 – RLA: Bottled / Packaged Water Profile Sheet

CSD_Form_11_SaveEnabled.pdf

CSD Form 13 – RLA: Wastewater Profile Sheet

CSD_Form_13_SaveEnabled.pdf

CSD Form 14 – RLA: Raw Water (DW Source Water) Profile Sheet

CSD_Form_14_SaveEnabled.pdf

DD FORM 1384 – Transportation Control and Movement Document

DD_FORM_1384_SaveEnabled.pdf

DD FORM 1387 – Military Shipment Label

DD_FORM_1387_SaveEnabled.pdf

EXAMPLE DLS CSD & AMC FORMS

The following pages contain examples of the DLS Forms in their non-interactive, non-User Rights Enabled format.

Example: CSD Form 1 – Request for Laboratory Services

CSD Form 1
Version 4.1
Revised: Apr. 2010

USAPHC(P) PHCR-Europe
DEPARTMENT OF LABORATORY SCIENCES (DLS)

MCHB-AE-LS

Request for Laboratory Services

Customer Address:			**DLS SRN:**
Project Officer:		**Request Date (DDMMMYYYY):**	
TEL:	**FAX:**	**Email:**	
Division:	**Program:**	**Installation Site:**	**ARLOC / WIC:**
Source of Funds:		**MIPR No.:**	
Project Number:	**COLLECTION Date:**	**DELIVERY Date:**	
DLS Sampling Kit Required: NO	**Date Kit Required:**	**Kit Shipped By:** N/A	
Analysis Priority Requested: NO		**Justification (see Note 2):** N/A - ROUTINE PRIORITY	

Note 1: Sample Priorities are associated with Turnaround Time (TAT) ***goals*** and not guarantees. TAT is defined as the number of calendar days from sample receipt at the laboratory to the transmittal of data by Electronic Data Deliverable (EDD), carrier, FAX, or certified mail. The DLS "in-house" TAT ***goals*** are: Routine: 14 days, Immediate: 7 days, and Emergent: 48-96 Hrs. (test dependent). Qualitative ID of Unknown Materials from samples of unknown origin may require 30–90 days or more to complete.

Note 2: Immediate / Emergent analysis priority ***requires*** a written statement documenting the ***risk*** that justifies the elevated priority.

Note 3: This Request for Laboratory Services will be cancelled 90 calendar days after the Projected Delivery Date unless the Project Officer provides a written confirmation of an updated Delivery Date.

Note 4: DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

Note 5: DLS will batch hard copy Certificates of Analysis (CofA) and send them to the customer once a week unless an alternate delivery schedule is established with CSD. I accept the terms of CofA delivery: YES I will contact CSD with my delivery needs.

Note 6: Unless noted below, I (the customer) hereby authorize DLS when necessary to sub-contract requested analyses to an accredited Contract Laboratory to meet my requirements.

☐ *I do **NOT** authorize DLS to sub-contract analyses. Please contact me before sending my samples to a contract lab (CL).*

Projected Samples & Analyses Required	Matrix	Quantity	Remarks	CL

☐ ***Request lead (Pb) samples be analyzed IAW ELLAP criteria. "Wipes" used for sampling must meet ASTM E1792 specs.***

Customer Comments

For Laboratory Use Only: Inorganic Analyses				*For Laboratory Use Only: Organic Analyses*			
☐ Accept	☐ Reject	Date:	Initials:	☐ Accept	☐ Reject	Date:	Initials:
DLS Comments				**DLS Comments**			

Please contact us. DLS professionals would be delighted to help answer any of your questions and concerns!

	DSN	Commercial	Use our preferred email address to ensure a quick response.	
TEL	314-486-8381 / 7052	+49 (06371) 86-8381 / 7052	**Email**	usachppmeur.dlshotline@amedd.army.mil
FAX	314-486-7054 / 8788	+49 (06371) 86-7054 / 8788	**Web Site**	www.chppmeur.healthcare.hqusareur.army.mil

Example: CSD Form 2 – RLA: Industrial Hygiene Bulk Sample

CSD Form 2
Version 1.6
Revised: Apr. 2010

USAPHC(P) PHCR-Europe
DEPARTMENT OF LABORATORY SCIENCES (DLS)

MCHB-AE-LS

Request for Laboratory Analysis: Industrial Hygiene Bulk Sample

Customer Address:			**DLS SRN:**
Project Officer:		**Project No.:**	
TEL:	**FAX:**	**Email:**	
Installation Site:		**ARLOC / WIC:**	
Fund Source:		**MIPR No.:**	
Collection Date:	**Time:**	**Analysis Priority:**	DLS In-House Turnaround Time (TAT) Goals
Special Instructions:			

Note 1: DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

Note 2: Unless noted below, I (the customer) hereby authorize DLS when necessary to sub-contract requested analyses to an accredited Contract Laboratory to meet my requirements.

☐ – *I do **NOT** authorize DLS to sub-contract analyses. Please contact me before sending my samples to a contract lab.*

Description of Operation:		
# Persons Exposed:	**Hours / Day:**	**Associated Air Samples Collected:** NO
Associated Complaints:		

Label Information

Trade Name:	**NSN:**	**Manufacturer:**
Address:		**MSDS Attached:** YES
Analysis Requested:		

DLS Sample ID	Field ID	Sample Area	Constituents	Remarks

☐ ***Request lead (Pb) samples be analyzed IAW ELLAP criteria. The "Wipes" used for collection conformed to ASTM E1792 specs.***

Comments for the Lab

— For Laboratory Use Only —

Date Received:	**Received By:**	**Holding Area:**

Lab Notes

Example: CSD Form 3 – RLA: Industrial Hygiene Air Sample

CSD Form 3
Version 1.7
Revised: Apr. 2010

USAPHC(P) PHCR-Europe
DEPARTMENT OF LABORATORY SCIENCES (DLS)

MCHB-AE-LS

Request for Laboratory Analysis: Industrial Hygiene Air Sample

Customer Address:			**DLS SRN:**
Project Officer:		**Project No.:**	
TEL:	**FAX:**	**Email:**	
Installation Site:		**ARLOC / WIC:**	
Fund Source:		**MIPR No.:**	
Collection Date:	**Time:**	**Analysis Priority:**	DLS In-House Turnaround Time (TAT) Goals
Special Instructions:			

Note 1: DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

Note 2: Unless noted below, I (the customer) hereby authorize DLS when necessary to sub-contract requested analyses to an accredited Contract Laboratory to meet my requirements.

☐ – *I do **NOT** authorize DLS to sub-contract analyses. Please contact me before sending my samples to a contract lab.*

Description of Operation:		
Persons Exposed:	**Hours / Day:**	**Method of Collection:**
Associated Complaints:		
Analysis Requested:		

Request lead (Pb) samples be analyzed IAW ELLAP criteria. "Wipes" used for sampling must meet ASTM E1792 specs.

Criteria	Sampling Data					
Sample No.						
Pump No.						
Time On						
Time Off						
Total Minutes						
Flow Rate (LPM)						
Volume (L)						
GA/BZ						
Employee ID						
DLS Sample ID						

Comments to the Lab:

— For Laboratory Use Only —

Date Received:	**Received By:**	**Holding Area:**

Lab Notes:

Example: CSD Form 4 – RLA: Aqueous Bulk Liquid Profile Sheet

CSD Form 4
Version 2.9
Revised: Apr 2010

USAPHC(P) PHCR-Europe
DEPARTMENT OF LABORATORY SCIENCES (DLS)

MCHB-AE-LS

Request for Laboratory Analysis: Aqueous Bulk Liquid Profile Sheet

Customer Address:				DLS SRN:	
Project Officer:			Project No.:		
TEL:		FAX:	Email:		
Installation Site:			ARLOC / WIC:		
Fund Source:		MIPR No.:		Sample ID:	
Collection Date:		Time:		Analysis Priority:	DLS In-House Turnaround Time (TAT) Goals
Special Instructions:					

Note 1: DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

Note 2: Unless noted below, I (the customer) hereby authorize DLS when necessary to sub-contract requested analyses to an accredited Contract Laboratory to meet my requirements.

☐ – *I do **NOT** authorize DLS to sub-contract analyses. Please contact me before sending my samples to a contract lab.*

METALS: ☐ DISSOLVED | ☐ TOTAL

- ☐ Aluminum (Al)
- ☐ Antimony (Sb)
- ☐ Arsenic (As)
- ☐ Barium (Ba)
- ☐ Beryllium (Be)
- ☐ Boron (B)
- ☐ Cadmium (Cd)
- ☐ Calcium (Ca)
- ☐ Chromium (Cr)
- ☐ Cobalt (Co)
- ☐ Copper (Cu)
- ☐ Iron (Fe)
- ☐ Lead (Pb)
- ☐ Magnesium (Mg)
- ☐ Manganese (Mn)
- ☐ Mercury (Hg)
- ☐ Molybdenum (Mo)
- ☐ Nickel (Ni)
- ☐ Potassium (K)
- ☐ Selenium (Se)
- ☐ Silicon (Si)
- ☐ Silver (Ag)
- ☐ Sodium (Na)
- ☐ Thallium (Tl)
- ☐ Total Phosphorus (P)
- ☐ Vanadium (V)
- ☐ Uranium (U)
- ☐ Zinc (Z)

NON-METALS

- ☐ Ammonia
- ☐ Total Nitrate / Nitrite (Preserved)
- ☐ Cyanide, Free
- ☐ Alkalinity
- ☐ Conductivity
- ☐ pH
- ☐ TDS
- ☐ Bromide
- ☐ Chloride
- ☐ Fluoride
- ☐ Sulfate
- ☐ Gross Alpha & Beta Activity
- ☐ Perchlorate

Note: *The analytes listed below have a 48 hour holding time and must be analyzed by the lab within 48 hrs of their collection.*

- ☐ Color
- ☐ Nitrate
- ☐ Nitrite
- ☐ Odor
- ☐ ortho-Phosphate
- ☐ Total Nitrate / Nitrite
- ☐ Turbidity

ORGANICS

- ☐ Adipate & Phthalate
- ☐ Carbamates
- ☐ BTEX
- ☐ CHC
- ☐ EDB / DBCP
- ☐ Glyphosate / AMPA
- ☐ Herbicides
- ☐ Hydrocarbon Oil Index (HOI)
- ☐ PAH
- ☐ Pesticides & PCB
- ☐ TOC
- ☐ VOC - Regulated
- ☐ VOC - Total

CONTRACT LABORATORY ANALYSES

- ☐ Diquat & Paraquat
- ☐ Dioxin (TCDD)
- ☐ Endothall
- ☐ Kjeldahl Nitrogen
- ☐ Surfactants (anionic)
- ☐ Surfactants (cationic)
- ☐ Surfactants (non-ionic)
- ☐ Radium 226 & 228 Activity

OTHER ANALYSES & REMARKS:

— For Laboratory Use Only —

Date Received:	Received By:	Holding Area:
Lab Notes:		

Example: CSD Form 5 – RLA: Finished Drinking (Potable) Water Profile Sheet

CSD Form 5
Version 3.1
Revised: Apr. 2010

USAPHC(P) PHCR-Europe
DEPARTMENT OF LABORATORY SCIENCES (DLS)

MCHB-AE-LS

Request for Laboratory Analysis: Finished Drinking (Potable) Water Profile Sheet

Customer Address:				DLS SRN:	
Project Officer:			Project No.:		
TEL:		FAX:	Email:		
Installation Site:			ARLOC / WIC:		
Fund Source:		MIPR No.:		Sample ID:	
Collection Date:		Time:		Analysis Priority:	DLS In-House Turnaround Time (TAT) Goals
Special Instructions:					

Note 1: DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

Note 2: Unless noted below, I (the customer) hereby authorize DLS when necessary to sub-contract requested analyses to an accredited Contract Laboratory to meet my requirements.

☐ – *I do **NOT** authorize DLS to sub-contract analyses. Please contact me before sending my samples to a contract lab.*

METALS

- ☐ Aluminum (Al)
- ☐ Antimony (Sb)
- ☐ Arsenic (As)
- ☐ Barium (Ba)
- ☐ Beryllium (Be)
- ☐ Boron (B)
- ☐ Cadmium (Cd)
- ☐ Calcium (Ca)
- ☐ Chromium (Cr)
- ☐ Cobalt (Co)
- ☐ Copper (Cu)
- ☐ Iron (Fe)
- ☐ Lead (Pb)
- ☐ Magnesium (Mg)
- ☐ Manganese (Mn)
- ☐ Mercury (Hg)
- ☐ Molybdenum (Mo)
- ☐ Nickel (Ni)
- ☐ Potassium (K)
- ☐ Selenium (Se)
- ☐ Silver (Ag)
- ☐ Sodium (Na)
- ☐ Thallium (Tl)
- ☐ Total Phosphorus (P)
- ☐ Vanadium (V)
- ☐ Uranium (U)
- ☐ Zinc (Zn)

NON-METALS

- ☐ Ammonia
- ☐ Total Nitrate / Nitrite (Preserved)
- ☐ Cyanide, Free
- ☐ Alkalinity
- ☐ Conductivity
- ☐ pH
- ☐ TDS
- ☐ Bromide
- ☐ Chloride
- ☐ Fluoride
- ☐ Sulfate
- ☐ Gross Alpha & Beta Activity
- ☐ Perchlorate

Note: *The analytes listed below have a 48 hour holding time and must be analyzed by the lab within 48 hrs of their collection.*

- ☐ Color
- ☐ Nitrate
- ☐ Nitrite
- ☐ Odor
- ☐ ortho-Phosphate
- ☐ Total Nitrate / Nitrite
- ☐ Turbidity

FIELD AND CALCULATED DATA

- Field Data: Temp (°C)
- Field Data: pH
- ☐ Hardness (calculation: Ca^{2+} & Mg^{2+})
- ☐ Langelier Index

ORGANICS

- ☐ Adipate & Phthalate
- ☐ Carbamates
- ☐ EDB / DBCP
- ☐ Glyphosate / AMPA
- ☐ Herbicides
- ☐ PAH
- ☐ Pesticides & PCB
- ☐ TOC
- ☐ TTHM
- ☐ TTHM Potential
- ☐ VOC – Regulated
- ☐ VOC – Total

CONTRACT LABORATORY ANALYSES

- ☐ Asbestos
- ☐ Bromate
- ☐ Chlorite
- ☐ Diquat & Paraquat
- ☐ Dioxin (TCDD)
- ☐ Endothall
- ☐ HAA5 (Haloacetic acids)
- ☐ Radium 226 & 228 Activity

— For Laboratory Use Only —

Date Received:	Received By:	Holding Area:
Lab Notes:		

Example: CSD Form 6 – RLA: Customer Defined

CSD Form 6
Version 1.6
Revised: Apr. 2010

USAPHC(P) PHCR-Europe
DEPARTMENT OF LABORATORY SCIENCES (DLS)

MCHB-AE-LS

Request for Laboratory Analysis: Customer Defined

Customer Address:			**DLS SRN:**
Project Officer:		**Project No.:**	
TEL:	**FAX:**	**Email:**	
Installation Site:		**ARLOC / WIC:**	
Fund Source:		**MIPR No.:**	
Collection Date:	**Time:**	**Analysis Priority:**	DLS In-House Turnaround Time (TAT) Goals
Special Instructions:			

Note 1: DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

Note 2: Unless noted below, I (the customer) hereby authorize DLS when necessary to sub-contract requested analyses to an accredited Contract Laboratory to meet my requirements.

☐ – *I do **NOT** authorize DLS to sub-contract analyses. Please contact me before sending my samples to a contract lab.*

DLS ID No.	Customer Sample No.	Matrix	Analyses									

☐ *Request lead (Pb) samples be analyzed IAW ELLAP criteria. The "Wipes" used for collection conformed to ASTM E1792 specs.*

Preservative Added:			**Remarks (characteristics, location, etc.):**
Date:	**Time:**	**By:**	
pH:		**By:**	

— For Laboratory Use Only —

Date Received:	**Received By:**	**Holding Area:**
Lab Notes:		

Example: CSD Form 7 – Chain of Custody

CSD Form 7
Version 1.5
Revised: Apr. 2010

USAPHC(P) PHCR-Europe
DEPARTMENT OF LABORATORY SCIENCES (DLS)

MCHB-AE-LS

Chain of Custody

Customer Address:			**DLS SRN:**
Project Officer:		**Project No.:**	
TEL:	**FAX:**	**Email:**	
Installation Site:		**ARLOC / WIC:**	
Fund Source:		**MIPR No.:**	
Collection Date:	**Time:**	**Analysis Priority:**	DLS In-House Turnaround Time (TAT) Goals
Special Instructions:			

Note 1: DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

Note 2: Unless noted below, I (the customer) hereby authorize DLS when necessary to sub-contract requested analyses to an accredited Contract Laboratory to meet my requirements.

☐ – *I do **NOT** authorize DLS to sub-contract analyses. Please contact me before sending my samples to a contract lab.*

Sample ID	Description	Analysis

Shipment Information			Seal Intact	
Packed By:	**Date:**	**Time:**	YES - Seal Intact	
Shipped By:	**Date:**	**Time:**	❑ Yes	❑ No
Carrier:	**Tracking No.:**		❑ Yes	❑ No
Received By:	**Date:**	**Time:**	❑ Yes	❑ No
Shipment Receiving Comments:				

Sample Receiving Information						
Sample ID	Received By	Date	Time	DLS ID	Seal Intact	
					❑ Yes	❑ No
					❑ Yes	❑ No
					❑ Yes	❑ No
					❑ Yes	❑ No
					❑ Yes	❑ No
					❑ Yes	❑ No

Transfer of Custody						
DLS ID	Relinquished By	Date	Time	Received By	Date	Time

Disposal Information			
Sample IDs	Disposed By	Date	Time

Example: CSD Form 8 – RLA: Bioassay

CSD Form 8
Version 1.4
Revised: Apr. 2010

USAPHC(P) PHCR-Europe
DEPARTMENT OF LABORATORY SCIENCES (DLS)

MCHB-AE-LS

Request for Laboratory Analysis: Bioassay

Customer Address:			**DLS SRN:**
Project Officer:		**Project No.:**	
TEL:	**FAX:**	**Email:**	
Installation Site:		**ARLOC / WIC:**	
Fund Source:		**MIPR No.:**	
Collection Date:	**Time:**	**Analysis Priority:**	DLS In-House Turnaround Time (TAT) Goals
Special Instructions:			

Note 1: DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

Note 2: Unless noted below, I (the customer) hereby authorize DLS when necessary to sub-contract requested analyses to an accredited Contract Laboratory to meet my requirements.

☐ – *I do **NOT** authorize DLS to sub-contract analyses. Please contact me before sending my samples to a contract lab.*

Name	SSN (Last 4)	DOB	Specimen	Date of Collection	Start Time	End Time

Requesting Medical Provider:

Address:

Phone No: **Fax No:** **Email:**

— For Laboratory Use Only —

Date Received:	**Received By:**	**Holding Area:**

Lab Notes:

Example: CSD Form 9 – RLA: Deployment Drinking Water Screening Kit

CSD Form 9
Version 2.1
Revised: Apr. 2010

USAPHC(P) PHCR-Europe
DEPARTMENT OF LABORATORY SCIENCES (DLS)

MCHB-AE-LS

Request for Laboratory Analysis: Deployment Drinking Water Screening Kit

Customer Address:				**DLS SRN:**	
Project Officer:		**Project No.:**			
TEL:	**FAX:**	**Email:**			
Installation Site:		**ARLOC / WIC:**			
Fund Source:	**MIPR No.:**		**Sample ID:**		
Collection Date:	**Time:**	**Analysis Priority:**	DLS In-House Turnaround Time (TAT) Goals		
Special Instructions:					

Note 1: DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

Note 2: There are no optional analyses offered for the Deployment Drinking Water Screening Kit.

Note 3: Unless noted below, I (the customer) hereby authorize DLS when necessary to sub-contract requested analyses to an accredited Contract Laboratory to meet my requirements.

☐ – *I do **NOT** authorize DLS to sub-contract analyses. Please contact me before sending my samples to a contract lab.*

METALS

1 – 125 mL Vial
Aluminum (Al)
Antimony (Sb)
Arsenic (As)
Barium (Ba)
Beryllium (Be)
Boron (B)
Cadmium (Cd)
Chromium (Cr)
Copper (Cu)
Iron (Fe)
Lead (Pb)
Magnesium (Mg)
Manganese (Mn)
Mercury (Hg)
Molybdenum (Mo)
Nickel (Ni)
Selenium (Se)
Sodium (Na)
Thallium (Tl)
Uranium (U)
Vanadium (V)

NON-METALS

1 – 40 mL Vial
Cyanide, Free

1 – 250 mL Vial
Color, Apparent
Conductivity
pH
TDS
Turbidity

1 – 40 mL Vial
Total Nitrate/Nitrite

1 – 40 mL Vial
Chloride
Fluoride
Sulfate

1 – 125 mL Vial & 1 – 250 mL Vial
Gross Alpha & Gross Beta

1 – 40 mL Vial
Perchlorate

ORGANICS

1 – 40 mL Vial
Carbamates
Glyphosate

1 – 40 mL Vial
Diquat

2 – 40 mL Vials
Herbicides

2 – 40 mL Vials
Pesticides & PCB

2 – 40 mL Vials
SVOC

2 – 40 mL Vials
TOC

2 – 40 mL Vials
VOC

1 – 40 mL Vial
VOC Blank

CONTRACT LAB ANALYSES

1 – 40 mL Vial	2 – 40 mL Vials
Endothall	HAA5 (Haloacetic acids)

— For Laboratory Use Only —

Date Received:	**Received By:**	**Holding Area:**
Lab Notes:		

Example: CSD Form 10 – RLA: Soil / Sludge / Bulk Solid Profile Sheet

CSD Form 10
Version 1.4
Revised: Apr. 2010

USAPHC(P) PHCR-Europe
DEPARTMENT OF LABORATORY SCIENCES (DLS)

MCHB-AE-LS

Request for Laboratory Analysis: Soil / Sludge / Bulk Solid Profile Sheet

Customer Address:				DLS SRN:	
Project Officer:			Project No.:		
TEL:		FAX:	Email:		
Installation Site:			ARLOC / WIC:		
Fund Source:		MIPR No.:		Sample ID:	
Collection Date:		Time:		Analysis Priority:	DLS In-House Turnaround Time (TAT) Goals
Special Instructions:					

Note 1: DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

Note 2: Unless noted below, I (the customer) hereby authorize DLS when necessary to sub-contract requested analyses to an accredited Contract Laboratory to meet my requirements.

☐ – *I do **NOT** authorize DLS to sub-contract analyses. Please contact me before sending my samples to a contract lab.*

METALS

- ☐ Arsenic (As)
- ☐ Barium (Ba)
- ☐ Beryllium (Be)
- ☐ Cadmium (Cd)
- ☐ Chromium (Cr), Total
- ☐ Cobalt (Co)
- ☐ Copper (Cu)
- ☐ Iron (Fe)
- ☐ Lead (Pb)
- ☐ Manganese (Mn)
- ☐ Mercury (Hg)
- ☐ Molybdenum (Mo)
- ☐ Nickel (Ni)
- ☐ Selenium (Se)
- ☐ Silver (Ag)
- ☐ Thallium (Tl)
- ☐ Uranium (U)
- ☐ Zinc (Zn)

ORGANICS

- ☐ MOC (Mineral Oil Content)

VOLATILE ORGANICS

- ☐ BTEX – Low VOC method
- ☐ BTEX – High VOC method
- ☐ BTEX/CHC – Low VOC method
- ☐ BTEX/CHC – High VOC method
- ☐ CHC – Low VOC method
- ☐ CHC – High VOC method
- ☐ VOC, Total – Low VOC method
- ☐ VOC, Total – High VOC method

CONTRACT LABORATORY ANALYSES

METALS

- ☐ Antimony (Sb)
- ☐ Calcium (Ca)
- ☐ Magnesium (Mg)
- ☐ Potassium (K)
- ☐ Sodium (Na)
- ☐ Tin (Sn)

NON-METALS

- ☐ Gross Alpha & Beta Activity

ORGANICS

- ☐ Herbicides
- ☐ PAH
- ☐ PCB
- ☐ Pesticides, Chlorinated
- ☐ Pesticides, Organophosphorus

OTHER ANALYSES REQUESTED

NOTES FOR THE LABORATORY

— For Laboratory Use Only —

Date Received:	Received By:	Holding Area:
Lab Notes:		

Example: CSD Form 11 – RLA: Bottled / Packaged Water Profile Sheet

CSD Form 11
Version 1.2
Revised: Apr. 2010

USAPHC(P) PHCR-Europe
DEPARTMENT OF LABORATORY SCIENCES (DLS)

MCHB-AE-LS

Request for Laboratory Analysis: Bottled / Packaged Water Profile Sheet

Customer Address:				**DLS SRN:**	
Project Officer:			**Project No.:**		
TEL:		**FAX:**	**Email:**		
Installation Site:			**ARLOC / WIC:**		
Fund Source:		**MIPR No.:**		**Sample ID:**	
Collection Date:		**Time:**		**Analysis Priority:**	DLS In-House Turnaround Time (TAT) Goals
Special Instructions:					

Note 1: DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

Note 2: Unless noted below, I (the customer) hereby authorize DLS when necessary to sub-contract requested analyses to an accredited Contract Laboratory to meet my requirements.

☐ – *I do **NOT** authorize DLS to sub-contract analyses. Please contact me before sending my samples to a contract lab.*

METALS	NON-METALS	OTHER ANALYSES REQUESTED
☐ Aluminum (Al)	☐ Chloride	
☐ Antimony (Sb)	☐ Color (Apparent)	
☐ Arsenic (As)	☐ Cyanide, Free	
☐ Barium (Ba)	☐ Fluoride	
☐ Beryllium (Be)	☐ Gross Alpha & Beta Activity	
☐ Cadmium (Cd)	☐ Nitrate	
☐ Chromium (Cr)	☐ Nitrite	
☐ Copper (Cu)	☐ Odor	
☐ Iron (Fe)	☐ Sulfate	
☐ Lead (Pb)	☐ Total Nitrate/Nitrite	
☐ Manganese (Mn)	☐ Turbidity	
☐ Mercury (Hg)		
☐ Nickel (Ni)		
☐ Selenium (Se)		
☐ Silver (Ag)		
☐ Thallium (Tl)		
☐ Uranium (U)		
☐ Zinc (Zn)		

Notes for the Laboratory:

— For Laboratory Use Only —

Date Received:	**Received By:**	**Holding Area:**
Lab Notes:		

Example: CSD Form 13 – RLA: Wastewater Profile Sheet

CSD Form 13
Version 1.2
Revised: Apr. 2010

USAPHC(P) PHCR-Europe
DEPARTMENT OF LABORATORY SCIENCES (DLS)

MCHB-AE-LS

Request for Laboratory Analysis: Wastewater Profile Sheet

Customer Address:				DLS SRN:	
Project Officer:		Project No.:			
TEL:		FAX:		Email:	
Installation Site:		ARLOC / WIC:			
Fund Source:		MIPR No.:		Sample ID:	
Collection Date:		Time:		Analysis Priority:	DLS In-House Turnaround Time (TAT) Goals
Special Instructions:					

Note 1: DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

Note 2: Unless noted below, I (the customer) hereby authorize DLS when necessary to sub-contract requested analyses to an accredited Contract Laboratory to meet my requirements.

☐ – *I do **NOT** authorize DLS to sub-contract analyses. Please contact me before sending my samples to a contract lab.*

METALS

- ☐ Aluminum (Al)
- ☐ Antimony (Sb)
- ☐ Arsenic (As)
- ☐ Barium (Ba)
- ☐ Beryllium (Be)
- ☐ Cadmium (Cd)
- ☐ Calcium (Ca)
- ☐ Chromium (Cr)
- ☐ Cobalt (Co)
- ☐ Copper (Cu)
- ☐ Iron (Fe)
- ☐ Lead (Pb)
- ☐ Manganese (Mn)
- ☐ Magnesium (Mg)
- ☐ Molybdenum (Mo)
- ☐ Nickel (Ni)
- ☐ Potassium (K)
- ☐ Selenium (Se)
- ☐ Silver (Ag)
- ☐ Sodium (Na)
- ☐ Tin (Sn)
- ☐ Thallium (Tl)
- ☐ Vanadium (V)
- ☐ Zinc (Zn)

NON-METALS

- ☐ Ammonia
- ☐ Total Nitrate / Nitrite (Preserved)
- ☐ Alkalinity
- ☐ Conductivity
- ☐ Bromide
- ☐ Chloride
- ☐ Fluoride
- ☐ Sulfate

Note: *The analytes listed below have a 48 hour holding time and must be analyzed by the lab within 48 hrs of their collection.*

- ☐ Color
- ☐ Nitrate
- ☐ Nitrite
- ☐ ortho-Phosphate
- ☐ Total Nitrate / Nitrite
- ☐ Turbidity
- ☐ Gross Alpha & Beta Activity
- ☐ pH
- ☐ TSS

ORGANICS

- ☐ BTEX
- ☐ CHC
- ☐ Hydrocarbon Oil Index
- ☐ VOC - Regulated

CONTRACT LABORATORY ANALYSES

- ☐ Aldehydes
- ☐ AOX
- ☐ BOD
- ☐ Boron (B)
- ☐ Cyanide - Total
- ☐ COD
- ☐ Hydrogen Sulfide
- ☐ Mercury (Hg)
- ☐ Oil & Grease
- ☐ Nitrogen (total bound)
- ☐ Pesticides
- ☐ Settleable Matter
- ☐ Sulfite
- ☐ Surfactants (anionic)
- ☐ Surfactants (cationic)
- ☐ Surfactants (non-ionic)
- ☐ Total Phenols
- ☐ Total Phosphorus (P)
- ☐ Toxicity, Acute (*Daphnia Magna*)
- ☐ Toxicity, Fish

OTHER ANALYSES REQUESTED & REMARKS

— For Laboratory Use Only —

Date Received:	Received By:	Holding Area:
Lab Notes:		

Example: CSD Form 14 – RLA: Raw Water (DW Source Water) Profile Sheet

CSD Form 14
Version 1.0
Revised: Apr. 2010

USAPHC(P) PHCR-Europe
DEPARTMENT OF LABORATORY SCIENCES (DLS)

MCHB-AE-LS

Request for Laboratory Analysis: Raw Water (DW Source Water) Profile Sheet

Customer Address:				**DLS SRN:**	
Project Officer:			**Project No.:**		
TEL:		**FAX:**	**Email:**		
Installation Site:			**ARLOC / WIC:**		
Fund Source:		**MIPR No.:**		**Sample ID:**	
Collection Date:		**Time:**		**Analysis Priority:**	DLS In-House Turnaround Time (TAT) Goals
Special Instructions:					

Note 1: DLS assumes neither responsibility nor liability for the sampling protocols employed by the customer.

Note 2: Unless noted below, I (the customer) hereby authorize DLS when necessary to sub-contract requested analyses to an accredited Contract Laboratory to meet my requirements.

☐ – *I do **NOT** authorize DLS to sub-contract analyses. Please contact me before sending my samples to a contract lab.*

METALS (DISSOVLED)

- ☐ Aluminum (Al)
- ☐ Antimony (Sb)
- ☐ Arsenic (As)
- ☐ Barium (Ba)
- ☐ Beryllium (Be)
- ☐ Boron (B)
- ☐ Cadmium (Cd)
- ☐ Calcium (Ca)
- ☐ Chromium (Cr)
- ☐ Cobalt (Co)
- ☐ Copper (Cu)
- ☐ Iron (Fe)
- ☐ Lead (Pb)
- ☐ Magnesium (Mg)
- ☐ Manganese (Mn)
- ☐ Mercury (Hg)
- ☐ Molybdenum (Mo)
- ☐ Nickel (Ni)
- ☐ Potassium (K)
- ☐ Selenium (Se)
- ☐ Silver (Ag)
- ☐ Sodium (Na)
- ☐ Thallium (Tl)
- ☐ Total Phosphorus (P)
- ☐ Vanadium (V)
- ☐ Uranium (U)
- ☐ Zinc (Zn)

NON-METALS

- ☐ Ammonia
- ☐ Total Nitrate / Nitrite (Preserved)
- ☐ Cyanide, Free
- ☐ Alkalinity
- ☐ Conductivity
- ☐ pH
- ☐ TDS
- ☐ Bromide
- ☐ Chloride
- ☐ Fluoride
- ☐ Sulfate
- ☐ Gross Alpha & Beta Activity
- ☐ Perchlorate

Note: The analytes listed below have a 48 hour holding time and must be analyzed by the lab within 48 hrs of their collection.

- ☐ Color
- ☐ Nitrate
- ☐ Nitrite
- ☐ Odor
- ☐ ortho-Phosphate
- ☐ Total Nitrate / Nitrite
- ☐ Turbidity

FIELD AND CALCULATED DATA

- Field Data: Temp (°C)
- Field Data: pH
- ☐ Hardness (calculation: Ca^{2+} & Mg^{2+})
- ☐ Langelier Index

ORGANICS

- ☐ Adipate & Phthalate
- ☐ Carbamates
- ☐ EDB / DBCP
- ☐ Glyphosate / AMPA
- ☐ Herbicides
- ☐ PAH
- ☐ Pesticides & PCB
- ☐ TOC
- ☐ VOC – Regulated
- ☐ VOC – Total

CONTRACT LABORATORY ANALYSES

- ☐ Diquat & Paraquat
- ☐ Dioxin (TCDD)
- ☐ Endothall
- ☐ Radium 226 & 228 Activity

OTHER ANALYSES & REMARKS

— For Laboratory Use Only —

Date Received:	**Received By:**	**Holding Area:**

Lab Notes:

— UNCONTROLLED COPY • 23 APRIL 2010 —

Example: DD FORM 1384 – Transportation Control and Movement Document

TRANSPORTATION CONTROL AND MOVEMENT DOCUMENT PAGE NO.

1. DOC ID	2. TRLR CTR	3. CONSIGNOR	4. COMMODITY SPECIAL HANDLING	5. AIR DIM	6. POE	7. POD
8. MODE	9. PACK	10. TRANSPORTATION CONTROL NO.	11. CONSIGNEE	12. PRI / 13. RDD / 14. PROJ	15. DATE SHPD	16. ETA / 17. TR ACCT
18. CARRIER	19. FLIGHT-TRUCK-VOY-DOC NO.	20. REF	21. REMARKS		22. PIECES	23. WEIGHT / 24. CUBE

	a. Transship Point	b. Date Rec	c. Bay Whse	d. Date Shpd	e. Mode Carrier	f. Flight-Truck-Voy Doc No.	g. Ref	h. Stow Loc	i. Split	j. Cond	k. Signature-Remarks
25.											
26.											
27.											

28. CONSIGNEE	29. DATE RECEIVED/OFFERED *(Sign)*	30. CONDITION	31. REMARKS

32. DOC ID	33. TRAILER - CON-TAINER	34. CONSIGNOR COMM ABBR OTHER	35. COMMODITY SPECIAL HANDLING	36. VOY NO Air Dim a.	36. VOY NO POE b.	37. POD	38. MODE	39. TYPE PACK	40. TRANSPORTATION CONTROL NUMBER	41. CONSIGNEE	42. PRI	43. REMARKS AND/OR RDD a.	Proj b.	Stow Loc Shpd c.	Stow Loc ETA d.	Tac e.	44. ADDITIONAL REMARKS OR Pieces a.	Weight b.	Cube c.

DD FORM 1384, OCT 2000 PREVIOUS EDITIONS MAY BE USED.

— UNCONTROLLED COPY • 23 APRIL 2010 —

Example: DD FORM 1387 – Military Shipment Label

MILITARY SHIPMENT LABEL		Form Approved. OMB No. 0704-0188
1. TRANSPORTATION CONTROL NUMBER		2. POSTAGE DATA
3. FROM		4. TYPE SERVICE
5. SHIP TO/POE		6. TRANS PRIORITY
7. POD		8. PROJECT
9. ULTIMATE CONSIGNEE OR MARK FOR	10. WT. *(This piece)*	11. RDD
	12. CUBE *(This piece)*	13. CHARGES
	14. DATE SHIPPED	15. FMS CASE NUMBER
	16. PIECE NUMBER	
	17. TOTAL PIECES	

DD FORM 1387, JUL 1999 PREVIOUS EDITION IS OBSOLETE. USAPA V1.00

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