EXHIBIT E

QUALITY SYSTEMS

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Exhibit E - Quality Systems

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1.0 QUALITY SYSTEM

1.1 Overview

Since the purpose of this analytical service is to provide analytical data for the use by the U.S. Environmental Protection Agency (EPA) in support of the investigation and clean-up activities under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act (SARA), the Contractor is responsible for developing and implementing a Quality System to enforce the requirements of the EPA CIO 2105.0 "*Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs*". This will require the implementation of a quality system that meets the EPA's goal of providing data of documented quality.

1.1.1 The quality system provides the framework for planning, implementing, assessing, and improving work performed by the Contractor for performing quality assurance (QA) and quality control (QC) activities. Effective implementation of the quality system leads to several benefits including:

- Scientific Data Integrity – The Contractor will produce and submit data of known and documented quality;
- Effective Management of Internal and External Activities – The quality system requires documentation of activities and oversight for evaluation purposes which will reduce the potential for waste and abuse; and
- Continual Improvement – The continual improvement component of the quality system leads to the development of a better more responsive quality system and technical system which should result in better products and services.

1.1.2 Overall, successful implementation of the quality system will reduce the Agency's vulnerabilities in decision making and increase the EPA's credibility by providing the ability to make reliable, timely, cost effective, and defensible decisions. The consequences of not having a successfully implemented quality system include the potential to waste time, money, and resources, which increase uncertainty in the EPA's decision.

1.1.3 Under this program, the EPA requires two forms of documentation for the quality system:

- A Quality Management Plan (QMP) which documents the organization quality system; and
- A Quality Assurance Project Plan (QAPP) which documents the application of quality related activities to an activity-specific effort.

NOTE: The Contractor may combine these two documents into a single document that describes the organization's quality system and the application of this system to the work performed under this program.

2.0 QUALITY MANAGEMENT PLAN

During the contract solicitation process, the Contractor is required to submit the QMP or equivalent to the EPA Contracting Officer (CO). The QMP documents how an organization structures its quality system and describes its quality policies and procedures; criteria for and areas of application; and roles, responsibilities, and authorities. It also describes an organization's policies and procedures for implementing and assessing the effectiveness of the quality system. The Contractor shall follow the EPA Requirements for Quality Management Plans (QA/R-2) EPA/240/B-01/002 (or subsequent version) for guidance.

2.1 The QMP should describe the Quality System that is designed to support the objectives of the organization in providing the analytical services required in this document.

2.2 The QMP must be sufficiently inclusive, explicit, and readable to enable both management and staff to understand the priority which management places on QA and QC activities, established quality policies and procedures, and their respective quality related roles and responsibilities.

2.3 The QMP should document management practices, including QA and QC activities, used to ensure that the results of technical work are of the type and quality needed for their intended use.

2.4 The QMP should document the following: the mission and quality policy of the organization; the specific roles, authorities, and responsibilities of management and staff with respect to QA and QC activities; the means by which effective communications with personnel actually performing the work are assured; the processes used to plan, implement, and assess the work performed; the process by which measures of effectiveness for QA and QC activities will be established and how frequently effectiveness will be measured; and the continual improvement based on lessons learned from previous experience.

2.5 The elements to be addressed in a QMP include: management and organization; quality system description; personnel qualifications and training; procurement of items and services; documentation and records; computer hardware and software; planning; implementation of work processes; assessment and response; and quality improvement.

NOTE: It is not necessary for the Contractor to present the information in the same order as outlined above as long as each item is adequately addressed in the plan.

3.0 QUALITY ASSURANCE PROJECT PLAN

3.1 Introduction

The EPA requires that all environmental data used in decision making be supported by an approved QAPP. The QAPP integrates all technical and quality aspects of a project including planning, implementation, and assessment. The purpose of the QAPP is to document how QA and QC are applied to an environmental data operation to assure that the results obtained are of the type and quality needed and expected for this program. The Contractor shall follow the EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5 (EPA/240/B-01/003) (or subsequent version) for guidance.

3.1.1 The Contractor shall prepare a written QAPP which describes the procedures that are implemented to:

- Maintain data integrity, validity and usability;
- Ensure that analytical measurement systems are maintained in an acceptable state of stability and reproducibility;
- Detect problems through data assessment and establish corrective action procedures which keep the analytical process reliable; and
- Document all aspects of the measurement process to provide data which are technically sound and legally defensible.

3.1.2 The QAPP must present, in specific terms, the policies, organization, objectives, functional guidelines, and specific QA and QC activities designed to achieve the data quality requirements in this contract. Where applicable, Standard Operating Procedures (SOPs) pertaining to each element shall be included or referenced as part of the QAPP.

3.1.3 The QAPP shall be available during on-site laboratory evaluations.

3.1.4 The QAPP shall be submitted within 7 days of written request by the EPA Regional Contract Laboratory Program Contracting Officer's Representative (EPA Regional CLP COR) or the Analytical Services Branch CLP COR (ASB CLP COR).

3.2 Required Elements of a Quality Assurance Project Plan

The QAPP shall be paginated consecutively in ascending order. The required elements of a laboratory's QAPP are outlined in this section. This outline should be used as a framework for developing the QAPP.

A. Organization and Personnel

1. QA Policy and Objectives (the mission and quality policy of the organization)
2. QA Management (the specific roles, authorities, and responsibilities of management and staff with respect to QA and QC activities)
    a. Organization
    b. Assignment of QA/QC Responsibilities
    c. Reporting Relationships (the means by which effective communication with personnel actually performing the work are ensured)
    d. QA Document Control Procedures

e. QA Program Assessment Procedures (the process used to plan, implement, and assess the work performed)

3. Key Personnel (laboratory personnel involved in QA and QC activities)

a. Resumes

b. Education and Experience Relevant to this Contract

c. Training Records and Progress

B. Facilities and Equipment

1. Instrumentation and Backup Alternatives

2. Maintenance Activities and Schedules

C. Document Control

1. Laboratory Notebook Policy

2. Sample Tracking/Custody Procedures

3. Logbook Maintenance and Archiving Procedures

4. Complete Sample Delivery Group (SDG) File (CSF) Organization, Preparation, and Review Procedures

5. Procedures for Preparation, Approval, Review, Revision, and Distribution of SOPs

6. Process for Revision of Technical or Documentation Procedures

D. Analytical Methodology

1. Calibration Procedures and Frequency

2. Sample Preparation/Extraction Procedures

3. Sample Analysis Procedures

4. Standards Preparation Procedures

5. Decision Processes, Procedures, and Responsibility for Initiation of Corrective Action

E. Data Generation

1. Data Collection Procedures

2. Data Reduction Procedures

3. Data Validation Procedures

4. Data Reporting and Authorization Procedures

F. QA (the process which measures the effectiveness of QA will be established and how frequently effectiveness will be measured)

1. Data QA

2. Systems/Internal Audits

3. Performance/External Audits

4. Corrective Action Procedures (the continual improvement based on lessons learned from previous experience)

5. QA Reporting Procedures

6. Responsibility Designation

G. QC

1. Solvent, Reagent, and Adsorbent Check Analysis
2. Reference Material Analysis
3. Internal QC Checks
4. Corrective Action and Determination of QC Limit Procedures
5. Responsibility Designation

3.3 Submission of the Quality Assurance Project Plan

3.3.1 Initial Submission

The Contractor is required to submit their QAPP to the EPA CO within the number of days provided in the associated laboratory contract document. The Contractor shall maintain a QAPP (fully compliant with the requirements of this contract) on file at their facility for the term of the contract.

3.3.2 Revision Submissions

The revised QAPP will become the official QAPP under the contract and may be used during legal proceedings.

3.3.2.1 During the term of the contract, the Contractor shall amend the QAPP when the following circumstances occur:

- The EPA modifies technical requirements of the Statement of Work (SOW) or the contract;
- The EPA notifies the Contractor of deficiencies in the QAPP document;
- The EPA notifies the Contractor of deficiencies resulting from the EPA's review of the Contractor's performance;
- The Contractor identifies changes in organization, personnel, facility, equipment, policy, or procedures; or
- The Contractor identifies deficiencies resulting from the internal review of their organization, personnel, facility, equipment, policy, procedure or QAPP document.

3.3.2.2 The Contractor shall amend and submit the QAPP to the recipient(s) identified in Exhibit B – Reporting and Deliverables Requirements, Table 1 – Deliverable Schedule, within 14 days of when the circumstances listed above result in a discrepancy between what was previously described in the QAPP, and what is presently occurring at the Contractor's facility.

3.3.2.2.1 All changes in the QAPP shall be clearly marked (e.g., a bar in the margin indicating where the change is found in the document, or highlighting the change by underlining the change, bold printing the change, or using a different print font) and the amended section pages shall have the date on which the changes were implemented.

3.3.2.2.2 The Contractor shall archive all amendments to the QAPP document for future reference by the Government.

3.3.2.3 The Contractor shall send a copy of the latest version of the QAPP document within 7 days of a written request by the EPA Regional CLP COR or the ASB CLP COR, as directed. The EPA requestor will designate the recipients.

4.0 STANDARD OPERATING PROCEDURES

4.1 Introduction

To obtain reliable results, adherence to prescribed analytical methodology is imperative. In any operation that is performed on a repetitive basis, reproducibility is best accomplished through the use of SOPs. As defined by the EPA, an SOP is a written document which provides directions for the step-by-step execution of an operation, analysis, or action which is commonly accepted as the method for performing certain routine or repetitive tasks. The Contractor shall follow the EPA Guidance for Preparing Standard Operating Procedures (SOPs) (QA/G-6).

4.1.1 SOPs prepared by the Contractor shall be functional (i.e., clear, comprehensive, up to date, and sufficiently detailed to permit duplication of results by qualified analysts).

4.1.2 All SOPs shall reflect activities as they are currently performed in the laboratory. In addition, all SOPs shall be:

- Consistent with current EPA regulations, guidelines, and the CLP contract's requirements;
- Consistent with instrument(s) manufacturer's specific instruction manuals;
- Available to the Government during an on-site laboratory evaluation. A complete set of SOPs shall be bound together and available for inspection at such evaluations. During on-site laboratory evaluations, laboratory personnel may be asked to demonstrate the application of the SOPs;
- Available to designated recipients within 7 days, upon request by the EPA Regional CLP COR or ASB CLP COR;
- Capable of providing for the development of documentation that is sufficiently complete to record the performance of all tasks required by the protocol;
- Capable of demonstrating the validity of data reported by the Contractor and explaining the cause of missing or inconsistent results;
- Capable of describing the corrective measures and feedback mechanism utilized when analytical results do not meet protocol requirements;
- Reviewed regularly and updated as necessary when contract, facility, or Contractor procedural modifications are made;
- Archived for future reference in usability or evidentiary situations;
- Available at specific workstations, as appropriate;
- Reviewed and signed by all Contractor personnel performing actions identified in the SOP; and
- Subject to a document control procedure which precludes the use of outdated or inappropriate SOPs.

4.2 Format

The format for SOPs may vary depending upon the type of activity for which they are prepared. The SOPs shall be paginated consecutively in ascending order. At a minimum, the following sections shall be included:

- Title Page;
- Document Control;
- Scope and Applicability;
- Summary of Method;
- Definitions (acronyms, abbreviations, and specialized forms used in the SOP);
- Health and Safety;
- Personnel Qualifications;
- Interferences;
- Apparatus and Materials (list or specify, also note designated locations where found);
- Handling and Preservation;
- Instrument or Method Calibration;
- Sample Preparation and Analysis;
- Data Calculations;
- Procedures;
- QC limits;
- Corrective action procedures, including procedures for secondary review of information being generated;
- Documentation description and example forms;
- Data Management and Records Management;
- Miscellaneous notes and precautions; and
- References.

4.3 Required Standard Operating Procedures

The Contractor shall maintain the following SOPs:

4.3.1 Evidentiary SOPs for required chain of custody and document control.

4.3.2 Sample receipt and storage:

- Sample receipt and identification logbooks;
- Refrigerator temperature logbooks;
- Extract storage logbooks; and
- Security precautions.

4.3.3 Sample preparation:

- Reagent purity check procedures and documentation;
- Extraction procedures;
- Extraction bench sheets; and
- Extraction logbook maintenance.

4.3.4 Glassware cleaning

4.3.5 Calibration (balances, pipets, etc.):

- Procedures;
- Frequency requirements;
- Preventative maintenance schedule and procedures;
- Acceptance criteria and corrective actions; and
- Logbook maintenance authorization.

4.3.6 Analytical procedures (for each analytical system):

- Instrument performance specifications;
- Instrument operating procedures;
- Data acquisition system operation;
- Procedures used when automatic quantitation algorithms are overridden;
- QC-required parameters;
- Analytical sequence/injection logbooks; and
- Instrument error and editing flag descriptions and resulting corrective actions.

4.3.7 Maintenance activities (for each analytical system):

- Preventative maintenance schedule and procedures;
- Corrective maintenance determinants and procedures; and
- Maintenance authorization.

4.3.8 Analytical standards:

- Standard coding/identification and inventory system;
- Standards preparation logbook(s);
- Standard preparation procedures;
- Procedures for equivalency/traceability analyses and documentation;
- Purity logbook (primary standards and solvents);
- Storage, replacement, and labeling requirements; and
- QC and corrective action measures.

4.3.9 Data reduction procedures:

- Data processing systems operation;
- Outlier identification methods;

- Identification of data requiring corrective action; and
- Procedures for format and/or forms for each operation.

4.3.10 Documentation policy/procedures:

- Contractor/analyst's notebook policy, including review policy;
- CSF contents;
- CSF organization and assembly procedures, including review policy; and
- Document inventory procedures, including review policy.

4.3.11 Data validation/self-inspection procedures:

- Data flow and chain of command for data review;
- Procedures for measuring precision and accuracy;
- Evaluation parameters for identifying systematic errors;
- Procedures to ensure that hardcopy and electronic deliverables are complete and compliant with the requirements in Exhibit B – Reporting and Deliverables Requirements and Exhibit H – Format for Electronic Data Deliverables;
- Procedures to ensure that hardcopy deliverables are in agreement with their comparable electronic deliverables;
- Demonstration of internal QA inspection procedure [demonstrated by supervisory sign-off on personal notebooks, internal Performance Evaluation (PE) samples, etc.];
- Frequency and type of internal audits (e.g., random, quarterly, spot checks, perceived trouble areas);
- Demonstration of problem identification, corrective actions, and resumption of analytical processing. Sequence resulting from internal audit (i.e., QA feedback); and
- Documentation of audit reports (internal and external), response, corrective action, etc.

4.3.12 Data management and handling:

- Procedures for controlling and estimating data entry errors;
- Procedures for reviewing changes to data and deliverables and ensuring traceability of updates;
- Lifecycle management procedures for testing, modifying, and implementing changes to existing computing systems to include hardware, software, and documentation or installation of new systems;
- Database security, backup, and archival procedures including recovery from system failures;
- System maintenance procedures and response time;
- Individual(s) responsible for system operation, maintenance, data integrity, and security;
- Specifications for staff training procedures;

- Virus Protection procedures for software and electronic data deliverables; and
- Storage, retrieval and verification of the completeness and readability of instrument files transferred to electronic media.

4.4 Submission of the Standard Operating Procedures

4.4.1 Initial Submission

The Contractor is required to submit their SOPs to the EPA CO within 60 days after contract award. The Contractor shall maintain on file a complete set of SOPs, fully compliant with the requirements of this contract for the term of the contract.

4.4.2 Revision Submissions

The revised SOPs will become the official SOPs under the contract and may be used during legal proceedings.

4.4.2.1 During the term of the contract, the Contractor shall amend the SOPs when the following circumstances occur:

- The EPA modifies the technical requirements of the SOW or the contract;
- The EPA notifies the Contractor of deficiencies in their SOP documentation;
- The EPA notifies the Contractor of deficiencies resulting from the EPA's review of the Contractor's performance;
- The Contractor's procedures change;
- The Contractor identifies deficiencies resulting from the internal review of SOP documentation; or
- The Contractor identifies deficiencies resulting from the internal review of procedures.

4.4.2.2 The Contractor shall amend and submit revised or write and submit new SOPs to the recipient(s) identified in Exhibit B – Reporting and Deliverables Requirements, Table 1 – Deliverable Schedule within 14 days of when the circumstances listed above result in a discrepancy between what was previously described in the SOPs, and what is presently occurring at the Contractor's facility.

4.4.2.2.1 All changes in the SOPs shall be clearly marked (e.g., a bar in the margin indicating where the change is in the document, or highlighting the change by underlining the change, bold printing the change, or using a different print font) and the amended/new SOPs shall have the date on which the changes were implemented.

4.4.2.2.2 The Contractor shall document the reasons for the changes and archive all amended SOPs for future reference by the Government. Documentation of the reason(s) for changes to the SOPs shall also be submitted along with the SOPs.

4.4.2.3 The Contractor shall send a copy of the latest version of the SOPs within 7 days of a written request by the EPA Regional CLP COR or the ASB CLP COR, as directed. The EPA requestor will designate the recipients.

5.0 CHAIN OF CUSTODY

5.1 Introduction

A sample is physical evidence collected from a facility or the environment. Controlling evidence is an essential part of the hazardous waste investigation effort. To ensure that the EPA's sample data and records supporting sample related activities are admissible as evidence in litigation, Contractors are required to maintain EPA furnished samples under chain of custody and to account for all samples and supporting records of sample handling, preparation, and analysis.

The Contractor shall develop and implement the following SOPs for sample chain of custody (COC) under this contract. The Contractor shall provide the following SOPs: sample receiving, sample identification, sample security, sample storage, sample tracking and document control, electronic sample data control, and CSF organization and assembly to ensure accountability of sample chain of custody, as well as control of all sample-related records.

5.2 Sample Receiving

5.2.1 The Contractor shall designate a sample custodian responsible for receiving Government-furnished samples.

5.2.2 The Contractor shall designate a representative to receive Government-furnished samples in the event that the sample custodian is not available.

5.2.3 The sample custodian or a designated representative shall verify and record on Form DC-1 the agreement or disagreement of information recorded on all documents received with samples and information recorded on sample containers.

5.2.4 The sample custodian or a designated representative shall verify and record the following information on Form DC-1 as samples are received and inspected:

- Presence or absence and condition of custody seals on shipping and/or sample containers;
- Custody seal numbers, when present;
- Condition of the sample bottles;
- Presence or absence of airbills or airbill stickers;
- Airbill or airbill sticker numbers;
- Presence or absence of Traffic Report/Chain of Custody Records (TR/COCs);
- Sample tags/numbers listed/not listed on TR/COCs;
- Presence or absence of shipping container temperature indicator bottle;
- Shipping container temperature;
- Date of receipt;
- Time of receipt;
- EPA Sample Numbers;

- Presence or absence of sample tags;
- Sample tag numbers;
- Assigned laboratory numbers;
- Remarks regarding condition of sample shipment;
- Samples delivered by hand; and
- Problems and discrepancies.

5.2.5 The sample custodian or a designated representative shall sign, date, and record the time on all accompanying forms, when applicable, at the time of sample receipt (e.g., TR/COCs or packing lists, and airbills).

NOTE: Initials are not acceptable.

5.2.6 The Contractor shall contact the Sample Management Office (SMO) to resolve problems and discrepancies including, but not limited to: absent documents; conflicting information and absent or broken custody seals.

5.2.7 The Contractor shall record resolution of all problems and discrepancies communicated through SMO.

5.3 Sample Identification

5.3.1 The Contractor shall maintain the identity of Government-furnished samples and prepared samples (including extracts) throughout the laboratory.

5.3.2 Each sample and sample preparation container shall be labeled with the EPA Sample Number or a unique laboratory sample identification number.

5.4 Sample Security

5.4.1 The Contractor shall demonstrate that sample custody is maintained from receiving through retention or disposal. A sample is in custody if:

- It is in your possession; or
- It is in your view after being in your possession; or
- It is locked in a secure area after being in your possession; or
- It is in a designated secure area, accessible only to authorized personnel.

5.4.2 The Contractor shall demonstrate security of designated secure areas.

5.5 Sample Storage

The Contractor shall designate storage areas for Government-furnished samples and prepared samples.

5.6 Sample Tracking and Document Control

5.6.1 The Contractor shall record all activities performed on Government-furnished samples.

5.6.2 Titles which identify the activities recorded shall be printed on each page of all laboratory documents (activities include, but are not limited to: sample receipt, sample storage, sample preparation, sample analysis, CSF organization and assembly, and sample retention or disposal). When a document is a record of analysis, the instrument type and parameter group shall be included in the title.

5.6.3 When columns are used to organize information recorded on laboratory documents, the information recorded in the columns shall be identified in a column heading.

5.6.4 Reviewers' signatures shall be identified on laboratory documents when reviews are conducted.

NOTE: Individuals recording review comments on computer-generated raw data are not required to be identified unless the written comments address data validity. The Laboratory Name shall be identified on pre-printed laboratory documents.

5.6.5 Each laboratory document entry shall be dated in the format MM/DD/YYYY (e.g., 01/01/2013) and signed (or initialed) by the individual(s) responsible for performing the recorded activity at the time the activity is recorded.

5.6.6 Notations on laboratory documents shall be recorded in ink.

5.6.7 Corrections to laboratory data reporting forms and raw data shall be made by drawing single lines through the errors and entering the correct information. Information shall not be obliterated or rendered unreadable. Corrections and additions to information shall be signed (or initialed) and dated.

5.6.8 Unused portions of laboratory documents shall be lined out, signed (or initialed) and dated.

5.6.9 Pages in bound and unbound logbooks shall be sequentially numbered.

5.6.10 Each page in bound and unbound logbooks shall be dated (MM/DD/YYYY) and signed (no initials) at the bottom by the individual recording the activity (if a single entry is made on a page) or by the last individual recording information on the page (if multiple entries are on the same page).

5.6.11 Instrument-specific analytical sequence logs shall be maintained to enable the reconstruction of analytical sequences.

5.6.12 Logbook entries shall be in chronological order.

5.6.13 Information inserted into laboratory documents shall be affixed permanently in place. The individual responsible for inserting information shall sign and date across the insert and logbook page at the time information is inserted.

5.6.14 The Contractor shall document disposal or retention of Government-furnished samples, remaining portions of samples, and prepared samples.

5.7 Electronic Sample Data Control

5.7.1 Contractor personnel responsible for original data entry shall be identified at the time of data input.

5.7.2 The Contractor shall make changes to electronic data in a manner which ensures that the original data entry is preserved, the editor is identified, and the revision date is recorded.

5.7.3 The Contractor shall routinely verify the accuracy of manually entered data, electronically entered data, and data acquired from instruments.

5.7.4 The Contractor shall routinely verify documents produced by the electronic data collection system to ensure accuracy of the information reported.

5.7.5 The Contractor shall ensure that the electronic data collection system is secure.

5.7.5.1 The electronic data collection system shall be maintained in a secure location.

5.7.5.2 Access to the electronic data collection system functions shall be limited to authorized personnel through utilization of software security techniques (e.g., log-ons or restricted passwords).

5.7.5.3 Electronic data collection systems shall be protected from the introduction of external programs or software (e.g., viruses).

5.7.6 The Contractor shall designate archive storage areas for electronic data and the software required to access the data.

5.7.7 The Contractor shall designate an individual responsible for maintaining archives of electronic data, including the software.

5.7.8 The Contractor shall maintain the archives of electronic data and necessary software in a secure location that shall be accessible only to authorized personnel.

5.8 Complete Sample Delivery Group File Organization and Assembly

5.8.1 The Contractor shall designate a Document Control Officer responsible for the organization and assembly of the CSF.

5.8.2 The Contractor shall designate a representative responsible for the organization and assembly of the CSF in the event that the Document Control Officer is not available.

5.8.3 The Contractor shall maintain documents relating to the CSF in a secure location.

5.8.4 All original laboratory forms and copies of SDG-related logbook pages shall be included in the CSF.

5.8.5 Copies of laboratory documents in the CSF shall be photocopied in a manner to provide complete and legible replicates.

5.8.6 Documents relevant to each SDG including, but not limited to, the following shall be included in the CSF:

- Logbook pages;
- Bench sheets;
- Screening records;
- Preparation records;
- Repreparation records;
- PE sample instructions;
- Chromatograms;
- Analytical records;
- Reanalysis/Re-extraction records;
- TR/COCs;

- Sample tracking records;
- Raw data summaries;
- Computer printouts;
- Records of failed or attempted analysis;
- Correspondence;
- FAX originals; and
- Other.

5.8.7 The Document Control Officer or a designated representative shall ensure that sample tags are encased in clear plastic bags before placing them in the CSF.

5.8.8 CSF documents shall be organized and assembled on an SDG-specific basis.

5.8.9 Original documents which include information relating to more than one SDG (e.g., TR/COCs, calibration logs) shall be filed in the CSF with the lowest SDG Number, and copies of these originals shall be placed in the other CSF(s). The Document Control Officer or a designated representative shall record the following statement on the copies in (indelible) dark *ink*:

COPY
ORIGINAL DOCUMENTS ARE INCLUDED IN CSF

_____
Signature

_____
Date

5.8.10 All CSFs shall be submitted with a completed Form DC-2. All resubmitted CSFs shall be submitted with a new or revised Form DC-2.

5.8.11 Each item in the CSF and resubmitted CSFs shall be inventoried and assembled in the order specified on Form DC-2. Each page of the CSF shall be stamped with a sequential number. Page number ranges shall be recorded in the columns provided on Form DC-2. Intentional gaps in the page numbering sequence shall be recorded in the "Comments" section on Form DC-2. When inserting new or inadvertently omitted documents, the Contractor shall identify them with unique accountable numbers. The unique accountable numbers and the locations of the documents shall be recorded in the "Other Records" section on Form DC-2.

5.8.12 Before shipping each CSF, the Document Control Officer or a designated representative shall verify the agreement of information recorded on all documentation and ensure that the information is consistent and the CSF is complete.

5.8.13 The Document Control Officer or a designated representative shall document the shipment of deliverable packages, including what was sent, to whom the packages were sent, the date, and the carrier used.

5.8.14 Shipments of deliverable packages, including re-submittals, shall be sealed with custody seals by the Document Control Officer or a designated representative in a manner such that opening the packages would break the seals.

5.8.15 Custody seals shall be signed and dated by the Document Control Officer or a designated representative when sealing deliverable packages.

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EXHIBIT F

PROGRAMMATIC QUALITY ASSURANCE/QUALITY CONTROL ELEMENTS

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Exhibit F – Programmatic Quality Assurance/Quality Control Elements

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1.0 OVERVIEW

Quality Assurance (QA) and Quality Control (QC) are integral parts of the U.S. Environmental Protection Agency's (EPA's) Contract Laboratory Program (CLP). This integrated program is required to generate data of known and documented quality. The QA process consists of management reviews and oversight at the planning, implementation and completion stages of the environmental data collection activity, and ensures that data provided are of the quality required. The QC process includes those activities required during data collection to produce the data quality desired and to document the quality of the collected data.

During the planning of an environmental data collection program, the activities focus on defining data quality criteria and designing a QC system to measure the quality of the data being generated. During the implementation of the data collection effort, the QA activities ensure that the QC system is functioning effectively, and the deficiencies uncovered by the QC system are corrected. After the environmental data are collected, QA activities focus on assessing the quality of data obtained to determine it suitability to support enforcement or remedial decisions.

2.0 INTRODUCTION

Appropriate use of data generated under the large range of analytical conditions encountered in environmental analyses requires reliance on the QC procedures and criteria incorporated into the methods. The data acquired from QC procedures are used to estimate and evaluate the information content of analytical results and to determine the necessity for, or the effects of, corrective action procedures. The parameters used to estimate information content include precision, accuracy, and other quantitative and qualitative indicators.

This Exhibit describes the overall programmatic QA/QC operations and the minimum QC operations necessary to satisfy the analytical requirements associated with the determination of the different method analytes. These QC operations are designed to facilitate laboratory comparison by providing the EPA with comparable data from all Contractors. These requirements do not release the analytical Contractor from maintaining their own QC checks on method and instrument performance.

3.0 GENERAL QUALITY ASSURANCE/QUALITY CONTROL PRACTICES

The necessary components of a complete QA/QC program include internal QC criteria that demonstrate compliant levels of performance, as determined by the Contractors' QA review and external QC review of data and procedures that is accomplished by the monitoring activities of the EPA.

Each external review accomplishes a different purpose. External reviews may include: Proficiency Testing, contract compliance screening, on-site laboratory audits, data package audits, electronic data audits, and the EPA regional data review. A feedback loop provides the results of these various review functions to the Contractor through communications with the EPA.

4.0 PROFICIENCY TESTING PROGRAM

As a means of measuring and evaluating both the Contractor's and the method's analytical performance, the Contractor shall participate in the EPA's Proficiency Testing (PT) Program. The EPA's PT Program involves the analysis of Case-specific Performance Evaluation (PE) samples and PT audits. The Contractor's PE and PT audit sample results will be used by the EPA to assess and verify the Contractor's continuing ability to produce acceptable analytical data in accordance with the contractual requirements. The Contractor must receive a passing score of 75% to be in compliance with the contract.

4.1 Performance Evaluation Samples

4.1.1 PE sample(s) may be scheduled with the Contractor as frequently as on a Sample Delivery Group (SDG)-by-SDG basis.

4.1.2 PE samples will be provided as either single-blinds (recognizable as a PE sample, but of unknown composition), or as double-blinds (not recognizable as a PE sample and of unknown composition). The Contractor will not be informed of either the analytes or the concentrations in the PE samples.

4.1.3 The Contractor may receive the PE samples as either full volume samples or ampulated/bottled concentrates from the EPA or a designated EPA Contractor. The PE samples shall come with instructions concerning the unique preparation procedures, if any, required to reconstitute the PE samples (i.e., the required dilution of the PE sample concentrate). PE samples are to be extracted and analyzed with the rest of the routine samples in the SDG. The Contractor shall prepare and analyze the PE sample using the procedure described in the sample preparation and method analysis sections of Exhibit D – Analytical Methods. All contract required QC shall also be met.

4.1.4 The PE sample results are to be submitted in the SDG deliverable package per normal reporting procedures detailed in Exhibit B – Reporting and Deliverables Requirements. If these requirements are not met, the Region may reject all the data associated with the SDG.

4.1.5 The Contractor shall be responsible for correctly identifying and quantitating the analytes included in each PE sample. When PE sample results are received by the EPA, the PE sample results will be evaluated for correct analytical identification and quantitation. The results of the PE sample evaluation will be provided to the Contractor via coded evaluation sheets, by analyte. The EPA will notify the Contractor of unacceptable performance.

4.2 Proficiency Testing Audits

4.2.1 A PT audit is a unique analytical Case containing only PT audit samples. The PT audit samples will be scheduled by the EPA Analytical Services Branch (ASB) through the Sample Management Office (SMO). PT audit samples assist the EPA in monitoring Contractor performance.

4.2.2 PT audit samples will be provided as single-blinds (recognizable as a PT audit sample but of unknown composition). The Contractor will not be informed of either the analytes or the concentrations in the PT audit samples.

4.2.3 The Contractor may receive the PT audit samples as either full volume samples or ampulated/bottled concentrates from the EPA or a designated EPA Contractor. The PT audit samples shall come with instructions concerning the unique preparation procedures, if any, required to reconstitute the PT audit samples (i.e., the required dilution of the PT audit sample concentrate). The Contractor shall prepare and analyze the PT audit samples using the procedure described in the sample preparation and method analysis sections of Exhibit D – Analytical Methods. All contract required QC shall be met, including spike and spike duplicate.

4.2.4 The PT audit sample results are to be submitted in the SDG deliverable package per normal reporting procedures detailed in Exhibit B - Reporting and Deliverables Requirements.

4.2.5 The Contractor shall be responsible for correctly identifying and quantitating the analytes included in each PT audit sample. When PT audit sample results are received by the EPA, the PT audit sample results will be scored for correct analytical identification, quantitation, and timeliness. The PT audit sample scoring will be provided to the Contractor via coded evaluation sheets, by analyte.

4.2.6 The EPA will notify the Contractor of unacceptable performance. The Contractor's overall and fractional PT audit sample performance will be assessed into one of the following three categories:

4.2.6.1 Acceptable, No Response Required: Score greater than or equal to 90%. The data meets most or all of the scoring criteria. No response is required.

4.2.6.2 Acceptable, Response Explaining Deficiencies Required: Score greater than or equal to 75%, but less than 90%. Deficiencies exist in the Contractor's performance. Corrective action response required.

4.2.6.3 Unacceptable Performance, Response Explaining Deficiencies Required: Score less than 75%. Corrective action response required.

4.2.7 In the case of Section 4.2.6.2 or 4.2.6.3, the Contractor shall describe the deficiency(ies) and the action(s) taken in a corrective action letter to the EPA Contracting Officer (CO), the EPA Regional CLP Contracting Officer's Representative (COR), and the ASB CLP COR, within 14 days of receipt of notification from the EPA.

4.2.8 A remedial PT audit is a unique analytical Case containing only PT audit samples. A remedial PT audit may be scheduled by the EPA ASB with the Contractor(s) for any of the following reasons: unacceptable PE sample performance, and/or major change in the laboratory (e.g., relocation, new owner, or high turnover of key personnel). The Contractor may not receive samples under this contract until acceptable performance of a remedial PT audit sample is achieved. Sections 4.2.2 through 4.2.7 apply to the remedial PT audit process.

4.2.9 The Contractor shall be notified by the EPA CO concerning agreement or disagreement with the proposed remedy for unacceptable performance.

5.0 CONTRACT COMPLIANCE SCREENING

5.1 Overview

5.1.1 Contract Compliance Screening (CCS) is one aspect of the Government's contractual right of inspection of analytical data. CCS examines the Contractor's adherence to the contract requirements based on the Complete SDG File (CSF) delivered to the EPA.

5.1.2 CCS is performed by SMO at the direction of the EPA. To ensure uniform review, a set of standardized procedures has been developed to evaluate the CSF submitted by a Contractor against the technical and completeness requirements of the contract. The EPA reserves the right to add and/or delete individual checks.

5.2 Contract Compliance Screening Results

CCS results are distributed to the Contractor and all other data recipients. The Contractor shall correct deficiencies and submit corrections within 6 business days. The Contractor shall send all corrections to the EPA Regional CLP COR and SMO. CCS results are used in conjunction with other information to measure overall Contractor performance and to take appropriate actions to correct deficiencies in performance.

5.3 Contract Compliance Screening Trend Report

The EPA will periodically generate a CCS Trend Report which summarizes CCS results over a given period of time. The Government may send the CCS Trend Report to the Contractor, or discuss the CCS Trend Report during an on-site laboratory audit. In a detailed letter to the EPA Regional CLP COR, the ASB CLP COR, and the EPA CO, the Contractor shall address the deficiencies and the subsequent corrective actions implemented by the Contractor to correct the deficiencies within 14 days of receipt of the report.

6.0 ON-SITE LABORATORY AUDITS

6.1 Overview

The EPA Regional CLP COR, the ASB CLP COR, or the EPA CO's authorized representative will conduct an on-site laboratory audit. On-site laboratory audits are performed to monitor the Contractor's ability to meet selected terms and conditions specified in the contract.

6.2 On-Site Audit

QA evaluators inspect the Contractor's facilities to verify the adequacy and maintenance of instrumentation; the continuity, experience and education of personnel; and the acceptable performance of analytical and QC procedures. Auditors conduct on-site laboratory audits to evaluate if laboratory policies and procedures are in place to satisfy evidence handling requirements.

6.2.1 The items to be monitored during an on-site audit may include, but not be limited to, the following:

- Size and appearance (e.g., cleanliness, organization) of the facility;
- Quantity, age, availability, scheduled maintenance, and performance of instrumentation;
- Availability, review, appropriateness, and utilization of the Quality Assurance Project Plan (QAPP) and Standard Operating Procedures (SOPs);
- Staff qualifications, experience, and personnel training programs;
- Analysis of PE samples (may be in the presence of the EPA-designated team);
- Reagents, standards, and sample storage facilities;
- All logbooks (e.g., extraction logs, standards and reagent preparation logs, analysis logs, instrument maintenance logs);
- All raw analytical data; and
- Review of the Contractor's sample analysis, data package assembly, inspection, completion, and data management procedures.

6.2.2 Prior to an on-site audit, various documentation pertaining to performance of the Contractor is reviewed by the audit team and may be discussed during the audit. Items that may be discussed include, but not limited to, the following:

- Previous on-site audit reports;
- PE or PT audit sample scores;
- EPA Regional review of data;
- Contractor performance information;
- Data and Electronic audit reports;
- Results of CCS; and
- Data trend reports.

6.3 Discussion of the On-Site Audit Findings

The auditors shall present their findings and recommendations for corrective actions necessary to the Contractor personnel during a debriefing meeting at the conclusion of the audit. A report which discusses deficiencies found during the on-site audit will be sent to the Contractor to provide further clarification of findings.

6.3.1 In a detailed letter to the EPA Regional CLP COR, the ASB CLP COR, and the EPA CO, the Contractor shall discuss the deficiencies and the subsequent corrective actions implemented by the Contractor to resolve the deficiencies within 14 days of receipt of report.

7.0 DATA PACKAGE AUDITS

7.1 Overview

Audits provide the EPA with an in-depth inspection and evaluation of the Case data package with regard to achieving QA/QC acceptability. Data package audits enable the EPA to evaluate the implementation, precision, and accuracy of the analytical methods. The audits are performed by the EPA to support the following activities:

- Program overview;
- Contractual requirements and data consistency;
- Identification/Investigation of data quality problems;
- Support for on-site laboratory audits; and
- Specific EPA Regional requests.

7.2 Required Information

Data packages are periodically selected from recently received Cases and evaluated for the technical quality of hardcopy raw data, QA, and the adherence to contractual requirements. A thorough review of the raw data is completed, including all instrument readouts used for the sample results, instrument printouts, and other documentation for deviations from the contractual requirements; a check for transcription and calculation errors; a review of the qualifications of the laboratory personnel involved with the Case; and a review of the latest version of all SOPs on file. This function provides external monitoring of program QC requirements. Data package audits are used to assess the technical quality of the data and evaluate overall laboratory performance.

7.3 Submission Request

The data package from a recent Case, a specific Case or a PE sample may be requested. Upon request from the EPA Regional CLP COR, the ASB CLP COR, or the EPA CO, the Contractor shall send the required data package and all necessary documentation to the EPA designated recipient within 7 days of notification in accordance with Exhibit B - Reporting and Deliverables Requirements, Table 1 – Deliverable Schedule.

7.4 Response to the Data Package Audit Report

After completion of the data package audit, the EPA shall make the data package audit report available to the Contractor. In a detailed letter to the designated recipients, the Contractor shall discuss the corrective actions implemented to resolve the deficiencies listed in the data package audit report within 14 days of receipt of the report.

8.0 ELECTRONIC DATA AUDITS

8.1 Overview

Audits provide the EPA with an in-depth inspection and evaluation of the electronic data with regard to achieving QA/QC acceptability. Electronic data audits enable the EPA to evaluate the implementation, precision, and accuracy of the analytical methods. The audits are performed by the EPA to support the following activities:

- Program overview;
- Contractual requirements and data consistency;
- Identification/Investigation of data quality problems;
- Support for on-site laboratory audits; and
- Specific EPA Regional requests.

8.2 Required Information

Data packages are periodically selected from recently received Cases and evaluated for the technical quality of hardcopy raw data, QA, and the adherence to contractual requirements. A thorough review of the raw data is completed, including all instrument readouts used for the sample results, instrument printouts, and other documentation for deviations from the contractual requirements; a check for transcription and calculation errors; a review of the qualifications of the laboratory personnel involved with the Case; and a review of the latest version of all SOPs on file. This function provides external monitoring of program QC requirements. Electronic data audits are used to assess the technical quality of the data and evaluate overall laboratory performance.

8.2.1 The Contractor shall store all raw and processed analytical data in appropriate instrument manufacturer's proprietary software format uncompressed and with no security codes. This data shall include all necessary data files for a complete reconstruction of the previously submitted hardcopy and electronic deliverable data package. The Contractor is required to retain the instrument electronic data for 3 years after submission of the reconciled CSF.

8.2.2 All associated raw data files in the instrument manufacturer proprietary software format must be submitted if those files contain data or instrumental parameters regarding any analysis and or correction applied to an instrument or analytical result. This electronic data shall include data for all samples, blanks, Laboratory Control Samples, matrix spikes and matrix spike duplicates, tunes, initial calibrations, and continuing calibration verifications.

8.2.3 The Contractor shall maintain a written reference logbook of data files of the EPA Sample Number, calibration data, standards, spikes, duplicates, and blanks. The logbook shall include the EPA Sample Numbers and standard and blank IDs, identified by Case.

8.2.4 The Contractor shall supply upon request raw data for the Method Detection Limit (MDL) studies which are used to set the MDL values for the SDG.

8.2.5 Electronic data shipped to the EPA-designated recipient must be fully usable by the recipient. When submitting instrument electronic data to the EPA, the following materials shall be delivered in response to the request:

8.2.5.1 All associated raw data files for all analytical samples, calibration and QC data.

8.2.5.2 All processed data files and quantitation output files associated with the raw data files described in Section 8.2.5.1.

8.2.5.3 All associated identification and calculation files used to generate the data submitted in the data package. This includes, but is not limited to, result files, acquisition files, calibration files, and method files.

8.2.5.4 References relating data files to EPA Sample Numbers, calibration data, standards, blanks, spikes, and LCSs. The logbook shall include the EPA Sample Numbers and Lab File Identifiers for all samples, blanks, and standards, identified by Case and SDG.

8.2.5.5 A printout of the directory of all files in each directory, including all subdirectories and the files contained therein.

8.2.5.6 A copy of the CSF, if an audit request is made within the period during which the Contractor must retain a copy.

8.2.5.7 A statement attesting to the completeness of the instrument electronic data submission, signed and dated by the Contractor's Laboratory Manager or Manager's designee. The Contractor shall also provide a statement attesting that the data reported have not been altered in any way. These statements shall be part of a cover sheet that includes the following information relevant to the data file submission:

- Contractor name;
- Date of submission;
- Case Number;
- SDG Number;
- Instrument manufacturer and model number;
- Instrument operating software and version number;
- Data system computer;
- System operating software;
- Data system network;
- Data backup software/service;
- Data analysis software;
- Media type and volume of data (in MB) backed up; and
- Names and telephone numbers of two Contractor contacts for further information regarding the submission.

8.3 Submission of Request

The instrument electronic data from a recent Case, a specific Case, or a PE sample may be requested. Upon request from the EPA Regional CLP COR, the ASB CLP COR, or the EPA CO, the Contractor shall send the required instrument electronic data and all necessary documentation to the EPA designated recipient within 7 days of notification in accordance with Exhibit B - Reporting and Deliverables Requirements, Table 1 – Deliverable Schedule.

8.4 Response to the Electronic Data Audit Report

After completion of the electronic data audit, the EPA will make the electronic data audit report available to the Contractor. In a detailed letter to the designated recipients, the Contractor shall discuss the corrective actions implemented to resolve the deficiencies listed in the electronic data audit report within 14 days of receipt of the report.

9.0 REGIONAL DATA REVIEW

9.1 Overview

Contractor data are generated to meet the specific needs of the EPA Regions. In order to verify the usability of data for the intended purpose, each EPA Region reviews data from the perspective of the end user, based on functional guidelines for data review, which have been developed jointly by the Regions and the EPA ASB. Each EPA Region uses the guidelines as the basis for data evaluation. Individual EPA Regions may augment the basic guideline review process with additional review based on the EPA Region-specific or site-specific concerns. The EPA Regional reviews, like the sites under investigation, vary based on the nature of the problem under investigation and the EPA Regional response appropriate to the specific circumstances.

The EPA Regional data reviews, relating usability of the data to a specific site, are part of the collective assessment process. They complement the review done by SMO, which is designed to identify contractual discrepancies, and the review done by the EPA ASB, which is designed to evaluate Contractor and method performance.

9.2 Submission Request

As part of the CLP contractual requirements, CLP laboratories shall deliver their CSF for each SDG to the EPA Region where the samples have been collected. The EPA Regional recipients are identified at the time of scheduling. The data shall be shipped in accordance to the procedures described in Exhibit B - Reporting and Deliverables Requirements of this Statement of Work (SOW). The EPA Regions use the hardcopy data to perform their data review. The EPA Region may contact the laboratory after they initiate or complete their review requesting additional information or clarification. The Contractor shall respond to the request within 5 business days (exception 3 days for a 7-day turnaround).

10.0 TABLES

TABLE 1. Contract Laboratory Program Quality Assurance Monitoring Plan

SOW Reference	Performance Requirements	Performance Standards	QA Monitoring Plan
Exhibit A: Summary of Requirements	Summary of Program Requirements	Performance standards are summarized in Exhibit A, Sections 1.0 through 4.0.	QA monitoring plan is outlined in Exhibit F.
Exhibit B: Reporting and Deliverables Requirements	Reporting and Deliverable Requirements	Performance standards are outlined in Exhibit B, Sections 1.0 through 4.0.	CCS in Exhibit F, Section 5.0, and SMO data review will be used to monitor reporting electronic deliverables.
Exhibit C: Organic Target Analyte List and Contract Required Quantitation Limits	Target Analyte List and Contract Required Quantitation Limits	Performance standards are outlined in Exhibit C.	QA monitoring plan is outlined in Exhibit F.
Exhibit D: Organic Analytical Methods	Introduction to Analytical Methods	Performance standards for stock standards are outlined in Exhibit D, Introduction, Section 4.0, and must be performed as stated.	Randomly, the EPA will review analytical standards verification and preparation documentation, as deemed appropriate.
	General Organic Analyses are outlined in Exhibit D, Sections 1.0 through 8.0, 14.0, and 15.0.	Performance standards are outlined in Exhibit D, Sections 9.0 through 12.0.	QA monitoring plan is outlined in Exhibit D, Section 12.0, and Exhibit F.
	Trace Volatiles requirements are outlined in Exhibit D, Sections 1.0 through 8.0, 14.0, and 15.0.	Performance standards are outlined in Exhibit D, Sections 9.0 through 12.0.	QA monitoring plan is outlined in Exhibit D, Section 12.0, and Exhibit F.
	Low/Medium Volatiles requirements are outlined in Exhibit D, Sections 1.0 through 8.0, 14.0, and 15.0.	Performance standards are outlined in Exhibit D, Sections 9.0 through 12.0.	QA monitoring plan is outlined in Exhibit D, Section 12.0, and Exhibit F.

SOW Reference	Performance Requirements	Performance Standards	QA Monitoring Plan
Exhibit D: Organic Analytical Methods (Cont'd)	Semivolatiles requirements are outlined in Exhibit D, Sections 1.0 through 8.0, 14.0, and 15.0.	Performance standards are outlined in Exhibit D, Sections 9.0 through 12.0.	QA monitoring plan is outlined in Exhibit D, Section 12.0, and Exhibit F.
	Pesticides requirements are outlined in Exhibit D, Sections 1.0 through 8.0, 14.0, and 15.0.	Performance standards are outlined in Exhibit D, Sections 9.0 through 12.0.	QA monitoring plan is outlined in Exhibit D, Section 12.0, and Exhibit F.
	Aroclors requirements are outlined in Exhibit D, Sections 1.0 through 8.0, 14.0, and 15.0.	Performance standards are outlined in Exhibit D, Sections 9.0 through 12.0.	QA monitoring plan is outlined in Exhibit D, Section 12.0, and Exhibit F.
Exhibit E: Quality Systems	General QA/QC Requirements	As outlined in each Exhibit D, Section 12.0.	QA Management Plan is outlined in Exhibit E, Section 2.0.
	Quality Assurance Project Plan	As outlined in Exhibit E, Section 3.0, a written QAPP shall be used to ensure acceptable data production of known and documented quality.	The EPA will review and approve the QAPP after contract award and throughout the contract term as needed. *[The Quality Management Plan (QMP) will be reviewed and approved by the EPA pre contract award.]*
	Standard Operating Procedures	Performance standards are outlined in Exhibit E, Section 4.0, and must be performed as stated.	SOPs will be reviewed by the EPA during on-site audits, after modifications are made, and randomly, as deemed appropriate.
	Data Management	Performance standards are outlined in Exhibit E, Section 4.3.12.	The EPA will monitor data management practices during quality assurance and evidentiary on-site audits.

SOW Reference	Performance Requirements	Performance Standards	QA Monitoring Plan
Exhibit F: Programmatic Quality Assurance/ Quality Control Elements	Proficiency Audit Testing	Performance standards are outlined in Exhibit F, Section 4.0, and must be performed as stated.	Acceptable PT audit scores will assist in monitoring Contractor performance as defined in Exhibit F, Section 4.2.5.
	Contract Compliance Screening	Performance standards are outlined in the IFB and must be performed as stated.	CSF will be evaluated against the technical and completeness requirements of the contract.
	On-Site Laboratory Audits	Performance standards are outlined in Exhibit F, Section 6.2.	The EPA will evaluate the results from quality assurance and evidentiary on-site audits as defined in Exhibit F, Section 6.3, to assist in monitoring the Contractor.
	Data Package Audits	Performance standards are outlined in Exhibit F, Section 7.0.	Data package audits are performed by the EPA to evaluate technical quality of the hardcopy raw data, QA, and adherence to contractual requirements.
	Electronic Data Evaluation and Audits	Performance standards are outlined in Exhibit F, Section 8.0.	The EPA uses Exhibit F, Section 8.0, to monitor laboratory electronic deliverables.
	Regional Data Review	Analytical data is reviewed by each Region from the perspective of the end user to determine the usability of the data, as outlined in Exhibit F, Section 9.0.	The EPA Regional validation and/or SMO data review reports are generated for all data packages.
Exhibit G: Glossary of Terms	Glossary of Terms	Contractors shall adhere to interpretation of SOW terms as defined within Exhibit G.	N/A
Exhibit H: Format for Electronic Data Deliverables	Data Dictionary and Format	Performance standards are outlined in Exhibit H.	CCS in Exhibit F, Section 5.0, will be used to monitor electronic deliverables.

EXHIBIT G

GLOSSARY OF TERMS

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ALIQUOT - A measured portion of a field sample, standard, or solution taken for sample preparation and/or analysis.

ALKANE - Any hydrocarbon with the generic formula C_nH_{2n+2} (straight-chain or branched) or C_nH_{2n} (cyclic) that contains only C-H and C-C single bonds.

ANALYSIS DATE/TIME - The date and military time (24-hour clock) of the injection of the sample, standard, or blank into the Gas Chromatograph/Mass Spectrometer (GC/MS) or GC system.

ANALYTE – The specific compound an analysis seeks to determine.

ANALYTICAL METHOD - Specifies the procedures for sample preparation, instrument calibration, sample analysis, and result calculations.

ANALYTICAL REFERENCE STANDARD – Standards purchased from private chemical supply companies used to prepare calibration standards and Continuing Calibration Verification (CCV) standards.

ANALYTICAL SAMPLE – Any solution or media introduced into an instrument on which an analysis is performed, excluding instrument calibration, Continuing Calibration Verification (CCV) and tunes. Note the following are all defined as analytical samples: undiluted and diluted samples (EPA and non-EPA); matrix spike samples; matrix spike duplicate samples; Laboratory Control Samples (LCSs); Performance Evaluation (PE) samples; and method, storage, cleanup, and Method Instrument Blanks.

ANALYTICAL SEQUENCE - The order of actual instrumental analysis of the samples from the time of instrument calibration through the analysis of the final Continuing Calibration Verification (CCV). All sample analyses during the analytical sequence are subject to the Quality Control (QC) protocols set forth in Exhibit D – Analytical Methods and Exhibit F – Programmatic Quality Assurance/Quality Control Elements of the contract, unless otherwise specified in the individual methods.

ANALYTICAL SERVICES BRANCH (ASB) - The division of the United States Environmental Protection Agency’s (EPA’s) Office of Superfund Remediation and Technology Innovation (OSRTI) responsible for the overall management of the Contract Laboratory Program (CLP).

ASTM/ASTM INTERNATIONAL – A developer and provider of voluntary consensus standards.

BAR GRAPH SPECTRUM - A plot of the mass-to-charge ratio (m/e) versus relative intensity of the ion current.

BATCH - A group of samples prepared at the same time in the same location using the same method.

BLANK - An analytical sample that has negligible or unmeasurable amounts of a substance of interest. The blank is designed to assess specific sources of contamination. Types of blanks may include calibration blanks, instrument blanks, method blanks, and field blanks. See the individual definitions for types of blanks.

BREAKDOWN - A measure of the decomposition of certain analytes (DDT and Endrin) into by-products.

4-BROMOFLUOROBENZENE (BFB) - The compound chosen to establish mass spectral instrument performance check for volatile organic analyses (VOA).

CALIBRATED MASS – 1) A mass whose apparent mass has been adjusted from the uncalibrated mass by the instrumental mass calibration software routine. 2) An analyte mass whose intensity counts have been calibrated against standards of known analyte concentration.

CALIBRATION - A set of operations that establish under specific conditions, the relationship between values indicated by a measuring instrument and the corresponding known values.

CALIBRATION FACTOR (CF) - A measure of the Gas Chromatographic response of a target analyte to the mass injected.

CALIBRATION STANDARDS - A series of known standard solutions used by the analyst for calibration of the instrument (i.e., preparation of the calibration curve). The solutions may or may not be subjected to the preparation method but contain the same matrix (i.e., the same amount of reagents and/or preservatives) as the sample preparations to be analyzed.

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

CHARACTERIZATION - A determination of the approximate concentration range of analytes of interest used to choose the appropriate analytical protocol.

CLASS A GLASSWARE - Defined by ASTM standards as glassware used in measurement with the smallest degree of uncertainty or tolerance associated with the measurement of volume.

CLOSING CONTINUING CALIBRATION VERIFICATION - Last analytical standard analyzed every 12 hours to verify the initial calibration accuracy of the system.

CONCENTRATION LEVEL (trace, low, or medium) - Characterization of sample fractions as trace concentration, low concentration, or medium concentration is made on the basis of the laboratory's preliminary screen, not on the basis of information entered on the Traffic Report/Chain-of-Custody (TR/COC) Record by the sampler.

CONTAMINATION - A component of a sample or an extract that is not representative of the environmental source of the sample. Contamination may stem from other samples, sampling equipment, while in transit, from laboratory reagents, laboratory environment, or analytical instruments.

CONTINUING CALIBRATION VERIFICATION (CCV) – A single parameter or multi-parameter standard solution prepared by the analyst and used to verify the stability of the instrument calibration with time, and the instrument performance during the analysis of samples. The CCV can be one of the calibration standards.

CONTINUOUS LIQUID-LIQUID EXTRACTION (CLLE) - Used herein synonymously with the terms continuous extraction, continuous liquid extraction, and liquid extraction. This extraction technique involves boiling the extraction solvent in a flask and condensing the solvent above the aqueous sample. The condensed solvent drips through the sample, extracting the compounds of interest from the aqueous phase.

CONTRACT COMPLIANCE SCREENING (CCS) - A screening of electronic and hardcopy data deliverables for completeness and compliance with the contract. This screening is done under EPA direction by the SMO Contractor.

CONTRACT LABORATORY PROGRAM (CLP) - Supports the EPA's Superfund effort by providing a range of state-of-the-art chemical analytical services of known and documented quality. This program is directed by the Analytical Services Branch (ASB) of the Office of Superfund Remediation and Technology Innovation (OSRTI) of the EPA.

CONTRACT REQUIRED QUANTITATION LIMIT (CRQL) - Minimum level of quantitation acceptable under the contract Statement of Work (SOW), and supported by the analysis of standards.

CONTROL LIMITS – A range within which specified measurement results must fall to be compliant. Control limits may be mandatory, requiring corrective action if exceeded, or advisory, requiring that noncompliant data be flagged.

DATE - The date format for all reporting forms is MM/DD/YYYY - Where MM = 01 for January, 02 for February, ... 12 for December; DD = 01 to 31; YYYY = 2014, 2015, etc.

DAY - Unless otherwise specified, day shall mean calendar day.

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP) - Compound chosen to establish mass spectral instrument performance check for semivolatile analysis.

DEUTERATED MONITORING COMPOUNDS (DMCs) - Compounds added to every calibration standard, blank, and sample used to evaluate the efficiency of the extraction/purge-and-trap procedures, and the performance of the Gas Chromatograph/Mass Spectrometer (GC/MS) systems. DMCs are isotopically labeled (deuterated) analogs of native target compounds. DMCs are not expected to be naturally detected in the environmental media.

DRY WEIGHT – The weight of a sample based on percent solids. The weight after drying in an oven.

EPA ASB ORGANIC CLP CONTRACTING OFFICER'S REPRESENTATIVE (ASB CLP COR) - The EPA ASB official who manages the Organic CLP Program.

EPA CONTRACTING OFFICER (CO) – The EPA official who has the authority to enter into, administer, terminate contracts, and/or make related determinations and findings.

EPA REGIONAL CLP CONTRACTING OFFICER'S REPRESENTATIVE (REGIONAL CLP COR) – The EPA official who monitors assigned CLP laboratories (either inside or outside of the Regional CLP COR's respective Region), responds to and identifies problems in laboratory operations, and participants in on-site laboratory audits.

EPA SAMPLE NUMBER - A unique identification number designated by the EPA for each sample. The EPA Sample Number appears on the Sample Traffic Report/Chain of Custody Record which documents information on that sample.

EXTRACTABLE - A compound that can be partitioned into an organic solvent from the sample matrix and is amenable to Gas Chromatography. Extractables include semivolatile (SVOA), pesticide (PEST), and Aroclor (ARO) compounds.

EXTRACTED ION CURRENT PROFILE (EICP) - A plot of ion abundance versus time (or scan number) for ion(s) of specified mass(es).

FIELD BLANK - Any sample that is submitted from the field and identified as a blank. A field blank is used to check for cross-contamination during sample collection, sample shipment, and in the laboratory. A field blank includes trip blanks, rinsate blanks, bottle blanks, equipment blanks, preservative blanks, decontamination blanks, etc.

FIELD QC - Any Quality Control (QC) samples submitted from the field to the laboratory. Examples include, but are not limited to, field blanks, field duplicates, and field spikes.

FIELD SAMPLE - A portion of material received to be analyzed that is contained in single or multiple containers and identified by a unique EPA Sample Number.

FORM - A hardcopy and/or electronic information/data entry sheet with locked preformatted structure that guides and/or controls user entry/input.

GAS CHROMATOGRAPH (GC) - The instrument used to separate analytes on a stationary phase within a chromatographic column. The analytes are volatized directly from the sample (VOA water and low-soil), volatized from the sample extract (VOA medium soil), or injected as extracts (SVOA, PEST and ARO). In VOA and SVOA analysis, the analytes are detected by a Mass Spectrometer (MS). In Pesticide and Aroclor analysis, the analytes are detected by an Electron Capture Detector (ECD).

GAS CHROMATOGRAPH/ELECTRON CAPTURE DETECTOR - A Gas Chromatograph (GC) equipped with an Electron Capture Detector (ECD). This is one of the most sensitive gas chromatographic detectors for halogen-containing compounds such as organochlorine pesticides and polychlorinated biphenyls.

GAS CHROMATOGRAPH/MASS SPECTROMETER - A specialized form of Gas Chromatography (GC) used in conjunction with Mass Spectrometry (MS). GC/MS is considered the method of choice for the unequivocal identification of many volatile and semivolatile organic compounds.

GEL PERMEATION CHROMATOGRAPHY (GPC) - A size-exclusion chromatographic technique that is used as a cleanup procedure for removing large organic molecules, particularly naturally occurring macro-molecules such as lipids, polymers, viruses, etc.

HOLDING TIME – Contractual holding time is the elapsed time expressed in days from the date of receipt of the sample by the Contractor until the date of its extraction and analysis.

Holding time = (sample extraction date or analysis date - sample receipt date)

HYDROMATRIX™ - Diatomaceous earth-based material that is capable of adsorbing and retaining up to twice its weight of an aqueous media.

INDEPENDENT STANDARD – A Contractor-prepared standard solution that is composed of analytes from a different source than those used in the standards for the calibration.

IN-HOUSE - At the Contractor's facility.

INITIAL CALIBRATION - Analysis of analytical standards for a series of different concentrations; used to define the quantitative response, linearity, and dynamic range of the instrument to target analytes.

INJECTION – Introduction of the analytical samples into the instrument excitation system to measure concentration of an analyte.

INSTRUMENT BLANK - A blank designed to determine the level of contamination associated with the analytical instruments.

INSUFFICIENT QUANTITY - When there is not enough volume (aqueous/water sample) or weight (soil/sediment) to perform any of the required operations: sample analysis or extraction, Percent Solids (%Solids), Matrix Spike and Matrix Spike Duplicate (MS/MSD), etc. Exhibit A – Summary of Requirements provides guidance for addressing this situation.

INTEGRATION SCAN RANGE - The scan number of the scan at the beginning of the area of integration to the scan number at the end of the area of integration.

INTEGRATION TIME RANGE - The Retention Time (RT) at the beginning of the area of integration to the RT at the end of the area of integration.

INTERFERANTS - Substances which affect the analysis for the element of interest.

INTERNAL STANDARDS - Compounds added to every standard, blank, Matrix Spike and Matrix Spike Duplicate (MS/MSD), sample (for volatiles), and sample extract aliquot (for semivolatiles) at a known concentration, prior to analysis. Instrument responses to internal standards are used as the basis for quantitation of the target compounds.

K-D – Kuderna-Danish concentrator; a device used to concentrate the analytes in a solvent.

LABORATORY - Synonymous with Contractor, as used herein.

LABORATORY CONTROL SAMPLE (LCS) - A reference matrix spiked with target analytes at known concentrations. LCSs are analyzed using the same sample preparation, reagents, and analytical methods employed for the EPA samples received.

LABORATORY RECEIPT DATE - The date on which a sample is received at the Contractor's facility, as recorded on the shipper's delivery receipt and Sample Traffic Report/Chain of Custody Record. Also referred to as Validated Time of Sample Receipt (VTSR).

MATRIX - The predominant material of which the sample to be analyzed is composed. For the purpose of this Statement of Work (SOW), a sample matrix is either aqueous/water, soil/sediment, or a wipe. Matrix is <u>not</u> synonymous with phase (liquid or solid).

MATRIX EFFECT - In general, the effect of a particular matrix on the constituents under study. This is particularly pronounced for clay particles which may adsorb chemicals and catalyze reactions. Matrix effects may affect the purge and extraction efficiencies and consequently cause interference for the sample analyses.

MATRIX SPIKE - Aliquot of a sample fortified (spiked) with known quantities of specific compounds and subjected to the entire analytical procedure to indicate the appropriateness of the method for the matrix by measuring recovery.

MATRIX SPIKE DUPLICATE - A second aliquot of the same sample as the Matrix Spike (above) that is spiked in order to determine the precision of the method.

METHOD BLANK - An aliquot of reagent water, silica sand, or corn oil that is treated exactly as a sample including exposure to all glassware, equipment, solvents, reagents, internal standards, and surrogates that are used with samples. The Method Blank is used to determine if analytes or interferences are present in the laboratory environment, the reagents, or the apparatus.

METHOD DETECTION LIMIT (MDL) - The concentration of a target parameter that, when a sample is processed through the complete method, produces a signal with 99 percent probability that it is different from the blank. For 7 replicates of the sample, the mean value must be 3.14s above the blank, where "s" is the standard deviation of the 7 replicates.

m/z - Mass to charge ratio; synonymous with "m/e".

OPENING CONTINUING CALIBRATION VERIFICATION - First analytical standard analyzed every 12 hours to verify the initial calibration of the system.

PERCENT DIFFERENCE (%D) - The difference between the two values divided by one of the values multiplied by 100.

PERCENT RECOVERY (%R)– The percentage of an analyte or element added to a sample that is recovered. It is the difference between the concentration detected in the spiked sample and that detected in the original (unspiked) sample, divided by the concentration added to the spiked sample multiplied by 100.

PERCENT SOLIDS (%S) – The proportion of solid in a soil/sediment sample determined by drying an aliquot of the sample.

PERFORMANCE EVALUATION MIXTURE (PEM) - A calibration solution of specific analytes used to evaluate both recovery and Percent Breakdown (%Breakdown) as a measure of performance.

PERFORMANCE EVALUATION (PE) SAMPLE - A sample of known composition to the EPA; however, unknown to the Contractor that is provided to evaluate Contractor performance.

PREPARATION BLANK - An analyte-free sample to which all reagents are added in the same volume or proportions as used in sample processing. The preparation blank must be carried through the entire sample preparation and analytical procedures. It is used to assess contamination resulting from the analytical process.

PREPARATION LOG - An official record of the sample preparation.

PRIMARY QUANTITATION ION - A contract specified ion used to quantitate a target analyte.

PROFICIENCY TESTING (PT) AUDIT SAMPLE - A sample of known composition provided by the EPA for Contractor analysis. Used by the EPA to evaluate Contractor performance on a program-wide basis.

PURGE-AND-TRAP (DEVICE) - Analytical technique (device) used to isolate volatile (purgeable) organics by stripping the compounds from water or soil by a stream of inert gas, trapping the compounds on an adsorbent such as a porous polymer trap, and thermally desorbing the trapped compounds onto the gas chromatographic column.

PURGEABLES - Volatile compounds.

QUALITY ASSURANCE TECHNICAL SUPPORT (QATS) LABORATORY - A Contractor-operated facility operated under the QATS contract, awarded and administered by the EPA.

RAW DATA - The originally recorded and unprocessed measurements from any measuring device such as analytical instruments, balances, pipettes, thermometers, etc.

REAGENT WATER - The purity of this water must be equivalent to ASTM Type II reagent water of Specification D1193-06, "Standard Specification for Reagent Water".

RECONSTRUCTED ION CHROMATOGRAM (RIC) - A mass spectral graphical representation of the separation achieved by a Gas Chromatograph (GC); a plot of total ion current versus Retention Time (RT).

RELATIVE PERCENT DIFFERENCE (RPD) - The relative percent difference is based on the mean of the two values, and is reported as an absolute value (i.e., always expressed as a positive number or zero).

RELATIVE RESPONSE FACTOR (RRF) - The ratio of the response of a given compound to its corresponding internal standard. Response factors are determined using the area responses of both the primary and secondary exact m/z for each compound in each calibration standard.

RELATIVE RETENTION TIME (RRT) - The ratio of the retention time of a compound to that of a standard (such as an internal standard).

REPORTED DATA - Reported data are processed from the raw measurement values that may have been reformatted from the original measurement to meet specific reporting requirements, such as significant figures and decimal precision.

RESOLUTION - Also termed Separation or Percent Resolution, the separation between peaks on a chromatogram, calculated by dividing the depth of the valley between the peaks by the peak height of the smaller peak being resolved, multiplied by 100.

RESOLUTION CHECK MIXTURE - A solution of specific analytes used to determine resolution of adjacent peaks; used to assess instrumental performance.

RESPONSE (Instrumental Response) - A measurement of the output of the Gas Chromatograph (GC) detector [Mass Spectrometer (MS), or Electron Capture Detector (ECD)] in which the intensity of the signal is proportionate to the amount (or concentration) detected. Measured by peak area or peak height.

RETENTION TIME (RT) - The time a target analyte is retained on a Gas Chromatograph (GC) column before elution. The identification of a target analyte is dependent on a target analyte's retention time falling within the specified retention time window established for that analyte. The RT is dependent on the nature of the column's stationary phase, column diameter, temperature, flow rate, and other parameters.

ROUNDING RULES - If the figure following those to be retained is greater than or equal to 5, round up, otherwise round down. As an example, 11.443 is rounded down to 11.44 and 11.455 is rounded up to 11.46. If a series of multiple operations is to be performed (add, subtract, divide, multiply), all figures are carried through the calculations. Then the final answer is rounded to the proper number of significant figures. See specific form instructions (Exhibit B – Reporting and Deliverables Requirements) for exceptions.

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

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

- Each 20 field samples [excluding Performance Evaluation (PE) samples] within a Case, or
- Each 7 calendar day period (3 calendar day period for 7 day turnaround) during which field samples in a Case are received (said period beginning with the receipt of the first sample in the SDG).
- All samples scheduled with the same level of deliverables.
- In addition, all samples assigned to an SDG must have been scheduled under the same contractual turnaround time. Preliminary Results have no impact on defining the SDG.

Samples may be assigned to SDGs by matrix (i.e., all soil/sediment samples in one SDG, all aqueous/water samples in another) at the discretion of the laboratory. Laboratories shall take all precautions to meet the 20 sample per SDG criteria.

SAMPLE MANAGEMENT OFFICE (SMO) - A Contractor-operated facility operated under the SMO contract, awarded and administered by the EPA.

SDG NARRATIVE – Portion of the data package which includes laboratory, contract, Case, and Sample Number identification, and descriptive documentation of any problems encountered in processing the samples, along with corrective action taken and problem resolution. Complete Sample Delivery Group (SDG) Narrative specifications are included in Exhibit B – Reporting and Deliverables Requirements.

SECONDARY QUANTITATION ION - Contract specified ion(s) to be used in quantitation of target analytes when interferences prevent the use of the primary quantitation ion.

SELECTED ION MONITORING (SIM) – A mode of Mass Spectrometry (MS) operation in which specific m/e ratios are monitored, as opposed to scanning the entire mass range.

SEMIVOLATILE COMPOUNDS - Compounds amenable to analysis by extraction of the sample with an organic solvent. Used synonymously with Base/Neutral and Acid (BNA) compounds.

SENSITIVITY – The slope of the analytical curve (i.e., functional relationship between instrument response and concentration).

SOIL - Synonymous with soil/sediment as used herein.

STANDARD ANALYSIS - An analytical determination made with known quantities of target compounds; used to determine response factors.

STOCK SOLUTION - A standard solution which can be diluted to derive other standards.

STORAGE BLANK - Reagent water (two 40.0 mL aliquots) stored with volatile samples in an SDG. It is analyzed after all samples have been analyzed in the SDG and is used to determine the level of contamination acquired during storage.

SULFUR BLANK - A modified method blank that is prepared only when some of the samples in a batch are subjected to sulfur cleanup. It is used to determine the level of contamination associated with the sulfur cleanup procedure. When all of the samples are subjected to sulfur cleanup, then the method blank serves this purpose. When none of the samples are subjected to sulfur cleanup, no sulfur blank is required.

SUPPORTING DATA – Any data that substantiates the Reported Data (see definition above), including initial instrument measurements, instrument result calculations, standards concentrations, standard concentration calculations, sample preparation data (e.g., initial/final sample volume measurements, reagent quantities, etc.), MDLs, and IECs. Supporting Data include standard preparation logs, sample preparation logs, instrument analysis logs, MDL and IEC studies, balance logs, pipette logs, percent solids logs, etc.

SURROGATES (Surrogate Standard) - For pesticides and Aroclors, compounds added to every blank, sample, Matrix Spike and Matrix Spike Duplicates (MS/MSDs), and standard. Surrogates are used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in environmental media.

TARGET ANALYTE LIST - A list of analytes as designated by the Statement of Work (SOW) for analysis. See Exhibit C - Organic Target Analyte List with Contract Required Quantitation Limits.

TENTATIVELY IDENTIFIED COMPOUNDS (TIC) - Compounds detected in samples that are not target compounds, internal standards, Deuterated Monitoring Compounds (DMCs), or surrogates. Up to 30 peaks, not including those identified as alkanes (those greater than 10% of the peak area or height of the nearest internal standard) are subjected to mass spectral library searches for tentative identification.

TIME - hh:mm:ss - When required to record time on any deliverable item, time shall be expressed as Military Time [i.e., a 24-hour clock (0000-2359)].

TRAFFIC REPORT/CHAIN OF CUSTODY RECORD (TR/COC) - An EPA sample identification form completed by the sampler, which accompanies the sample during shipment to the laboratory and is used to document sample identity, sample chain of custody, sample condition, and sample receipt by the laboratory.

TWELVE-HOUR TIME PERIOD - The 12-hour time period for Gas Chromatograph/Mass Spectrometer (GC/MS) system instrument performance check, standards calibration (initial or continuing calibration), and method blank analysis begins at the moment of injection of the Decafluorotriphenylphosphine (DFTPP) or 4-Bromofluorobenzene (BFB) analysis that the laboratory submits as documentation of instrument performance. The time period ends after 12 hours have elapsed according to the system clock. For pesticide and Aroclor analyses performed by Gas Chromatography/Electron Capture Detection (GC/ECD), the 12-hour time period in the analytical sequence begins at the moment of injection of the instrument blank that precedes sample analyses, and ends after 12 hours have elapsed according to the system clock.

ULTRASONIC CELL DISRUPTOR (SONICATOR) - A device that uses the energy from controlled ultrasound applications to mix, disperse, and dissolve organic materials from a given matrix.

VALIDATED TIME OF SAMPLE RECEIPT (VTSR) - The date on which a sample is received at the Contractor’s facility, as recorded on the shipper’s delivery receipt and sample Traffic Report/Chain of Custody Record.

VOLATILE COMPOUNDS - Compounds amenable to analysis by the purge-and-trap technique. Used synonymously with purgeable compounds.

WET WEIGHT - The weight of a sample aliquot including moisture (undried).

WIDE-BORE CAPILLARY COLUMN - A Gas Chromatographic column with an Internal Diameter (ID) that is greater than or equal to 0.53 mm. Columns with lesser diameters are classified as narrow bore capillary columns.

EXHIBIT H

FORMAT FOR ELECTRONIC DATA DELIVERABLES

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1.0 INTRODUCTION

The organic analytical service provides analytical data for use by the U.S. Environmental Protection Agency (EPA), in support of the investigation and clean-up activities under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA). The electronic data deliverable (EDD) requirements in this section are designed to allow the EPA and other federal agencies or programs to rapidly assess the accuracy, completeness, and usefulness of the analytical results and the data. Depending on the stage chosen, the data user will receive results, support quality control (QC), and verification of the calculated results and quality measures.

2.0 FORMAT CHARACTERISTICS

2.1 This constitutes an implementation of the Staged Electronic Data Deliverable (SEDD) based on analytical results and other associated information required by the contract. Because this implementation is specific to the contract, not all data elements listed in the cross-program Document Type Definition (DTD) are required. This implementation is based on SEDD Specification 5.2 that can be found at:

http://www2.epa.gov/clp/staged-electronic-data-deliverable-sedd

2.1.1 The SEDD deliverable consists of an eXtensible Markup Language (XML) file(s) compliant with the XML specification 1.0 of the World Wide Web Consortium (W3C). The deliverable must be well-formed based on the W3C XML specification and must be valid based on the DTD.

2.1.2 The Contractor shall create the deliverable using the UTF-8 (Unicode Transformation Format - 8 bit) character set.

2.1.3 The EDD SEDD stage delivery level (2a, 2b, or 3) must match the EPA requested/scheduled EDD SEDD level.

2.1.4 The initial line of the deliverable shall be: <?xml version="1.0" encoding="UTF-8"?>.

2.1.5 The second line of the deliverable shall be a DOCTYPE line that contains the filename of the DTD. The DOCTYPE line shall be <!DOCTYPE Header SYSTEM "SEDD_5-2_GENERAL_3_3.dtd">, <!DOCTYPE Header SYSTEM "SEDD_5-2_GENERAL_2b_3.dtd">, or <!DOCTYPE Header SYSTEM "SEDD_5-2_GENERAL_2a_2.dtd">, where "Header" denotes the name of the root element, and "SEDD_5-2_GENERAL_3_3.dtd" (for a Level 3 deliverable), "SEDD_5-2_GENERAL_2b_3.dtd" (for a Level 2b deliverable), or "SEDD_5-2_GENERAL_2a_2.dtd" (for a Level 2a deliverable) denotes the filename of the DTD.

2.1.6 The use of XML comment lines is permitted at any position in the file after the first two lines.

2.2 This implementation includes detailed specifications for the required format of the content of each data element for each analytical method. The content of each data element is specified as either literal (contained in quotes) which must appear exactly as shown (without quotes), or as a variable for which descriptions and formats are listed. Exhibit H, Section 3.0 describes the requirements for each data element.

2.2.1 For this implementation, numeric data elements may contain numeric digits, a decimal place, and a leading minus sign. Values without a leading minus sign are assumed to be positive. Values must be reported to the specified precision or significance.

2.2.2 The values reported by the Contractor are used for data assessment. The Contractor shall not use rounded intermediate values in calculating the final result, and all raw data values reported in the SEDD files shall not be rounded.

2.2.3 The completeness of analytical data provided in the EDD will be verified against the analytical data requested on the Traffic Report/Chain of Custody (TR/COC) Record. The Laboratory Code, Case Number, Contract Number, Sample Delivery Group (SDG) Number, Modified Analysis (MA) Number (if applicable), sample number, and analytical method shall be identical in the EDD and the TR/COC Record and the SDG coversheet submitted by the Contractor for the SDG.

2.2.4 The following variables shall be present and correct, where required: EDD Implementation Identifier (ID), Lab ID; Lab Receipt Date; Analysis Date and Time; Collected Date; Matrix ID; Client Method ID; Client Method Type; QC Type; Instrument ID; Relative Response Factor (RRF) or Calibration Factor (CF); mean RRF or mean CF; Run Batch (level 2b and 3 only); Analysis Batch (level 2b and 3 only); Analysis Group ID (level 2b and 3 only); Client Analysis ID; Client Analyte ID; Preparation Batch; Percent Recovery (%R); Relative Percent Difference (RPD); Percent Difference (%D), and Percent Relative Standard Deviation (%RSD).

3.0 DATA ELEMENTS

3.1 The SEDD consists of data elements arranged hierarchically by data nodes (parent elements). Figures 1, 2, and 3 depict the data node hierarchy. Each data element consists of a start tag, content, and an end tag. An element may contain other elements (child elements).

NOTE: There shall be no more than one occurrence of each child element within a node, unless the child element also behaves as a parent element. For example, in each SamplePlusMethod node, there may be only one occurrence of the element ClientSampleID, but there may be more than one occurrence of the element Analysis.

The tags, nodes, and hierarchy are specified in the DTD against which the deliverable will be validated (Section 6.0). The frequency requirements for each of the data nodes applicable to this implementation are described below.

3.1.1 Header Node (Required for All Deliverable Levels)

One Header node must be reported for each analytical method.

3.1.2 SamplePlusMethod Node (Required for All Deliverable Levels)

Each Header node must contain one SamplePlusMethod node for each field sample, field blank (including rinse, equipment, and trip blanks), Performance Evaluation (PE) sample, Proficiency Testing (PT) audit sample, Matrix Spike (MS) sample, Matrix Spike Duplicate (MSD) sample, Method Blank (MB), Leachate Extraction Blank (LEB), Instrument Blank (IB), Storage Blank (SB) (Volatiles only), Cleanup Blank (CB) (Pesticides and Aroclors only), Laboratory Control Sample (LCS), and Non-Client Sample (NCS).

3.1.3 ReportedResult Node (Required for All Deliverables Levels)

Each SamplePlusMethod node must contain one and only one ReportedResult node for each target analyte. For Volatiles and Semivolatiles, each SamplePlusMethod node must also contain a ReportedResult node for each Tentatively Identified Compound (TIC).

3.1.4 ContactInformation Node (Required for All Deliverable Levels)

Each Header node must contain one ContactInformation node.

3.1.5 InstrumentQC Node (Required for Levels 2b and 3 Deliverables Only)

Each Header node must contain one InstrumentQC node for each instrument performance check, initial calibration sequence, Continuing Calibration Verification (CCV), Florisil Cartridge Check, and Gel Permeation Chromatography (GPC) Calibration Check.

NOTE: Tunes may be reported as separate InstrumentQC nodes or may be included in InstrumentQC nodes for initial calibration or CCV. This will depend on whether the tune is analyzed as a separate injection or is combined with a calibration standard.

3.1.6 AnalysisGroup Node (Required for Levels 2b and 3 Deliverables Only)

Each initial calibration InstrumentQC node for multi-point calibration must contain one AnalysisGroup node containing summary data for the initial calibration. Each AnalysisGroup node must contain one Analyte node for each target analyte, Deuterated Monitoring Compound (DMC), and surrogate.

3.1.7 Analysis Node (Required for All Deliverable Levels)

Each SamplePlusMethod must contain at least one Analysis node for Gas Chromatograph/Mass Spectrometer (GC/MS) methods or must contain at least two Analysis nodes for GC methods with confirmation (one for each column). Separate Analysis nodes are required for each dilution, re-extraction, or reanalysis.

Each Instrument QC node (other than Initial Calibration) must contain one Analysis node for GC/MS methods or must contain at least two Analysis nodes for GC methods with confirmation (one for each column).

3.1.8 Analyte Node (Required for All Deliverable Levels)

Each Analysis node under a SamplePlusMethod node must contain one Analyte node for each target analyte, TIC, Deuterated Monitoring Compound (DMC), surrogate, and internal standard. Each Analysis node under an InstrumentQC node must contain one Analyte node for each target analyte, DMC, surrogate, and internal standard. Each Analysis node under an InstrumentQC node for tune must contain one Analyte node for each tune analyte. Each AnalysisGroup node must contain one Analyte node for each target analyte, DMC, and surrogate.

3.1.9 PreparationPlusCleanup Node (Required for All Deliverable Levels)

Each Analysis node under a SamplePlusMethod node must contain at least one PreparationPlusCleanup node with a PreparationPlusCleanupType equal to "Preparation", and one PreparationPlusCleanup node with a PreparationPlusCleanupType equal to "Cleanup" for each applicable cleanup technique performed. Each Analysis node under an InstrumentQC node with a QCType equal to "Florisil_Cartridge_Check" or "GPC_Calibration_Check" must contain one PreparationPlusCleanup node. No more than one PreparationPlusCleanup node with a PreparationPlusCleanupType equal to "Preparation" shall be present for each analysis.

3.1.10 Peak Node (Required for Levels 2b and 3 Deliverables Only)

Each Analyte node must contain at least one Peak node, and a minimum of 3 Peak nodes for Toxaphene and Aroclors. For Level 2b, only the Analyte nodes under InstrumentQC must contain a Peak node. Within a RunBatch, a peak must be consistently identified.

3.1.11 PeakComparison Node (Required for Levels 2b and 3 Deliverables Only)

For GC/MS, each Peak node must contain a PeakComparison node for each applicable internal standard.

3.1.12 Characteristic Node (Required for All Deliverable Levels)

Each SamplePlusMethod, PreparationPlusCleanup, and Handling node may contain one or more Characteristic nodes, one for each sample characteristic that must be reported for a sample at time of receipt, after preparation, or after handling.

3.1.13 Handling Node (required for Level 3 Deliverables only)

Each SamplePlusMethod node shall contain one or more Handling nodes when Toxicity Characteristic Leaching Procedure (TCLP) extraction, Synthetic Precipitation Leaching Procedure (SPLP) extraction, or decanting has been performed.

3.2 Detailed instructions for the content of each data element are provided in Section 7.0, Tables 1 through 6. The following is an explanation of the data fields contained in each table.

3.2.1 Node and Data Elements

This field reports each node in bold text, followed by its data elements. If an entire node is not required, then none of its data elements are listed.

3.2.2 Applicability

This field reports the samples, blanks, and standards for which each node and data element is required. An "X" in a column indicates that the node or element is required. Sample refers to field samples, field blanks, and PE samples unless otherwise noted. Abbreviations used in this field are defined in Section 7.0, Table 7 - Abbreviations.

3.2.3 Instructions

This field describes the required format and content of each data element. The content of each data element is specified as either literal (contained in quotes), or as a variable for which description and format is listed. Abbreviations used in this field are defined in Section 7.0, Table 7 - Abbreviations.

Figure 1: Data Node Hierarchy for
Level 2a Deliverable

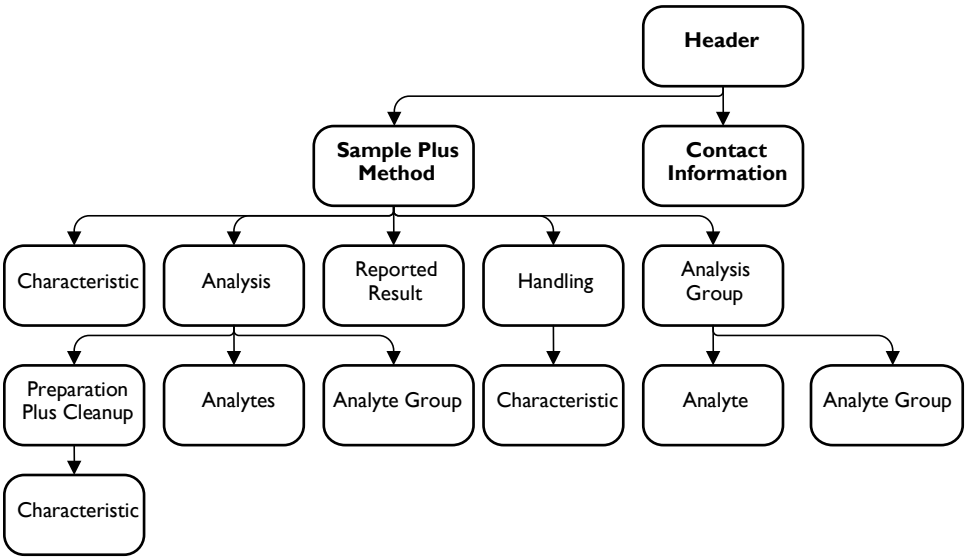


Figure 2: Data Node Hierarchy for
Level 2b Deliverable

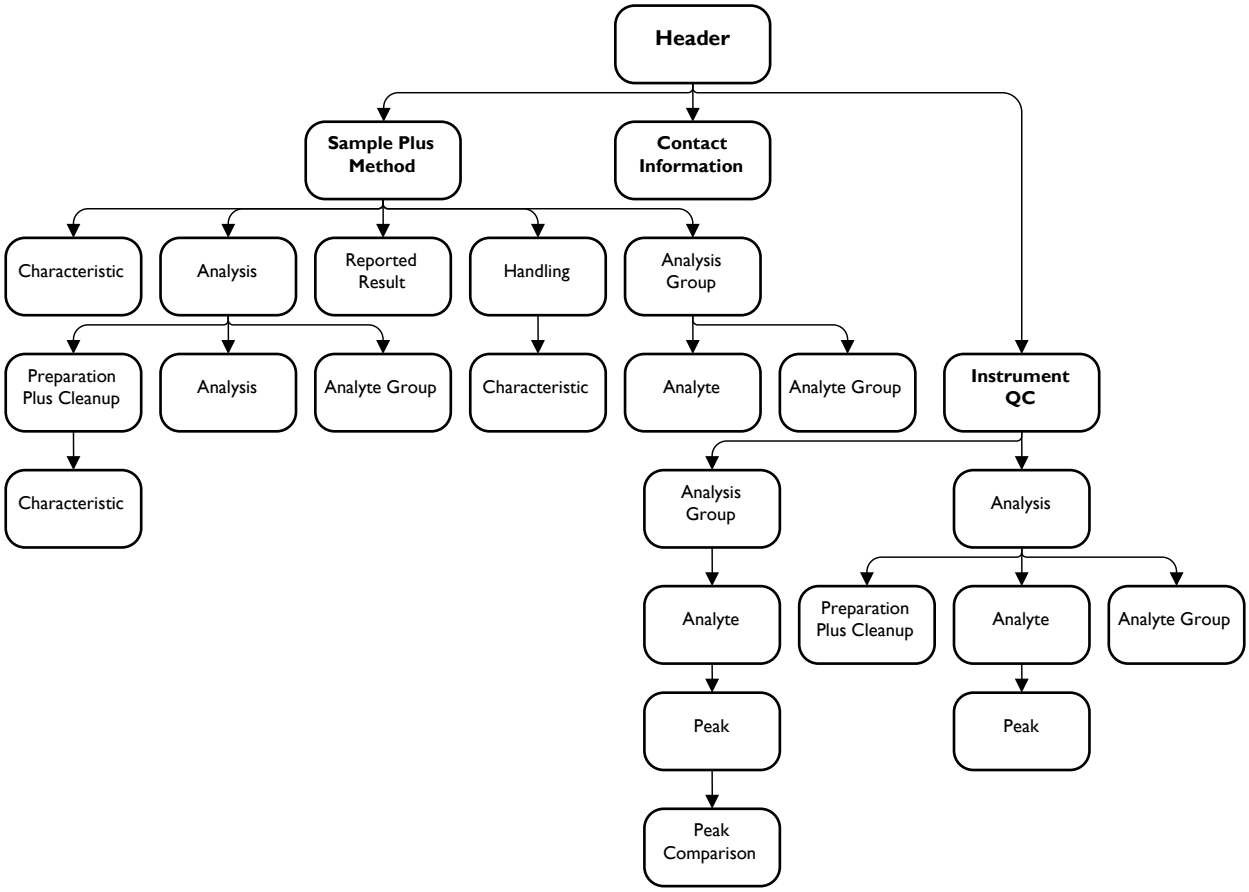
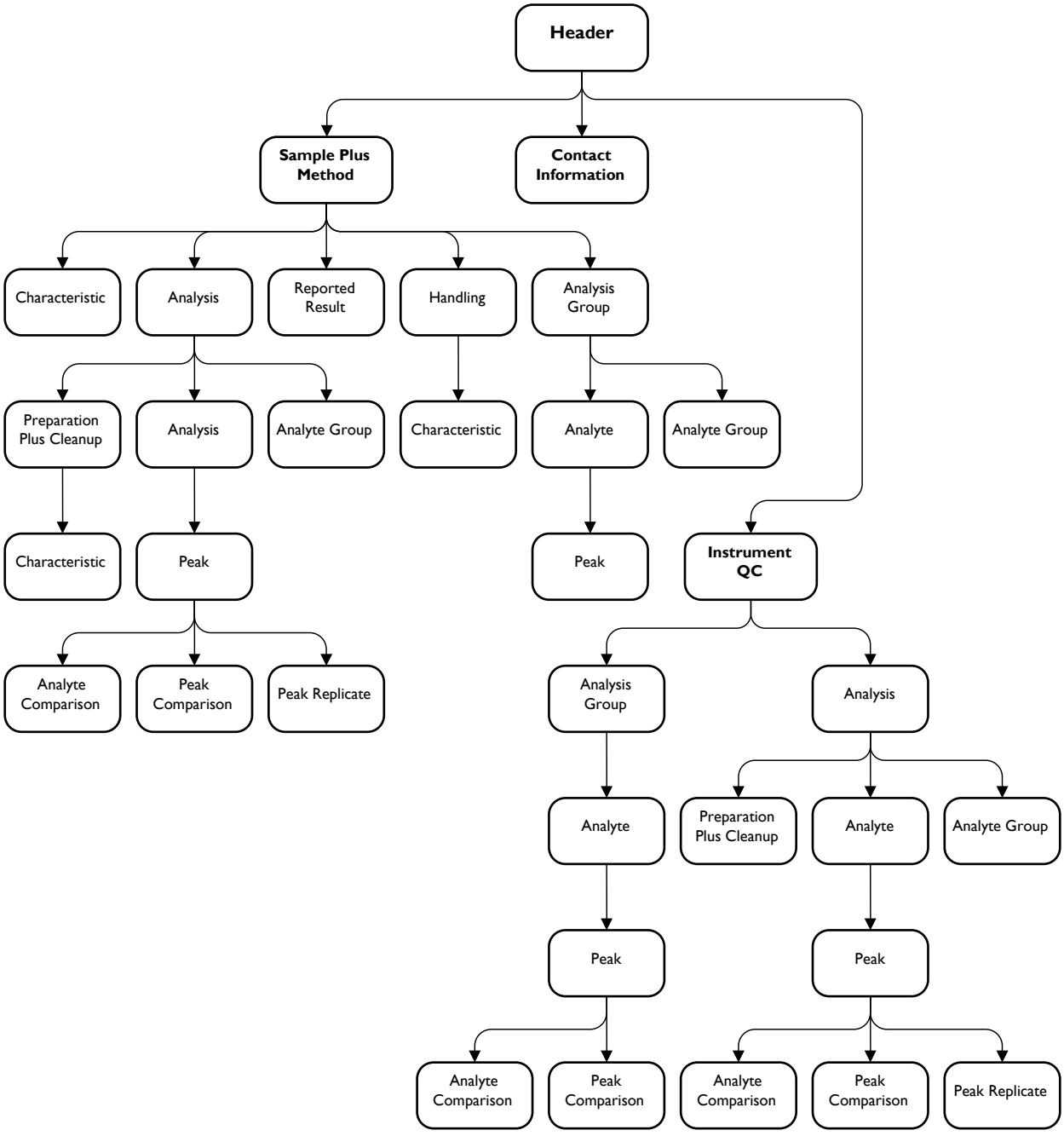


Figure 3: Data Node Hierarchy for
Level 3 Deliverable



4.0 BATCHES

4.1 This implementation requires the use of the following batches from the SEDD Specification: "LabReportingBatch"; "RunBatch"; "AnalysisBatch"; "PreparationBatch"; "HandlingBatch"; and "StorageBatch".

4.1.1 The "LabReportingBatch" links all samples reported in the same SDG. Report the SDG Number.

4.1.2 The "RunBatch" links all analyses performed under the same initial calibration. All analyses performed under an initial calibration must have the same content for the "RunBatch" element as the initial calibration from which their results are calculated.

4.1.3 The "AnalysisBatch" and "AnalysisBatchEnd" link all analyses performed within the same analytical sequence. All analyses performed within the same analytical sequence must have the same content for the "AnalysisBatch" element as the tune or standard(s) that began the analytical sequence, and the same content for the "AnalysisBatchEnd" as the standard(s) that ends the analytical sequence.

4.1.4 The "PreparationBatch" links all samples of the same matrix prepared at the same time by the same preparation method. All samples analyzed, including Method Blanks, MS/MSDs, and LCSs that are prepared together must have the same content for the "PreparationBatch" element.

4.1.5 The "HandlingBatch" links all samples subjected to TCLP or SPLP extraction or decanting at the same time by the same method. All samples extracted, including the Leachate Extraction Blank, that are extracted together must have the same content for the "HandlingBatch" element.

4.1.6 The "StorageBatch" links all samples stored together with a storage blank. All samples that are stored together must have the same content for the "StorageBatch" element as the storage blank sample.

4.1.7 The "CleanupBatch" links all samples processed by the same cleanup method. All samples analyzed, including method blanks and LCS, that are cleaned up together must have the same content for the "CleanupBatch" element.

5.0 DELIVERABLE

5.1 Each analytical method in an SDG shall be submitted as a separate file. The Contractor may choose to deliver their file as a ZIP of an XML file. For reporting requirements, the analytical methods are: "VOA_Trace"; "VOA_Low_Med"; "SVOA"; "SVOA_SIM"; "Pest"; and "Aroclor". For example, if Selected Ion Monitoring (SIM) is requested for semivolatile organic analytes (SVOA), then 2 separate files must be submitted and labeled as "SVOA" and "SVOA_SIM". All analytical methods within an SDG shall be submitted at the same time (i.e., the file for the second analytical method in an SDG shall be submitted in a single file upload with the first analytical method).

5.2 The Contractor will utilize the Electronic Data Exchange and Evaluation System (EXES) at http://epasmoweb.fedcsc.com to electronically submit their EDD to the Sample Management Office (SMO). The EPA may approve alternative electronic means of file delivery. Written permission must be obtained from the EPA Analytical Services Branch (ASB) prior to the use of any alternative means.

5.3 The Contractor must follow the delivery instructions in Exhibit B – Reporting and Deliverables Requirements, of this Statement of Work (SOW), and deliver their hardcopy and EDD and Portable Document Format (PDF) of the Complete SDG File (CSF) to SMO concurrently. If one of these items is delivered on a later date, the Data Receipt Date (DRD) for the SDG will be the later of the two dates.

5.4 Information in the electronic deliverable must correspond to information submitted in the hardcopy raw data package and on QC summary forms. If information in the raw data or on the forms is changed, the information in the electronic deliverable shall be changed accordingly. An electronic deliverable containing the changed information for the SDG shall be resubmitted along with the hardcopy at no additional cost to the EPA.

5.5 The format for the file name shall be Case number_SDG number_contract number_submission number_DTD used_Method. For example, the first submission of the Trace VOA Analytical Method from SDG number ABC12, Case number 12345, contract EP-W0-000 would be named 12345_ABC12_EP-W-00000_1_SEDD_5-2_GENERAL_3_3_VOA_Trace.zip.

6.0 DOCUMENT TYPE DEFINITION

6.1 Introduction

The deliverable will be validated against DTD SEDD_5-2_GENERAL_3_3, DTD SEDD_5-2_GENERAL_2b_3 or DTD SEDD_5-2_GENERAL_2a_2. The deliverable must not contain any tags not included in the DTD and must conform to the hierarchical structure modeled in the DTD.

6.2 General Stage 3 DTD

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- SEDD_5-2_GENERAL_3_3.dtd 10/22/2009 -->
<!-- Acronym Description -->
<!-- Coeff - Coefficient -->
<!-- EDD   - Electronic Data Deliverable -->
<!-- ID    - Identity -->
<!-- Lab   - Laboratory -->
<!-- QC    - Quality Control -->
<!-- RPD   - Relative Percent Difference -->
<!-- RRF   - Relative Response Factor -->
<!-- RSD   - Relative Standard Deviation -->
<!ELEMENT Header (
                ClientID|
                ClientName|
                Comment|
                DateFormat|
                EDDID|
                EDDImplementationID|
                EDDImplementationVersion|
                EDDVersion|
                GeneratingSystemID|
                GeneratingSystemVersion|
                LabContract|
                LabContractModificationDescription|
                LabContractModificationID|
                LabDataPackageID|
                LabDataPackageName|
                LabDataPackageVersion|
                LabID|
                LabName|
                LabNarrative|
                LabQualifiersDefinition|
                LabReportedDate|
                ProjectID|
                ProjectName|
                SiteID|
                SiteName|
                ContactInformation|
                SamplePlusMethod|
                InstrumentQC
                        )*>
<!ELEMENT Analysis (
                AliquotAmount|
                AliquotAmountUnits|
                AnalysisBatch|
                AnalysisBatchEnd|
                AnalysisDuration|
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AnalysisDurationUnits|
AnalysisGroupID|
AnalysisType|
Analyst|
AnalyzedAmount|
AnalyzedAmountUnits|
AnalyzedDate|
BackgroundCorrection|
BackgroundRawData|
BackgroundType|
BottleID|
ClientAnalysisID|
ClientMethodCode|
ClientMethodID|
ClientMethodModificationDescription|
ClientMethodModificationID|
ClientMethodName|
ClientMethodSource|
ClientMethodVersion|
Column|
ColumnInternalDiameter|
ColumnInternalDiameterUnits|
ColumnLength|
ColumnLengthUnits|
Comment|
ConfirmationAnalysisID|
Counts|
CountsUncertainty|
CountsUncertaintyConfidenceLevel|
CountsUncertaintyDetermination|
CountsUncertaintyIntervalType|
CountsUncertaintyLimitHigh|
CountsUncertaintyLimitLow|
CountsUncertaintyType|
CountsUnits|
DetectorID|
DetectorType|
DilutionFactor|
Efficiency|
HeatedPurge|
Inclusion|
InjectionVolume|
InjectionVolumeUnits|
InstrumentID|
InterelementCorrection|
LabAnalysisID|
LabFileID|
LabID|
LabMethodID|
LabMethodName|
LabName|
MethodCode|
MethodID|
MethodModificationDescription|
MethodModificationID|
MethodName|
MethodSource|
MethodVersion|
OriginalLabAnalysisID|
PreparationBatch|

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                ProcedureID|
                ProcedureName|
                ReferenceDate|
                ResultBasis|
                RunBatch|
                SampleAmount|
                SampleAmountUnits|
                Temperature|
                TemperatureUnits|
                Wavelength|
                WavelengthUnits|
                Yield|
                PreparationPlusCleanup|
                Analyte|
                AnalyteGroup
                        )*>
<!ELEMENT AnalysisGroup (
                AnalysisGroupID|
                AnalysisType|
                Comment|
                Analyte|
                AnalyteGroup
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<!ELEMENT Analyte (
                AmountAdded|
                AmountAddedUnits|
                AmountAddedLocation|
                AnalyteGroupID|
                AnalyteName|
                AnalyteNameContext|
                AnalyteType|
                BiasErrorRatio|
                CalibrationBasis|
                CalibrationFactor|
                CalibrationFactorUnits|
                CalibrationType|
                CASRegistryNumber|
                ClientAnalyteID|
                ClientAnalyteName|
                Coeffa0|
                Coeffa1|
                Coeffa2|
                Coeffa3|
                CoeffOfDetermination|
                CoeffOfDeterminationLimitLow|
                CoeffOfDeterminationLimitType|
                Comment|
                CorrelationCoeff|
                CorrelationCoeffLimitLow|
                CorrelationCoeffLimitType|
                Counts|
                CountsUncertainty|
                CountsUncertaintyConfidenceLevel|
                CountsUncertaintyDetermination|
                CountsUncertaintyIntervalType|
                CountsUncertaintyLimitHigh|
                CountsUncertaintyLimitLow|
                CountsUncertaintyType|
                CountsUnits|
                DetectionLimit|
```

DetectionLimitType|
DetectionLimitUnits|
DifferenceErrorRatio|
Efficiency|
ExpectedResult|
ExpectedResultUncertainty|
ExpectedResultUncertaintyConfidenceLevel|
ExpectedResultUncertaintyDetermination|
ExpectedResultUncertaintyIntervalType|
ExpectedResultUncertaintyLimitHigh|
ExpectedResultUncertaintyLimitLow|
ExpectedResultUncertaintyType|
ExpectedResultUncertaintyUnits|
ExpectedResultUnits|
Inclusion|
IntermediateResult|
IntermediateResultLimitHigh|
IntermediateResultLimitLow|
IntermediateResultLimitType|
IntermediateResultUnits|
LabAnalyteID|
LabQualifiers|
LotNumber|
Mass|
MassLimitHigh|
MassLimitLow|
MassLimitType|
MassUnits|
MeanCalibrationFactor|
MeanCalibrationFactorUnits|
MeanRRF|
MeanRRFLimitLow|
MeanRRFLimitType|
PeakID|
PercentBreakdown|
PercentBreakdownLimitHigh|
PercentBreakdownLimitType|
PercentDifference|
PercentDifferenceLimitHigh|
PercentDifferenceLimitLow|
PercentDifferenceLimitType|
PercentMatch|
PercentRecovery|
PercentRecoveryLimitHigh|
PercentRecoveryLimitLow|
PercentRecoveryLimitType|
PercentRecoveryType|
PercentRSD|
PercentRSDLimitHigh|
PercentRSDLimitLow|
PercentRSDLimitType|
QuantitationBasis|
QuantitationLimit|
QuantitationLimitType|
QuantitationLimitUnits|
ReportingLimit|
ReportingLimitType|
ReportingLimitUnits|
Response|
ResponseLimitHigh|

```
                ResponseLimitLow|
                ResponseLimitType|
                ResponseUnits|
                Result|
                ResultLimitHigh|
                ResultLimitLow|
                ResultLimitType|
                ResultType|
                ResultUncertainty|
                ResultUncertaintyConfidenceLevel|
                ResultUncertaintyDetermination|
                ResultUncertaintyIntervalType|
                ResultUncertaintyLimitHigh|
                ResultUncertaintyLimitLow|
                ResultUncertaintyType|
                ResultUncertaintyUnits|
                ResultUnits|
                RPD|
                RPDLimitHigh|
                RPDLimitType|
                RPDType|
                RRF|
                RRFLimitLow|
                RRFLimitType|
                StandardConcentration|
                StandardConcentrationUnits|
                StandardDeviation|
                StandardDeviationUnits|
                StandardFinalAmount|
                StandardFinalAmountUnits|
                StandardID|
                StandardSource|
                TailingFactor|
                TailingFactorLimitHigh|
                TailingFactorLimitType|
                Wavelength|
                WavelengthUnits|
                WeightingFactor|
                Peak
                        )*>
<!ELEMENT AnalyteComparison (
                AnalyteName|
                AnalyteNameContext|
                CASRegistryNumber|
                ClientAnalyteID|
                ClientAnalyteName|
                Comment|
                CorrectionFactor|
                LabAnalyteID
                        )*>
<!ELEMENT Characteristic (
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                CharacteristicValue|
                CharacteristicUnits|
                Comment
                        )*>
<!ELEMENT AnalyteGroup (
                AnalyteGroupID|
                AnalyteName|
                AnalyteNameContext|
```

```
                AnalyteType|
                CASRegistryNumber|
                ClientAnalyteID|
                ClientAnalyteName|
                Comment|
                LabAnalyteID|
                LabQualifiers|
                Result|
                ResultType|
                ResultUncertainty|
                ResultUnits
                        )*>
<!ELEMENT ContactInformation (
                LabAddress1|
                LabAddress2|
                LabCity|
                LabCountry|
                LabID|
                LabName|
                LabPointOfContact|
                LabPointOfContactElectronicAddress|
                LabPointOfContactTitle|
                LabPointOfContactType|
                LabState|
                LabTelephoneNumber|
                LabType|
                LabZipCode
                        )*>
<!ELEMENT Handling (
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                BottleID|
                ClientMethodCode|
                ClientMethodID|
                ClientMethodModificationDescription|
                ClientMethodModificationID|
                ClientMethodName|
                ClientMethodSource|
                ClientMethodVersion|
                Comment|
                HandledDate|
                HandlingBatch|
                HandlingType|
                InitialAmount|
                InitialAmountUnits|
                LabID|
                LabMethodID|
                LabMethodName|
                LabName|
                MethodCode|
                MethodID|
                MethodModificationDescription|
                MethodModificationID|
                MethodName|
                MethodSource|
                MethodVersion|
                ProcedureID|
                ProcedureName|
                SampleAmount|
                SampleAmountUnits|
                Characteristic
```

```
                        )*>
<!ELEMENT InstrumentQC (
                ClientInstrumentQCType|
                ClientMethodCode|
                ClientMethodID|
                ClientMethodModificationDescription|
                ClientMethodModificationID|
                ClientMethodName|
                ClientMethodSource|
                ClientMethodVersion|
                Comment|
                LabID|
                LabInstrumentQCID|
                LabMethodID|
                LabMethodName|
                LabName|
                MethodCode|
                MethodID|
                MethodModificationDescription|
                MethodModificationID|
                MethodName|
                MethodSource|
                MethodVersion|
                QCLinkage|
                QCType|
                AnalysisGroup|
                Analysis
                        )*>
<!ELEMENT Peak (
                CalibrationFactor|
                CalibrationFactorUnits|
                CalibrationType|
                Coeffa0|
                Coeffa1|
                Coeffa2|
                Coeffa3|
                CoeffOfDetermination|
                CoeffOfDeterminationLimitLow|
                CoeffOfDeterminationLimitType|
                Comment|
                CorrelationCoeff|
                CorrelationCoeffLimitLow|
                CorrelationCoeffLimitType|
                DetectionLimit|
                DetectionLimitType|
                DetectionLimitUnits|
                DifferenceErrorRatio|
                Efficiency|
                Inclusion|
                IntermediateResult|
                IntermediateResultLimitHigh|
                IntermediateResultLimitLow|
                IntermediateResultLimitType|
                IntermediateResultUnits|
                LabQualifiers|
                ManualIntegration|
                Mass|
                MassLimitHigh|
                MassLimitLow|
                MassLimitType|
```

```
MassUnits|
MeanCalibrationFactor|
MeanCalibrationFactorUnits|
MeanRetentionTime|
MeanRetentionTimeLimitHigh|
MeanRetentionTimeLimitLow|
MeanRetentionTimeLimitType|
MeanRetentionTimeUnits|
MeanRRF|
MeanRRFLimitLow|
MeanRRFLimitType|
PeakID|
PeakRatio|
PeakRatioLimitHigh|
PeakRatioLimitLow|
PeakRatioLimitType|
PercentDifference|
PercentDifferenceLimitHigh|
PercentDifferenceLimitLow|
PercentDifferenceLimitType|
PercentRatio|
PercentRatioLimitHigh|
PercentRatioLimitLow|
PercentRatioLimitType|
PercentRecovery|
PercentRecoveryLimitHigh|
PercentRecoveryLimitLow|
PercentRecoveryLimitType|
PercentRecoveryType|
PercentRSD|
PercentRSDLimitHigh|
PercentRSDLimitLow|
PercentRSDLimitType|
QuantitationLimit|
QuantitationLimitType|
QuantitationLimitUnits|
ReportingLimit|
ReportingLimitType|
ReportingLimitUnits|
Resolution|
ResolutionLimitHigh|
ResolutionLimitLow|
ResolutionLimitType|
ResolutionType|
ResolutionUnits|
Response|
ResponseLimitHigh|
ResponseLimitLow|
ResponseLimitType|
ResponseType|
ResponseUnits|
Result|
ResultLimitHigh|
ResultLimitLow|
ResultLimitType|
ResultType|
ResultUncertainty|
ResultUnits|
RetentionTime|
RetentionTimeLimitHigh|
```

```
                RetentionTimeLimitLow|
                RetentionTimeLimitType|
                RetentionTimeUnits|
                RRF|
                RRFLimitLow|
                RRFLimitType|
                StandardDeviation|
                StandardDeviationUnits|
                TailingFactor|
                TailingFactorLimitHigh|
                TailingFactorLimitType|
                Wavelength|
                WavelengthUnits|
                WeightingFactor|
                AnalyteComparison|
                PeakComparison|
                PeakReplicate
                         )*>
<!ELEMENT PeakComparison (
                AnalyteName|
                AnalyteNameContext|
                CASRegistryNumber|
                ClientAnalyteID|
                ClientAnalyteName|
                Comment|
                LabAnalyteID|
                PeakID|
                PeakRatio|
                PeakRatioLimitHigh|
                PeakRatioLimitLow|
                PeakRatioLimitType|
                PercentRatio|
                PercentRatioLimitHigh|
                PercentRatioLimitLow|
                PercentRatioLimitType
                         )*>
<!ELEMENT PeakReplicate (
                Comment|
                IntermediateResult|
                IntermediateResultLimitHigh|
                IntermediateResultLimitLow|
                IntermediateResultLimitType|
                IntermediateResultUnits|
                Mass|
                MassLimitHigh|
                MassLimitLow|
                MassLimitType|
                MassUnits|
                PeakReplicateID|
                Resolution|
                ResolutionLimitHigh|
                ResolutionLimitLow|
                ResolutionLimitType|
                ResolutionType|
                ResolutionUnits|
                Response|
                ResponseLimitHigh|
                ResponseLimitLow|
                ResponseLimitType|
                ResponseType|
```

```
                ResponseUnits
                        )*>
<!ELEMENT PreparationPlusCleanup (
                AliquotAmount|
                AliquotAmountUnits|
                Analyst|
                BottleID|
                CleanedUpDate|
                CleanupBatch|
                CleanupType|
                ClientMethodCode|
                ClientMethodID|
                ClientMethodModificationDescription|
                ClientMethodModificationID|
                ClientMethodName|
                ClientMethodSource|
                ClientMethodVersion|
                Comment|
                Efficiency|
                FinalAmount|
                FinalAmountUnits|
                InitialAmount|
                InitialAmountUnits|
                LabID|
                LabMethodID|
                LabMethodName|
                LabName|
                LotNumber|
                MethodCode|
                MethodID|
                MethodModificationDescription|
                MethodModificationID|
                MethodName|
                MethodSource|
                MethodVersion|
                PreparationBatch|
                PreparationPlusCleanupType|
                PreparationType|
                PreparedDate|
                ProcedureID|
                ProcedureName|
                SampleAmount|
                SampleAmountUnits|
                Solvent|
                Characteristic
                        )*>
<!ELEMENT ReportedResult (
                AnalysisGroupID|
                AnalyteGroupID|
                AnalyteName|
                AnalyteNameContext|
                AnalyteType|
                BiasErrorRatio|
                CASRegistryNumber|
                ClientAnalyteID|
                ClientAnalyteName|
                ClientDetectionLimit|
                ClientDetectionLimitUnits|
                ClientQuantitationLimit|
                ClientQuantitationLimitUnits|
```

```
                Comment|
                DetectionLimit|
                DetectionLimitType|
                DetectionLimitUnits|
                DifferenceErrorRatio|
                ExpectedResult|
                ExpectedResultUncertainty|
                ExpectedResultUncertaintyConfidenceLevel|
                ExpectedResultUncertaintyDetermination|
                ExpectedResultUncertaintyIntervalType|
                ExpectedResultUncertaintyLimitHigh|
                ExpectedResultUncertaintyLimitLow|
                ExpectedResultUncertaintyType|
                ExpectedResultUncertaintyUnits|
                ExpectedResultUnits|
                LabAnalysisID|
                LabAnalyteID|
                LabQualifiers|
                LabResultStatus|
                PeakID|
                PercentDifference|
                PercentDifferenceLimitHigh|
                PercentDifferenceLimitLow|
                PercentDifferenceLimitType|
                PercentRecovery|
                PercentRecoveryLimitHigh|
                PercentRecoveryLimitLow|
                PercentRecoveryLimitType|
                PercentRecoveryType|
                QuantitationLimit|
                QuantitationLimitType|
                QuantitationLimitUnits|
                ReportingLimit|
                ReportingLimitType|
                ReportingLimitUnits|
                Result|
                ResultLimitHigh|
                ResultLimitLow|
                ResultLimitType|
                ResultType|
                ResultUncertainty|
                ResultUncertaintyConfidenceLevel|
                ResultUncertaintyDetermination|
                ResultUncertaintyIntervalType|
                ResultUncertaintyLimitHigh|
                ResultUncertaintyLimitLow|
                ResultUncertaintyType|
                ResultUncertaintyUnits|
                ResultUnits|
                RetentionTime|
                RetentionTimeUnits|
                RPD|
                RPDLimitHigh|
                RPDLimitType|
                RPDType
                        )*>
<!ELEMENT SamplePlusMethod (
                Bottles|
                BottleType|
                ClientID|
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ClientMethodCategory|
ClientMethodCode|
ClientMethodID|
ClientMethodModificationDescription|
ClientMethodModificationID|
ClientMethodName|
ClientMethodSource|
ClientMethodType|
ClientMethodVersion|
ClientName|
ClientSampleID|
CollectedDate|
CollectedEndDate|
Comment|
Composite|
CoolerID|
CustodyID|
EquipmentBatch|
Filtered|
LabContract|
LabContractModificationID|
LabContractModificationDescription|
LabID|
LabMethodID|
LabMethodName|
LabName|
LabReceiptDate|
LabReportingBatch|
LabSampleID|
LocationID|
LocationName|
MatrixID|
MatrixMedium|
MethodBatch|
MethodCategory|
MethodCode|
MethodID|
MethodLevel|
MethodModificationDescription|
MethodModificationID|
MethodName|
MethodSource|
MethodType|
MethodVersion|
OriginalClientSampleID|
OriginalLabSampleID|
PhaseAnalyzed|
Preservative|
ProjectID|
ProjectName|
QCCategory|
QCLinkage|
QCType|
Quarantine|
SamplingBatch|
ShippingBatch|
SiteID|
SiteName|
StorageBatch|
Analysis|

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                ReportedResult|
                Handling|
                AnalysisGroup|
                Characteristic
                          )*>
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<!ELEMENT Coeffa1 (#PCDATA)>
<!ELEMENT Coeffa2 (#PCDATA)>
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<!ELEMENT IntermediateResultLimitType (#PCDATA)>
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<!ELEMENT LabName (#PCDATA)>
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<!ELEMENT LocationName (#PCDATA)>
<!ELEMENT LotNumber (#PCDATA)>
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<!ELEMENT MassLimitLow (#PCDATA)>
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<!ELEMENT PercentRSDLimitType (#PCDATA)>
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<!ELEMENT PreparationPlusCleanupType (#PCDATA)>
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6.3 General Stage 2b DTD

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<?xml version="1.0" encoding="UTF_8"?>
<!—SEDD_5-2_GENERAL_2b_3.dtd 10/22/2009 Based on SEDD Specification 5.2 -->
<!-- Acronym Description -->
<!-- Coeff - Coefficient -->
<!-- EDD   - Electronic Data Deliverable -->
<!-- ID    - Identity -->
<!-- Lab   - Laboratory -->
<!-- QC    - Quality Control -->
<!-- RPD   - Relative Percent Difference -->
<!-- RRF   - Relative Response Factor -->
<!-- RSD   - Relative Standard Deviation -->
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                ClientName|
                Comment|
                DateFormat|
                EDDID|
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                EDDImplementationVersion|
                EDDVersion|
                GeneratingSystemID|
                GeneratingSystemVersion|
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                LabContractModificationDescription|
                LabContractModificationID|
                LabDataPackageID|
                LabDataPackageName|
                LabDataPackageVersion|
                LabID|
                LabName|
                LabNarrative|
                LabQualifiersDefinition|
                LabReportedDate|
                ProjectID|
                ProjectName|
                SiteID|
                SiteName|
                ContactInformation|
                SamplePlusMethod|
                InstrumentQC
                        )*>
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                Analyst|
                AnalyzedAmount|
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                DilutionFactor|
                Efficiency|
                HeatedPurge|
                Inclusion|
                InjectionVolume|
                InjectionVolumeUnits|
                InstrumentID|
                LabAnalysisID|
                LabFileID|
                LabID|
                LabMethodID|
                LabMethodName|
                LabName|
                MethodCode|
                MethodID|
                MethodModificationDescription|
                MethodModificationID|
                MethodName|
                MethodSource|
                MethodVersion|
                PreparationBatch|
                ProcedureID|
                ProcedureName|
                ReferenceDate|
                ResultBasis|
                RunBatch|
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                TemperatureUnits|
                Wavelength|
                WavelengthUnits|
                Yield|
                PreparationPlusCleanup|
                Analyte|
                AnalyteGroup
                        )*>
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                Comment|
```

```
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                AnalyteGroup
                        )*>
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                AnalyteType|
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                CalibrationBasis|
                CalibrationFactor|
                CalibrationFactorUnits|
                CalibrationType|
                CASRegistryNumber|
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                ClientAnalyteName|
                Coeffa0|
                Coeffa1|
                Coeffa2|
                Coeffa3|
                CoeffOfDetermination|
                CoeffOfDeterminationLimitLow|
                CoeffOfDeterminationLimitType|
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                CorrelationCoeffLimitLow|
                CorrelationCoeffLimitType|
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                PercentBreakdownLimitType|
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                PercentDifferenceLimitLow|
                PercentDifferenceLimitType|
                PercentRecovery|
                PercentRecoveryLimitHigh|
                PercentRecoveryLimitLow|
                PercentRecoveryLimitType|
                PercentRecoveryType|
                PercentRSD|
                PercentRSDLimitHigh|
                PercentRSDLimitLow|
                PercentRSDLimitType|
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                QuantitationLimit|
                QuantitationLimitType|
                QuantitationLimitUnits|
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                ResultLimitType|
                ResultType|
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                ResultUncertaintyDetermination|
                ResultUncertaintyIntervalType|
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                ResultUncertaintyType|
                ResultUncertaintyUnits|
                ResultUnits|
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                RPDLimitHigh|
                RPDLimitType|
                RPDType|
                RRF|
                RRFLimitLow|
                RRFLimitType|
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                TailingFactorLimitType|
                Wavelength|
                WavelengthUnits|
                WeightingFactor|
                Peak
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                AnalyteType|
                CASRegistryNumber|
```

```
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                        )*>
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                        )*>
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                LabAddress2|
                LabCity|
                LabCountry|
                LabID|
                LabName|
                LabPointOfContact|
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                LabPointOfContactTitle|
                LabPointOfContactType|
                LabState|
                LabTelephoneNumber|
                LabType|
                LabZipCode
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                ClientMethodSource|
                ClientMethodVersion|
                Comment|
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                HandlingBatch|
                HandlingType|
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                LabMethodName|
                LabName|
                MethodCode|
                MethodID|
                MethodModificationDescription|
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                MethodSource|
                MethodVersion|
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                ProcedureName|
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```
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                ClientMethodVersion|
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                LabInstrumentQCID|
                LabMethodID|
                LabMethodName|
                LabName|
                MethodCode|
                MethodID|
                MethodModificationDescription|
                MethodModificationID|
                MethodName|
                MethodSource|
                MethodVersion|
                QCLinkage|
                QCType|
                AnalysisGroup|
                Analysis
                        )*>
<!ELEMENT Peak (
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                Coeffa1|
                Coeffa2|
                Coeffa3|
                CoeffOfDetermination|
                CoeffOfDeterminationLimitLow|
                CoeffOfDeterminationLimitType|
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                CorrelationCoeffLimitLow|
                CorrelationCoeffLimitType|
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                Efficiency|
                Inclusion|
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                MassLimitLow|
                MassLimitType|
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                MeanRetentionTimeLimitLow|
                MeanRetentionTimeLimitType|
                MeanRetentionTimeUnits|
```

```
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                PercentDifferenceLimitType|
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                PercentRecoveryLimitLow|
                PercentRecoveryLimitType|
                PercentRecoveryType|
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                PercentRSDLimitLow|
                PercentRSDLimitType|
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                ResolutionLimitLow|
                ResolutionLimitType|
                ResolutionType|
                ResolutionUnits|
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                ResultLimitHigh|
                ResultLimitLow|
                ResultLimitType|
                ResultType|
                ResultUncertainty|
                ResultUnits|
                RRF|
                RRFLimitLow|
                RRFLimitType|
                TailingFactor|
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                TailingFactorLimitType|
                Wavelength|
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                WeightingFactor|
                PeakComparison
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                PercentRatioLimitType
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                AliquotAmountUnits|
                Analyst|
                CleanedUpDate|
                CleanupBatch|
                CleanupType|
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                ClientMethodID|
                ClientMethodModificationDescription|
                ClientMethodModificationID|
                ClientMethodName|
```

```
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                InitialAmount|
                InitialAmountUnits|
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                LabMethodID|
                LabMethodName|
                LabName|
                LotNumber|
                MethodCode|
                MethodID|
                MethodModificationDescription|
                MethodModificationID|
                MethodName|
                MethodSource|
                MethodVersion|
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                PreparedDate|
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                Solvent|
                Characteristic
                        )*>
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                ClientAnalyteName|
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                PercentRecoveryLimitLow|
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                ResultLimitType|
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                RPDType
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                ClientMethodID|
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                ClientMethodName|
                ClientMethodSource|
                ClientMethodType|
                ClientMethodVersion|
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                CollectedEndDate|
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                CustodyID|
                EquipmentBatch|
                Filtered|
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                LabContractModificationID|
```

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                LabName|
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                LabReportingBatch|
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                LocationName|
                MatrixID|
                MatrixMedium|
                MethodBatch|
                MethodCategory|
                MethodCode|
                MethodID|
                MethodLevel|
                MethodModificationDescription|
                MethodModificationID|
                MethodName|
                MethodSource|
                MethodType|
                MethodVersion|
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                OriginalLabSampleID|
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                Preservative|
                ProjectID|
                ProjectName|
                QCCategory|
                QCLinkage|
                QCType|
                Quarantine|
                SamplingBatch|
                ShippingBatch|
                SiteID|
                SiteName|
                StorageBatch|
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                ReportedResult|
                Handling|
                AnalysisGroup
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<!ELEMENT PreparationPlusCleanupType (#PCDATA)>
<!ELEMENT PreparationType (#PCDATA)>
<!ELEMENT PreparedDate (#PCDATA)>
<!ELEMENT Preservative (#PCDATA)>
<!ELEMENT ProcedureID (#PCDATA)>
<!ELEMENT ProcedureName (#PCDATA)>
<!ELEMENT ProjectID (#PCDATA)>
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<!ELEMENT QCCategory (#PCDATA)>
<!ELEMENT QCLinkage (#PCDATA)>
<!ELEMENT QCType (#PCDATA)>
<!ELEMENT QuantitationBasis (#PCDATA)>
<!ELEMENT QuantitationLimit (#PCDATA)>
<!ELEMENT QuantitationLimitType (#PCDATA)>
<!ELEMENT QuantitationLimitUnits (#PCDATA)>
<!ELEMENT Quarantine (#PCDATA)>
<!ELEMENT ReferenceDate (#PCDATA)>
<!ELEMENT ReportingLimit (#PCDATA)>
<!ELEMENT ReportingLimitType (#PCDATA)>
<!ELEMENT ReportingLimitUnits (#PCDATA)>
<!ELEMENT Resolution (#PCDATA)>
<!ELEMENT ResolutionLimitHigh (#PCDATA)>
<!ELEMENT ResolutionLimitLow (#PCDATA)>
<!ELEMENT ResolutionLimitType (#PCDATA)>
<!ELEMENT ResolutionType (#PCDATA)>
<!ELEMENT ResolutionUnits (#PCDATA)>
<!ELEMENT Result (#PCDATA)>
<!ELEMENT ResultBasis (#PCDATA)>
<!ELEMENT ResultLimitHigh (#PCDATA)>
<!ELEMENT ResultLimitLow (#PCDATA)>
<!ELEMENT ResultLimitType (#PCDATA)>
<!ELEMENT ResultType (#PCDATA)>
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<!ELEMENT ResultUncertaintyConfidenceLevel (#PCDATA)>
<!ELEMENT ResultUncertaintyDetermination (#PCDATA)>
<!ELEMENT ResultUncertaintyIntervalType (#PCDATA)>
<!ELEMENT ResultUncertaintyLimitHigh (#PCDATA)>
<!ELEMENT ResultUncertaintyLimitLow (#PCDATA)>
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<!ELEMENT RPDLimitHigh (#PCDATA)>
<!ELEMENT RPDLimitType (#PCDATA)>
<!ELEMENT RPDType (#PCDATA)>
<!ELEMENT RRF (#PCDATA)>
<!ELEMENT RRFLimitLow (#PCDATA)>
<!ELEMENT RRFLimitType (#PCDATA)>
<!ELEMENT RunBatch (#PCDATA)>
<!ELEMENT SampleAmount (#PCDATA)>
<!ELEMENT SampleAmountUnits (#PCDATA)>
<!ELEMENT SamplingBatch (#PCDATA)>
```

```
<!ELEMENT ShippingBatch (#PCDATA)>
<!ELEMENT SiteID (#PCDATA)>
<!ELEMENT SiteName (#PCDATA)>
<!ELEMENT Solvent (#PCDATA)>
<!ELEMENT StandardSource (#PCDATA)>
<!ELEMENT StorageBatch (#PCDATA)>
<!ELEMENT TailingFactor (#PCDATA)>
<!ELEMENT TailingFactorLimitHigh (#PCDATA)>
<!ELEMENT TailingFactorLimitType (#PCDATA)>
<!ELEMENT Temperature (#PCDATA)>
<!ELEMENT TemperatureUnits (#PCDATA)>
<!ELEMENT Wavelength (#PCDATA)>
<!ELEMENT WavelengthUnits (#PCDATA)>
<!ELEMENT WeightingFactor (#PCDATA)>
<!ELEMENT Yield (#PCDATA)>
```

6.4 General Stage 2a DTD

```
<?xml version="1.0" encoding="UTF-8"?>
<!—SEDD_5-2_GENERAL_2a_2.dtd 07/21/2008 Based on SEDD Specification 5.2 -->
<!-- Acronym Description -->
<!-- EDD   - Electronic Data Deliverable -->
<!-- ID    - Identity -->
<!-- Lab   - Laboratory -->
<!-- QC    - Quality Control -->
<!-- RPD   - Relative Percent Difference -->
<!ELEMENT Header (
                ClientID|
                ClientName|
                Comment|
                DateFormat|
                EDDID|
                EDDImplementationID|
                EDDImplementationVersion|
                EDDVersion|
                GeneratingSystemID|
                GeneratingSystemVersion|
                LabContract|
                LabContractModificationDescription|
                LabContractModificationID|
                LabDataPackageID|
                LabDataPackageName|
                LabDataPackageVersion|
                LabID|
                LabName|
                LabNarrative|
                LabQualifiersDefinition|
                LabReportedDate|
                ProjectID|
                ProjectName|
                SiteID|
                SiteName|
                ContactInformation|
                SamplePlusMethod
                        )*>
<!ELEMENT Analysis (
                AliquotAmount|
                AliquotAmountUnits|
                AnalysisDuration|
                AnalysisDurationUnits|
                AnalysisGroupID|
                AnalysisType|
                Analyst|
                AnalyzedAmount|
                AnalyzedAmountUnits|
                AnalyzedDate|
                ClientAnalysisID|
                ClientMethodCode|
                ClientMethodID|
                ClientMethodModificationDescription|
                ClientMethodModificationID|
                ClientMethodName|
                ClientMethodSource|
                ClientMethodVersion|
                Column|
```

```
                ColumnInternalDiameter|
                ColumnInternalDiameterUnits|
                ColumnLength|
                ColumnLengthUnits|
                Comment|
                ConfirmationAnalysisID|
                Counts|
                CountsUncertainty|
                CountsUncertaintyConfidenceLevel|
                CountsUncertaintyDetermination|
                CountsUncertaintyIntervalType|
                CountsUncertaintyLimitHigh|
                CountsUncertaintyLimitLow|
                CountsUncertaintyType|
                CountsUnits|
                DetectorID|
                DetectorType|
                DilutionFactor|
                Efficiency|
                HeatedPurge|
                Inclusion|
                InjectionVolume|
                InjectionVolumeUnits|
                InstrumentID|
                LabAnalysisID|
                LabFileID|
                LabID|
                LabMethodID|
                LabMethodName|
                LabName|
                MethodCode|
                MethodID|
                MethodModificationDescription|
                MethodModificationID|
                MethodName|
                MethodSource|
                MethodVersion|
                PreparationBatch|
                ProcedureID|
                ProcedureName|
                ReferenceDate|
                ResultBasis|
                Temperature|
                TemperatureUnits|
                Wavelength|
                WavelengthUnits|
                Yield|
                PreparationPlusCleanup|
                Analyte|
                AnalyteGroup
                        )*>
<!ELEMENT AnalysisGroup (
                AnalysisGroupID|
                AnalysisType|
                Comment|
                Analyte|
                AnalyteGroup
                        )*>
```

```
<!ELEMENT Analyte (
                AnalyteGroupID|
                AnalyteName|
                AnalyteNameContext|
                AnalyteType|
                CASRegistryNumber|
                ClientAnalyteID|
                ClientAnalyteName|
                Comment|
                Counts|
                CountsUncertainty|
                CountsUncertaintyConfidenceLevel|
                CountsUncertaintyDetermination|
                CountsUncertaintyIntervalType|
                CountsUncertaintyLimitHigh|
                CountsUncertaintyLimitLow|
                CountsUncertaintyType|
                CountsUnits|
                DetectionLimit|
                DetectionLimitType|
                DetectionLimitUnits|
                DifferenceErrorRatio|
                Efficiency|
                ExpectedResult|
                ExpectedResultUncertainty|
                ExpectedResultUncertaintyConfidenceLevel|
                ExpectedResultUncertaintyDetermination|
                ExpectedResultUncertaintyIntervalType|
                ExpectedResultUncertaintyLimitHigh|
                ExpectedResultUncertaintyLimitLow|
                ExpectedResultUncertaintyType|
                ExpectedResultUncertaintyUnits|
                ExpectedResultUnits|
                Inclusion|
                LabAnalyteID|
                LabQualifiers|
                LotNumber|
                PeakID|
                PercentRecovery|
                PercentRecoveryLimitHigh|
                PercentRecoveryLimitLow|
                PercentRecoveryLimitType|
                PercentRecoveryType|
                QuantitationLimit|
                QuantitationLimitType|
                QuantitationLimitUnits|
                ReportingLimit|
                ReportingLimitType|
                ReportingLimitUnits|
                Result|
                ResultLimitHigh|
                ResultLimitLow|
                ResultLimitType|
                ResultType|
                ResultUncertainty|
                ResultUncertaintyConfidenceLevel|
                ResultUncertaintyDetermination|
                ResultUncertaintyIntervalType|
                ResultUncertaintyLimitHigh|
                ResultUncertaintyLimitLow|
```

```
                ResultUncertaintyType|
                ResultUncertaintyUnits|
                ResultUnits|
                StandardSource|
                Wavelength|
                WavelengthUnits
                        )*>
<!ELEMENT AnalyteGroup (
                AnalyteGroupID|
                AnalyteName|
                AnalyteNameContext|
                AnalyteType|
                CASRegistryNumber|
                ClientAnalyteID|
                ClientAnalyteName|
                Comment|
                LabAnalyteID|
                LabQualifiers|
                Result|
                ResultType|
                ResultUncertainty|
                ResultUnits
                        )*>
<!ELEMENT Characteristic (
                CharacteristicType|
                CharacteristicValue|
                CharacteristicUnits|
                Comment
                        )*>
<!ELEMENT ContactInformation (
                LabAddress1|
                LabAddress2|
                LabCity|
                LabCountry|
                LabID|
                LabName|
                LabPointOfContact|
                LabPointOfContactElectronicAddress|
                LabPointOfContactTitle|
                LabPointOfContactType|
                LabState|
                LabTelephoneNumber|
                LabType|
                LabZipCode
                        )*>
<!ELEMENT Handling (
                Analyst|
                ClientMethodCode|
                ClientMethodID|
                ClientMethodModificationDescription|
                ClientMethodModificationID|
                ClientMethodName|
                ClientMethodSource|
                ClientMethodVersion|
                Comment|
                HandledDate|
                HandlingBatch|
                HandlingType|
                InitialAmount|
```

```
                InitialAmountUnits|
                LabID|
                LabMethodID|
                LabMethodName|
                LabName|
                MethodCode|
                MethodID|
                MethodModificationDescription|
                MethodModificationID|
                MethodName|
                MethodSource|
                MethodVersion|
                ProcedureID|
                ProcedureName|
                SampleAmount|
                SampleAmountUnits|
                Characteristic
                        )*>
<!ELEMENT PreparationPlusCleanup (
                AliquotAmount|
                AliquotAmountUnits|
                Analyst|
                CleanedUpDate|
                CleanupBatch|
                CleanupType|
                ClientMethodCode|
                ClientMethodID|
                ClientMethodModificationDescription|
                ClientMethodModificationID|
                ClientMethodName|
                ClientMethodSource|
                ClientMethodVersion|
                Comment|
                FinalAmount|
                FinalAmountUnits|
                InitialAmount|
                InitialAmountUnits|
                LabID|
                LabMethodID|
                LabMethodName|
                LabName|
                LotNumber|
                MethodCode|
                MethodID|
                MethodModificationDescription|
                MethodModificationID|
                MethodName|
                MethodSource|
                MethodVersion|
                PreparationBatch|
                PreparationPlusCleanupType|
                PreparationType|
                PreparedDate|
                ProcedureID|
                ProcedureName|
                Solvent|
                Characteristic
                        )*>
```

```
<!ELEMENT ReportedResult (
                AnalysisGroupID|
                AnalyteGroupID|
                AnalyteName|
                AnalyteNameContext|
                AnalyteType|
                BiasErrorRatio|
                CASRegistryNumber|
                ClientAnalyteID|
                ClientAnalyteName|
                ClientDetectionLimit|
                ClientDetectionLimitUnits|
                ClientQuantitationLimit|
                ClientQuantitationLimitUnits|
                Comment|
                DetectionLimit|
                DetectionLimitType|
                DetectionLimitUnits|
                DifferenceErrorRatio|
                ExpectedResult|
                ExpectedResultUncertainty|
                ExpectedResultUncertaintyConfidenceLevel|
                ExpectedResultUncertaintyDetermination|
                ExpectedResultUncertaintyIntervalType|
                ExpectedResultUncertaintyLimitHigh|
                ExpectedResultUncertaintyLimitLow|
                ExpectedResultUncertaintyType|
                ExpectedResultUncertaintyUnits|
                ExpectedResultUnits|
                LabAnalysisID|
                LabAnalyteID|
                LabQualifiers|
                LabResultStatus|
                PeakID|
                PercentDifference|
                PercentDifferenceLimitHigh|
                PercentDifferenceLimitLow|
                PercentDifferenceLimitType|
                PercentRecovery|
                PercentRecoveryLimitHigh|
                PercentRecoveryLimitLow|
                PercentRecoveryLimitType|
                PercentRecoveryType|
                QuantitationLimit|
                QuantitationLimitType|
                QuantitationLimitUnits|
                ReportingLimit|
                ReportingLimitType|
                ReportingLimitUnits|
                Result|
                ResultLimitHigh|
                ResultLimitLow|
                ResultLimitType|
                ResultType|
                ResultUncertainty|
                ResultUncertaintyConfidenceLevel|
                ResultUncertaintyDetermination|
                ResultUncertaintyIntervalType|
                ResultUncertaintyLimitHigh|
                ResultUncertaintyLimitLow|
```

```
                ResultUncertaintyType|
                ResultUncertaintyUnits|
                ResultUnits|
                RetentionTime|
                RetentionTimeUnits|
                RPD|
                RPDLimitHigh|
                RPDLimitType|
                RPDType
                        )*>
<!ELEMENT SamplePlusMethod (
                ClientID|
                ClientMethodCategory|
                ClientMethodCode|
                ClientMethodID|
                ClientMethodModificationDescription|
                ClientMethodModificationID|
                ClientMethodName|
                ClientMethodSource|
                ClientMethodType|
                ClientMethodVersion|
                ClientName|
                ClientSampleID|
                CollectedDate|
                CollectedEndDate|
                Comment|
                Composite|
                CoolerID|
                CustodyID|
                EquipmentBatch|
                Filtered|
                LabContract|
                LabContractModificationDescription|
                LabContractModificationID|
                LabID|
                LabMethodID|
                LabMethodName|
                LabName|
                LabReceiptDate|
                LabReportingBatch|
                LabSampleID|
                LocationID|
                LocationName|
                MatrixID|
                MatrixMedium|
                MethodBatch|
                MethodCategory|
                MethodCode|
                MethodID|
                MethodLevel|
                MethodModificationDescription|
                MethodModificationID|
                MethodName|
                MethodSource|
                MethodType|
                MethodVersion|
                OriginalClientSampleID|
                OriginalLabSampleID|
                PhaseAnalyzed|
```

```
                Preservative|
                ProjectID|
                ProjectName|
                QCCategory|
                QCLinkage|
                QCType|
                Quarantine|
                SamplingBatch|
                ShippingBatch|
                SiteID|
                SiteName|
                StorageBatch|
                Analysis|
                Characteristic|
                ReportedResult|
                Handling|
                AnalysisGroup
                          )*>
<!ELEMENT AliquotAmount (#PCDATA)>
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<!ELEMENT AnalysisDurationUnits (#PCDATA)>
<!ELEMENT AnalysisGroupID (#PCDATA)>
<!ELEMENT AnalysisType (#PCDATA)>
<!ELEMENT Analyst (#PCDATA)>
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<!ELEMENT AnalyteNameContext (#PCDATA)>
<!ELEMENT AnalyteType (#PCDATA)>
<!ELEMENT AnalyzedAmount (#PCDATA)>
<!ELEMENT AnalyzedAmountUnits (#PCDATA)>
<!ELEMENT AnalyzedDate (#PCDATA)>
<!ELEMENT BiasErrorRatio (#PCDATA)>
<!ELEMENT CASRegistryNumber (#PCDATA)>
<!ELEMENT CharacteristicType (#PCDATA)>
<!ELEMENT CharacteristicUnits (#PCDATA)>
<!ELEMENT CharacteristicValue (#PCDATA)>
<!ELEMENT CleanedUpDate (#PCDATA)>
<!ELEMENT CleanupBatch (#PCDATA)>
<!ELEMENT CleanupType (#PCDATA)>
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<!ELEMENT ClientAnalyteID (#PCDATA)>
<!ELEMENT ClientAnalyteName (#PCDATA)>
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<!ELEMENT ClientDetectionLimitUnits (#PCDATA)>
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<!ELEMENT ClientQuantitationLimitUnits (#PCDATA)>
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```

```
<!ELEMENT CollectedDate (#PCDATA)>
<!ELEMENT CollectedEndDate (#PCDATA)>
<!ELEMENT Column (#PCDATA)>
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<!ELEMENT ColumnInternalDiameterUnits (#PCDATA)>
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<!ELEMENT ColumnLengthUnits (#PCDATA)>
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<!ELEMENT CountsUncertaintyDetermination (#PCDATA)>
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<!ELEMENT CountsUncertaintyLimitLow (#PCDATA)>
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<!ELEMENT CountsUnits (#PCDATA)>
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<!ELEMENT DetectionLimitUnits (#PCDATA)>
<!ELEMENT DetectorID (#PCDATA)>
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<!ELEMENT DifferenceErrorRatio (#PCDATA)>
<!ELEMENT DilutionFactor (#PCDATA)>
<!ELEMENT EDDID (#PCDATA)>
<!ELEMENT EDDImplementationID (#PCDATA)>
<!ELEMENT EDDImplementationVersion (#PCDATA)>
<!ELEMENT EDDVersion (#PCDATA)>
<!ELEMENT Efficiency (#PCDATA)>
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<!ELEMENT ExpectedResultUncertaintyConfidenceLevel (#PCDATA)>
<!ELEMENT ExpectedResultUncertaintyDetermination (#PCDATA)>
<!ELEMENT ExpectedResultUncertaintyIntervalType (#PCDATA)>
<!ELEMENT ExpectedResultUncertaintyLimitHigh (#PCDATA)>
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<!ELEMENT ExpectedResultUncertaintyType (#PCDATA)>
<!ELEMENT ExpectedResultUncertaintyUnits (#PCDATA)>
<!ELEMENT ExpectedResultUnits (#PCDATA)>
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<!ELEMENT FinalAmountUnits (#PCDATA)>
<!ELEMENT GeneratingSystemID (#PCDATA)>
<!ELEMENT GeneratingSystemVersion (#PCDATA)>
<!ELEMENT HandledDate (#PCDATA)>
<!ELEMENT HandlingBatch (#PCDATA)>
<!ELEMENT HandlingType (#PCDATA)>
<!ELEMENT HeatedPurge (#PCDATA)>
<!ELEMENT Inclusion (#PCDATA)>
<!ELEMENT InitialAmount (#PCDATA)>
<!ELEMENT InitialAmountUnits (#PCDATA)>
<!ELEMENT InjectionVolume (#PCDATA)>
<!ELEMENT InjectionVolumeUnits (#PCDATA)>
```

```
<!ELEMENT InstrumentID (#PCDATA)>
<!ELEMENT LabAddress1 (#PCDATA)>
<!ELEMENT LabAddress2 (#PCDATA)>
<!ELEMENT LabAnalysisID (#PCDATA)>
<!ELEMENT LabAnalyteID (#PCDATA)>
<!ELEMENT LabCity (#PCDATA)>
<!ELEMENT LabContract (#PCDATA)>
<!ELEMENT LabContractModificationDescription (#PCDATA)>
<!ELEMENT LabContractModificationID (#PCDATA)>
<!ELEMENT LabCountry (#PCDATA)>
<!ELEMENT LabDataPackageID (#PCDATA)>
<!ELEMENT LabDataPackageName (#PCDATA)>
<!ELEMENT LabDataPackageVersion (#PCDATA)>
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<!ELEMENT LabID (#PCDATA)>
<!ELEMENT LabMethodID (#PCDATA)>
<!ELEMENT LabMethodName (#PCDATA)>
<!ELEMENT LabName (#PCDATA)>
<!ELEMENT LabNarrative (#PCDATA)>
<!ELEMENT LabPointOfContact (#PCDATA)>
<!ELEMENT LabPointOfContactElectronicAddress (#PCDATA)>
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<!ELEMENT LabPointOfContactType (#PCDATA)>
<!ELEMENT LabQualifiers (#PCDATA)>
<!ELEMENT LabQualifiersDefinition (#PCDATA)>
<!ELEMENT LabReceiptDate (#PCDATA)>
<!ELEMENT LabReportedDate (#PCDATA)>
<!ELEMENT LabReportingBatch (#PCDATA)>
<!ELEMENT LabResultStatus (#PCDATA)>
<!ELEMENT LabSampleID (#PCDATA)>
<!ELEMENT LabState (#PCDATA)>
<!ELEMENT LabTelephoneNumber (#PCDATA)>
<!ELEMENT LabType (#PCDATA)>
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<!ELEMENT LocationName (#PCDATA)>
<!ELEMENT LotNumber (#PCDATA)>
<!ELEMENT MatrixID (#PCDATA)>
<!ELEMENT MatrixMedium (#PCDATA)>
<!ELEMENT MethodBatch (#PCDATA)>
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<!ELEMENT MethodCode (#PCDATA)>
<!ELEMENT MethodID (#PCDATA)>
<!ELEMENT MethodLevel (#PCDATA)>
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<!ELEMENT MethodModificationID (#PCDATA)>
<!ELEMENT MethodName (#PCDATA)>
<!ELEMENT MethodSource (#PCDATA)>
<!ELEMENT MethodType (#PCDATA)>
<!ELEMENT MethodVersion (#PCDATA)>
<!ELEMENT OriginalClientSampleID (#PCDATA)>
<!ELEMENT OriginalLabSampleID (#PCDATA)>
<!ELEMENT PeakID (#PCDATA)>
<!ELEMENT PercentDifference (#PCDATA)>
<!ELEMENT PercentDifferenceLimitHigh (#PCDATA)>
<!ELEMENT PercentDifferenceLimitLow (#PCDATA)>
<!ELEMENT PercentDifferenceLimitType (#PCDATA)>
<!ELEMENT PercentRecovery (#PCDATA)>
<!ELEMENT PercentRecoveryLimitHigh (#PCDATA)>
```

```
<!ELEMENT PercentRecoveryLimitLow (#PCDATA)>
<!ELEMENT PercentRecoveryLimitType (#PCDATA)>
<!ELEMENT PercentRecoveryType (#PCDATA)>
<!ELEMENT PhaseAnalyzed (#PCDATA)>
<!ELEMENT PreparationBatch (#PCDATA)>
<!ELEMENT PreparationPlusCleanupType (#PCDATA)>
<!ELEMENT PreparationType (#PCDATA)>
<!ELEMENT PreparedDate (#PCDATA)>
<!ELEMENT Preservative (#PCDATA)>
<!ELEMENT ProcedureID (#PCDATA)>
<!ELEMENT ProcedureName (#PCDATA)>
<!ELEMENT ProjectID (#PCDATA)>
<!ELEMENT ProjectName (#PCDATA)>
<!ELEMENT QCCategory (#PCDATA)>
<!ELEMENT QCLinkage (#PCDATA)>
<!ELEMENT QCType (#PCDATA)>
<!ELEMENT QuantitationLimit (#PCDATA)>
<!ELEMENT QuantitationLimitType (#PCDATA)>
<!ELEMENT QuantitationLimitUnits (#PCDATA)>
<!ELEMENT Quarantine (#PCDATA)>
<!ELEMENT ReferenceDate (#PCDATA)>
<!ELEMENT ReportingLimit (#PCDATA)>
<!ELEMENT ReportingLimitType (#PCDATA)>
<!ELEMENT ReportingLimitUnits (#PCDATA)>
<!ELEMENT Result (#PCDATA)>
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<!ELEMENT ResultLimitHigh (#PCDATA)>
<!ELEMENT ResultLimitLow (#PCDATA)>
<!ELEMENT ResultLimitType (#PCDATA)>
<!ELEMENT ResultType (#PCDATA)>
<!ELEMENT ResultUncertainty (#PCDATA)>
<!ELEMENT ResultUncertaintyConfidenceLevel (#PCDATA)>
<!ELEMENT ResultUncertaintyDetermination (#PCDATA)>
<!ELEMENT ResultUncertaintyIntervalType (#PCDATA)>
<!ELEMENT ResultUncertaintyLimitHigh (#PCDATA)>
<!ELEMENT ResultUncertaintyLimitLow (#PCDATA)>
<!ELEMENT ResultUncertaintyType (#PCDATA)>
<!ELEMENT ResultUncertaintyUnits (#PCDATA)>
<!ELEMENT ResultUnits (#PCDATA)>
<!ELEMENT RetentionTime (#PCDATA)>
<!ELEMENT RetentionTimeUnits (#PCDATA)>
<!ELEMENT RPD (#PCDATA)>
<!ELEMENT RPDLimitHigh (#PCDATA)>
<!ELEMENT RPDLimitType (#PCDATA)>
<!ELEMENT RPDType (#PCDATA)>
<!ELEMENT SampleAmount (#PCDATA)>
<!ELEMENT SampleAmountUnits (#PCDATA)>
<!ELEMENT SamplingBatch (#PCDATA)>
<!ELEMENT ShippingBatch (#PCDATA)>
<!ELEMENT SiteID (#PCDATA)>
<!ELEMENT SiteName (#PCDATA)>
<!ELEMENT Solvent (#PCDATA)>
<!ELEMENT StandardSource (#PCDATA)>
<!ELEMENT StorageBatch (#PCDATA)>
<!ELEMENT Temperature (#PCDATA)>
<!ELEMENT TemperatureUnits (#PCDATA)>
<!ELEMENT Wavelength (#PCDATA)>
<!ELEMENT WavelengthUnits (#PCDATA)>
<!ELEMENT Yield (#PCDATA)>
```

7.0 DATA ELEMENT INSTRUCTION TABLES

Column abbreviations: Matrix Spike (MS), Matrix Spike Duplicate (MSD), Method Blank (MB), Leachate Extraction Blank (LEB), Storage Blank (SB), Instrument Blank (IB), Non-Client Sample (NCS), Cleanup Blank (CB), Laboratory Control Sample (LCS), Instrument Performance Check (IPC), Initial Calibration (ICAL), Continuing Calibration Verification (CCV), Florisil Cartridge Check (FLO), and Gel Permeation Chromatography Calibration Verification (GPC).

7.1 Stage 3

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS

	Applicability				
Node and Data Elements	Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
Header	X	X	X	X	
ClientID	X	X	X	X	Report "1" for Region 1, "2" for Region 2, etc. For samples received from QATS, report "91".
ClientName					Not required.
Comment					Not required.
DateFormat	X	X	X	X	Report MMDDYYYYThh:mm:ss. All dates and times reported in the EDD must follow this format. If any part of the time is unknown, report "00" for the unknown hours, minutes, and seconds.
EDDID	X	X	X	X	Report "SEDD".
EDDImplementationID	X	X	X	X	Report "SEDD_5-2_GENERAL_3" (This is the DTD used).
EDDImplementationVersion	X	X	X	X	Report "3" (This is the version of the DTD used).
EDDVersion	X	X	X	X	Report "5.2".
GeneratingSystemID	X	X	X	X	Report the name of generating software or vendor.
GeneratingSystemVersion	X	X	X	X	Report the software version number.
LabContract	X	X	X	X	Report the Contract Number.
LabContractModificationDescription					Not required.
LabContractModificationID					Not required.
LabDataPackageID	X	X	X	X	Report the SDG.
LabDataPackageName	X	X	X	X	Report "VOA_Trace", "VOA_Low_Med", "SVOA", or "SVOA_SIM" as applicable.
LabDataPackageVersion	X	X	X	X	Report "1", then increment with each resubmission.
LabID	X	X	X	X	Report the Agency-assigned Lab Code.
LabName	X	X	X	X	Report the Lab Name.
LabNarrative					Not required.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
LabQualifiersDefinition	X	X	X	X	Use the format 'Qualifier:Definition' to report each qualifier used. Use a ';' to separate the definitions of multiple qualifiers.
LabReportedDate	X	X	X	X	Report the date this data was reported to the client.
ProjectID	X	X	X	X	Report the Case Number.
ProjectName					Not required.
SiteID					Not required.
SiteName					Not required.
SamplePlusMethod	X	X	X	X	
Bottles					Not required.
BottleType					Not required.
ClientID	X	X			Report "1" for Region 1, "2" for Region 2, etc. For samples received from QATS, report "91".
ClientMethodCategory	X	X	X		Report "PAH" for analyte subset when applicable.
ClientMethodCode					Not required.
ClientMethodID	X	X	X	X	Report "SOM02.3".
ClientMethodModificationDescription					Not required.
ClientMethodModificationID	X	X	X		Report the Modified Analysis Number, if applicable.
ClientMethodName					Not required.
ClientMethodSource	X	X	X	X	Report "EPA_CLP".
ClientMethodType	X	X	X	X	Report "GCMS_Internal_Standard".
ClientMethodVersion	X	X	X	X	Report the month and year the SOW was issued.
ClientName					Not required.
ClientSampleID	X	X	X		Report the EPA Sample Number.
CollectedDate	X	X			Report the date and time the sample was collected.
CollectedEndDate					Not required.
Comment					Not required.
Composite					Not required.
CoolerID					Not required.
CustodyID	X	X			Report the Traffic Report/Chain of Custody Record Form number.
EquipmentBatch					Not required.
Filtered					Not required.
LabContract	X	X	X		Report the Contract Number.
LabContractModificationDescription					Not required.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
LabContractModificationID					Not required.
LabID	X	X	X	X	Report the Agency-assigned Lab Code.
LabMethodID					Not required.
LabMethodName					Not required.
LabName	X	X	X	X	Report the Lab Name.
LabReceiptDate	X	X			Report the date and time the sample was received.
LabReportingBatch	X	X	X	X	Links all samples analyzed to this deliverable. Report the SDG Number.
LabSampleID	X	X	X	X	Report the Lab Sample ID as assigned by the laboratory.
LocationID					Not required.
LocationName					Not required.
MatrixID	X	X	X	X	Report "Water" or "Soil" as applicable.
MatrixMedium	X	X	X	X	Report "Aqueous" or "Solid" as applicable.
MethodBatch					Not required.
MethodCategory					Not required.
MethodCode					Not required.
MethodID	X	X	X	X	Report "SOM02.3".
MethodLevel	X	X	X		Report "Trace", "Low", or "Medium".
MethodModificationDescription					Not required.
MethodModificationID					Not required.
MethodName					Not required.
MethodSource	X	X	X	X	Report "EPA_CLP".
MethodType	X	X	X	X	Report "GC/MS".
MethodVersion	X	X	X	X	Report the month and year the SOW was issued.
OriginalClientSampleID		X			Report the EPA Sample Number of the original sample this sample was derived from.
OriginalLabSampleID					Not required.
PhaseAnalyzed					Not required.
Preservative	X	X			Report any chemical or physical preservative used.
ProjectID	X	X	X		Report the Case Number.
ProjectName					Not required.
QCCategory		X	X		Report "Blank" for MB, LEB, SB, or IB; "Spike" for MS; or "Spike_Duplicate" for MSD.
QCLinkage		X	X		Report "LabReportingBatch" for MS/MSD, "PreparationBatch" for SVOA MB, "AnalysisBatch" for VOA IB, "StorageBatch" for SB, or "HandlingBatch" for LEB.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
QCType	X	X	X	X	Report "Field_Sample" for field samples; "Field_Blank" for field, equipment, rinse, or trip blanks; "Storage_Blank" for SB; "Method_Instrument_Blank" for IB; "PT_Sample" for Performance Evaluation samples or Proficiency Testing samples; "Method_Blank" for MB; "Leachate_Extraction_Blank" for LEB; "Matrix_Spike" for MS; "Matrix_Spike_Duplicate" for MSD; or "Non_Client_Sample".
Quarantine	X				Report "Yes" or "No" based on sampling information.
SamplingBatch					Not required.
ShippingBatch					Not required.
SiteID					Not required.
SiteName					Not required.
StorageBatch	X	X	X		Links all samples stored together with the Storage Blank. Report the Lab File ID of the Storage Blank. Not required for MB or IB.
InstrumentQC					Not required.
Characteristic	X	X	X		
CharacteristicType	X	X	X		Report "Percent_Solids" for each SamplePlusMethod. Report "pH" and "Temperature" for samples, received at the laboratory, under each SamplePlusMethod node. Report the "pH" and "Temperature" measured for the TCLP or SPLP leachates under the Handling node.
CharacteristicValue	X	X	X		Report the percent solids to two significant figures if less than 10 and three significant figures if greater than or equal to 10 for soil/sediment samples for "Percent_Solids"; the pH for aqueous/water samples (and soil/sediment samples as requested) to the nearest tenth for "pH"; and the temperature at receipt to the nearest degree for "Temperature".
CharacteristicUnits	X	X	X		Report "C" for "Temperature".
Comment					Not required.
ContactInformation	X	X	X	X	
LabAddress1	X	X	X	X	Report the street address of the laboratory.
LabAddress2	X	X	X	X	If applicable, report any additional address information (e.g., suite, maildrop). Otherwise leave blank.
LabCity	X	X	X	X	Report the city in which the laboratory is located.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
LabCountry	X	X	X	X	Report the country in which the laboratory is located.
LabID	X	X	X	X	Report the Agency-assigned Lab Code.
LabName	X	X	X	X	Report the Lab Name.
LabPointOfContact	X	X	X	X	Report the name of the person at the laboratory serving as the point of contact.
LabPointOfContactElectronicAddress	X	X	X	X	Report the Email address of the point of contact.
LabPointOfContactTitle	X	X	X	X	Report the title of the point of contact.
LabPointOfContactType					Not required.
LabState	X	X	X	X	Report the state or province in which the laboratory is located.
LabTelephoneNumber	X	X	X	X	Report the 10-digit phone number for the laboratory.
LabType					Not required.
LabZipCode	X	X	X	X	Report the ZIP or postal code.
Analysis	X	X	X	X	
AliquotAmount					Not required.
AliquotAmountUnits					Not required.
AnalysisBatch	X	X	X	X	Links this analysis to the instrument QC sample(s) that begins this sequence. Report the Lab File ID of the standard (Tune or CCV) that starts the sequence.
AnalysisBatchEnd	X	X	X	X	Links this analysis to the instrument QC sample(s) that ends this sequence. Report the Lab File ID of the CCV that ends this sequence.
AnalysisDuration					Not required.
AnalysisDurationUnits					Not required.
AnalysisGroupID					Not required.
AnalysisType	X	X	X		Report "Initial", "Dilution-01", "Reanalysis-01", or "Reinjection-01", then increment as necessary.
Analyst	X	X	X		Report the Analyst's initials.
AnalyzedAmount	X	X	X		For VOA medium soils/sediments, report the Soil Aliquot Volume in microliters to at least two significant figures.
AnalyzedAmountUnits	X	X	X		Report "uL".
AnalyzedDate	X	X	X	X	Report the date and time the sample was analyzed.
BackgroundCorrection					Not required.
BackgroundRawData					Not required.
BackgroundType					Not required.
BottleID					Not required.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
ClientAnalysisID	X	X	X	X	Report the full EPA Sample Number with applicable suffixes per the requirements in Exhibit B – Reporting and Deliverables Requirements.
ClientMethodCode	X	X	X	X	Report "Full_Scan" or "SIM" as applicable.
ClientMethodID	X	X	X	X	Report "SOM02.3".
ClientMethodModificationDescription					Not required.
ClientMethodModificationID					Not required.
ClientMethodName					Not required.
ClientMethodSource	X	X	X	X	Report "EPA_CLP".
ClientMethodVersion	X	X	X	X	Report the month and year the SOW was issued.
Column	X	X	X		Report the GC column used.
ColumnInternalDiameter	X	X	X		Report the GC Column Internal Diameter in millimeters.
ColumnInternalDiameterUnits	X	X	X		Report "mm".
ColumnLength	X	X	X		Report the Column Length in meters.
ColumnLengthUnits	X	X	X		Report "m".
Comment					Not required.
ConfirmationAnalysisID					Not required.
Counts					Not required.
CountsUncertainty					Not required.
CountsUncertaintyConfidenceLevel					Not required.
CountsUncertaintyDetermination					Not required.
CountsUncertaintyIntervalType					Not required.
CountsUncertaintyLimitHigh					Not required.
CountsUncertaintyLimitLow					Not required.
CountsUncertaintyType					Not required.
CountsUnits					Not required.
DetectorID					Not required.
DetectorType					Not required.
DilutionFactor	X	X	X		Report the Dilution Factor used to the nearest tenth. Report "1.0" when no dilutions are used.
Efficiency					Not required.
HeatedPurge	X	X	X		For VOA, report "Yes" if heated purge was used; otherwise report "No".
Inclusion					Not required.
InjectionVolume	X	X	X		For VOA, report the purge volume in milliliters. For SVOA, report the injection volume in microliters. Report volume to at least two significant figures.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
InjectionVolumeUnits	X	X	X		Report "mL" or "uL" as applicable.
InstrumentID	X	X	X	X	Report the laboratory identifier for the instrument used for this analysis.
InterelementCorrection					Not required.
LabAnalysisID	X	X	X	X	Report the Lab File ID.
LabFileID	X	X	X	X	Report the Lab File ID.
LabID					Not required.
LabMethodID					Not required.
LabMethodName					Not required.
LabName					Not required.
MethodCode					Not required.
MethodID	X	X	X	X	Report "SOM02.3".
MethodModificationDescription					Not required.
MethodModificationID					Not required.
MethodName					Not required.
MethodSource	X	X	X	X	Report "EPA_CLP".
MethodVersion	X	X	X	X	Report the month and year the SOW was issued.
OriginalLabAnalysisID	X	X	X		If a dilution or reinjection is prepared from a previously analyzed sample, report the Lab File ID of the original sample from which the dilution or reinjection is prepared.
PreparationBatch					Not required.
ProcedureID					Not required.
ProcedureName					Not required.
ReferenceDate					Not required.
ResultBasis	X	X	X		Report "Dry" for soil/sediment samples.
RunBatch	X	X	X	X	Links this analysis to an initial calibration. Report the Lab Analysis ID of the standard (Tune or calibration standard) that started the ICAL sequence.
SampleAmount					Not required.
SampleAmountUnits					Not required.
Temperature					Not required.
TemperatureUnits					Not required.
Wavelength					Not required.
WavelengthUnits					Not required.
Yield					Not required.
AnalysisGroup					Not required.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
Handling	X	X	X		
Analyst					Not required.
BottleID					Not required.
ClientMethodCode					Not required.
ClientMethodID	X	X	X		Report "SOM02.3".
ClientMethodModificationDescription					Not required.
ClientMethodModificationID					Not required.
ClientMethodName					Not required.
ClientMethodSource	X	X	X		Report "EPA_CLP".
ClientMethodVersion	X	X	X		Report the month and year the SOW was issued.
Comment					Not required.
HandledDate	X	X	X		Enter the date and time TCLP or SPLP extraction began or decanting was performed.
HandlingBatch	X	X	X		Links all samples that were TCLP or SPLP extracted together or decanted together. Report a unique identifier for each batch.
HandlingType	X	X	X		Report "TCLP" or "SPLP" for extractions. Report "Decanted" if water was decanted from soil/sediment samples; otherwise report "Not_decanted".
InitialAmount					Not required.
InitialAmountUnits					Not required.
LabID					Not required.
LabMethodID					Not required.
LabMethodName					Not required.
LabName					Not required.
MethodCode					Not required.
MethodID	X	X	X		Report "SOM02.3".
MethodModificationDescription					Not required.
MethodModificationID					Not required.
MethodName					Not required.
MethodID					Not required
MethodSource	X	X	X		Report "EPA_CLP".
MethodVersion	X	X	X		Report the month and year the SOW was issued.
ProcedureID					Not required.
ProcedureName					Not required.
SampleAmount					Not required.
SampleAmountUnits					Not required.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
ReportedResult	X	X	X		
AnalysisGroupID					Not required.
AnalyteGroupID					Not required.
AnalyteName	X	X	X		Report the analytes as they appear in the SOW or as identified for TICs. Report unknown TICs as "Unknown-01", then increment for each TIC.
AnalyteNameContext	X	X	X		Report "CAS" as applicable.
AnalyteType	X	X	X		Report "Target" for all target analytes, "Spike" for all target analytes designated as spike analytes for MS/MSD analysis, and "TIC" for all TICs.
BiasErrorRatio					Not required.
CASRegistryNumber	X	X	X		Report the CAS Number as it appears in the SOW, and for TICs if known.
ClientAnalyteID	X	X	X		Report the CAS number. For TICs with no CAS number, report TIC name or as "Unknown-01", then increment with each TIC.
ClientAnalyteName	X	X	X		Report the analytes as they appear in the SOW or as identified for TICs. Report unknown TICs as "Unknown-01", then increment for each TIC.
ClientDetectionLimit					Not required.
ClientDetectionLimitUnits					Not required.
ClientQuantitationLimit	X	X	X		Report the unadjusted CRQL.
ClientQuantitationLimitUnits	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
Comment					Not required.
DetectionLimit	X	X	X		For target analytes, report the current MDL, adjusted for sample weight/volume, percent solids, and dilution factor to at least two significant figures.
DetectionLimitType	X	X	X		Report "MDL_sa".
DetectionLimitUnits	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
DifferenceErrorRatio					Not required.
ExpectedResult		X			Report the theoretical final calculated concentration (the spike added) for the spiked analytes.
ExpectedResultUncertainty					Not required.
ExpectedResultUncertaintyConfidenceLevel					Not required.
ExpectedResultUncertaintyDetermination					Not required.
ExpectedResultUncertaintyIntervalType					Not required.
ExpectedResultUncertaintyLimitHigh					Not required.
ExpectedResultUncertaintyLimitLow					Not required.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
ExpectedResultUncertaintyType					Not required.
ExpectedResultUncertaintyUnits					Not required.
ExpectedResultUnits		X			Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
LabAnalysisID	X	X	X		Report the Lab File ID from the analysis this reported result was derived from.
LabAnalyteID					Not required.
LabQualifiers	X	X	X		Report flags as specified in the SOW. Includes the Q qualifiers from Form 1-OR.
LabResultStatus	X	X			Report "Preliminary" or "Final" as applicable.
PeakID					Not required.
PercentDifference					Not required.
PercentDifferenceLimitHigh					Not required.
PercentDifferenceLimitLow					Not required.
PercentDifferenceLimitType					Not required.
PercentRecovery		X			Report the Percent Recovery to the nearest whole percent.
PercentRecoveryLimitHigh		X			Report the upper limit for the Percent Recovery to the nearest whole percent.
PercentRecoveryLimitLow		X			Report the lower limit for the Percent Recovery to the nearest whole percent.
PercentRecoveryLimitType		X			Report "Method".
PercentRecoveryType					Not required.
QuantitationLimit	X	X	X		For target analytes, report the CRQL adjusted for sample weight/volume, percent solids, and dilution factor to at least two significant figures.
QuantitationLimitType	X	X	X		Report "CRQL_sa".
QuantitationLimitUnits	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
ReportingLimit					Not required.
ReportingLimitType					Not required.
ReportingLimitUnits					Not required.
Result	X	X	X		Report the final calculated result for detects per the SOW.
ResultLimitHigh					Not required.
ResultLimitLow					Not required.
ResultLimitType					Not required.
ResultType	X	X	X		Report "=" for all detected analytes. Report "Not_Detected" for non-detects.
ResultUncertainty					Not required.
ResultUncertaintyConfidenceLevel					Not required.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
ResultUncertaintyDetermination					Not required.
ResultUncertaintyIntervalType					Not required.
ResultUncertaintyLimitHigh					Not required.
ResultUncertaintyLimitLow					Not required.
ResultUncertaintyType					Not required.
ResultUncertaintyUnits					Not required.
ResultUnits	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
RetentionTime	X	X	X		Report retention time in decimal minutes for all TICs.
RetentionTimeUnits	X	X	X		Report "Minutes".
RPD		X			Report the RPD to the nearest whole percent.
RPDLimitHigh		X			Report the upper limit for the RPD to the nearest whole percent.
RPDLimitType		X			Report "Method".
RPDType					Not required.
PreparationPlusCleanup	X	X	X		
AliquotAmount	X	X	X		Report the sample amount in grams for soil/sediment or milliliters for aqueous/water (VOA and SVOA) to at least three significant figures.
AliquotAmountUnits	X	X	X		Report "g" for soil/sediment or "mL" for aqueous/water.
Analyst	X	X	X		Report the Analyst's initials.
BottleID					Not required.
CleanedUpDate	X	X	X		Report the date and time the sample was cleaned up.
CleanupBatch	X	X	X		Links all samples that were cleaned up together. Report the Lab File ID of the associated blank or other unique identifier.
CleanupType	X	X	X		Report "GPC" as applicable.
ClientMethodCode					Not required.
ClientMethodID	X	X	X		Report the sample preparation ID as given in Exhibit B – Reporting and Deliverables Requirements.
ClientMethodModificationDescription					Not required.
ClientMethodModificationID					Not required.
ClientMethodName					Not required.
ClientMethodSource	X	X	X		Report "EPA_CLP".
ClientMethodVersion	X	X	X		Report the month and year the SOW was issued.
Comment					Not required.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
Efficiency					Not required.
FinalAmount	X	X	X		Report the Final Amount of material produced upon completion of this prep or cleanup in microliters (SVOA only).
FinalAmountUnits	X	X	X		Report "uL".
InitialAmount	X	X	X		Report the initial amount of extracted sample used for this prep or cleanup method in microliters (SVOA and Medium VOA soil/sediment).
InitialAmountUnits	X	X	X		Report "uL".
LabID					Not required.
LabMethodID					Not required.
LabMethodName					Not required.
LabName					Not required.
LotNumber					Not required.
MethodCode					Not required.
MethodID	X	X	X		Report "SOM02.3".
MethodModificationDescription					Not required.
MethodModificationID					Not required.
MethodName					Not required.
MethodSource	X	X	X		Report "EPA_CLP".
MethodVersion	X	X	X		Report the month and year the SOW was issued.
PreparationBatch	X	X	X		Links all samples that were prepared together. Applicable to Trace VOA and VOA Low/Medium samples that were analyzed in the same analytical sequence. Report the Lab File ID of the associated Method Blank.
PreparationPlusCleanupType	X	X	X		Report "Preparation" or "Cleanup" as applicable.
PreparationType	X	X	X		Report "Sonication", "Soxhlet", or "Pressurized_Fluid" for soil/sediment. Report "Liq_Liq" or "Liq_Membrane" for aqueous/water. Report "Purge_and_Trap" for Trace VOA and VOA Low/Medium.
PreparedDate	X	X	X		Report the date and time the sample was prepared or purged as applicable.
ProcedureID					Not required.
ProcedureName					Not required.
SampleAmount					Not required.
SampleAmountUnits					Not required.
Solvent					Not required.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
Analyte	X	X	X		
AmountAdded	X	X	X		Volume of internal standard, DMC, or MS/MSD spiking solution added in microliters.
AmountAddedUnits		X			Report "uL".
AmountAddedLocation		X			For MS/MSD, report "Aliquot".
AnalyteGroupID					Not required.
AnalyteName	X	X	X		Report the analytes as they appear in the SOW or as identified for TICs. Report unknown TICs as "Unknown-01", then increment with each TIC.
AnalyteNameContext	X	X	X		Report "CAS" as applicable.
AnalyteType	X	X	X		Report "Target" for all target analytes, "Spike" for all target analytes designated as spike analytes for MS/MSD analysis, "Internal_Standard" for internal standards, "Surrogate" for DMCs, or "TIC" for all TICs.
BiasErrorRatio					Not required.
CalibrationBasis					Not required.
CalibrationFactor					Not required.
CalibrationFactorUnits					Not required.
CalibrationType					Not required.
CASRegistryNumber	X	X	X		Report the CAS Number as it appears in the SOW, and for TICs if known.
ClientAnalyteID	X	X	X		Report CAS Number. For TICs with no CAS number, report TIC name or as "Unknown-01", then increment with each TIC.
ClientAnalyteName	X	X	X		Report the analytes as they appear in the SOW or as identified for TICs. Report unknown TICs as "Unknown-01", then increment with each TIC.
Coeffa0					Not required.
Coeffa1					Not required.
Coeffa2					Not required.
Coeffa3					Not required.
CoeffOfDetermination					Not required.
CoeffOfDeterminationLimitLow					Not required.
CoeffOfDeterminationLimitType					Not required.
Comment					Not required.
CorrelationCoeff					Not required.
CorrelationCoeffLimitLow					Not required.
CorrelationCoeffLimitType					Not required.
Counts					Not required.
CountsUncertainty					Not required.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
CountsUncertaintyConfidenceLevel					Not required.
CountsUncertaintyDetermination					Not required.
CountsUncertaintyIntervalType					Not required.
CountsUncertaintyLimitHigh					Not required.
CountsUncertaintyLimitLow					Not required.
CountsUncertaintyType					Not required.
CountsUnits					Not required.
DetectionLimit	X	X	X		Report the MDL.
DetectionLimitType	X	X	X		Report "MDL".
DetectionLimitUnits	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
DifferenceErrorRatio					Not required.
Efficiency					Not required.
ExpectedResult	X	X	X		For DMCs and internal standards, report the final amount added in nanograms.
ExpectedResultUncertainty					Not required.
ExpectedResultUncertaintyConfidenceLevel					Not required.
ExpectedResultUncertaintyDetermination					Not required.
ExpectedResultUncertaintyIntervalType					Not required.
ExpectedResultUncertaintyLimitHigh					Not required.
ExpectedResultUncertaintyLimitLow					Not required.
ExpectedResultUncertaintyType					Not required.
ExpectedResultUncertaintyUnits					Not required.
ExpectedResultUnits	X	X	X		Report "ng".
Inclusion					Not required.
IntermediateResult	X	X	X		Report the on-column amount in nanograms from the raw data. Leave blank if undetected.
IntermediateResultLimitHigh					Not required
IntermediateResultLimitLow					Not required.
IntermediateResultLimitType					Not required.
IntermediateResultUnits	X	X	X		Report "ng".
LabAnalyteID					Not required.
LabQualifiers	X	X	X		Report qualifiers as specified in the SOW.
LotNumber	X	X	X		Report the vendor/manufacturer assigned lot number for this standard (DMCs, Internal Standards, and spiking analytes only).
Mass					Not required.
MassLimitHigh					Not required.
MassLimitLow					Not required.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
MassLimitType					Not required.
MassUnits					Not required.
MeanCalibrationFactor					Not required.
MeanCalibrationFactorUnits					Not required.
MeanRRF					Not required.
MeanRRFLimitLow					Not required.
MeanRRFLimitType					Not required.
PeakID	X	X	X		If response from a single peak is used for quantitation, report the ID of that peak. For unknown TICs, report the unique identifiers as applicable. For alkanes, report "Total alkanes" as the identifier.
PercentBreakdown					Not required.
PercentBreakdownLimitHigh					Not required.
PercentBreakdownLimitType					Not required.
PercentDifference					Not required.
PercentDifferenceLimitHigh					Not required.
PercentDifferenceLimitLow					Not required.
PercentDifferenceLimitType					Not required.
PercentMatch	X		X		Report the percent match for TICs only.
PercentRecovery	X	X	X		Report the final calculated percent recovery of the DMCs to the nearest whole percent.
PercentRecoveryLimitHigh	X	X	X		Report the upper limit for the percent recovery of the DMCs to the nearest whole percent.
PercentRecoveryLimitLow	X	X	X		Report the lower limit for the percent recovery of the DMCs to the nearest whole percent.
PercentRecoveryLimitType	X	X	X		Report "Method".
PercentRecoveryType					Not required.
PercentRSD					Not required.
PercentRSDLimitHigh					Not required.
PercentRSDLimitLow					Not required.
PercentRSDLimitType					Not required.
QuantitationBasis					Not required.
QuantitationLimit	X	X	X		Report the CRQL.
QuantitationLimitType	X	X	X		Report "CRQL".
QuantitationLimitUnits	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
ReportingLimit					Not required.
ReportingLimitType					Not required.
ReportingLimitUnits					Not required.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
Response					Not required.
ResponseLimitHigh					Not required.
ResponseLimitLow					Not required.
ResponseLimitType					Not required.
ResponseUnits					Not required.
Result	X	X	X		Report the final calculated concentration or amount to at least two significant figures. Leave blank if compound is not detected.
ResultLimitHigh					Not required.
ResultLimitLow					Not required.
ResultLimitType					Not required.
ResultType	X	X	X		Report "=" for all detected analytes. Report "Not_Detected" for non-detects.
ResultUncertainty					Not required.
ResultUncertaintyConfidenceLevel					Not required.
ResultUncertaintyDetermination					Not required.
ResultUncertaintyIntervalType					Not required.
ResultUncertaintyLimitHigh					Not required.
ResultUncertaintyLimitLow					Not required.
ResultUncertaintyType					Not required.
ResultUncertaintyUnits					Not required.
ResultUnits	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
RPD					Not required.
RPDLimitHigh					Not required.
RPDLimitType					Not required.
RPDType					Not required.
RRF					Not required.
RRFLimitLow					Not required.
RRFLimitType					Not required.
StandardConcentration	X	X	X		Report the concentration of the internal standard, DMC, or spiking solution added to the sample in ug/L.
StandardConcentrationUnits					Report "ug/L".
StandardDeviation					Not required.
StandardDeviationUnits					Not required.
StandardFinalAmount					Not required.
StandardFinalAmountUnits					Not required.
StandardID					Not required.
StandardSource	X	X	X		Report the vendor/manufacturer for this standard.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
TailingFactor					Not required.
TailingFactorLimitHigh					Not required.
TailingFactorLimitType					Not required.
Wavelength					Not required.
WavelengthUnits					Not required.
WeightingFactor					Not required.
AnalyteComparison					Not required
AnalyteGroup					Not required.
Peak	X	X	X		
CalibrationFactor					Not required.
CalibrationFactorUnits					Not required.
CalibrationType					Not required.
Coeffa0					Not required.
Coeffa1					Not required.
Coeffa2					Not required.
Coeffa3					Not required.
CoeffOfDetermination					Not required.
CoeffOfDeterminationLimitLow					Not required.
CoeffOfDeterminationLimitType					Not required.
DetectionLimit					Not required.
DetectionLimitType					Not required
DetectionLimitUnits					Not required.
DifferenceErrorRatio					Not required.
Efficiency					Not required.
Inclusion					Not required.
IntermediateResult	X	X	X		Report the on-column amount in nanograms from the raw data. Leave blank if compound is not detected.
IntermediateResultLimitHigh					Not required.
IntermediateResultLimitLow					Not required.
IntermediateResultLimitType					Not required.
IntermediateResultUnits	X	X	X		Report "ng".
LabQualifiers					Not required.
ManualIntegration	X	X	X		Report "Yes" if this peak was manually integrated; otherwise report "No".
Mass					Not required.
MassLimitHigh					Not required.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
MassLimitLow					Not required.
MassLimitType					Not required.
MassUnits					Not required.
MeanCalibrationFactor					Not required.
MeanCalibrationFactorUnits					Not required.
MeanRetentionTime					Not required.
MeanRetentionTimeLimitHigh					Not required.
MeanRetentionTimeLimitLow					Not required.
MeanRetentionTimeLimitType					Not required.
MeanRetentionTimeLimitUnits					Not required.
MeanRRF					Not required.
MeanRRFLimitLow					Not required.
MeanRRFLimitType					Not required.
PeakID	X	X	X		Report the primary quantitation ion used or "Total" if all ions were used.
PeakRatio					Not required.
PeakRatioLimitHigh					Not required.
PeakRatioLimitLow					Not required.
PeakRatioLimitType					Not required.
PercentDifference					Not required.
PercentDifferenceLimitHigh					Not required.
PercentDifferenceLimitLow					Not required.
PercentDifferenceLimitType					Not required.
PercentRatio					Not required.
PercentRatioLimitHigh					Not required.
PercentRatioLimitLow					Not required.
PercentRatioLimitType					Not required.
PercentRecovery					Not required.
PercentRecoveryLimitHigh					Not required.
PercentRecoveryLimitLow					Not required.
PercentRecoveryLimitType					Not required.
PercentRecoveryType					Not required.
PercentRSD					Not required.
PercentRSDLimitHigh					Not required.
PercentRSDLimitLow					Not required.
PercentRSDLimitType					Not required.
QuantitationLimit					Not required.
QuantitationLimitType					Not required.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
QuantitationLimitUnits					Not required.
ReportingLimit					Not required.
ReportingLimitType					Not required.
ReportingLimitUnits					Not required.
Resolution					Not required.
ResolutionLimitHigh					Not required.
ResolutionLimitLow					Not required.
ResolutionLimitType					Not required.
ResolutionType					Not required.
ResolutionUnits					Not required.
Response	X	X	X		Report the actual peak response from the raw data.
ResponseLimitHigh	X	X	X		Report the upper limit for the response for the internal standards only.
ResponseLimitLow	X	X	X		Report the lower limit for the response for the internal standards only.
ResponseLimitType	X	X	X		Report "Method".
ResponseType					Not required.
ResponseUnits	X	X	X		Report "Peak_Area".
Result					Not required.
ResultLimitHigh					Not required.
ResultLimitLow					Not required.
ResultLimitType					Not required.
ResultType					Not required.
ResultUncertainty					Not required.
ResultUnits					Not required.
RetentionTime	X	X	X		Report the actual retention time in decimal minutes from the raw data for this peak.
RetentionTimeLimitHigh	X	X	X		Report the upper limit for this retention time in decimal minutes for the internal standards.
RetentionTimeLimitLow	X	X	X		Report the lower limit for this retention time in decimal minutes for the internal standards.
RetentionTimeLimitType	X	X	X		Report "Method".
RetentionTimeUnits	X	X	X		Report "Minutes".
RRF					Not required.
RRFLimitLow					Not required.
RRFLimitType					Not required.
StandardDeviation					Not required.
StandardDeviationUnits					Not required.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
TailingFactor					Not required.
TailingFactorLimitHigh					Not required.
TailingFactorLimitType					Not required.
Wavelength					Not required.
WavelengthUnits					Not required.
WeightingFactor					Not required.
PeakComparison	X	X	X		
AnalyteName	X	X	X		Report the name of the associated internal standard as it appears in the SOW.
AnalyteNameContext	X	X	X		Report "CAS".
CASRegistryNumber	X	X	X		Report the CAS number of the associated internal standard.
ClientAnalyteID	X	X	X		Report the CAS number of the associated internal standard.
ClientAnalyteName					Not required.
Comment					Not required.
LabAnalyteID					Not required.
PeakID	X	X	X		Report the primary quantitation ion used for the internal standard.
PeakRatio					Not required.
PeakRatioLimitHigh					Not required.
PeakRatioLimitLow					Not required.
PeakRatioLimitType					Not required.
PercentRatio					Not required.
PercentRatioLimitHigh					Not required.
PercentRatioLimitLow					Not required.
PercentRatioLimitType					Not required.
PeakReplicate					Not required.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Tune	ICAL	CCV	Instructions
Header	X	X	X	
ClientID	X	X	X	Report "1" for Region 1, "2" for Region 2, etc. For samples received from QATS, report "91".
ClientName				Not required.
Comment				Not required.
DateFormat	X	X	X	Report MMDDYYYYThh:mm:ss. All dates and times reported in the EDD must follow this format. If any part of the time is unknown, report "00" for the unknown hours, minutes, and seconds.
EDDID	X	X	X	Report "SEDD".
EDDImplementationID	X	X	X	Report "SEDD_5-2_GENERAL_3" (This is the DTD used).
EDDImplementationVersion	X	X	X	Report "3" (This is the version of the DTD used).
EDDVersion	X	X	X	Report "5.2".
GeneratingSystemID	X	X	X	Report the name of generating software or vendor.
GeneratingSystemVersion	X	X	X	Report the software version number.
LabContract	X	X	X	Report the Contract Number.
LabContractModificationDescription				Not required.
LabContractModificationID				Not required.
LabDataPackageID	X	X	X	Report the SDG.
LabDataPackageName	X	X	X	Report "VOA_Trace", "VOA_Low_Med", "SVOA", or "SVOA_SIM" as applicable.
LabDataPackageVersion	X	X	X	Report "1", then increment with each resubmission.
LabID	X	X	X	Report the Agency-assigned Lab Code.
LabName	X	X	X	Report the Lab Name.
LabNarrative				Not required.
LabQualifiersDefinition	X	X	X	Use the format 'Qualifier:Definition' to report each qualifier used. Use a ';' to separate the definitions of multiple qualifiers.
LabReportedDate	X	X	X	Report the date this data was reported to the client.
ProjectID	X	X	X	Report the Case Number.
ProjectName				Not required.
SiteID				Not required.
SiteName				Not required.
SamplePlusMethod				Not required.
InstrumentQC	X	X	X	
ClientInstrumentQCType				Not required.
ClientMethodCode				Not required.
ClientMethodID	X	X	X	Report "SOM02.3".
ClientMethodModificationDescription				Not required.
ClientMethodModificationID				Not required.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS
(Con't)

Node and Data Elements	Applicability: Tune	ICAL	CCV	Instructions
ClientMethodName				Not required.
ClientMethodSource	X	X	X	Report "EPA_CLP".
ClientMethodVersion	X	X	X	Report the month and year the SOW was issued.
Comment				Not required.
LabID	X	X	X	Report the Agency-assigned Lab Code.
LabInstrumentQCID	X	X	X	Report the EPA Sample Number. For ICAL, report the EPA Sample Number of the first standard.
LabMethodID				Not required.
LabMethodName				Not required.
LabName	X	X	X	Report the Lab Name.
MethodCode				Not required.
MethodID	X	X	X	Report "SOM02.3".
MethodModificationDescription				Not required.
MethodModificationID				Not required.
MethodName				Not required.
MethodSource	X	X	X	Report "EPA_CLP".
MethodVersion	X	X	X	Report the month and year the SOW was issued.
QCLinkage	X	X	X	Report "RunBatch" for ICAL. Report "AnalysisBatch" for Tune and CCV.
QCType	X	X	X	Report "Instrument_Performance_Check_Tune" for Tune; "Initial_Calibration" for calibration; or "Continuing_Calibration_Verification" for CCV.
ContactInformation	X	X	X	
LabAddress1	X	X	X	Report the street address of the laboratory.
LabAddress2	X	X	X	If applicable, report any additional address information (e.g., suite, maildrop). Otherwise leave blank.
LabCity	X	X	X	Report the city in which the laboratory is located.
LabCountry	X	X	X	Report the country in which the laboratory is located.
LabID	X	X	X	Report the Agency-assigned Lab Code.
LabName	X	X	X	Report the Lab Name.
LabPointOfContact	X	X	X	Report the name of person at the laboratory serving as the point of contact.
LabPointOfContactElectronicAddress	X	X	X	Report the Email address of the point of contact.
LabPointOfContactTitle	X	X	X	Report the title of the point of contact.
LabPointOfContactType				Not required.
LabState	X	X	X	Report the state or province in which the laboratory is located.
LabTelephoneNumber	X	X	X	Report the 10-digit phone number for the laboratory.
LabType				Not required.
LabZipCode	X	X	X	Report the ZIP or postal code.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Tune	ICAL	CCV	Instructions
Analysis	X	X	X	
AliquotAmount				Not required.
AliquotAmountUnits				Not required.
AnalysisBatch			X	Links this analysis to the beginning of a 12-hour period. Report the Lab File ID of the standard (tune or CCV) that starts this sequence. For the standard that starts the 12-hour period, enter the Lab File ID of the standard itself.
AnalysisBatchEnd			X	Links this analysis to the end of a 12-hour period. Report the Lab File ID of the CCV that ends this sequence. For the closing CCV that closes the 12-hour period, report the Lab File ID of the standard itself.
AnalysisDuration				Not required.
AnalysisDurationUnits				Not required.
AnalysisGroupID		X		Links a group of analyses together that are used for the initial calibration. Report the Lab File ID of the standard (Tune or calibration standard) that starts this ICAL sequence.
AnalysisType	X	X	X	For Tune, report "Initial". For ICAL/CCV, report the calibration level used.
Analyst	X	X	X	Report the Analyst's initials.
AnalyzedAmount				Not required.
AnalyzedAmountUnits				Not required.
AnalyzedDate	X	X	X	Report the date and time the sample was analyzed.
BackgroundCorrection				Not required.
BackgroundRawData				Not required.
BackgroundType				Not required.
BottleID				Not required.
ClientAnalysisID	X	X	X	Report the full EPA Sample Number with applicable suffixes per the requirements in Exhibit B – Reporting and Deliverables Requirements.
ClientMethodCode				Not required.
ClientMethodID	X	X	X	Report "SOM02.3".
ClientMethodModificationDescription				Not required.
ClientMethodModificationID				Not required.
ClientMethodName				Not required.
ClientMethodSource	X	X	X	Report "EPA_CLP".
ClientMethodVersion	X	X	X	Report the month and year the SOW was issued.
Column	X	X	X	Report the GC Column used.
ColumnInternalDiameter	X	X	X	Report the GC Column Internal Diameter in millimeters.
ColumnInternalDiameterUnits	X	X	X	Report "mm".
ColumnLength	X	X	X	Report the GC Column Length in meters.
ColumnLengthUnits	X	X	X	Report "m".
Comment				Not required.
ConfirmationAnalysisID				Not required.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS
(Con't)

Node and Data Elements	Applicability: Tune	ICAL	CCV	Instructions
Counts				Not required.
CountsUncertainty				Not required.
CountsUncertaintyConfidenceLevel				Not required.
CountsUncertaintyDetermination				Not required.
CountsUncertaintyIntervalType				Not required.
CountsUncertaintyLimitHigh				Not required.
CountsUncertaintyLimitLow				Not required.
CountsUncertaintyType				Not required.
CountsUnits				Not required.
DetectorID				Not required.
DetectorType				Not required.
DilutionFactor	X	X	X	Report the Dilution Factor used to the nearest tenth. Report "1.0" when no dilutions are used.
Efficiency				Not required.
HeatedPurge	X	X	X	For VOA, report "Yes" if a heated purge was used; otherwise report "No".
Inclusion		X		Report "Yes" if the ICAL standard is to be included in the calibration curve; otherwise report "No".
InjectionVolume	X	X	X	For VOA, report the purge volume in milliliters. For SVOA, report the injection volume in microliters. Report volume to at least two significant figures.
InjectionVolumeUnits	X	X	X	Report "mL" or "uL" as applicable.
InstrumentID	X	X	X	Report the laboratory identifier for the instrument used for this analysis.
InterelementCorrection				Not required.
LabAnalysisID	X	X	X	Report the Lab File ID.
LabFileID	X	X	X	Report the Lab File ID.
LabID				Not required.
LabMethodID				Not required.
LabMethodName				Not required.
LabName				Not required.
MethodCode				Not required.
MethodID	X	X	X	Report "SOM02.3".
MethodModificationDescription				Not required.
MethodModificationID				Not required.
MethodName				Not required.
MethodSource	X	X	X	Report "EPA_CLP".
MethodVersion	X	X	X	Report month and year the SOW was issued.
OriginalLabAnalysisID				Not required.
PreparationBatch				Not required.
ProcedureID				Not required.
ProcedureName				Not required.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Tune	ICAL	CCV	Instructions
ReferenceDate				Not required.
ResultBasis				Not required.
RunBatch	X	X	X	Links this analysis to an initial calibration. Report the Lab File ID of the standard (Tune or calibration standard) that started the ICAL sequence.
SampleAmount				Not required.
SampleAmountUnits				Not required.
Temperature				Not required.
TemperatureUnits				Not required.
Wavelength				Not required.
WavelengthUnits				Not required.
Yield				Not required.
AnalysisGroup		X		
AnalysisGroupID		X		This links a group of analyses together that are used for the initial calibration. Report the Lab File ID of the standard (Tune or calibration) that starts this calibration sequence.
AnalysisType		X		Report "Initial_Calibration".
Comment				Not required.
Handling				Not required.
ReportedResult				Not required.
PreparationPlusCleanup				Not required.
Analyte	X	X	X	
AmountAdded	X	X	X	Report the volume of standard used in microliters.
AmountAddedUnits	X	X	X	Report "uL".
AmountAddedLocation	X	X	X	Report "Standard".
AnalyteGroupID				Not required.
AnalyteName	X	X	X	Report the analytes as they appear in the SOW.
AnalyteNameContext	X	X	X	Report "CAS".
AnalyteType	X	X	X	Report "Target" for all target analytes, "Internal_Standard" for internal standards, "Surrogate" for DMCs, or "Instrument_Performance" for tunes.
BiasErrorRatio				Not required.
CalibrationBasis		X		Report "Peak" under the AnalysisGroup node.
CalibrationFactor				Not required.
CalibrationFactorUnits				Not required.
CalibrationType				Not required.
CASRegistryNumber	X	X	X	Report the CAS Number as it appears in the SOW.
ClientAnalyteID	X	X	X	Report CAS Number.
ClientAnalyteName	X	X	X	Report the analytes as they appear in the SOW.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS
(Con't)

Node and Data Elements	Applicability: Tune	ICAL	CCV	Instructions
Coeffa0				Not required.
Coeffa1				Not required.
Coeffa2				Not required.
Coeffa3				Not required.
CoeffOfDetermination				Not required.
CoeffOfDeterminationLimitLow				Not required.
CoeffOfDeterminationLimitType				Not required.
Comment				Not required.
CorrelationCoeff				Not required.
CorrelationCoeffLimitLow				Not required.
CorrelationCoeffLimitType				Not required.
Counts				Not required.
CountsUncertainty				Not required.
CountsUncertaintyConfidenceLevel				Not required.
CountsUncertaintyDetermination				Not required.
CountsUncertaintyIntervalType				Not required.
CountsUncertaintyLimitHigh				Not required.
CountsUncertaintyLimitLow				Not required.
CountsUncertaintyType				Not required.
CountsUnits				Not required.
DetectionLimit				Not required.
DetectionLimitType				Not required.
DetectionLimitUnits				Not required.
DifferenceErrorRatio				Not required.
Efficiency				Not required.
ExpectedResult		X	X	For internal standards, report the final amount added in nanograms.
ExpectedResultUncertainty				Not required.
ExpectedResultUncertaintyConfidenceLevel				Not required.
ExpectedResultUncertaintyDetermination				Not required.
ExpectedResultUncertaintyIntervalType				Not required.
ExpectedResultUncertaintyLimitHigh				Not required.
ExpectedResultUncertaintyLimitLow				Not required.
ExpectedResultUncertaintyType				Not required.
ExpectedResultUncertaintyUnits				Not required.
ExpectedResultUnits		X	X	Report "ng".
Inclusion		X		Report "No" if an analyte in a standard is not to be included in the calibration curve; otherwise report "Yes".
IntermediateResult		X	X	Report the on-column amount in nanograms from the raw data.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Tune	ICAL	CCV	Instructions
IntermediateResultLimitHigh				Not required.
IntermediateResultLimitLow				Not required.
IntermediateResultLimitType				Not required.
IntermediateResultUnits		X	X	Report "ng".
LabAnalyteID				Not required.
LabQualifiers	X	X	X	Report qualifiers as specified in the SOW.
LotNumber	X	X	X	Report the vendor/manufacturer assigned lot number for this standard.
Mass				Not required.
MassLimitHigh				Not required.
MassLimitLow				Not required.
MassLimitType				Not required.
MassUnits				Not required.
MeanCalibrationFactor				Not required.
MeanCalibrationFactorUnits				Not required.
MeanRRF				Not required.
MeanRRFLimitLow				Not required.
MeanRRFLimitType				Not required.
PeakID		X	X	If response from a single peak is used for quantitation, report the ID of that peak.
PercentBreakdown				Not required.
PercentBreakdownLimitHigh				Not required.
PercentBreakdownLimitType				Not required.
PercentDifference				Not required.
PercentDifferenceLimitHigh				Not required.
PercentDifferenceLimitLow				Not required.
PercentDifferenceLimitType				Not required.
PercentMatch				Not required.
PercentRecovery				Not required.
PercentRecoveryLimitHigh				Not required.
PercentRecoveryLimitLow				Not required.
PercentRecoveryLimitType				Not required.
PercentRecoveryType				Not required.
PercentRSD				Not required.
PercentRSDLimitHigh				Not required.
PercentRSDLimitLow				Not required.
PercentRSDLimitType				Not required.
QuantitationBasis		X		Report "Internal_Standard" under the AnalysisGroup node.
QuantitationLimit				Not required.
QuantitationLimitType				Not required.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Tune	ICAL	CCV	Instructions
QuantitationLimitUnits				Not required.
ReportingLimit				Not required.
ReportingLimitType				Not required.
ReportingLimitUnits				Not required.
Response				Not required.
ResponseLimitHigh				Not required.
ResponseLimitLow				Not required.
ResponseLimitType				Not required.
ResponseUnits				Not required.
Result				Not required.
ResultLimitHigh				Not required.
ResultLimitLow				Not required.
ResultLimitType				Not required.
ResultType				Not required.
ResultUncertainty				Not required.
ResultUncertaintyConfidenceLevel				Not required.
ResultUncertaintyDetermination				Not required.
ResultUncertaintyIntervalType				Not required.
ResultUncertaintyLimitHigh				Not required.
ResultUncertaintyLimitLow				Not required.
ResultUncertaintyType				Not required.
ResultUncertaintyUnits				Not required.
ResultUnits				Not required.
RPD				Not required.
RPDLimitHigh				Not required.
RPDLimitType				Not required.
RPDType				Not required.
RRF				Not required.
RRFLimitLow				Not required.
RRFLimitType				Not required.
StandardConcentration	X	X	X	Report the concentration of standard used in microgram per liter.
StandardConcentrationUnits	X	X	X	Report "ug/L".
StandardDeviation				Not required.
StandardDeviationUnits				Not required.
StandardFinalAmount				Not required.
StandardFinalAmountUnits				Not required.
StandardID	X	X	X	Report the laboratory assigned identifier for this standard.
StandardSource	X	X	X	Report the vendor/manufacturer for this standard.
TailingFactor				Not required.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Tune	ICAL	CCV	Instructions
TailingFactorLimitHigh				Not required.
TailingFactorLimitType				Not required.
Wavelength				Not required.
WavelengthUnits				Not required.
WeightingFactor				Not required.
AnalyteComparison				Not required.
AnalyteGroup				Not required.
Peak	X	X	X	
CalibrationFactor				Not required.
CalibrationFactorUnits				Not required.
CalibrationType		X		Report "Average_Response_Factor" under the AnalysisGroup node.
Coeffa0				Not required.
Coeffa1				Not required.
Coeffa2				Not required.
Coeffa3				Not required.
CoeffOfDetermination				Not required.
CoeffOfDeterminationLimitLow				Not required.
CoeffOfDeterminationLimitType				Not required.
Comment				Not required.
CorrelationCoeff				Not required.
CorrelationCoeffLimitLow				Not required.
CorrelationCoeffLimitType				Not required.
DetectionLimit				Not required
DetectionLimitType				Not required.
DetectionLimitUnits				Not required.
DifferenceErrorRatio				Not required.
Efficiency				Not required.
Inclusion		X		Report "No" if a peak in a standard is not to be included in the calibration curve; otherwise report "Yes".
IntermediateResult		X	X	Report the on-column in nanograms from the raw data.
IntermediateResultLimitHigh				Not required.
IntermediateResultLimitLow				Not required.
IntermediateResultLimitType				Not required.
IntermediateResultUnits		X	X	Report "ng".
LabQualifiers				Not required.
ManualIntegration	X	X	X	Report "Yes" if this peak was manually integrated; otherwise report "No".

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Tune	ICAL	CCV	Instructions
Mass				Not required.
MassLimitHigh				Not required.
MassLimitLow				Not required.
MassLimitType				Not required.
MassUnits				Not required.
MeanCalibrationFactor				Not required.
MeanCalibrationFactorUnits				Not required.
MeanRetentionTime				Not required.
MeanRetentionTimeLimitHigh				Not required.
MeanRetentionTimeLimitLow				Not required.
MeanRetentionTimeLimitType				Not required.
MeanRetentionTimeUnits				Not required.
MeanRRF		X		Report the calculated mean RRF to the nearest thousandth under the AnalysisGroup node only.
MeanRRFLimitLow				Not required.
MeanRRFLimitType				Not required.
PeakID	X	X	X	Report a unique identifier. This identifier must be consistent throughout an analytical sequence.
PeakRatio				Not required.
PeakRatioLimitHigh				Not required.
PeakRatioLimitLow				Not required.
PeakRatioLimitType				Not required.
PercentDifference			X	Report the calculated Percent Difference for this peak to the nearest tenth of a percent.
PercentDifferenceLimitHigh			X	Report the upper limit for the Percent Difference to the nearest tenth of a percent.
PercentDifferenceLimitLow			X	Report the lower limit for the Percent Difference to the nearest tenth of a percent.
PercentDifferenceLimitType			X	Report "Method".
PercentRatio				Not required.
PercentRatioLimitHigh				Not required
PercentRatioLimitLow				Not required
PercentRatioLimitType				Not required.
PercentRecovery				Not required.
PercentRecoveryLimitHigh				Not required.
PercentRecoveryLimitLow				Not required.
PercentRecoveryLimitType				Not required.
PercentRecoveryType				Not required.
PercentRSD		X		Report the calculated %RSD to the nearest tenth of a percent under the AnalysisGroup only.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Tune	ICAL	CCV	Instructions
PercentRSDLimitHigh		X		Report the upper limit for the %RSD to the nearest tenth of a percent under the AnalysisGroup only.
PercentRSDLimitLow				Not required.
PercentRSDLimitType		X		Report "Method".
QuantitationLimit				Not required.
QuantitationLimitType				Not required.
QuantitationLimitUnits				Not required.
ReportingLimit				Not required.
ReportingLimitType				Not required.
ReportingLimitUnits				Not required.
Resolution				Not required.
ResolutionLimitHigh				Not required.
ResolutionLimitLow				Not required.
ResolutionLimitType				Not required.
ResolutionType				Not required.
ResolutionUnits				Not required.
Response	X	X	X	Report the actual Peak Area from the raw data. For Tunes, report the abundance for the ion.
ResponseLimitHigh		X	X	Report the upper limit for this response for the internal standards only.
ResponseLimitLow		X	X	Report the lower limit for this response for the internal standards only.
ResponseLimitType		X	X	Report "Method".
ResponseType				Not required.
ResponseUnits	X	X	X	Report "Peak_Area" or "Abundance" as appropriate.
Result				Not required.
ResultLimitHigh				Not required.
ResultLimitLow				Not required.
ResultLimitType				Not required.
ResultType				Not required.
ResultUncertainty				Not required.
ResultUnits				Not required.
RetentionTime	X	X	X	Report the actual Retention Time in decimal minutes from the raw data for this peak.
RetentionTimeLimitHigh		X	X	Report the upper limit for this retention time in decimal minutes for the internal standards.
RetentionTimeLimitLow		X	X	Report the lower limit for this retention time in decimal minutes for the internal standards.
RetentionTimeLimitType		X	X	Report "Method".
RetentionTimeUnits	X	X	X	Report "Minutes".
RRF		X	X	Report the calculated RRF to the nearest thousandth.

TABLE 1. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS
(Con't)

Node and Data Elements	Applicability: Tune	ICAL	CCV	Instructions
RRFLimitLow		X	X	Report the lower limit for the RRF to the nearest thousandth.
RRFLimitType		X	X	Report "Method".
StandardDeviation				Not required.
StandardDeviationUnits				Not required.
TailingFactor				Not required.
TailingFactorLimitHigh				Not required.
TailingFactorLimitType				Not required.
Wavelength				Not required.
WavelengthUnits				Not required.
WeightingFactor				Not required.
PeakComparison	X	X	X	
AnalyteName	X	X	X	Report the tune compound or the associated internal standard as they appear in the SOW.
AnalyteNameContext	X	X	X	Report "CAS".
CASRegistryNumber	X	X	X	Report the CAS number of the tune compound or associated internal standard.
ClientAnalyteID	X	X	X	Report the CAS number of the tune compound or associated internal standard.
ClientAnalyteName				Not required.
Comment				Not required.
PeakID	X	X	X	For tunes, report the mass being compared to the monitored mass. For internal standards, report the primary quantitation ion.
PeakRatio				Not required.
PeakRatioLimitHigh				Not required.
PeakRatioLimitLow				Not required.
PeakRatioLimitType				Not required.
PercentRatio	X			Report the Percent Ratio (%Relative Abundance or %Mass) to the nearest hundredth.
PercentRatioLimitHigh	X			Report the upper limit for the Percent Ratio to the nearest hundredth.
PercentRatioLimitLow	X			Report the lower limit for the Percent Ratio to the nearest hundredth.
PercentRatioLimitType	X			Report "Method".
PeakReplicate				Not required.

7.2 Stage 2b

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
Header	X	X	X	X	
ClientID	X	X	X	X	Report "1" for Region 1, "2" for Region 2, etc. For samples received from QATS, report "91".
ClientName					Not required.
Comment					Not required.
DateFormat	X	X	X	X	Report MMDDYYYYThh:mm:ss. All dates and times reported in the EDD must follow this format. If any part of the time is unknown, report "00" for the unknown hours, minutes, and seconds.
EDDID	X	X	X	X	Report "SEDD".
EDDImplementationID	X	X	X	X	Report "SEDD_5-2_GENERAL_2b" (This is the DTD used).
EDDImplementationVersion	X	X	X	X	Report "3" (This is the version of the DTD used).
EDDVersion	X	X	X	X	Report "5.2".
GeneratingSystemID	X	X	X	X	Report the name of generating software or vendor.
GeneratingSystemVersion	X	X	X	X	Report the software version number.
LabContract	X	X	X	X	Report the Contract Number.
LabContractModificationDescription					Not required.
LabContractModificationID					Not required.
LabDataPackageID	X	X	X	X	Report the SDG.
LabDataPackageName	X	X	X	X	Report "VOA_Trace", "VOA_Low_Med", "SVOA", or "SVOA_SIM" as applicable.
LabDataPackageVersion	X	X	X	X	Report "1", then increment with each resubmission.
LabID	X	X	X	X	Report the Agency-assigned Lab Code.
LabName	X	X	X	X	Report the Lab Name.
LabNarrative					Not required.
LabQualifiersDefinition	X	X	X	X	Use the format 'Qualifier:Definition' to report each qualifier used. Use a ';' to separate the definitions of multiple qualifiers.
LabReportedDate	X	X	X	X	Report the date this data was reported to the client.
ProjectID	X	X	X	X	Report the Case Number.
ProjectName					Not required.
SiteID					Not required.
SiteName					Not required.

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability				Instructions
	Sample	MS/MSD	MB/LEB/SB/IB	NCS	
SamplePlusMethod	X	X	X	X	
ClientID	X	X			Report "1" for Region 1, "2" for Region 2, etc. For samples received from QATS, report "91".
ClientMethodCategory	X	X	X		Report "PAH" for analyte subset when applicable.
ClientMethodCode					Not required.
ClientMethodID	X	X	X	X	Report "SOM02.3".
ClientMethodModificationDescription					Not required.
ClientMethodModificationID	X	X	X		Report the Modified Analysis Number, if applicable.
ClientMethodName					Not required.
ClientMethodSource	X	X	X	X	Report "EPA_CLP".
ClientMethodType	X	X	X	X	Report "GCMS_Internal_Standard".
ClientMethodVersion	X	X	X	X	Report the month and year the SOW was issued.
ClientName					Not required.
ClientSampleID	X	X	X		Report the EPA Sample Number.
CollectedDate	X	X			Report the date and time the sample was collected.
CollectedEndDate					Not required.
Comment					Not required.
Composite					Not required.
CoolerID					Not required.
CustodyID	X	X			Report the Traffic Report/Chain of Custody Record Form number.
EquipmentBatch					Not required.
Filtered					Not required.
LabContract	X	X	X		Report the Contract Number.
LabContractModificationDescription					Not required.
LabContractModificationID					Not required.
LabID	X	X	X	X	Report the Agency-assigned Lab Code.
LabMethodID					Not required.
LabMethodName					Not required.
LabName	X	X	X	X	Report the Lab Name.
LabReceiptDate	X	X			Report the date and time the sample was received.
LabReportingBatch	X	X	X	X	Links all samples analyzed to this deliverable. Report the SDG Number.
LabSampleID	X	X	X	X	Report the Lab Sample ID as assigned by the laboratory.

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
LocationID					Not required.
LocationName					Not required.
MatrixID	X	X	X	X	Report "Water" or "Soil" as applicable.
MatrixMedium	X	X	X	X	Report "Aqueous" or "Solid" as applicable.
MethodBatch					Not required.
MethodCategory					Not required.
MethodCode					Not required.
MethodID	X	X	X	X	Report "SOM02.3".
MethodLevel	X	X	X		Report "Trace", "Low", or "Medium".
MethodModificationDescription					Not required.
MethodModificationID					Not required.
MethodName					Not required.
MethodSource	X	X	X	X	Report "EPA_CLP".
MethodType	X	X	X	X	Report "GC/MS".
MethodVersion	X	X	X	X	Report the month and year the SOW was issued.
OriginalClientSampleID		X			Report the EPA Sample Number of the original sample this sample was derived from.
OriginalLabSampleID					Not required.
PhaseAnalyzed					Not required.
Preservative	X	X			Report any chemical or physical preservative used.
ProjectID	X	X	X		Report the Case Number.
ProjectName					Not required.
QCCategory		X	X		Report "Blank" for MB, LEB, SB, or IB; "Spike" for MS; or "Spike_Duplicate" for MSD.
QCLinkage		X	X		Report "LabReportingBatch" for MS/MSD, "PreparationBatch" for SVOA MB, "AnalysisBatch" for VOA IB, or "StorageBatch" for SB.
QCType	X	X	X	X	Report "Field_Sample" for field samples; "Field_Blank" for field, equipment, rinse, or trip blanks; "Storage_Blank" for SB; "Method_Instrument_Blank" for IB; "PT_Sample" for Performance Evaluation samples or Proficiency Testing samples; "Method_Blank" for MB; "Leachate_Extraction_Blank" for LEB; "Matrix_Spike" for MS; "Matrix_Spike_Duplicate" for MSD; or "Non_Client_Sample".
Quarantine	X				Report "Yes" or "No" based on sampling information.
SamplingBatch					Not required.

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS
(Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
ShippingBatch					Not required.
SiteID					Not required.
SiteName					Not required.
StorageBatch	X	X	X		Links all samples stored together with the Storage Blank. Report the Lab File ID of the Storage Blank. Not required for MB or IB.
InstrumentQC					Not required.
Characteristic	X	X	X		
CharacteristicType	X	X	X		Report "Percent_Solids" for each SamplePlusMethod. Report "pH" and "Temperature" for samples, received at the laboratory, under each SamplePlusMethod node.
CharacteristicValue	X	X	X		Report the percent solids to two significant figures if less than 10 and three significant figures if greater than or equal to 10 for soil/sediment samples for "Percent_Solids"; the pH for aqueous/water samples (and soil/sediment samples as requested) to the nearest tenth unit for "pH"; and the temperature at receipt to the nearest degree for "Temperature".
CharacteristicUnits	X	X	X		Report "C" for "Temperature".
Comment					Not required.
ContactInformation	X	X	X	X	
LabAddress1	X	X	X	X	Report the street address of the laboratory.
LabAddress2	X	X	X	X	If applicable, report any additional address information (e.g., suite, maildrop). Otherwise leave blank.
LabCity	X	X	X	X	Report the city in which the laboratory is located.
LabCountry	X	X	X	X	Report the country in which the laboratory is located.
LabID	X	X	X	X	Report the Agency-assigned Lab Code.
LabName	X	X	X	X	Report the Lab Name.
LabPointOfContact	X	X	X	X	Report the name of the person at the laboratory serving as the point of contact.
LabPointOfContactElectronicAddress	X	X	X	X	Report the Email address of the point of contact.
LabPointOfContactTitle	X	X	X	X	Report the title of the point of contact.
LabPointOfContactType					Not required.
LabState	X	X	X	X	Report the state or province in which the laboratory is located.

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
LabTelephoneNumber	X	X	X	X	Report the 10-digit phone number for the laboratory.
LabType					Not required.
LabZipCode	X	X	X	X	Report the ZIP or postal code.
Analysis	X	X	X	X	
AliquotAmount					Not required.
AliquotAmountUnits					Not required.
AnalysisBatch	X	X	X	X	Links this analysis to the instrument QC sample(s) that begins this sequence. Report the Lab File ID of the standard (Tune or CCV) that starts the sequence.
AnalysisBatchEnd	X	X	X	X	Links this analysis to the instrument QC sample(s) that ends this sequence. Report the Lab File ID of the CCV that ends this sequence.
AnalysisDuration					Not required.
AnalysisDurationUnits					Not required.
AnalysisGroupID					Not required.
AnalysisType	X	X	X		Report "Initial", "Dilution-01", "Reanalysis-01", or "Reinjection-01", then increment as necessary.
Analyst	X	X	X		Report the Analyst's initials.
AnalyzedAmount	X	X	X		For VOA medium soils/sediments, report the Soil Aliquot Volume in microliters to at least 2 significant figures.
AnalyzedAmountUnits	X	X	X		Report "uL".
AnalyzedDate	X	X	X	X	Report the date and time the sample was analyzed.
ClientAnalysisID	X	X	X		Report the full EPA Sample Number with applicable suffixes per the requirements in Exhibit B – Reporting and Deliverables Requirements.
ClientMethodCode	X	X	X	X	Report "Full_Scan" or "SIM" as applicable.
ClientMethodID	X	X	X	X	Report "SOM02.3".
ClientMethodModificationDescription					Not required.
ClientMethodModificationID					Not required.
ClientMethodName					Not required.
ClientMethodSource	X	X	X	X	Report "EPA_CLP".
ClientMethodVersion	X	X	X	X	Report the month and year the SOW was issued.
Column	X	X	X		Report the GC Column used.
ColumnInternalDiameter	X	X	X		Report the GC Column Internal Diameter in millimeters.
ColumnInternalDiameterUnits	X	X	X		Report "mm".

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS
(Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
ColumnLength	X	X	X		Report the Column Length in meters.
ColumnLengthUnits	X	X	X		Report "m".
Comment					Not required.
ConfirmationAnalysisID					Not required.
Counts					Not required.
CountsUncertainty					Not required.
CountsUncertaintyConfidenceLevel					Not required.
CountsUncertaintyDetermination					Not required.
CountsUncertaintyIntervalType					Not required.
CountsUncertaintyLimitHigh					Not required.
CountsUncertaintyLimitLow					Not required.
CountsUncertaintyType					Not required.
CountsUnits					Not required.
DetectorID					Not required.
DetectorType					Not required.
DilutionFactor	X	X	X		Report the Dilution Factor used to the nearest tenth. Report "1.0" when no dilutions are used.
Efficiency					Not required.
HeatedPurge	X	X	X		For VOA, report "Yes" if heated purge was used; otherwise report "No".
Inclusion					Not required.
InjectionVolume	X	X	X		For VOA, report the purge volume in milliliters. For SVOA, report the injection volume in microliters. Report volume to at least two significant figures.
InjectionVolumeUnits	X	X	X		Report "mL" or "uL" as applicable.
InstrumentID	X	X	X	X	Report the laboratory identifier for the instrument used for this analysis.
LabAnalysisID	X	X	X	X	Report the Lab File ID.
LabFileID	X	X	X	X	Report the Lab File ID.
LabID					Not required.
LabMethodID					Not required.
LabMethodName					Not required.
LabName					Not required.
MethodCode					Not required.
MethodID	X	X	X	X	Report "SOM02.3".
MethodModificationDescription					Not required.
MethodModificationID					Not required.
MethodName					Not required.

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
MethodSource	X	X	X	X	Report "EPA_CLP".
MethodVersion	X	X	X	X	Report the month and year the SOW was issued.
PreparationBatch					Not required.
ProcedureID					Not required.
ProcedureName					Not required.
ReferenceDate					Not required.
ResultBasis	X	X	X		Report "Dry" for soil/sediment samples.
RunBatch	X	X	X	X	Links this analysis to an initial calibration. Report the Lab Analysis ID of the standard (Tune or calibration standard) that started the ICAL sequence.
Temperature					Not required.
TemperatureUnits					Not required.
Wavelength					Not required.
WavelengthUnits					Not required.
Yield					Not required.
AnalysisGroup					Not required.
Handling					Not required.
ReportedResult	X	X	X		
AnalysisGroupID					Not required.
AnalyteGroupID					Not required.
AnalyteName	X	X	X		Report the analytes as they appear in the SOW or as identified for TICs. Report unknown TICs as "Unknown-01", then increment for each TIC.
AnalyteNameContext	X	X	X		Report "CAS" as applicable.
AnalyteType	X	X	X		Report "Target" for all target analytes, "Spike" for all target analytes designated as spike analytes for MS/MSD analysis, and "TIC" for all TICs.
BiasErrorRatio					Not required.
CASRegistryNumber	X	X	X		Report the CAS Numbers as they appear in the SOW, and for TICs if known.
ClientAnalyteID	X	X	X		Report CAS Number. For TICs with no CAS number, report TIC name or as "Unknown-01", then increment for each TIC.
ClientAnalyteName	X	X	X		Report the analytes as they appear in the SOW or as identified for TICs. Report unknown TICs as "Unknown-01", then increment for each TIC.
ClientDetectionLimit					Not required.

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
ClientDetectionLimitUnits					Not required.
ClientQuantitationLimit	X	X	X		Report the unadjusted CRQL.
ClientQuantitationLimitUnits	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
Comment					Not required.
DetectionLimit	X	X	X		For target analytes, report the current MDL, adjusted for sample weight/volume, percent solids, and dilution factor to at least two significant figures.
DetectionLimitType	X	X	X		Report "MDL_sa".
DetectionLimitUnits	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
DifferenceErrorRatio					Not required.
ExpectedResult		X			Report the theoretical final calculated concentration (the spike added) for the spiked analytes.
ExpectedResultUncertainty					Not required.
ExpectedResultUncertaintyConfidenceLevel					Not required.
ExpectedResultUncertaintyDetermination					Not required.
ExpectedResultUncertaintyIntervalType					Not required.
ExpectedResultUncertaintyLimitHigh					Not required.
ExpectedResultUncertaintyLimitLow					Not required.
ExpectedResultUncertaintyType					Not required.
ExpectedResultUncertaintyUnits					Not required.
ExpectedResultUnits		X			Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water.
LabAnalysisID	X	X	X		Report the Lab File ID from the analysis this reported result was derived from.
LabAnalyteID					Not required.
LabQualifiers	X	X	X		Report flags as specified in the SOW. Includes the Q qualifiers from Form 1-OR.
LabResultStatus	X	X			Report "Preliminary" or "Final" as applicable.
PeakID					Not required.
PercentDifference					Not required.
PercentDifferenceLimitHigh					Not required.
PercentDifferenceLimitLow					Not required.
PercentDifferenceLimitType					Not required.
PercentRecovery		X			Report the Percent Recovery to the nearest whole percent.
PercentRecoveryLimitHigh		X			Report the upper limit for the Percent Recovery to the nearest whole percent.

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
PercentRecoveryLimitLow		X			Report the lower limit for the Percent Recovery to the nearest whole percent.
PercentRecoveryLimitType		X			Report "Method".
PercentRecoveryType					Not required.
QuantitationLimit	X	X	X		Report the CRQL adjusted for sample weight/volume, percent solids, and dilution factor to at least two significant figures.
QuantitationLimitType	X	X	X		Report "CRQL_sa".
QuantitationLimitUnits	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
ReportingLimit					Not required.
ReportingLimitType					Not required.
ReportingLimitUnits					Not required.
Result	X	X	X		Report the final calculated result for detects per the SOW.
ResultLimitHigh					Not required.
ResultLimitLow					Not required.
ResultLimitType					Not required.
ResultType	X	X	X		Report "=" for all detected analytes. Report "Not_Detected" for non-detects.
ResultUncertainty					Not required.
ResultUncertaintyConfidenceLevel					Not required.
ResultUncertaintyDetermination					Not required.
ResultUncertaintyIntervalType					Not required.
ResultUncertaintyLimitHigh					Not required.
ResultUncertaintyLimitLow					Not required.
ResultUncertaintyType					Not required.
ResultUncertaintyUnits					Not required.
ResultUnits	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
RetentionTime	X	X	X		Report the retention time in decimal minutes for all TICs.
RetentionTimeUnits	X	X	X		Report "Minutes".
RPD		X			Report the RPD to the nearest whole percent.
RPDLimitHigh		X			Report the upper limit for the RPD to the nearest whole percent.
RPDLimitType		X			Report "Method".
RPDType					Not required.

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
PreparationPlusCleanup	X	X	X		
AliquotAmount	X	X	X		Report the sample amount in grams for soil/sediment or mL for aqueous/water (VOA and SVOA) to at least three significant figures.
AliquotAmountUnits	X	X	X		Report "g" for soil/sediment or "mL" for aqueous/water.
Analyst	X	X	X		Report the Analyst's initials.
CleanedUpDate	X	X	X		Report the date and time the sample was cleaned up.
CleanupBatch	X	X	X		Links all samples that were cleaned up together. Report the Lab File ID of the associated blank or other unique identifier.
CleanupType	X	X	X		Report "GPC" as applicable.
ClientMethodCode					Not required.
ClientMethodID	X	X	X		Report the sample preparation ID as given in Exhibit B – Reporting and Deliverables Requirements.
ClientMethodModificationDescription					Not required.
ClientMethodModificationID					Not required.
ClientMethodName					Not required.
ClientMethodSource	X	X	X		Report "EPA_CLP".
ClientMethodVersion	X	X	X		Report the month and year the SOW was issued.
Comment					Not required.
FinalAmount	X	X	X		Report the Final Amount of material produced upon completion of this prep or cleanup in microliters (SVOA only).
FinalAmountUnits	X	X	X		Report "uL".
InitialAmount	X	X	X		Report the initial amount of extracted sample used for this prep or cleanup method in microliters (SVOA and Medium VOA soil/sediment).
InitialAmountUnits	X	X	X		Report "uL".
LabID					Not required.
LabMethodID					Not required.
LabMethodName					Not required.
LabName					Not required.
LotNumber					Not required.
MethodCode					Not required.
MethodID	X	X	X		Report "SOM02.3".
MethodModificationDescription					Not required.
MethodModificationID					Not required.
MethodName					Not required.

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
MethodSource	X	X	X		Report "EPA_CLP".
MethodVersion	X	X	X		Report the month and year the SOW was issued.
PreparationBatch	X	X	X		Links all samples that were prepared together. Applicable to Trace VOA and VOA Low/Medium samples that were analyzed in the same analytical sequence. Report the Lab File ID of the associated Method Blank.
PreparationPlusCleanupType	X	X	X		Report "Preparation" or "Cleanup" as applicable.
PreparationType	X	X	X		Report "Sonication", "Soxhlet", or "Pressurized_Fluid" for soil/sediment. Report "Liq_Liq" or "Liq_Membrane" for aqueous/water. Report "Purge_and_Trap" for Trace VOA and VOA Low/Medium.
PreparedDate	X	X	X		Report the date and time the sample was prepared or purged as applicable.
ProcedureID					Not required.
ProcedureName					Not required.
Solvent					Not required.
Analyte	X	X	X		
AnalyteGroupID					Not required.
AnalyteName	X	X	X		Report the analytes as they appear in the SOW or as identified for TICs. Report unknown TICs as "Unknown-01", then increment with each TIC.
AnalyteNameContext	X	X	X		Report "CAS" as applicable.
AnalyteType	X	X	X		Report "Target" for all target analytes, "Spike" for all target analytes designated as spike analytes for MS/MSD, "Internal_Standard" for internal standards, "Surrogate" for DMCs, or "TIC" for all TICs.
BiasErrorRatio					Not required.
CalibrationBasis					Not required.
CalibrationFactor					Not required.
CalibrationFactorUnits					Not required.
CalibrationType					Not required.
CASRegistryNumber	X	X	X		Report the CAS Number as it appears in the SOW, and for TIC if known.
ClientAnalyteID	X	X	X		Report CAS Number. For TICs with no CAS Number, report TIC name or as "Unknown-01", then increment for each TIC.
ClientAnalyteName	X	X	X		Report the analytes as they appear in the SOW or as identified for TICs. Report unknown TICs as "Unknown-01", then increment with each TIC.

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
Coeffa0					Not required.
Coeffa1					Not required.
Coeffa2					Not required.
Coeffa3					Not required.
CoeffOfDetermination					Not required.
CoeffOfDeterminationLimitLow					Not required.
CoeffOfDeterminationLimitType					Not required.
Comment					Not required.
CorrelationCoeff					Not required.
CorrelationCoeffLimitLow					Not required.
CorrelationCoeffLimitType					Not required.
Counts					Not required.
CountsUncertainty					Not required.
CountsUncertaintyConfidenceLevel					Not required.
CountsUncertaintyDetermination					Not required.
CountsUncertaintyIntervalType					Not required.
CountsUncertaintyLimitHigh					Not required.
CountsUncertaintyLimitLow					Not required.
CountsUncertaintyType					Not required.
CountsUnits					Not required.
DetectionLimit	X	X	X		Report the MDL.
DetectionLimitType	X	X	X		Report "MDL".
DetectionLimitUnits	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
DifferenceErrorRatio					Not required.
Efficiency					Not required.
ExpectedResult	X	X	X		For DMCs and internal standards, report the final amount added in nanograms.
ExpectedResultUncertainty					Not required.
ExpectedResultUncertaintyConfidenceLevel					Not required.
ExpectedResultUncertaintyDetermination					Not required.
ExpectedResultUncertaintyIntervalType					Not required.
ExpectedResultUncertaintyLimitHigh					Not required.
ExpectedResultUncertaintyLimitLow					Not required.
ExpectedResultUncertaintyType					Not required.
ExpectedResultUncertaintyUnits	X	X	X		Report "ng".
ExpectedResultUnits					Not required.
Inclusion					Not required.

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
LabAnalyteID					Not required.
LabQualifiers	X	X	X		Report the qualifiers as specified in the SOW.
LotNumber	X	X	X		Report the vendor/manufacturer assigned lot number for this standard (DMCs, Internal Standards, and spiking analytes only).
Mass					Not required.
MassUnits					Not required.
MeanCalibrationFactor					Not required.
MeanCalibrationFactorUnits					Not required.
MeanRRF					Not required.
MeanRRFLimitLow					Not required.
MeanRRFLimitType					Not required.
PeakID	X	X	X		If response from a single peak is used for quantitation, report the ID of that peak. For unknown TICs, report the unique identifiers as applicable. For alkanes, report "Total alkanes" as the identifier.
PercentBreakdown					Not required.
PercentBreakdownLimitHigh					Not required.
PercentBreakdownLimitType					Not required.
PercentDifference					Not required.
PercentDifferenceLimitHigh					Not required.
PercentDifferenceLimitLow					Not required.
PercentDifferenceLimitType					Not required.
PercentRecovery	X	X	X		Report the final calculated percent recovery of the DMCs to the nearest whole percent.
PercentRecoveryLimitHigh	X	X	X		Report the upper limit for the percent recovery of the DMCs to the nearest whole percent.
PercentRecoveryLimitLow	X	X	X		Report the lower limit of the percent recovery of the DMCs to the nearest whole percent.
PercentRecoveryLimitType	X	X	X		Report "Method".
PercentRecoveryType					Not required.
PercentRSD					Not required.
PercentRSDLimitHigh					Not required.
PercentRSDLimitLow					Not required.
PercentRSDLimitType					Not required.
QuantitationBasis					Not required.
QuantitationLimit	X	X	X		Report the CRQL.
QuantitationLimitType	X	X	X		Report "CRQL".

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
QuantitationLimitUnits	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
ReportingLimit					Not required.
ReportingLimitType					Not required.
ReportingLimitUnits					Not required.
Result	X	X	X		Report the final calculated concentration or amount to at least two significant figures. Leave blank if compound is not detected.
ResultLimitHigh					Not required.
ResultLimitLow					Not required.
ResultLimitType					Not required.
ResultType	X	X	X		Report "=" for all detected analytes. Report "Not_Detected" for non-detects.
ResultUncertainty					Not required.
ResultUncertaintyConfidenceLevel					Not required.
ResultUncertaintyDetermination					Not required.
ResultUncertaintyIntervalType					Not required.
ResultUncertaintyLimitHigh					Not required.
ResultUncertaintyLimitLow					Not required.
ResultUncertaintyType					Not required.
ResultUncertaintyUnits					Not required.
ResultUnits	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
RPD					Not required.
RPDLimitHigh					Not required.
RPDLimitType					Not required.
RPDType					Not required.
RRF					Not required.
RRFLimitLow					Not required.
RRFLimitType					Not required.
StandardSource	X	X	X		Report the vendor/manufacturer for this standard.
TailingFactor					Not required.
TailingFactorLimitHigh					Not required.
TailingFactorLimitType					Not required.
Wavelength					Not required.
WavelengthUnits					Not required.
WeightingFactor					Not required.
AnalyteGroup					Not required.

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS
(Con't)

Node and Data Elements	Applicability				Instructions
	Sample	MS/MSD	MB/LEB/SB/IB	NCS	
Peak					Not required.
PeakComparison					Not required.

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Tune	ICAL	CCV	Instructions
Header	X	X	X	
ClientID	X	X	X	Report "1" for Region 1, "2" for Region 2, etc. For samples received from QATS, report "91".
ClientName				Not required.
Comment				Not required.
DateFormat	X	X	X	Report MMDDYYYYThh:mm:ss. All dates and times reported in the EDD must follow this format. If any part of the time is unknown, report "00" for the unknown hours, minutes, and seconds.
EDDID	X	X	X	Report "SEDD".
EDDImplementationID	X	X	X	Report "SEDD_5-2_GENERAL_2b" (This is the DTD used).
EDDImplementationVersion	X	X	X	Report "3" (This is the version of the DTD used).
EDDVersion	X	X	X	Report "5.2".
GeneratingSystemID	X	X	X	Report the name of generating software or vendor.
GeneratingSystemVersion	X	X	X	Report the software version number.
LabContract	X	X	X	Report the Contract Number.
LabContractModificationDescription				Not required.
LabContractModificationID				Not required.
LabDataPackageID	X	X	X	Report the SDG.
LabDataPackageName	X	X	X	Report "VOA_Trace", "VOA_Low_Med", "SVOA", or "SVOA_SIM" as applicable.
LabDataPackageVersion	X	X	X	Report "1", then increment with each resubmission.
LabID	X	X	X	Report the Agency-assigned Lab Code.
LabName	X	X	X	Report the Lab Name.
LabNarrative				Not required.
LabQualifiersDefinition	X	X	X	Use the format 'Qualifier:Definition' to report each qualifier used. Use a ';' to separate the definitions of multiple qualifiers.
LabReportedDate	X	X	X	Report the date this data was reported to the client.
ProjectID	X	X	X	Report the Case Number.
ProjectName				Not required.
SiteID				Not required.
SiteName				Not required.
SamplePlusMethod				Not required.
InstrumentQC	X	X	X	
ClientInstrumentQCType				Not required.
ClientMethodCode				Not required.
ClientMethodID	X	X	X	Report "SOM02.3".
ClientMethodModificationDescription				Not required.
ClientMethodModificationID				Not required.
ClientMethodName				Not required.
ClientMethodSource	X	X	X	Report "EPA_CLP".

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Tune	ICAL	CCV	Instructions
ClientMethodVersion	X	X	X	Report the month and year the SOW was issued.
Comment				Not required.
LabID	X	X	X	Report the Agency-assigned Lab Code.
LabInstrumentQCID	X	X	X	Report the EPA Sample Number. For ICAL, report the EPA Sample Number of the first standard.
LabMethodID				Not required.
LabMethodName				Not required.
LabName	X	X	X	Report the Lab Name.
MethodCode				Not required.
MethodID	X	X	X	Report "SOM02.3".
MethodModificationDescription				Not required.
MethodModificationID				Not required.
MethodName				Not required.
MethodSource	X	X	X	Report "EPA_CLP".
MethodVersion	X	X	X	Report the month and year the SOW was issued.
QCLinkage	X	X	X	Report "RunBatch" for ICAL. Report "AnalysisBatch" for Tune and CCV.
QCType	X	X	X	Report "Instrument_Performance_Check_Tune" for Tune; "Initial_Calibration" for calibration; or "Continuing_Calibration_Verification" for CCV.
ContactInformation	X	X	X	
LabAddress1	X	X	X	Report the street address of the laboratory.
LabAddress2	X	X	X	If applicable, report any additional address information (e.g., suite, maildrop). Otherwise leave blank.
LabCity	X	X	X	Report the city in which the laboratory is located.
LabCountry	X	X	X	Report the country in which the laboratory is located.
LabID	X	X	X	Report the Agency-assigned Lab Code.
LabName	X	X	X	Report the Lab Name.
LabPointOfContact	X	X	X	Report the name of person at the laboratory serving as the point of contact.
LabPointOfContactElectronicAddress	X	X	X	Report the Email address of the point of contact.
LabPointOfContactTitle	X	X	X	Report the title of the point of contact.
LabPointOfContactType				Not required.
LabState	X	X	X	Report the state or province in which the laboratory is located.
LabTelephoneNumber	X	X	X	Report the 10-digit phone number for the laboratory.
LabType				Not required.
LabZipCode	X	X	X	Report the ZIP or postal code.
Analysis	X	X	X	
AliquotAmount				Not required.
AliquotAmountUnits				Not required.

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS
(Con't)

Node and Data Elements	Applicability: Tune	ICAL	CCV	Instructions
AnalysisBatch			X	Links this analysis to the beginning of a 12-hour period. Report the Lab File ID of the standard (Tune or CCV) that starts this sequence. For the standard that starts the 12-hour period, enter the Lab File ID of the standard itself.
AnalysisBatchEnd			X	Links this analysis to the end of a 12-hour period. Report the Lab File ID of the CCV that ends this sequence. For the closing CCV that closes the 12-hour period, report the Lab File ID of the standard itself.
AnalysisDuration				Not required.
AnalysisDurationUnits				Not required.
AnalysisGroupID		X		Links a group of analyses together that are used for the initial calibration. Report the Lab File ID of the standard (Tune or calibration standard) that starts this ICAL sequence.
AnalysisType	X	X	X	For Tune, report "Initial". For ICAL/CCV, report the calibration level used.
Analyst	X	X	X	Report the Analyst's initials.
AnalyzedAmount				Not required.
AnalyzedAmountUnits				Not required.
AnalyzedDate	X	X	X	Report the date and time the sample was analyzed.
ClientAnalysisID	X	X	X	Report the full EPA Sample Number with applicable suffixes per the requirements in Exhibit B – Reporting and Deliverables Requirements.
ClientMethodCode				Not required.
ClientMethodID	X	X	X	Report "SOM02.3".
ClientMethodModificationDescription				Not required.
ClientMethodModificationID				Not required.
ClientMethodName				Not required.
ClientMethodSource	X	X	X	Report "EPA_CLP".
ClientMethodVersion	X	X	X	Report the month and year the SOW was issued.
Column	X	X	X	Report the GC Column used.
ColumnInternalDiameter	X	X	X	Report the GC Column Internal Diameter in millimeters.
ColumnInternalDiameterUnits	X	X	X	Report "mm".
ColumnLength	X	X	X	Report the GC Column Length in meters.
ColumnLengthUnits	X	X	X	Report "m".
Comment				Not required.
ConfirmationAnalysisID				Not required.
Counts				Not required.
CountsUncertainty				Not required.
CountsUncertaintyConfidenceLevel				Not required.
CountsUncertaintyDetermination				Not required.
CountsUncertaintyIntervalType				Not required.
CountsUncertaintyLimitHigh				Not required.
CountsUncertaintyLimitLow				Not required.

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Tune	ICAL	CCV	Instructions
CountsUncertaintyType				Not required.
CountsUnits				Not required.
DetectorID				Not required.
DetectorType				Not required.
DilutionFactor	X	X	X	Report the Dilution Factor used to the nearest tenth. Report "1.0" when no dilutions are used.
Efficiency				Not required.
HeatedPurge	X	X	X	For VOA, report "Yes" if heated purge was used; otherwise report "No".
Inclusion	X	X	X	Report "Yes" if the ICAL standard is to be included in the calibration curve; otherwise report "No".
InjectionVolume	X	X	X	For VOA, report the purge volume in milliliters. For SVOA, report the injection volume in microliters. Report volume to at least two significant figures.
InjectionVolumeUnits	X	X	X	Report "mL" or "uL" as applicable.
InstrumentID	X	X	X	Report the laboratory identifier for the instrument used for this analysis.
LabAnalysisID	X	X	X	Report the Lab File ID.
LabFileID	X	X	X	Report the Lab File ID.
LabID				Not required.
LabMethodID				Not required.
LabMethodName				Not required.
LabName				Not required.
MethodCode				Not required.
MethodID	X	X	X	Report "SOM02.3".
MethodModificationDescription				Not required.
MethodModificationID				Not required.
MethodName				Not required.
MethodSource	X	X	X	Report "EPA_CLP".
MethodVersion	X	X	X	Report the month and year the SOW was issued.
PreparationBatch				Not required.
ProcedureID				Not required.
ProcedureName				Not required.
ReferenceDate				Not required.
ResultBasis				Not required.
RunBatch	X	X	X	Links this analysis to an initial calibration. Report the Lab File ID of the standard (Tune or calibration standard) that started the ICAL sequence.
Temperature				Not required.
TemperatureUnits				Not required.
Wavelength				Not required.
WavelengthUnits				Not required.
Yield				Not required.

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS
(Con't)

Node and Data Elements	Applicability: Tune	ICAL	CCV	Instructions
AnalysisGroup		X		
AnalysisGroupID		X		This links a group of analyses together that are used for the initial calibration. Report the Lab File ID of the standard that starts this calibration sequence.
AnalysisType		X		Report "Initial_Calibration".
Comment				Not required.
Handling				Not required.
ReportedResult				Not required.
PreparationPlusCleanup				Not required.
Analyte	X	X	X	
AnalyteGroupID				Not required.
AnalyteName	X	X	X	Report the analytes as they appear in the SOW.
AnalyteNameContext	X	X	X	Report "CAS".
AnalyteType	X	X	X	Report "Target" for all target analytes, "Internal_Standard" for internal standards, "Surrogate" for DMCs, or "Instrument_Performance" for tunes.
BiasErrorRatio				Not required.
CalibrationBasis		X		Report "Peak" under the AnalysisGroup node.
CalibrationFactor				Not required.
CalibrationFactorUnits				Not required.
CalibrationType				Not required.
CASRegistryNumber	X	X	X	Report the CAS Number as it appears in the SOW.
ClientAnalyteID	X	X	X	Report CAS Number.
ClientAnalyteName	X	X	X	Report the analytes as they appear in the SOW.
Coeffa0				Not required.
Coeffa1				Not required.
Coeffa2				Not required.
Coeffa3				Not required.
CoeffOfDetermination				Not required.
CoeffOfDeterminationLimitLow				Not required.
CoeffOfDeterminationLimitType				Not required.
Comment				Not required.
CorrelationCoeff				Not required.
CorrelationCoeffLimitLow				Not required.
CorrelationCoeffLimitType				Not required.
Counts				Not required.
CountsUncertainty				Not required.
CountsUncertaintyConfidenceLevel				Not required.
CountsUncertaintyDetermination				Not required.

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Tune	ICAL	CCV	Instructions
CountsUncertaintyIntervalType				Not required.
CountsUncertaintyLimitHigh				Not required.
CountsUncertaintyLimitLow				Not required.
CountsUncertaintyType				Not required.
CountsUnits				Not required.
DetectionLimit				Not required.
DetectionLimitType				Not required.
DetectionLimitUnits				Not required.
DifferenceErrorRatio				Not required.
Efficiency				Not required.
ExpectedResult		X	X	For internal standards, report the final amount added in nanograms.
ExpectedResultUncertainty				Not required.
ExpectedResultUncertaintyConfidenceLevel				Not required.
ExpectedResultUncertaintyDetermination				Not required.
ExpectedResultUncertaintyIntervalType				Not required.
ExpectedResultUncertaintyLimitHigh				Not required.
ExpectedResultUncertaintyLimitLow				Not required.
ExpectedResultUncertaintyType				Not required.
ExpectedResultUncertaintyUnits				Not required.
ExpectedResultUnits		X	X	Report "ng".
Inclusion		X		Report "No" if an analyte in a standard is not to be included in the calibration curve; otherwise report "Yes".
LabAnalyteID				Not required.
LabQualifiers	X	X	X	Report qualifiers as specified in the SOW.
LotNumber	X	X	X	Report the vendor/manufacturer assigned lot number for this standard.
Mass				Not required.
MassUnits				Not required.
MeanCalibrationFactor				Not required.
MeanCalibrationFactorUnits				Not required.
MeanRRF				Not required.
MeanRRFLimitLow				Not required.
MeanRRFLimitType				Not required.
PeakID		X	X	If response from a single peak is used for quantitation, report the ID of that peak.
PercentBreakdown				Not required.
PercentBreakdownLimitHigh				Not required.
PercentBreakdownLimitType				Not required.
PercentDifference				Not required.
PercentDifferenceLimitHigh				Not required.

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS
(Con't)

Node and Data Elements	Applicability: Tune	ICAL	CCV	Instructions
PercentDifferenceLimitLow				Not required.
PercentDifferenceLimitType				Not required.
PercentRecovery				Not required.
PercentRecoveryLimitHigh				Not required.
PercentRecoveryLimitLow				Not required.
PercentRecoveryLimitType				Not required.
PercentRecoveryType				Not required.
PercentRSD				Not required.
PercentRSDLimitHigh				Not required.
PercentRSDLimitLow				Not required.
PercentRSDLimitType				Not required.
QuantitationBasis		X		Report "Internal_Standard" under the AnalysisGroup node.
QuantitationLimit				Not required.
QuantitationLimitType				Not required.
QuantitationLimitUnits				Not required.
ReportingLimit				Not required.
ReportingLimitType				Not required.
ReportingLimitUnits				Not required.
Result				Not required.
ResultLimitHigh				Not required.
ResultLimitLow				Not required.
ResultLimitType				Not required.
ResultType				Not required.
ResultUncertainty				Not required.
ResultUncertaintyConfidenceLevel				Not required.
ResultUncertaintyDetermination				Not required.
ResultUncertaintyIntervalType				Not required.
ResultUncertaintyLimitHigh				Not required.
ResultUncertaintyLimitLow				Not required.
ResultUncertaintyType				Not required.
ResultUncertaintyUnits				Not required.
ResultUnits				Not required.
RPD				Not required.
RPDLimitHigh				Not required.
RPDLimitType				Not required.
RPDType				Not required.
RRF				Not required.
RRFLimitLow				Not required.
RRFLimitType				Not required.
StandardSource	X	X	X	Report the vendor/manufacturer for this standard.

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Tune	ICAL	CCV	Instructions
TailingFactor				Not required.
TailingFactorLimitHigh				Not required.
TailingFactorLimitType				Not required.
Wavelength				Not required.
WavelengthUnits				Not required.
WeightingFactor				Not required.
AnalyteGroup				Not required.
Peak	X	X	X	
CalibrationFactor				Not required.
CalibrationFactorUnits				Not required.
CalibrationType		X		Report "Average_Response_Factor" under the AnalysisGroup node.
Coeffa0				Not required.
Coeffa1				Not required.
Coeffa2				Not required.
Coeffa3				Not required.
CoeffOfDetermination				Not required.
CoeffOfDeterminationLimitLow				Not required.
CoeffOfDeterminationLimitType				Not required.
Comment				Not required.
CorrelationCoeff				Not required.
CorrelationCoeffLimitLow				Not required.
CorrelationCoeffLimitType				Not required.
DifferenceErrorRatio				Not required.
Efficiency				Not required.
Inclusion		X		Report "No" if a peak in a standard is not to be included in the calibration curve; otherwise report "Yes".
LabQualifiers				Not required.
Mass				Not required.
MassLimitHigh				Not required.
MassLimitLow				Not required.
MassLimitType				Not required.
MassUnits				Not required.
MeanCalibrationFactor				Not required.
MeanCalibrationFactorUnits				Not required.
MeanRetentionTime				Not required.
MeanRetentionTimeLimitHigh				Not required.
MeanRetentionTimeLimitLow				Not required.
MeanRetentionTimeLimitType				Not required.
MeanRetentionTimeUnits				Not required.

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Tune	ICAL	CCV	Instructions
MeanRRF		X		Report the calculated mean RRF to the nearest thousandth under the AnalysisGroup only.
MeanRRFLimitLow				Not required.
MeanRRFLimitType				Not required.
PeakID	X	X	X	Report a unique identifier. This identifier must be consistent throughout the analytical sequence.
PercentDifference			X	Report the calculated Percent Difference for this peak to the nearest tenth of a percent.
PercentDifferenceLimitHigh			X	Report the upper limit for the Percent Difference to the nearest tenth of a percent.
PercentDifferenceLimitLow			X	Report the lower limit for the Percent Difference to the nearest tenth of a percent.
PercentDifferenceLimitType			X	Report "Method".
PercentRecovery				Not required.
PercentRecoveryLimitHigh				Not required.
PercentRecoveryLimitLow				Not required.
PercentRecoveryLimitType				Not required.
PercentRecoveryType				Not required.
PercentRSD		X		Report the calculated Percent Relative Standard Deviation to the nearest tenth of a percent under the AnalysisGroup only.
PercentRSDLimitHigh		X		Report the upper limit for the Percent Relative Standard Deviation to the nearest tenth of a percent under the AnalysisGroup only.
PercentRSDLimitLow				Not required.
PercentRSDLimitType		X		Report "Method".
Resolution				Not required.
ResolutionLimitHigh				Not required.
ResolutionLimitLow				Not required.
ResolutionLimitType				Not required.
ResolutionType				Not required.
ResolutionUnits				Not required.
Result				Not required.
ResultLimitHigh				Not required.
ResultLimitLow				Not required.
ResultLimitType				Not required.
ResultType				Not required.
ResultUncertainty				Not required.
ResultUnits				Not required.
RRF				Not required.
RRFLimitLow				Not required.
RRFLimitType				Not required.
TailingFactor				Not required.
TailingFactorLimitHigh				Not required.

TABLE 2. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS
(Con't)

Node and Data Elements	Applicability: Tune	ICAL	CCV	Instructions
TailingFactorLimitType				Not required.
Wavelength				Not required.
WavelengthUnits				Not required.
WeightingFactor				Not required.
PeakComparison	X	X	X	
Comment				Not required.
PeakID	X	X	X	For tunes, report the mass being compared to the monitored mass. For internal standards, report the primary quantitation ion.
PercentRatio	X			Report the Percent Ratio (%Relative Abundance or %Mass) to the nearest hundredth.
PercentRatioLimitHigh	X			Report the upper limit for the Percent Ratio to the nearest hundredth.
PercentRatioLimitLow	X			Report the lower limit for the Percent Ratio to the nearest hundredth.
PercentRatioLimitType	X			Report "Method".

7.3 Stage 2a

TABLE 3. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
Header	X	X	X	X	
ClientID	X	X	X	X	Report "1" for Region 1, "2" for Region 2, etc. For samples received from QATS, report "91".
ClientName					Not required.
Comment					Not required.
DateFormat	X	X	X	X	Report MMDDYYYYThh:mm:ss. All dates and times reported in the EDD must follow this format. If any part of the time is unknown, report "00" for the unknown hours, minutes, and seconds.
EDDID	X	X	X	X	Report "SEDD".
EDDImplementationID	X	X	X	X	Report "SEDD_5-2_GENERAL_2a" (This is the DTD used).
EDDImplementationVersion	X	X	X	X	Report "2" (This is the version of the DTD used).
EDDVersion	X	X	X	X	Report "5.2".
GeneratingSystemID	X	X	X	X	Report the name of generating software or vendor.
GeneratingSystemVersion	X	X	X	X	Report the software version number.
Lab Contract	X	X	X	X	Report the Contract Number.
LabContractModificationDescription					Not required.
LabContractModificationID					Not required.
LabDataPackageID	X	X	X	X	Report the SDG.
LabDataPackageName	X	X	X	X	Report "VOA_Trace", "VOA_Low_Med", "SVOA", or "SVOA_SIM" as applicable.
LabDataPackageVersion	X	X	X	X	Report "1", then increment with each resubmission.
LabID					Report the Agency-assigned Lab Code.
Lab Name	X	X	X	X	Report the Lab Name.
LabNarrative					Not required.
LabQualifiersDefinition	X	X	X	X	Use the format 'Qualifier:Definition' to report each qualifier used. Use a ';' to separate the definitions of multiple qualifiers.
LabReportedDate	X	X	X	X	Report the date this data was reported to the client.
ProjectID	X	X	X	X	Report the Case Number.
ProjectName					Not required.
SiteID					Not required.
SiteName					Not required.
SamplePlusMethod	X	X	X	X	
ClientID	X	X			Report "1" for Region 1, "2" for Region 2, etc. For samples received from QATS, report "91".

TABLE 3. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
ClientMethodCategory	X	X	X	X	Report "PAH" for analyte subset when applicable.
ClientMethodCode					Not required.
ClientMethodID	X	X	X	X	Report "SOM02.3".
ClientMethodModificationDescription					Not required.
ClientMethodModificationID	X	X	X		Report the Modified Analysis Number, if applicable.
ClientMethodName					Not required.
ClientMethodSource	X	X	X	X	Report "EPA_CLP".
ClientMethodType	X	X	X	X	Report "GCMS_Internal_Standard".
ClientMethodVersion	X	X	X	X	Report the month and year the SOW was issued.
ClientName					Not required.
ClientSampleID	X	X	X		Report the EPA Sample Number.
CollectedDate	X	X			Report the date and time the sample was collected.
CollectedEndDate					Not required.
Comment					Not required.
Composite					Not required.
CoolerID					Not required.
CustodyID	X	X			Report the Traffic Report/Chain of Custody Record Form number.
EquipmentBatch					Not required.
Filtered					Not required.
LabContract	X	X	X		Report the Contract Number.
LabContractModificationDescription					Not required.
LabContractModificationID					Not required.
LabID	X	X	X	X	Report the Agency-assigned Lab Code.
LabMethodID					Not required.
LabMethodName					Not required.
LabName	X	X	X	X	Report the Lab Name.
LabReceiptDate	X	X			Report the date and time the sample was received.
LabReportingBatch	X	X	X	X	Links all samples analyzed to this deliverable. Report the SDG Number.
LabSampleID	X	X	X	X	Report the Lab Sample ID as assigned by the laboratory.
LocationID					Not required.
LocationName					Not required.
MatrixID	X	X	X	X	Report "Water" or "Soil" as applicable.
MatrixMedium	X	X	X	X	Report "Aqueous" or "Solid" as applicable.

TABLE 3. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
MethodBatch					Not required.
MethodCategory					Not required.
MethodCode					Not required.
MethodID	X	X	X	X	Report "SOM02.3".
MethodLevel	X	X			Report "Trace", "Low", or "Medium".
MethodModificationDescription					Not required.
MethodModificationID					Not required.
MethodName					Not required.
MethodSource	X	X	X	X	Report "EPA_CLP".
MethodType	X	X	X	X	Report "GC/MS".
MethodVersion	X	X	X	X	Report the month and year the SOW was issued.
OriginalClientSampleID		X			Report the EPA Sample Number of the original sample this sample was derived from.
OriginalLabSampleID					Not required.
PhaseAnalyzed					Not required.
Preservative	X	X			Report any chemical or physical preservative used.
ProjectID	X	X	X		Report the Case Number.
ProjectName					Not required.
QCCategory		X	X		Report "Blank" for MB, LEB, SB, or IB; "Spike" for MS; or "Spike_Duplicate" for MSD.
QCLinkage		X	X		Report "LabReportingBatch" for MS/MSD, "PreparationBatch" for SVOA MB, "AnalysisBatch" for VOA IB, or "StorageBatch" for SB.
QCType	X	X	X	X	Report "Field_Sample" for field samples; "Field_Blank" for field, equipment, rinse, or trip blanks; "Storage_Blank" for SB; "Method_Instrument_Blank" for IB; "PT_Sample" for Performance Evaluation samples or Proficiency Testing samples; "Method_Blank" for MB; "Leachate_Extraction_Blank" for LEB; "Matrix_Spike" for MS; "Matrix_Spike_Duplicate" for MSD; or "Non_Client_Sample".
Quarantine	X				Report "Yes" or "No" based on sampling information.
SamplingBatch					Not required.
ShippingBatch					Not required.
SiteID					Not required.
SiteName					Not required.
StorageBatch	X	X	X		List all samples stored together with the Storage Blank. Report the Lab File ID of the Storage Blank. Not required for MB or IB.

TABLE 3. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
Characteristic	X	X	X		
CharacteristicType	X	X	X		Report "Percent_Solids" for each SamplePlusMethod. Report "pH" and "Temperature" for samples, received at the laboratory, under each SamplePlusMethod node.
CharacteristicValue	X	X	X		Report the percent solids to two significant figures if less than 10 and three significant figures if greater than or equal to 10 for soil/sediment samples for "Percent_Solids"; the pH for aqueous/water samples (and soil/sediment samples as requested) to the nearest tenth for "pH"; and the temperature at receipt to the nearest degree for "Temperature".
CharacteristicUnits	X	X	X		Report "C" for "Temperature".
Comment					Not required.
ContactInformation	X	X	X	X	
LabAddress1	X	X	X	X	Report the street address of the laboratory.
LabAddress2	X	X	X	X	If applicable, report any additional address information (e.g., suite, maildrop). Otherwise leave blank.
LabCity	X	X	X	X	Report the city in which the laboratory is located.
LabCountry	X	X	X	X	Report the country in which the laboratory is located.
LabID	X	X	X	X	Report the Agency-assigned Lab Code.
LabName	X	X	X	X	Report the Lab Name.
LabPointOfContact	X	X	X	X	Report the name of the person at the laboratory serving as the point of contact.
LabPointOfContactElectronicAddress	X	X	X	X	Report the Email address of the point of contact.
LabPointOfContactTitle	X	X	X	X	Report the title of the point of contact.
LabPointOfContactType					Not required.
LabState	X	X	X	X	Report the state or province in which the laboratory is located.
LabTelephoneNumber	X	X	X	X	Report the 10-digit phone number for the laboratory.
LabType					Not required.
LabZipCode	X	X	X	X	Report the ZIP or postal code.
Analysis	X	X	X	X	
AliquotAmount					Not required.
AliquotAmountUnits					Not required.
AnalysisDuration					Not required.
AnalysisDurationUnits					Not required.

TABLE 3. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
AnalysisGroupID					Not required.
AnalysisType	X	X	X		Report "Initial", "Dilution-01", "Reanalysis-01", or "Reinjection-01", then increment as necessary.
Analyst	X	X	X		Report the Analyst's initials.
AnalyzedAmount	X	X	X		For VOA medium soils/sediments, report the Soil Aliquot Volume in microliters to at least two significant figures.
AnalyzedAmountUnits	X	X	X		Report "uL".
AnalyzedDate	X	X	X	X	Report the date and time the sample was analyzed.
ClientAnalysisID	X	X	X		Report the full EPA Sample Number with applicable suffixes per the requirements in Exhibit B – Reporting and Deliverables Requirements.
ClientMethodCode	X	X	X		Report "Full_Scan" or "SIM" as applicable.
ClientMethodID	X	X	X	X	Report "SOM02.3".
ClientMethodModificationDescription					Not required.
ClientMethodModificationID					Not required.
ClientMethodName					Not required.
ClientMethodSource	X	X	X	X	Report "EPA_CLP".
ClientMethodVersion	X	X	X	X	Report month and year the SOW was issued.
Column	X	X	X		Report the GC Column used.
ColumnInternalDiameter	X	X	X		Report the GC Column Internal Diameter in millimeters.
ColumnInternalDiameterUnits	X	X	X		Report the Column Length in meters.
ColumnLength	X	X	X		Report "m".
ColumnLengthUnits					Not required.
Comment					Not required.
ConfirmationAnalysisID					Not required.
Counts					Not required.
CountsUncertainty					Not required.
CountsUncertaintyConfidenceLevel					Not required.
CountsUncertaintyDetermination					Not required.
CountsUncertaintyIntervalType					Not required.
CountsUncertaintyLimitHigh					Not required.
CountsUncertaintyLimitLow					Not required.
CountsUncertaintyType					Not required.
CountsUnits					Not required.
DetectorID					Not required.
DetectorType					Not required.

TABLE 3. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
DilutionFactor	X	X	X		Report the Dilution Factor used to the nearest tenth. Report "1.0" when no dilutions are used.
Efficiency					Not required.
HeatedPurge	X	X	X		For VOA, report "Yes" if heated purge was used; otherwise report "No".
Inclusion					Not required.
InjectionVolume	X	X	X		For VOA, report the purge volume in milliliters. For SVOA, report the injection volume in microliters. Report volume to at least two significant figures.
InjectionVolumeUnits	X	X	X		Report "mL" or "uL" as applicable.
InstrumentID	X	X	X	X	Report the laboratory identifier for the instrument used for this analysis.
LabAnalysisID	X	X	X	X	Report the Lab File ID.
LabFileID	X	X	X	X	Report the Lab File ID.
LabID					Not required.
LabMethodID					Not required.
LabMethodName					Not required.
LabName					Not required.
MethodCode					Not required.
MethodID	X	X	X	X	Report "SOM02.3".
MethodModificationDescription					Not required.
MethodModificationID					Not required.
MethodName					Not required.
MethodSource	X	X	X	X	Report "EPA_CLP".
MethodVersion	X	X	X	X	Report the month and year the SOW was issued.
PreparationBatch					Not required.
ProcedureID					Not required.
ProcedureName					Not required.
ReferenceDate					Not required.
ResultBasis	X	X	X		Report "Dry" for soil/sediment samples.
Temperature					Not required.
TemperatureUnits					Not required.
Wavelength					Not required.
WavelengthUnits					Not required.
Yield					Not required.
AnalysisGroup					Not required.
Handling					Not required.

TABLE 3. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
ReportedResult	X	X	X		
AnalysisGroupID					Not required.
AnalyteGroupID					Not required.
AnalyteName	X	X	X		Report the analytes as they appear in the SOW or as identified for TICs. Report unknown TICs as "Unknown-01", then increment for each TIC.
AnalyteNameContext	X	X	X		Report "CAS" as applicable.
AnalyteType	X	X	X		Report "Target" for all target analytes, "Spike" for all target analytes designated as spike analytes for MS/MSD analysis, and "TIC" for all TICs.
BiasErrorRatio					Not required.
CASRegistryNumber	X	X	X		Report the CAS Numbers as it appears in the SOW, and for TICs if known.
ClientAnalyteID	X	X	X		Report CAS Number. For TICs with no CAS number, report TIC name or as "Unknown-01", then increment for each TIC.
ClientAnalyteName	X	X	X		Report the analytes as they appear in the SOW or as identified for TICs. Report unknown TICs as "Unknown-01", then increment for each TIC.
ClientDetectionLimit					Not required.
ClientDetectionLimitUnits					Not required.
ClientQuantitationLimit	X	X	X		Report the unadjusted CRQL.
ClientQuantitationLimitUnits	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
Comment					Not required.
DetectionLimit	X	X	X		For target analytes, report the current MDL, adjusted for sample weight/volume, percent solids, and dilution factor to at least two significant figures.
DetectionLimitType	X	X	X		Report "MDL_sa".
DetectionLimitUnits	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
DifferenceErrorRatio					Not required.
ExpectedResult		X			Report the theoretical final calculated concentration (the spike added) for the spiked analytes.
ExpectedResultUncertainty					Not required.
ExpectedResultUncertaintyConfidenceLevel					Not required.
ExpectedResultUncertaintyDetermination					Not required.
ExpectedResultUncertaintyIntervalType					Not required.
ExpectedResultUncertaintyLimitHigh					Not required.
ExpectedResultUncertaintyLimitLow					Not required.
ExpectedResultUncertaintyType					Not required.

TABLE 3. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
ExpectedResultUncertaintyUnits					Not required.
ExpectedResultUnits		X			Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
LabAnalysisID	X	X	X		Report the Lab File ID from the analysis this reported result was derived from.
LabAnalyteID					Not required.
LabQualifiers	X	X	X		Report flags as specified in the SOW. Includes the Q qualifiers from Form 1-OR.
LabResultStatus	X	X			Report "Preliminary" or "Final" as applicable.
PeakID					Not required.
PercentDifference					Not required.
PercentDifferenceLimitHigh					Not required.
PercentDifferenceLimitLow					Not required.
PercentDifferenceLimitType					Not required.
PercentRecovery		X			Report the Percent Recovery to the nearest whole percent.
PercentRecoveryLimitHigh		X			Report the upper limit for the Percent Recovery to the nearest whole percent.
PercentRecoveryLimitLow		X			Report the lower limit for the Percent Recovery to the nearest whole percent.
PercentRecoveryLimitType		X			Report "Method".
PercentRecoveryType					Not required.
QuantitationLimit	X	X	X		For target analytes, report the CRQL adjusted for sample weight/volume, percent solids, and dilution factor to at least two significant figures.
QuantitationLimitType	X	X	X		Report "CRQL_sa".
QuantitationLimitUnits	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
ReportingLimit					Not required.
ReportingLimitType					Not required.
ReportingLimitUnits					Not required.
Result	X	X	X		Report the final calculated result for detects per the SOW.
ResultLimitHigh					Not required.
ResultLimitLow					Not required.
ResultLimitType					Not required.
ResultType	X	X	X		Report "=" for all detected analytes. Report "Not_Detected" for non-detects.
ResultUncertainty					Not required.
ResultUncertaintyConfidenceLevel					Not required.
ResultUncertaintyDetermination					Not required.

TABLE 3. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
ResultUncertaintyIntervalType					Not required.
ResultUncertaintyLimitHigh					Not required.
ResultUncertaintyLimitLow					Not required.
ResultUncertaintyType					Not required.
ResultUncertaintyUnits					Not required.
ResultUnits	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
RetentionTime	X	X	X		Report the retention time in decimal minutes for all TICs.
RetentionTimeUnits	X	X	X		Report "Minutes".
RPD		X			Report the RPD to the nearest whole percent.
RPDLimitHigh		X			Report the upper limit for the RPD to the nearest whole percent.
RPDLimitType		X			Report "Method".
RPDType					Not required.
PreparationPlusCleanup	X	X	X		
AliquotAmount	X	X	X		Report the sample amount in grams for soil/sediment or mL for aqueous/water (VOA and SVOA) to at least three significant figures.
AliquotAmountUnits	X	X	X		Report "g" for soil/sediment or "mL" for aqueous/water.
Analyst	X	X	X		Report the Analyst's initials.
CleanedUpDate	X	X	X		Report the date and time the sample was cleaned up.
CleanupBatch	X	X	X		Links all samples that were cleaned up together. Report the Lab File ID of the associated blank or other unique identifier.
CleanupType	X	X	X		Report "GPC" as applicable.
ClientMethodCode					Not required.
ClientMethodID	X	X	X		Report the sample preparation ID as given in Exhibit B – Reporting and Deliverables Requirements.
ClientMethodModificationDescription					Not required.
ClientMethodModificationID					Not required.
ClientMethodName					Not required.
ClientMethodSource	X	X	X		Report "EPA_CLP".
ClientMethodVersion	X	X	X		Report the month and year the SOW was issued.
Comment					Not required.
FinalAmount	X	X	X		Report the volume of material produced upon completion of this Prep or Cleanup in microliters (SVOA only).
FinalAmountUnits	X	X	X		Report "uL".

TABLE 3. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
InitialAmount	X	X	X		Report the initial amount of extracted sample used for this prep or cleanup method in microliters (SVOA and Medium VOA soil/sediment).
InitialAmountUnits	X	X	X		Report "uL".
LabID					Not required.
LabMethodID					Not required.
LabMethodName					Not required.
LabName					Not required.
LotNumber					Not required.
MethodCode					Not required.
MethodID	X	X	X		Report "SOM02.3".
MethodModificationDescription					Not required.
MethodModificationID					Not required.
MethodName					Not required.
MethodSource	X	X	X		Report "EPA_CLP".
MethodVersion	X	X	X		Report the month and year the SOW was issued.
PreparationBatch	X	X	X		Links all samples that were prepared together. Applicable to Trace VOA and VOA Low/Medium samples that were analyzed in the same analytical sequence. Report the Lab File ID of the associated Method Blank.
PreparationPlusCleanupType	X	X	X		Report "Preparation" or "Cleanup" as applicable.
PreparationType	X	X	X		Report "Sonication", "Soxhlet", or "Pressurized_Fluid" for soil/sediment. Report "Liq_Liq" or "Liq_Membrane" for aqueous/water. Report "Purge_and_Trap" for Trace VOA and VOA Low/Medium.
PreparedDate	X	X	X		Report the date and time the sample was prepared or purged as applicable.
ProcedureID					Not required.
ProcedureName					Not required.
Solvent					Not required.
Analyte	X	X	X		
AnalyteGroupID					Not required.
AnalyteName	X	X	X		Report the analytes as they appear in the SOW or as identified for TICs. Report unknown TICs as "Unknown-01", then increment for each TIC.
AnalyteNameContext	X	X	X		Report "CAS" as applicable.
AnalyteType	X	X	X		Report "Target" for all target analytes, "Spike" for all target analytes designated as spike analytes for MS/MSD, "Internal_Standard" for internal standards, "Surrogate" for DMCs, or "TIC" for all TICs.
BiasErrorRatio					Not required.

TABLE 3. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
CASRegistryNumber	X	X	X		Report the CAS Number as it appears in the SOW, and for TICs if known.
ClientAnalyteID	X	X	X		Report CAS Number. For TICs with no CAS Number, report TIC name or as "Unknown-01", then increment with each TIC.
ClientAnalyteName	X	X	X		Report the analytes as they appear in the SOW or as identified for TICs. Report unknown TICs as "Unknown-01", then increment with each TIC.
Comment					Not required.
Counts					Not required.
CountsUncertainty					Not required.
CountsUncertaintyConfidenceLevel					Not required.
CountsUncertaintyDetermination					Not required.
CountsUncertaintyIntervalType					Not required.
CountsUncertaintyLimitHigh					Not required.
CountsUncertaintyLimitLow					Not required.
CountsUncertaintyType					Not required.
CountsUnits					Not required.
DetectionLimit	X	X	X		Report the MDL.
DetectionLimitType	X	X	X		Report "MDL".
DetectionLimitUnits	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
DifferenceErrorRatio					Not required.
Efficiency					Not required.
ExpectedResult					Not required.
ExpectedResultUncertainty					Not required.
ExpectedResultUncertaintyConfidenceLevel					Not required.
ExpectedResultUncertaintyDetermination					Not required.
ExpectedResultUncertaintyIntervalType					Not required.
ExpectedResultUncertaintyLimitHigh					Not required.
ExpectedResultUncertaintyLimitLow					Not required.
ExpectedResultUncertaintyType					Not required.
ExpectedResultUncertaintyUnits					Not required.
ExpectedResultUnits					Not required.
Inclusion					Not required.
LabAnalyteID					Not required.
LabQualifiers	X	X	X		Report qualifiers as specified in the SOW.
LotNumber	X	X	X		Report the vendor/manufacturer assigned lot number for this standard (DMCs, Internal Standards, and spiking analytes only).

TABLE 3. GAS CHROMATOGRAPHY/MASS SPECTROMETRY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	MB/LEB/SB/IB	NCS	Instructions
PeakID	X	X	X		If response from a single peak is used for quantitation, report the ID of that peak. For unknown TICs, report the unique identifiers as applicable. For alkanes, report "Total alkanes" as the identifier.
PercentRecovery					Not required.
PercentRecoveryLimitHigh					Not required.
PercentRecoveryLimitLow					Not required.
PercentRecoveryLimitType					Not required.
PercentRecoveryType					Not required.
QuantitationLimit	X	X	X		Report the CRQL.
QuantitationLimitType	X	X	X		Report "CRQL".
QuantitationLimitUnits	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
ReportingLimit					Not required.
ReportingLimitType					Not required.
ReportingLimitUnits					Not required.
Result	X	X	X		Report the final calculated concentration or amount to at least two significant figures. Leave blank if compound is not detected.
ResultLimitHigh					Not required.
ResultLimitLow					Not required.
ResultLimitType					Not required.
ResultType	X	X	X		Report "=" for all detected analytes. Report "Not_Detected" for non-detects.
ResultUncertainty					Not required.
ResultUncertaintyConfidenceLevel					Not required.
ResultUncertaintyDetermination					Not required.
ResultUncertaintyIntervalType					Not required.
ResultUncertaintyLimitHigh					Not required.
ResultUncertaintyLimitLow					Not required.
ResultUncertaintyType					Not required.
ResultUncertaintyUnits					Not required.
ResultUnits	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
StandardSource	X	X	X		Report the vendor/manufacturer for this standard.
Wavelength					Not required.
WavelengthUnits					Not required.
AnalyteGroup					Not required.

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TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
Header	X	X	X	X	X	
ClientID	X	X	X	X	X	Report "1" for Region 1, "2" for Region 2, etc. For samples received from QATS, report "91".
ClientName						Not required.
Comment						Not required.
DateFormat	X	X	X	X	X	Report MMDDYYYYThh:mm:ss. All dates and times reported in the EDD must follow this format. If any part of the time is unknown, report "00" for the unknown hours, minutes, and seconds.
EDDID	X	X	X	X	X	Report "SEDD".
EDDImplementationID	X	X	X	X	X	Report "SEDD_5-2_GENERAL_3" (This is the DTD used).
EDDImplementationVersion	X	X	X	X	X	Report "3" (This is the version of the DTD used).
EDDVersion	X	X	X	X	X	Report "5.2".
GeneratingSystemID	X	X	X	X	X	Report the name of generating software or vendor.
GeneratingSystemVersion	X	X	X	X	X	Report the software version number.
LabContract	X	X	X	X	X	Report the Contract Number.
LabContractModificationDescription						Not required.
LabContractModificationID						Not required.
LabDataPackageID	X	X	X	X	X	Report the SDG.
LabDataPackageName	X	X	X	X	X	Report "Pest" or "Aroclor" as applicable.
LabDataPackageVersion	X	X	X	X	X	Report "1", then increment with each resubmission.
LabID	X	X	X	X	X	Report the Agency-assigned Lab Code.
LabName	X	X	X	X	X	Report the Lab Name.
LabNarrative						Not required.
LabQualifiersDefinition	X	X	X	X	X	Use the format 'Qualifier:Definition' to report each qualifier used. Use a ';' to separate the definitions of multiple qualifiers.
LabReportedDate	X	X	X	X	X	Report the date this data was reported to the client.
ProjectID	X	X	X	X	X	Report the Case Number.
ProjectName						Not required.
SiteID						Not required.
SiteName						Not required.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
SamplePlusMethod	X	X	X	X	X	
Bottles						Not required.
BottleType						Not required.
ClientID	X	X				Report "1" for Region 1, "2" for Region 2, etc. For samples received from QATS, report "91".
ClientMethodCategory						Not required.
ClientMethodCode						Not required.
ClientMethodID	X	X	X	X	X	Report "SOM02.3".
ClientMethodModificationDescription						Not required.
ClientMethodModificationID	X	X	X	X		Report the Modified Analysis Number, if applicable.
ClientMethodName						Not required.
ClientMethodSource	X	X	X	X	X	Report "EPA_CLP".
ClientMethodType	X	X	X	X	X	Report "GCECD_External_Standard".
ClientMethodVersion	X	X	X	X	X	Report the month and year the SOW was issued.
ClientName						Not required.
ClientSampleID	X	X	X	X		Report the EPA Sample Number.
CollectedDate	X	X				Report the date and time the sample was collected.
CollectedEndDate						Not required.
Comment						Not required.
Composite						Not required.
CoolerID						Not required.
CustodyID	X	X				Report the Traffic Report/Chain of Custody Record Form number.
EquipmentBatch						Not required.
Filtered						Not required.
LabContract	X	X	X	X		Report the Contract Number.
LabContractModificationDescription						Not required.
LabContractModificationID						Not required.
LabID	X	X	X	X	X	Report the Agency-assigned Lab Code.
LabMethodID						Not required.
LabMethodName						Not required.
LabName	X	X	X	X	X	Report the Lab Name.
LabReceiptDate	X	X				Report the date and time the sample was received.
LabReportingBatch	X	X	X	X	X	Links all samples analyzed to this deliverable. Report the SDG Number.
LabSampleID	X	X	X	X	X	Report the Lab Sample ID as assigned by the laboratory.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/lEB/IB/CB	NCS	Instructions
LocationID						Not required.
LocationName						Not required.
MatrixID	X	X	X	X	X	Report "Water" or "Soil" as applicable.
MatrixMedium	X	X	X	X	X	Report "Aqueous" or "Solid" as applicable.
MethodBatch						Not required.
MethodCategory						Not required.
MethodCode						Not required.
MethodID	X	X	X	X	X	Report "SOM02.3".
MethodLevel	X	X				Report "Low".
MethodModificationDescription						Not required.
MethodModificationID						Not required.
MethodName						Not required.
MethodSource	X	X	X	X	X	Report "EPA_CLP".
MethodType	X	X	X	X	X	Report "GC".
MethodVersion	X	X	X	X	X	Report the month and year the SOW was issued.
OriginalClientSampleID		X				Report the EPA Sample Number of the original sample this sample was derived from.
OriginalLabSampleID						Not required.
PhaseAnalyzed						Not required.
Preservative	X	X				Report any chemical or physical preservative used.
ProjectID	X	X	X	X		Report the Case Number.
ProjectName						Not required.
QCCategory		X	X	X		Report "Blank" for MB, LEB, IB, or CB; "Spike" for MS; "Spike_Duplicate" for MSD; or "Blank_Spike" for LCS.
QCLinkage		X	X	X		Report "LabReportingBatch" for MS/MSD; "PreparationBatch" for MB and LCS; "AnalysisBatch" for IB; "CleanupBatch" for CB; or "handlingBatch" for LEB.
QCType	X	X	X	X	X	Report "Field_Sample" for field samples; "Field_Blank" for field, equipment, rinse, or trip blanks; "Instrument_Blank" for IB; "PT_Sample" for Performance Evaluation samples or Proficiency Testing samples; "Method_Blank" for MB; "Leachate_Extraction_Blank" for LEB; "Cleanup_Blank" for CB; "Matrix_Spike" for MS; "Matrix_Spike_Duplicate" for MSD; "Laboratory_Control_Sample" for LCS; or "Non_Client_Sample".
Quarantine	X					Report "Yes" or "No" based on sampling information.
SamplingBatch						Not required.
ShippingBatch						Not required.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
SiteID						Not required.
SiteName						Not required.
StorageBatch						Not required.
InstrumentQC						Not required.
Characteristic	X	X	X	X		
CharacteristicType	X	X	X	X		Report "Percent_Solids" for each SamplePlusMethod. Report "pH" and "Temperature" for samples, received at the laboratory, under each SamplePlusMethod node. Report the "pH" and "Temperature" measured for the TCLP or SPLP leachates under the Handling node.
CharacteristicValue	X	X	X	X		Report the percent solids to two significant figures if less than 10 and three significant figures if greater than or equal to 10 for soil/sediment samples for "Percent_Solids"; the pH for aqueous/water samples (and soil/sediment samples as requested) to the nearest tenth for "pH"; and the temperature at receipt to the nearest degree for "Temperature".
CharacteristicUnits	X	X	X	X		Report "C" for "Temperature".
Comment						Not required.
ContactInformation	X	X	X	X	X	
LabAddress1	X	X	X	X	X	Report the street address of the laboratory.
LabAddress2	X	X	X	X	X	If applicable, report any additional address information (e.g., suite, maildrop). Otherwise leave blank.
LabCity	X	X	X	X	X	Report the city in which the laboratory is located.
LabCountry	X	X	X	X	X	Report the country in which the laboratory is located.
LabID	X	X	X	X	X	Report the Agency-assigned Lab Code.
LabName	X	X	X	X	X	Report the Lab Name.
LabPointOfContact	X	X	X	X	X	Report the name of the person at the laboratory serving as the point of contact.
LabPointOfContactElectronicAddress	X	X	X	X	X	Report the Email address of the point of contact.
LabPointOfContactTitle	X	X	X	X	X	Report the title of the point of contact.
LabPointOfContactType						Not required.
LabState	X	X	X	X	X	Report the state or province in which the laboratory is located.
LabTelephoneNumber	X	X	X	X	X	Report the 10-digit phone number for the laboratory.
LabType						Not required.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
LabZipCode	X	X	X	X	X	Report the ZIP or postal code.
Analysis	X	X	X	X	X	
AliquotAmount						Not required.
AliquotAmountUnits						Not required.
AnalysisBatch	X	X	X	X	X	Links this analysis to the beginning of a 12-hour period. Report the Lab File ID of the standard (IB for CCV; IB or resolution check for ICAL) that starts the sequence. For the standard at the beginning of a 12-hour period, report the Lab File ID of the standard itself.
AnalysisBatchEnd	X	X	X	X	X	Links this analysis to the QC immediately following a 12-hour period. Report the Lab File ID of the CCV used to close out the 12-hour period.
AnalysisDuration						Not required.
AnalysisDurationUnits						Not required.
AnalysisGroupID						Not required.
AnalysisType	X	X	X	X		Report "Initial", "Dilution-01", "Reanalysis-01", or "Reinjection-01", then increment as necessary.
Analyst	X	X	X	X		Report the Analyst's initials.
AnalyzedAmount	X	X	X	X		Report the volume of final extract added to the sample vial in microliters to at least two significant figures.
AnalyzedAmountUnits	X	X	X	X		Report "uL".
AnalyzedDate	X	X	X	X	X	Report the date and time the sample was analyzed.
BackgroundCorrection						Not required.
BackgroundRawData						Not required.
BackgroundType						Not required.
BottleID						Not required.
ClientAnalysisID	X	X	X	X	X	Report the full EPA Sample Number with applicable suffixes per the requirements in Exhibit B – Reporting and Deliverables Requirements.
ClientMethodCode						Not required.
ClientMethodID	X	X	X	X	X	Report "SOM02.3".
ClientMethodModificationDescription						Not required.
ClientMethodModificationID						Not required.
ClientMethodName						Not required.
ClientMethodSource	X	X	X	X	X	Report "EPA_CLP".
ClientMethodVersion	X	X	X	X	X	Report the month and year the SOW was issued.
Column	X	X	X	X		Report the GC column used.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
ColumnInternalDiameter	X	X	X	X		Report the GC Column Internal Diameter in millimeters.
ColumnInternalDiameterUnits	X	X	X	X		Report "mm".
ColumnLength	X	X	X	X		Report the Column Length in meters.
ColumnLengthUnits	X	X	X	X		Report "m".
Comment						Not required.
ConfirmationAnalysisID	X	X	X	X		Links an analysis to a confirmation analysis. Report the Lab File ID of the confirmation analysis.
Counts						Not required.
CountsUncertainty						Not required.
CountsUncertaintyConfidenceLevel						Not required.
CountsUncertaintyDetermination						Not required.
CountsUncertaintyIntervalType						Not required.
CountsUncertaintyLimitHigh						Not required.
CountsUncertaintyLimitLow						Not required.
CountsUncertaintyType						Not required.
CountsUnits						Not required.
DetectorID						Not required.
DetectorType	X	X	X	X		Report "ECD".
DilutionFactor	X	X	X	X		Report the Dilution Factor used to the nearest tenth. Report "1.0" when no dilutions are used.
Efficiency						Not required.
HeatedPurge						Not required.
Inclusion						Not required.
InjectionVolume	X	X	X	X		Report the injection volume in microliters. Report volume to at least two significant figures.
InjectionVolumeUnits	X	X	X	X		Report "uL".
InstrumentID	X	X	X	X	X	Report the laboratory identifier for the instrument used for this analysis.
InterelementCorrection						Not required.
LabAnalysisID	X	X	X	X	X	Report the Lab File ID.
LabFileID	X	X	X	X	X	Report the Lab File ID.
LabID						Not required.
LabMethodID						Not required.
LabMethodName						Not required.
LabName						Not required.
MethodCode						Not required.
MethodID	X	X	X	X	X	Report "SOM02.3".
MethodModificationDescription						Not required.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
MethodModificationID						Not required.
MethodName						Not required.
MethodSource	X	X	X	X	X	Report "EPA_CLP".
MethodVersion	X	X	X	X	X	Report the month and year the SOW was issued.
OriginalLabAnalysisID	X	X	X	X		If a dilution or reinjection is prepared from a previously analyzed sample, report the Lab File ID of the original sample that the dilution or reinjection is prepared from.
PreparationBatch						Not required.
ProcedureID						Not required.
ProcedureName						Not required.
ReferenceDate						Not required.
ResultBasis	X	X	X	X		Report "Dry" for soil/sediment samples.
RunBatch	X	X	X	X	X	Links this analysis to an initial calibration. Report the Lab File ID of the standard that started the ICAL sequence.
SampleAmount						Not required.
SampleAmountUnits						Not required.
Temperature						Not required.
TemperatureUnits						Not required.
Wavelength						Not required.
WavelengthUnits						Not required.
Yield						Not required.
AnalysisGroup						Not required.
Handling	X	X		X		
Analyst						Not required.
BottleID						Not required.
ClientMethodCode						Not required.
ClientMethodID	X	X		X		Report "SOM02.3".
ClientMethodModificationDescription						Not required.
ClientMethodModificationID						Not required.
ClientMethodName						Not required.
ClientMethodSource	X	X		X		Report "EPA_CLP".
ClientMethodVersion	X	X		X		Report the month and year the SOW was issued.
Comment						Not required.
HandledDate	X	X		X		Enter the date and time TCLP or SPLP extraction began or decanting was performed.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
HandlingBatch	X	X		X		Links all samples that were TCLP or SPLP extracted together or decanted together. Report a unique identifier for each batch.
HandlingType	X	X		X		Report "TCLP" or "SPLP" for extractions. Report "Decanted" if water was decanted from soil/sediment samples; otherwise report "Not_decanted".
InitialAmount						Not required.
InitialAmountUnits						Not required.
LabID						Not required.
LabMethodID						Not required.
LabMethodName						Not required.
LabName						Not required.
MethodCode						Not required.
MethodID	X	X		X		Report "SOM02.3".
MethodModificationDescription						Not required.
MethodModificationID						Not required.
MethodName						Not required.
MethodID						Not required.
MethodSource	X	X		X		Report "EPA_CLP".
MethodVersion	X	X		X		Report the month and year the SOW was issued.
ProcedureID						Not required.
ProcedureName						Not required.
SampleAmount						Not required.
SampleAmountUnits						Not required.
ReportedResult	X	X	X	X		
AnalysisGroupID						Not required.
AnalyteGroupID						Not required.
AnalyteName	X	X	X	X		Report the analytes as they appear in the SOW.
AnalyteNameContext	X	X	X	X		Report "CAS".
AnalyteType	X	X	X	X		Report "Target" for all target analytes or "Spike" for all target analytes designated as spike analytes for MS/MSD and LCS analysis.
BiasErrorRatio						Not required.
CASRegistryNumber	X	X	X	X		Report the CAS Number as it appears in the SOW.
ClientAnalyteID	X	X	X	X		Report CAS Number.
ClientAnalyteName	X	X	X	X		Report the analytes as they appear in the SOW.
ClientDetectionLimit						Not required.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
ClientDetectionLimitUnits						Not required.
ClientQuantitationLimit	X	X	X	X		Report the unadjusted CRQL.
ClientQuantitationLimitUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
Comment						Not required.
DetectionLimit	X	X	X	X		For target analytes, report the current MDL, adjusted for sample weight/volume, percent solids, and dilution factor to at least two significant figures.
DetectionLimitType	X	X	X	X		Report "MDL_sa".
DetectionLimitUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
DifferenceErrorRatio						Not required.
ExpectedResult						Not required.
ExpectedResultUncertainty						Not required.
ExpectedResultUncertaintyConfidenceLevel						Not required.
ExpectedResultUncertaintyDetermination						Not required.
ExpectedResultUncertaintyIntervalType						Not required.
ExpectedResultUncertaintyLimitHigh						Not required.
ExpectedResultUncertaintyLimitLow						Not required.
ExpectedResultUncertaintyType						Not required.
ExpectedResultUncertaintyUnits						Not required.
ExpectedResultUnits						Not required.
LabAnalysisID	X	X	X	X		Report the Lab File ID from the analysis this reported result was derived from.
LabAnalyteID						Not required.
LabQualifiers	X	X	X	X		Report flags as specified in the SOW. Includes the Q qualifiers from Form 1-OR.
LabResultStatus	X	X				Report "Preliminary" or "Final" as applicable.
PeakID						Not required.
PercentDifference	X	X	X	X		For Confirmation analyses, report the percent difference between the reported results and the confirmation result to the nearest whole percent (excluding IB).
PercentDifferenceLimitHigh	X	X	X	X		Report the upper limit for the percent difference to the nearest whole percent (excluding IB).
PercentDifferenceLimitLow						Not required.
PercentDifferenceLimitType	X	X	X	X		Report "Method" (excluding IB).
PercentRecovery						Not required.
PercentRecoveryLimitHigh						Not required.
PercentRecoveryLimitLow						Not required.
PercentRecoveryLimitType						Not required.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
PercentRecoveryType						Not required.
QuantitationLimit	X	X	X	X		For target analytes, report the CRQL adjusted for sample weight/volume, percent solids, and dilution factor to at least two significant figures.
QuantitationLimitType	X	X	X	X		Report "CRQL_sa".
QuantitationLimitUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
ReportingLimit						Not required.
ReportingLimitType						Not required.
ReportingLimitUnits						Not required.
Result	X	X	X	X		Report the final calculated result for detects per the SOW.
ResultLimitHigh						Not required.
ResultLimitLow						Not required.
ResultLimitType						Not required.
ResultType	X	X	X	X		Report "=" for all detected analytes. Report "Not_Detected" for non-detects.
ResultUncertainty						Not required.
ResultUncertaintyConfidenceLevel						Not required.
ResultUncertaintyDetermination						Not required.
ResultUncertaintyIntervalType						Not required.
ResultUncertaintyLimitHigh						Not required.
ResultUncertaintyLimitLow						Not required.
ResultUncertaintyType						Not required.
ResultUncertaintyUnits						Not required.
ResultUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
RetentionTime						Not required.
RetentionTimeUnits						Not required.
RPD						Not required.
RPDLimitHigh						Not required.
RPDLimitType						Not required.
RPDType						Not required.
PreparationPlusCleanup	X	X	X	X		
AliquotAmount	X	X	X	X		Report the sample amount in grams for soil/sediment or milliliters for aqueous/water to at least three significant figures.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
AliquotAmountUnits	X	X	X	X		Report "g" for soil/sediment or "mL" for aqueous/water.
Analyst	X	X	X	X		Report the Analyst's initials.
BottleID						Not required.
CleanedUpDate	X	X	X	X		Report the date and time the sample was cleaned up.
CleanupBatch	X	X	X	X		Links all samples that were cleaned up together. Report the Lab File ID of the associated blank or other unique identifier.
CleanupType	X	X	X	X		Report "GPC", "Florisil", "Sulfur", or "Sulfuric_Acid" as applicable.
ClientMethodCode						Not required.
ClientMethodID	X	X	X	X		Report the sample preparation ID as given in Exhibit B – Reporting and Deliverables Requirements.
ClientMethodModificationDescription						Not required.
ClientMethodModificationID						Not required.
ClientMethodName						Not required.
ClientMethodSource	X	X	X	X		Report "EPA_CLP".
ClientMethodVersion	X	X	X	X		Report the month and year the SOW was issued.
Comment						Not required.
Efficiency						Not required.
FinalAmount	X	X	X	X		Report the Final Amount of material produced upon completion of this prep or cleanup in microliters.
FinalAmountUnits	X	X	X	X		Report "uL".
InitialAmount	X	X	X	X		Report the initial amount of extracted sample used for this cleanup method in microliters.
InitialAmountUnits	X	X	X	X		Report "uL".
LabID						Not required.
LabMethodID						Not required.
LabMethodName						Not required.
LabName						Not required.
LotNumber	X	X	X	X		Report the manufacturer's lot number for the Florisil cartridges used.
MethodCode						Not required.
MethodID	X	X	X	X		Report "SOM02.3".
MethodModificationDescription						Not required.
MethodModificationID						Not required.
MethodName						Not required.
MethodSource	X	X	X	X		Report "EPA_CLP".

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
MethodVersion	X	X	X	X		Report the month and year the SOW was issued.
PreparationBatch	X	X	X	X		Links all samples that were prepared together. Report the Lab File ID of the associated Method Blank.
PreparationPlusCleanupType	X	X	X	X		Report "Preparation" or "Cleanup" as applicable.
PreparationType	X	X	X	X		Report "Sonication", "Soxhlet", or "Pressurized_Fluid" for soil/sediment. Report "Sep_Funnel", "Liq_Liq", or "Liq_Membrane" for aqueous/water.
PreparedDate	X	X	X	X		Report the date and time the sample was prepared.
ProcedureID						Not required.
ProcedureName						Not required.
SampleAmount						Not required.
SampleAmountUnits						Not required.
Solvent						Not required.
Analyte	X	X	X	X		
AmountAdded	X	X	X	X		Volume of surrogate standard or spiking solution added in microliters.
AmountAddedUnits	X	X	X	X		Report "uL".
AmountAddedLocation	X	X	X	X		For sample, MB, CB, or MS/MSD, report "Aliquot"; for LCS or IB, report "Standard".
AnalyteGroupID						Not required.
AnalyteName	X	X	X	X		Report the analytes as they appear in the SOW.
AnalyteNameContext	X	X	X	X		Report "CAS".
AnalyteType	X	X	X	X		Report "Target" for all target analytes; "Spike" for all target analytes designated as spike analytes for MS/MSD or LCS analysis; or "Surrogate" for surrogate compounds.
BiasErrorRatio						Not required.
CalibrationBasis						Not required.
CalibrationFactor						Not required.
CalibrationFactorUnits						Not required.
CalibrationType						Not required.
CASRegistryNumber	X	X	X	X		Report the CAS Number as it appears in the SOW.
ClientAnalyteID	X	X	X	X		Report CAS Number.
ClientAnalyteName	X	X	X	X		Report the analytes as they appear in the SOW.
Coeffa0						Not required.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
Coeffa1						Not required.
Coeffa2						Not required.
Coeffa3						Not required.
CoeffOfDetermination						Not required.
CoeffOfDeterminationLimitLow						Not required.
CoeffOfDeterminationLimitType						Not required.
Comment						Not required.
CorrelationCoeff						Not required.
CorrelationCoeffLimitLow						Not required.
CorrelationCoeffLimitType						Not required.
Counts						Not required.
CountsUncertainty						Not required.
CountsUncertaintyConfidenceLevel						Not required.
CountsUncertaintyDetermination						Not required.
CountsUncertaintyIntervalType						Not required.
CountsUncertaintyLimitHigh						Not required.
CountsUncertaintyLimitLow						Not required.
CountsUncertaintyType						Not required.
CountsUnits						Not required.
DetectionLimit	X	X	X	X		Report the MDL.
DetectionLimitType	X	X	X	X		Report "MDL".
DetectionLimitUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
DifferenceErrorRatio						Not required.
Efficiency						Not required.
ExpectedResult	X	X	X	X		Report the theoretical final calculated concentration for MS/MSD and LCS. Report surrogates in nanograms.
ExpectedResultUncertainty						Not required.
ExpectedResultUncertaintyConfidenceLevel						Not required.
ExpectedResultUncertaintyDetermination						Not required.
ExpectedResultUncertaintyIntervalType						Not required.
ExpectedResultUncertaintyLimitHigh						Not required.
ExpectedResultUncertaintyLimitLow						Not required.
ExpectedResultUncertaintyType						Not required.
ExpectedResultUncertaintyUnits						Not required.
ExpectedResultUnits	X	X	X	X		Report "ug/kg" for soil/sediment and "ug/L" for aqueous/water (or "mg/L" for TCLP). Report "ng" for surrogates.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
Inclusion						Not required.
IntermediateResult	X	X	X	X		Report the on-column amount in nanograms from the raw data. Leave blank if undetected.
IntermediateResultLimitHigh						Not required
IntermediateResultLimitLow						Not required.
IntermediateResultLimitType						Not required.
IntermediateResultUnits	X	X	X	X		Report "ng".
LabAnalyteID						Not required.
LabQualifiers	X	X	X	X		Report qualifiers as specified in the SOW.
LotNumber	X	X	X	X		Report the vendor/manufacturer assigned lot number for this standard.
Mass						Not required.
MassLimitHigh						Not required.
MassLimitLow						Not required.
MassLimitType						Not required.
MassUnits						Not required.
MeanCalibrationFactor						Not required.
MeanCalibrationFactorUnits						Not required.
MeanRRF						Not required.
MeanRRFLimitLow						Not required.
MeanRRFLimitType						Not required.
PeakID	X	X	X	X		If response from a single peak is used for quantitation, report the ID of that peak.
PercentBreakdown						Not required.
PercentBreakdownLimitHigh						Not required.
PercentBreakdownLimitType						Not required.
PercentDifference						Not required.
PercentDifferenceLimitHigh						Not required.
PercentDifferenceLimitLow						Not required.
PercentDifferenceLimitType						Not required.
PercentMatch						Not required.
PercentRecovery	X	X	X	X		Report the final calculated percent recovery of the spikes and surrogates to the nearest whole percent.
PercentRecoveryLimitHigh	X	X	X	X		Report the upper limit for the percent recovery of the spikes and surrogates to the nearest whole percent.
PercentRecoveryLimitLow	X	X	X	X		Report the lower limit for the percent recovery of the spikes and surrogates to the nearest whole percent.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
PercentRecoveryLimitType	X	X	X	X		Report "Method".
PercentRecoveryType						Not required.
PercentRSD						Not required.
PercentRSDLimitHigh						Not required.
PercentRSDLimitLow						Not required.
PercentRSDLimitType						Not required.
QuantitationBasis						Not required.
QuantitationLimit	X	X	X	X		Report the CRQL.
QuantitationLimitType	X	X	X	X		Report "CRQL".
QuantitationLimitUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
ReportingLimit						Not required.
ReportingLimitType						Not required.
ReportingLimitUnits						Not required.
Response						Not required.
ResponseLimitHigh						Not required.
ResponseLimitLow						Not required.
ResponseLimitType						Not required.
ResponseUnits						Not required.
Result	X	X	X	X		Report the calculated concentration or amount to at least two significant figures. Leave blank if compound is not detected.
ResultLimitHigh						Not required.
ResultLimitLow						Not required.
ResultLimitType						Not required.
ResultType	X	X	X	X		Report "=" for all detected analytes. Report "Not_Detected" for non-detects.
ResultUncertainty						Not required.
ResultUncertaintyConfidenceLevel						Not required.
ResultUncertaintyDetermination						Not required.
ResultUncertaintyIntervalType						Not required.
ResultUncertaintyLimitHigh						Not required.
ResultUncertaintyLimitLow						Not required.
ResultUncertaintyType						Not required.
ResultUncertaintyUnits						Not required.
ResultUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
RPD		X				Report the RPD to the nearest percent.
RPDLimitHigh		X				Report the upper limit for the RPD to the nearest whole percent.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
RPDLimitType		X				Report "Method".
RPDType						Not required.
RRF						Not required.
RRFLimitLow						Not required.
RRFLimitType						Not required.
StandardConcentration	X	X	X	X		Report the concentration of the surrogate standard or spiking solution used in ug/L.
StandardConcentrationUnits						Report "ug/L".
StandardDeviation						Not required.
StandardDeviationUnits						Not required.
StandardFinalAmount						Not required.
StandardFinalAmountUnits						Not required.
StandardID						Not required.
StandardSource	X	X	X	X		Report the vendor/manufacturer for this standard.
TailingFactor						Not required.
TailingFactorLimitHigh						Not required.
TailingFactorLimitType						Not required.
Wavelength						Not required.
WavelengthUnits						Not required.
WeightingFactor						Not required.
AnalyteComparison						Not required.
AnalyteGroup						Not required.
Peak	X	X	X	X		
CalibrationFactor						Not required.
CalibrationFactorUnits						Not required.
CalibrationType						Not required.
Coeffa0						Not required.
Coeffa1						Not required.
Coeffa2						Not required.
Coeffa3						Not required.
CoeffOfDetermination						Not required.
CoeffOfDeterminationLimitLow						Not required.
CoeffOfDeterminationLimitType						Not required.
Comment						Not required.
CorrelationCoeff						Not required.
CorrelationCoeffLimitLow						Not required.
CorrelationCoeffLimitType						Not required.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
DetectionLimit						Not required.
DetectionLimitType						Not required.
DetectionLimitUnits						Not required.
DifferenceErrorRatio						Not required.
Efficiency						Not required.
Inclusion						Not required.
IntermediateResult	X	X	X	X		Report the on-column amount in nanograms from the raw data. Leave blank if compound is not detected.
IntermediateResultLimitHigh						Not required.
IntermediateResultLimitLow						Not required.
IntermediateResultLimitType						Not required.
IntermediateResultUnits	X	X	X	X		Report "ng".
LabQualifiers						Not required.
ManualIntegration	X	X	X	X		Report "Yes" if this peak was manually integrated; otherwise report "No".
Mass						Not required.
MassLimitHigh						Not required.
MassLimitLow						Not required.
MassLimitType						Not required.
MassUnits						Not required.
MeanCalibrationFactor						Not required.
MeanCalibrationFactorUnits						Not required.
MeanRetentionTime						Not required.
MeanRetentionTimeLimitHigh						Not required.
MeanRetentionTimeLimitLow						Not required.
MeanRetentionTimeLimitType						Not required.
MeanRetentionTimeLimitUnits						Not required.
MeanRRF						Not required.
MeanRRFLimitLow						Not required.
MeanRRFLimitType						Not required.
PeakID	X	X	X	X		Report the peak identifier as used by the laboratory to uniquely identify this peak.
PeakRatio						Not required.
PeakRatioLimitHigh						Not required.
PeakRatioLimitLow						Not required.
PeakRatioLimitType						Not required.
PercentDifference						Not required.
PercentDifferenceLimitHigh						Not required.
PercentDifferenceLimitLow						Not required.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
PercentDifferenceLimitType						Not required.
PercentRatio						Not required.
PercentRatioLimitHigh						Not required.
PercentRatioLimitLow						Not required.
PercentRatioLimitType						Not required.
PercentRecovery						Not required.
PercentRecoveryLimitHigh						Not required.
PercentRecoveryLimitLow						Not required.
PercentRecoveryLimitType						Not required.
PercentRecoveryType						Not required.
PercentRSD						Not required.
PercentRSDLimitHigh						Not required.
PercentRSDLimitLow						Not required.
PercentRSDLimitType						Not required.
QuantitationLimit						Not required.
QuantitationLimitType						Not required.
QuantitationLimitUnits						Not required.
ReportingLimit						Not required.
ReportingLimitType						Not required.
ReportingLimitUnits						Not required.
Resolution						Not required.
ResolutionLimitHigh						Not required.
ResolutionLimitLow						Not required.
ResolutionLimitType						Not required.
ResolutionType						Not required.
ResolutionUnits						Not required.
Response	X	X	X	X		Report the actual peak area or peak height from the raw data.
ResponseLimitHigh						Not required.
ResponseLimitLow						Not required.
ResponseLimitType						Not required.
ResponseType						Not required.
ResponseUnits	X	X	X	X		Report "Peak_Area" or "Peak_Height".
Result						Not required.
ResultLimitHigh						Not required.
ResultLimitLow						Not required.
ResultLimitType						Not required.
ResultType						Not required.
ResultUncertainty						Not required.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
ResultUnits						Not required.
RetentionTime	X	X	X	X		Report the actual retention time in decimal minutes from the raw data for this peak.
RetentionTimeLimitLow	X	X	X	X		Report the lower limit for this retention time in decimal minutes for the internal standards.
RetentionTimeLimitType	X	X	X	X		Report "Method".
RetentionTimeUnits	X	X	X	X		Report "Minutes".
RRF						Not required.
RRFLimitLow						Not required.
RRFLimitType						Not required.
StandardDeviation						Not required.
StandardDeviationUnits						Not required.
TailingFactor						Not required.
TailingFactorLimitHigh						Not required.
TailingFactorLimitType						Not required.
Wavelength						Not required.
WavelengthUnits						Not required.
WeightingFactor						Not required.
PeakComparison						Not required.
PeakReplicate						Not required.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability				Instructions
	IPC	ICAL	CCV	FLO/GPC	
Header	X	X	X	X	
ClientID	X	X	X	X	Report "1" for Region 1, "2" for Region 2, etc. For samples received from QATS, report "91".
ClientName					Not required.
Comment					Not required.
DateFormat	X	X	X	X	Report MMDDYYYYThh:mm:ss. All dates and times reported in the EDD must follow this format. If any part of the time is unknown, report "00" for the unknown hours, minutes, and seconds.
EDDID	X	X	X	X	Report "SEDD".
EDDImplementationID	X	X	X	X	Report "SEDD_5-2_GENERAL_3" (This is the DTD used).
EDDImplementationVersion	X	X	X	X	Report "3" (This is the version of the DTD used).
EDDVersion	X	X	X	X	Report "5.2".
GeneratingSystemID	X	X	X	X	Report the name of generating software or vendor.
GeneratingSystemVersion	X	X	X	X	Report the software version number.
LabContract	X	X	X	X	Report the Contract Number.
LabContractModificationDescription					Not required.
LabContractModificationID					Not required.
LabDataPackageID	X	X	X	X	Report the SDG.
LabDataPackageName	X	X	X	X	Report "Pest" or "Aroclor" as applicable.
LabDataPackageVersion	X	X	X	X	Report "1", then increment with each resubmission.
LabID	X	X	X	X	Report the Agency-assigned Lab Code.
LabName	X	X	X	X	Report the Lab Name.
LabNarrative					Not required.
LabQualifiersDefinition	X	X	X	X	Use the format 'Qualifier:Definition' to report each qualifier used. Use a ';' to separate the definitions of multiple qualifiers.
LabReportedDate	X	X	X	X	Report the date this data was reported to the client.
ProjectID	X	X	X	X	Report the Case Number.
ProjectName					Not required.
SiteID					Not required.
SiteName					Not required.
SamplePlusMethod					Not required.
InstrumentQC	X	X	X	X	
ClientInstrumentQCType	X	X			For pesticides, for RESC and standards, report "1" if using a single mixture to calibrate instrument. Report "2" if using two mixtures to calibrate instrument.
ClientMethodCode					Not required.
ClientMethodID	X	X	X		Report "SOM02.3".
ClientMethodModificationDescription					Not required.
ClientMethodModificationID					Not required.
ClientMethodName					Not required.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability				Instructions
	IPC	ICAL	CCV	FLO/GPC	
ClientMethodSource	X	X	X	X	Report "EPA_CLP".
ClientMethodVersion	X	X	X	X	Report the month and year the SOW was issued.
Comment					Not required.
LabID	X	X	X	X	Report the Agency-assigned Lab Code.
LabInstrumentQCID	X	X	X	X	Report the EPA Sample Number. For ICAL, report the EPA Sample Number of the first standard.
LabMethodID					Not required.
LabMethodName					Not required.
LabName	X	X	X	X	Report the Lab Name.
MethodCode					Not required.
MethodID	X	X	X	X	Report "SOM02.3".
MethodModificationDescription					Not required.
MethodModificationID					Not required.
MethodName					Not required.
MethodSource	X	X	X	X	Report "EPA_CLP".
MethodVersion	X	X	X	X	Report the month and year the SOW was issued.
QCLinkage	X	X	X	X	Report "RunBatch" for ICAL and IPC;"AnalysisBatch" for CCV; or "CleanupBatch" for FLO and GPC.
QCType	X	X	X	X	Report "Instrument_Performance_Check_Tune" for RESC; "Instrument_Performance_Check_PEM" for the PEM standards that are part of the ICAL; "Initial_Calibration" for calibration; "Continuing_Calibration_Verification" for CCV; "Florisil_Cartridge_Check" for the Florisil cartridge check; or "GPC_Calibration_Check" for the GPC calibration check.
ContactInformation	X	X	X	X	
LabAddress1	X	X	X	X	Report the street address of the laboratory.
LabAddress2	X	X	X	X	If applicable, report any additional address information (e.g., suite, maildrop). Otherwise leave blank.
LabCity	X	X	X	X	Report the city in which the laboratory is located.
LabCountry	X	X	X	X	Report the country in which the laboratory is located.
LabID	X	X	X	X	Report the Agency-assigned Lab Code.
LabName	X	X	X	X	Report the Lab Name.
LabPointOfContact	X	X	X	X	Report the name of person at the laboratory serving as the point of contact.
LabPointOfContactElectronicAddress	X	X	X	X	Report the Email address of the point of contact.
LabPointOfContactTitle	X	X	X	X	Report the title of the point of contact.
LabPointOfContactType					Not required.
LabState	X	X	X	X	Report the state or province in which the laboratory is located.
LabTelephoneNumber	X	X	X	X	Report the 10-digit phone number for the laboratory.
LabType					Not required.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability				Instructions
	IPC	ICAL	CCV	FLO/GPC	
LabZipCode	X	X	X	X	Report the ZIP or postal code.
Analysis	X	X	X	X	
AliquotAmount					Not required.
AliquotAmountUnits					Not required.
AnalysisBatch			X		Links this analysis to the beginning of a 12-hour period. Report the Lab File ID of the standard (IB for CCV; IB or resolution check for ICAL) that starts this sequence. For the standard that starts the 12-hour period, enter the Lab File ID of the standard itself.
AnalysisBatchEnd			X		Links this analysis to the end of a 12-hour period. Report the Lab File ID of the CCV that ends this sequence. For the closing CCV that closes the 12-hour period, report the Lab File ID of the standard itself.
AnalysisDuration					Not required.
AnalysisDurationUnits					Not required.
AnalysisGroupID		X			Links a group of analyses together that are used for the multipoint initial calibration. Report the Lab File ID of the standard that starts this ICAL sequence.
AnalysisType	X	X	X	X	For IPC, FLO, and GPC report "Initial". For ICAL/CCV, report the calibration level used.
Analyst	X	X	X	X	Report the Analyst's initials.
AnalyzedAmount	X	X	X	X	Report the volume of standard places on the instrument for analysis in microliters.
AnalyzedAmountUnits	X	X	X	X	Report "uL".
AnalyzedDate	X	X	X	X	Report the date and time the sample was analyzed.
BackgroundCorrection					Not required.
BackgroundRawData					Not required.
BackgroundType					Not required.
BottleID					Not required.
ClientAnalysisID	X	X	X	X	Report the full EPA Sample Number with applicable suffixes per the requirements in Exhibit B – Reporting and Deliverables Requirements.
ClientMethodCode					Not required.
ClientMethodID	X	X	X	X	Report "SOM02.3".
ClientMethodModificationDescription					Not required.
ClientMethodModificationID					Not required.
ClientMethodName					Not required.
ClientMethodSource	X	X	X	X	Report "EPA_CLP".
ClientMethodVersion	X	X	X	X	Report the month and year the SOW was issued.
Column	X	X	X	X	Report the GC Column used.
ColumnInternalDiameter	X	X	X	X	Report the GC Column Internal Diameter in millimeters.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability				Instructions
	IPC	ICAL	CCV	FLO/GPC	
ColumnInternalDiameterUnits	X	X	X	X	Report "mm".
ColumnLength	X	X	X	X	Report the GC Column Length in meters.
ColumnLengthUnits	X	X	X	X	Report "m".
Comment					Not required.
ConfirmationAnalysisID					Not required.
Counts					Not required.
CountsUncertainty					Not required.
CountsUncertaintyConfidenceLevel					Not required.
CountsUncertaintyDetermination					Not required.
CountsUncertaintyIntervalType					Not required.
CountsUncertaintyLimitHigh					Not required.
CountsUncertaintyLimitLow					Not required.
CountsUncertaintyType					Not required.
CountsUnits					Not required.
DetectorID					Not required.
DetectorType	X	X	X	X	Report "ECD".
DilutionFactor	X	X	X	X	Report the Dilution Factor used to the nearest tenth. Report "1.0" when no dilutions are used.
Efficiency					Not required.
HeatedPurge					Not required.
Inclusion		X			Report "Yes" if the ICAL standard is to be included in the calibration curve; otherwise report "No".
InjectionVolume	X	X	X	X	Report the injection volume in microliters. Report volume to at least two significant figures.
InjectionVolumeUnits	X	X	X	X	Report "uL" as applicable.
InstrumentID	X	X	X	X	Report the laboratory identifier for the instrument used for this analysis.
InterelementCorrection					Not required.
LabAnalysisID	X	X	X	X	Report the Lab File ID.
LabFileID	X	X	X	X	Report the Lab File ID.
LabID					Not required.
LabMethodID					Not required.
LabMethodName					Not required.
LabName					Not required.
MethodCode					Not required.
MethodID	X	X	X	X	Report "SOM02.3".
MethodModificationDescription					Not required.
MethodModificationID					Not required.
MethodName					Not required.
MethodSource	X	X	X	X	Report "EPA_CLP".
MethodVersion	X	X	X	X	Report month and year the SOW was issued.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: IPC	ICAL	CCV	FLO/GPC	Instructions
OriginalLabAnalysisID					Not required.
PreparationBatch					Not required.
ProcedureID					Not required.
ProcedureName					Not required.
ReferenceDate					Not required.
ResultBasis					Not required.
RunBatch	X	X	X	X	Links this analysis to an initial calibration. Report the Lab File ID of the standard that started the ICAL sequence.
SampleAmount					Not required.
SampleAmountUnits					Not required.
Temperature					Not required.
TemperatureUnits					Not required.
Wavelength					Not required.
WavelengthUnits					Not required.
Yield					Not required.
AnalysisGroup		X			
AnalysisGroupID		X			This links a group of analyses together that are used for the initial calibration. Report the Lab File ID of the standard that starts this calibration sequence.
AnalysisType		X			Report "Initial_Calibration".
Comment					Not required.
Handling					Not required.
ReportedResult					Not required.
PreparationPlusCleanup				X	
AliquotAmount					Not required.
AliquotAmountUnits					Not required.
Analyst				X	Report the Analyst's initials.
BottleID					Not required.
CleanedUpDate				X	Report the date and time the sample was cleaned up.
CleanupBatch				X	Links all samples that were cleaned up together. Report the Lab File ID of the associated cleanup blank.
CleanupType				X	Report "GPC" or "Florisil" as applicable.
ClientMethodCode					Not required.
ClientMethodID				X	Report "SOM02.3".
ClientMethodModificationDescription					Not required.
ClientMethodModificationID					Not required.
ClientMethodName					Not required.
ClientMethodSource				X	Report "EPA_CLP".

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability				Instructions
	IPC	ICAL	CCV	FLO/GPC	
ClientMethodVersion				X	Report the month and year the SOW was issued.
Comment					Not required.
Efficiency					Not required.
FinalAmount				X	Report the final amount of material produced upon completion of this prep or cleanup in microliters.
FinalAmountUnits				X	Report "uL".
InitialAmount				X	Report the initial amount of extracted sample used for this cleanup method in microliters.
InitialAmountUnits				X	Report "uL".
LabID					Not required.
LabMethodID					Not required.
LabMethodName					Not required.
LabName					Not required.
LotNumber				X	Report the manufacturer's lot number for the Florisil cartridges used.
MethodCode					Not required.
MethodID				X	Report "SOM02.3".
MethodModificationDescription					Not required.
MethodModificationID					Not required.
MethodName					Not required.
MethodSource				X	Report "EPA_CLP".
MethodVersion				X	Report the month and year the SOW was issued.
PreparationBatch					Not required.
PreparationPlusCleanupType				X	Report "Cleanup".
PreparationType					Not required.
PreparedDate					Not required.
ProcedureID					Not required.
ProcedureName					Not required.
SampleAmount					Not required.
SampleAmountUnits					Not required.
Solvent					Not required.
Analyte	X	X	X	X	
AmountAdded	X	X	X	X	Volume of surrogate or spiking standard added in microliters.
AmountAddedUnits	X	X	X	X	Report "uL".
AmountAddedLocation	X	X	X	X	Report "Standard".
AnalyteGroupID					Not required.
AnalyteName	X	X	X	X	Report the analytes as they appear in the SOW.
AnalyteNameContext	X	X	X	X	Report "CAS".
AnalyteType	X	X	X	X	Report "Target" for all target analytes or "Surrogate" for surrogate compounds.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability				Instructions
	IPC	ICAL	CCV	FLO/GPC	
BiasErrorRatio					Not required.
CalibrationBasis		X			Report "Peak" under the AnalysisGroup node.
CalibrationFactor					Not required.
CalibrationFactorUnits					Not required.
CalibrationType					Not required.
CASRegistryNumber	X	X	X	X	Report the CAS Number as it appears in the SOW.
ClientAnalyteID	X	X	X	X	Report CAS Number.
ClientAnalyteName	X	X	X	X	Report the analytes as they appear in the SOW.
Coeffa0					Not required.
Coeffa1					Not required.
Coeffa2					Not required.
Coeffa3					Not required.
CoeffOfDetermination					Not required.
CoeffOfDeterminationLimitLow					Not required.
CoeffOfDeterminationLimitType					Not required.
Comment					Not required.
CorrelationCoeff					Not required.
CorrelationCoeffLimitLow					Not required.
CorrelationCoeffLimitType					Not required.
Counts					Not required.
CountsUncertainty					Not required.
CountsUncertaintyConfidenceLevel					Not required.
CountsUncertaintyDetermination					Not required.
CountsUncertaintyIntervalType					Not required.
CountsUncertaintyLimitHigh					Not required.
CountsUncertaintyLimitLow					Not required.
CountsUncertaintyType					Not required.
CountsUnits					Not required.
DetectionLimit					Not required.
DetectionLimitType					Not required.
DetectionLimitUnits					Not required.
DifferenceErrorRatio					Not required.
Efficiency					Not required.
ExpectedResult	X	X	X	X	Report the final amount added in nanograms.
ExpectedResultUncertainty					Not required.
ExpectedResultUncertaintyConfidenceLevel					Not required.
ExpectedResultUncertaintyDetermination					Not required.
ExpectedResultUncertaintyIntervalType					Not required.
ExpectedResultUncertaintyLimitHigh					Not required.
ExpectedResultUncertaintyLimitLow					Not required.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability				Instructions
	IPC	ICAL	CCV	FLO/GPC	
ExpectedResultUncertaintyType					Not required.
ExpectedResultUncertaintyUnits					Not required.
ExpectedResultUnits	X	X	X	X	Report "ng".
Inclusion		X			Report "No" if an analyte in a standard is not to be included in the calibration curve; otherwise report "Yes".
IntermediateResult	X	X	X	X	Report the on-column amount in nanograms from the raw data.
IntermediateResultLimitHigh					Not required.
IntermediateResultLimitLow					Not required.
IntermediateResultLimitType					Not required.
IntermediateResultUnits	X	X	X	X	Report "ng".
LabAnalyteID					Not required.
LabQualifiers	X	X	X	X	Report qualifiers as specified in the SOW.
LotNumber	X	X	X	X	Report the vendor/manufacturer assigned lot number for this standard.
Mass					Not required.
MassLimitHigh					Not required.
MassLimitLow					Not required.
MassLimitType					Not required.
MassUnits					Not required.
MeanCalibrationFactor					Not required.
MeanCalibrationFactorUnits					Not required.
MeanRRF					Not required.
MeanRRFLimitLow					Not required.
MeanRRFLimitType					Not required.
PeakID	X	X	X	X	If response from a single peak is used for quantitation, report the ID of that peak.
PercentBreakdown	X				For pesticides, report the calculated percent breakdown for 4,4'-DDT and Endrin to the nearest whole percent.
PercentBreakdownLimitHigh	X				Report the upper limit for the percent breakdown to the nearest whole percent.
PercentBreakdownLimitType	X				Report "Method".
PercentDifference					Not required.
PercentDifferenceLimitHigh					Not required.
PercentDifferenceLimitLow					Not required.
PercentDifferenceLimitType					Not required.
PercentMatch					Not required.
PercentRecovery				X	Report the final calculated Percent Recovery to the nearest whole percent.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: IPC	ICAL	CCV	FLO/GPC	Instructions
PercentRecoveryLimitHigh				X	Report the upper limit for the Percent Recovery to the nearest whole percent.
PercentRecoveryLimitLow				X	Report the lower limit for the Percent Recovery to the nearest whole percent.
PercentRecoveryLimitType				X	Report "Method".
PercentRecoveryType					Not required.
PercentRSD					Not required.
PercentRSDLimitHigh					Not required.
PercentRSDLimitLow					Not required.
PercentRSDLimitType					Not required.
QuantitationBasis		X			Report "External_Standard" under the AnalysisGroup node.
QuantitationLimit					Not required.
QuantitationLimitType					Not required.
QuantitationLimitUnits					Not required.
ReportingLimit					Not required.
ReportingLimitType					Not required.
ReportingLimitUnits					Not required.
Response					Not required.
ResponseLimitHigh					Not required.
ResponseLimitLow					Not required.
ResponseLimitType					Not required.
ResponseUnits					Not required.
Result					Not required.
ResultLimitHigh					Not required.
ResultLimitLow					Not required.
ResultLimitType					Not required.
ResultType					Not required.
ResultUncertainty					Not required.
ResultUncertaintyConfidenceLevel					Not required.
ResultUncertaintyDetermination					Not required.
ResultUncertaintyIntervalType					Not required.
ResultUncertaintyLimitHigh					Not required.
ResultUncertaintyLimitLow					Not required.
ResultUncertaintyType					Not required.
ResultUncertaintyUnits					Not required.
ResultUnits					Not required.
RPD					Not required.
RPDLimitHigh					Not required.
RPDLimitType					Not required.
RPDType					Not required.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability				Instructions
	IPC	ICAL	CCV	FLO/GPC	
RRF					Not required.
RRFLimitLow					Not required.
RRFLimitType					Not required.
StandardConcentration	X	X	X	X	Report the concentration of standard used in micrograms per liter.
StandardConcentrationUnits	X	X	X	X	Report "ug/L".
StandardDeviation					Not required.
StandardDeviationUnits					Not required.
StandardFinalAmount					Not required.
StandardFinalAmountUnits					Not required.
StandardID	X	X	X	X	Report the laboratory assigned identifier for this standard.
StandardSource	X	X	X	X	Report the vendor/manufacturer for this standard.
TailingFactor					Not required.
TailingFactorLimitHigh					Not required.
TailingFactorLimitType					Not required.
Wavelength					Not required.
WavelengthUnits					Not required.
WeightingFactor					Not required.
AnalyteComparison					Not required.
AnalyteGroup					Not required.
Peak	X	X	X	X	
CalibrationFactor		X	X		Report the calculated Calibration Factor.
CalibrationFactorUnits		X	X		Report the units for the Calibration Factor.
CalibrationType		X	X		Report "Calibration_Factor" under the AnalysisGroup node.
Coeffa0					Not required.
Coeffa1					Not required.
Coeffa2					Not required.
Coeffa3					Not required.
CoeffOfDetermination					Not required.
CoeffOfDeterminationLimitLow					Not required.
CoeffOfDeterminationLimitType					Not required.
Comment					Not required.
CorrelationCoeff					Not required.
CorrelationCoeffLimitLow					Not required.
CorrelationCoeffLimitType					Not required.
DetectionLimit					Not required.
DetectionLimitType					Not required.
DetectionLimitUnits					Not required.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability				Instructions
	IPC	ICAL	CCV	FLO/GPC	
DifferenceErrorRatio					Not required.
Efficiency					Not required.
Inclusion		X			Report "No" if a peak in a standard is not to be included in the calibration curve; otherwise report "Yes".
IntermediateResult		X	X		Report the on-column amount in nanograms from the raw data. Leave blank if compound not detected.
IntermediateResultLimitHigh					Not required.
IntermediateResultLimitLow					Not required.
IntermediateResultLimitType					Not required.
IntermediateResultUnits		X	X		Report "ng".
LabQualifiers					Not required.
ManualIntegration	X	X	X	X	Report "Yes" if this peak was manually integrated; otherwise report "No".
Mass					Not required.
MassLimitHigh					Not required.
MassLimitLow					Not required.
MassLimitType					Not required.
MassUnits					Not required.
MeanCalibrationFactor		X			Report the calculated Mean Calibration Factor under the AnalysisGroup node only.
MeanCalibrationFactorUnits		X			Report the units for the Mean Calibration Factor under the AnalysisGroup node only.
MeanRetentionTime		X			Report the mean retention time in decimal minutes from the ICAL.
MeanRetentionTimeLimitHigh		X			Report the upper limit for the mean retention time in decimal minutes from the ICAL.
MeanRetentionTimeLimitLow		X			Report the lower limit for the mean retention time in decimal minutes from the ICAL.
MeanRetentionTimeLimitType		X			Report "Method".
MeanRetentionTimeUnits		X			Report "Minutes".
MeanRRF					Not required.
MeanRRFLimitLow					Not required.
MeanRRFLimitType					Not required.
PeakID	X	X	X	X	Report the peak identifier as used by the laboratory to uniquely identify this peak. This identifier must be consistent throughout an analytical sequence.
PeakRatio					Not required.
PeakRatioLimitHigh					Not required.
PeakRatioLimitLow					Not required.
PeakRatioLimitType					Not required.
PercentDifference			X		Report the calculated Percent Difference for this peak to the nearest tenth of a percent.

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability				Instructions
	IPC	ICAL	CCV	FLO/GPC	
PercentDifferenceLimitHigh			X		Report the upper limit for the Percent Difference for this peak to the nearest tenth of a percent.
PercentDifferenceLimitLow			X		Report the lower limit for the Percent Difference for this peak to the nearest tenth of a percent.
PercentDifferenceLimitType			X		Report "Method".
PercentRatio					Not required.
PercentRatioLimitHigh					Not required.
PercentRatioLimitLow					Not required.
PercentRatioLimitType					Not required.
PercentRecovery					Not required.
PercentRecoveryLimitHigh					Not required.
PercentRecoveryLimitLow					Not required.
PercentRecoveryLimitType					Not required.
PercentRecoveryType					Not required.
PercentRSD		X			Report the calculated %RSD to the nearest tenth of a percent under the AnalysisGroup only.
PercentRSDLimitHigh		X			Report the upper limit for the %RSD to the nearest tenth of a percent under the AnalysisGroup only.
PercentRSDLimitLow					Not required.
PercentRSDLimitType		X			Report "Method".
QuantitationLimit					Not required.
QuantitationLimitType					Not required.
QuantitationLimitUnits					Not required.
ReportingLimit					Not required.
ReportingLimitType					Not required.
ReportingLimitUnits					Not required.
Resolution	X	X	X		For pesticides, report the percent resolution for midpoint INDA, INDB, or INDC initial calibration standards only. Report resolutions for all PEMs used in the initial and calibration verification standards.
ResolutionLimitHigh					Not required.
ResolutionLimitLow	X	X	X		Report the lower limit for the percent resolution.
ResolutionLimitType	X	X	X		Report "Method".
ResolutionType	X	X	X		Report "Percent_Resolution".
ResolutionUnits	X	X	X		Report "Percent".
Response	X	X	X	X	Report the actual Peak Area (or Peak Height) from the raw data.
ResponseLimitHigh					Not required.
ResponseLimitLow					Not required.
ResponseLimitType					Not required.
ResponseType					Not required.
ResponseUnits	X	X	X	X	Report "Peak_Area" or "Peak_Height".

TABLE 4. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability				Instructions
	IPC	ICAL	CCV	FLO/GPC	
Result					Not required.
ResultLimitHigh					Not required.
ResultLimitLow					Not required.
ResultLimitType					Not required.
ResultType					Not required.
ResultUncertainty					Not required.
ResultUnits					Not required.
RetentionTime	X	X	X	X	Report the actual retention time in decimal minutes from the raw data for this peak.
RetentionTimeLimitHigh	X	X	X	X	Report the upper limit for this retention time in decimal minutes.
RetentionTimeLimitLow	X	X	X	X	Report the lower limit for this retention time in decimal minutes.
RetentionTimeLimitType	X	X	X	X	Report "Method".
RetentionTimeUnits	X	X	X	X	Report "Minutes".
RRF					Not required.
RRFLimitLow					Not required.
RRFLimitType					Not required.
StandardDeviation					Not required.
StandardDeviationUnits					Not required.
TailingFactor					Not required.
TailingFactorLimitHigh					Not required.
TailingFactorLimitType					Not required.
Wavelength					Not required.
WavelengthUnits					Not required.
WeightingFactor					Not required.
PeakComparison					Not required.
PeakReplicate					Not required.

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TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
Header	X	X	X	X	X	
ClientID	X	X	X	X	X	Report "1" for Region 1, "2" for Region 2, etc. For samples received from QATS, report "91".
ClientName						Not required.
Comment						Not required.
DateFormat	X	X	X	X	X	Report MMDDYYYYThh:mm:ss. All dates and times reported in the EDD must follow this format. If any part of the time is unknown, report "00" for the unknown hours, minutes, and seconds.
EDDID	X	X	X	X	X	Report "SEDD".
EDDImplementationID	X	X	X	X	X	Report "SEDD_5-2_GENERAL_2b" (This is the DTD used).
EDDImplementationVersion	X	X	X	X	X	Report "3" (This is the version of the DTD used).
EDDVersion	X	X	X	X	X	Report "5.2".
GeneratingSystemID	X	X	X	X	X	Report the name of generating software or vendor.
GeneratingSystemVersion	X	X	X	X	X	Report the software version number.
LabContract	X	X	X	X	X	Report the Contract Number.
LabContractModificationDescription						Not required.
LabContractModificationID						Not required.
LabDataPackageID	X	X	X	X	X	Report the SDG.
LabDataPackageName	X	X	X	X	X	Report "Pest" or "Aroclor" as applicable.
LabDataPackageVersion	X	X	X	X	X	Report "1", then increment with each resubmission.
LabID	X	X	X	X	X	Report the Agency-assigned Lab Code.
LabName	X	X	X	X	X	Report the Lab Name.
LabNarrative						Not required.
LabQualifiersDefinition	X	X	X	X	X	Use the format 'Qualifier:Definition' to report each qualifier used. Use a ';' to separate the definitions of multiple qualifiers.
LabReportedDate	X	X	X	X	X	Report the date this data was reported to the client.
ProjectID	X	X	X	X	X	Report the Case Number.
ProjectName						Not required.
SiteID						Not required.
SiteName						Not required.

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability					Instructions
	Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	
SamplePlusMethod	X	X	X	X	X	
ClientID	X	X				Report "1" for Region 1, "2" for Region 2, etc. For samples received from QATS, report "91".
ClientMethodCategory						Not required.
ClientMethodCode						Not required.
ClientMethodID	X	X	X	X	X	Report "SOM02.3".
ClientMethodModificationDescription						Not required.
ClientMethodModificationID	X	X	X	X		Report the Modified Analysis Number, if applicable.
ClientMethodName						Not required.
ClientMethodSource	X	X	X	X	X	Report "EPA_CLP".
ClientMethodType	X	X	X	X	X	Report "GCECD_External_Standard".
ClientMethodVersion	X	X	X	X	X	Report the month and year the SOW was issued.
ClientName						Not required.
ClientSampleID	X	X	X	X		Report the EPA Sample Number.
CollectedDate	X	X				Report the date and time the sample was collected.
CollectedEndDate						Not required.
Comment						Not required.
Composite						Not required.
CoolerID						Not required.
CustodyID	X	X				Report the Traffic Report/Chain of Custody Record Form number.
EquipmentBatch						Not required.
Filtered						Not required.
LabContract	X	X	X	X		Report the Contract Number.
LabContractModificationDescription						Not required.
LabContractModificationID						Not required.
LabID	X	X	X	X	X	Report the Agency-assigned Lab Code.
LabMethodID						Not required.
LabMethodName						Not required.
LabName	X	X	X	X	X	Report the Lab Name.
LabReceiptDate	X	X				Report the date and time the sample was received.
LabReportingBatch	X	X	X	X	X	Links all samples analyzed to this deliverable. Report the SDG Number.
LabSampleID	X	X	X	X	X	Report the Lab Sample ID as assigned by the laboratory.
LocationID						Not required.
LocationName						Not required.

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
MatrixID	X	X	X	X	X	Report "Water" or "Soil " as applicable.
MatrixMedium	X	X	X	X	X	Report "Aqueous" or "Solid" as applicable.
MethodBatch						Not required.
MethodCategory						Not required.
MethodCode						Not required.
MethodID	X	X	X	X	X	Report "SOM02.3".
MethodLevel	X	X				Report "Low".
MethodModificationDescription						Not required.
MethodModificationID						Not required.
MethodName						Not required.
MethodSource	X	X	X	X	X	Report "EPA_CLP".
MethodType	X	X	X	X	X	Report "GC".
MethodVersion	X	X	X	X	X	Report the month and year the SOW was issued.
OriginalClientSampleID		X				Report the EPA Sample Number of the original sample this sample was derived from.
OriginalLabSampleID						Not required.
PhaseAnalyzed						Not required.
Preservative	X	X				Report any chemical or physical preservative used.
ProjectID	X	X	X	X		Report the Case Number.
ProjectName						Not required.
QCCategory		X	X	X		Report "Blank" for MB, LEB, IB, or CB; "Spike" for MS; "Spike_Duplicate" for MSD; or "Blank_Spike" for LCS.
QCLinkage		X	X	X		Report "LabReportingBatch" for MS/MSD; "PreparationBatch" for MB and LCS; AnalysisBatch for IB; or "CleanupBatch" for CB.
QCType	X	X	X	X	X	Report "Field_Sample" for field samples; "Field_Blank" for field, equipment, rinse, or trip blanks; "Instrument_Blank" for IB; "PT_Sample" for Performance Evaluation samples or Proficiency Testing samples; "Method_Blank" for MB; "Leachate_Extraction_Blank" for LEB; "Cleanup_Blank" for CB; "Matrix_Spike" for MS; "Matrix_Spike_Duplicate" for MSD; "Laboratory_Control_Sample" for LCS; or "Non_Client_Sample".
Quarantine	X					Report "Yes" or "No" based on sampling information.
SamplingBatch						Not required.
ShippingBatch						Not required.
SiteID						Not required.
SiteName						Not required.

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
StorageBatch						Not required.
InstrumentQC						Not required.
Characteristic	X	X	X	X		
CharacteristicType	X	X	X	X		Report "Percent_Solids" for each SamplePlusMethod. Report "pH" and "Temperature" for samples, received at the laboratory, under each SamplePlusMethod node.
CharacteristicValue	X	X	X	X		Report the percent solids to two significant figures if less than 10 and three significant figures if greater than or equal to 10 for soil/sediment samples for "Percent_Solids"; the pH for aqueous/water samples (and soil/sediment samples as requested to the nearest tenth unit for "pH"; and the temperature at receipt to the nearest degree for "Temperature".
CharacteristicUnits	X	X	X	X		Report "C" for "Temperature".
Comment						Not required.
ContactInformation	X	X	X	X	X	
LabAddress1	X	X	X	X	X	Report the street address of the laboratory.
LabAddress2	X	X	X	X	X	If applicable, report any additional address information (e.g., suite, maildrop). Otherwise leave blank.
LabCity	X	X	X	X	X	Report the city in which the laboratory is located.
LabCountry	X	X	X	X	X	Report the country in which the laboratory is located.
LabID	X	X	X	X	X	Report the Agency-assigned Lab Code.
LabName	X	X	X	X	X	Report the Lab Name.
LabPointOfContact	X	X	X	X	X	Report the name of the person at the laboratory serving as the point of contact.
LabPointOfContactElectronicAddress	X	X	X	X	X	Report the Email address of the point of contact.
LabPointOfContactTitle	X	X	X	X	X	Report the title of the point of contact.
LabPointOfContactType						Not required.
LabState	X	X	X	X	X	Report the state or province in which the laboratory is located.
LabTelephoneNumber	X	X	X	X	X	Report the 10-digit phone number for the laboratory.
LabType						Not required.
LabZipCode	X	X	X	X	X	Report the ZIP or postal code.
Analysis	X	X	X	X	X	
AliquotAmount						Not required.

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
AliquotAmountUnits						Not required.
AnalysisBatch	X	X	X	X	X	Links this analysis to the beginning of the 12-hour period. Report the Lab File ID of the standard (IB for CCV; IB or resolution check for ICAL) that starts the sequence. For the standard at the beginning of the 12-hour period, report the Lab File ID of the standard itself.
AnalysisBatchEnd	X	X	X	X	X	Links this analysis to the QC immediately following a 12-hour period. Report the Lab File ID of the CCV used to close out the 12-hour period.
AnalysisDuration						Not required.
AnalysisDurationUnits						Not required.
AnalysisGroupID						Not required.
AnalysisType	X	X	X	X		Report "Initial", "Dilution-01", "Reanalysis-01", or "Reinjection-01", then increment as necessary.
Analyst	X	X	X	X		Report the Analyst's initials.
AnalyzedAmount	X	X	X	X		Report the volume of final extract added to the sample vial in microliters to at least two significant figures.
AnalyzedAmountUnits	X	X	X	X		Report "uL".
AnalyzedDate	X	X	X	X	X	Report the date and time the sample was analyzed.
ClientAnalysisID	X	X	X	X		Report the full EPA Sample Number with applicable suffixes per the requirements in Exhibit B – Reporting and Deliverables Requirements.
ClientMethodCode						Not required.
ClientMethodID	X	X	X	X	X	Report "SOM02.3".
ClientMethodModificationDescription						Not required.
ClientMethodModificationID						Not required.
ClientMethodName						Not required.
ClientMethodSource	X	X	X	X	X	Report "EPA_CLP".
ClientMethodVersion	X	X	X	X	X	Report the month and year the SOW was issued.
Column	X	X	X	X		Report the GC Column used.
ColumnInternalDiameter	X	X	X	X		Report the GC Column Internal Diameter in millimeters.
ColumnInternalDiameterUnits	X	X	X	X		Report "mm".
ColumnLength	X	X	X	X		Report the Column Length in meters.
ColumnLengthUnits	X	X	X	X		Report "m".
Comment						Not required.
ConfirmationAnalysisID	X	X	X	X		Links an analysis to a confirmation analysis. Report the Lab File ID of the confirmation analysis.

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
Counts						Not required.
CountsUncertainty						Not required.
CountsUncertaintyConfidenceLevel						Not required.
CountsUncertaintyDetermination						Not required.
CountsUncertaintyIntervalType						Not required.
CountsUncertaintyLimitHigh						Not required.
CountsUncertaintyLimitLow						Not required.
CountsUncertaintyType						Not required.
CountsUnits						Not required.
DetectorID						Not required.
DetectorType	X	X	X	X		Report "ECD".
DilutionFactor	X	X	X	X		Report the Dilution Factor used to the nearest tenth. Report "1.0" when no dilutions are used.
Efficiency						Not required.
HeatedPurge						Not required.
Inclusion						Not required.
InjectionVolume	X	X	X	X		Report the injection volume in microliters. Report volume to at least two significant figures.
InjectionVolumeUnits	X	X	X	X		Report "uL".
InstrumentID	X	X	X	X	X	Report the laboratory identifier for the instrument used for this analysis.
LabAnalysisID	X	X	X	X	X	Report the Lab File ID.
LabFileID	X	X	X	X	X	Report the Lab File ID.
LabID						Not required.
LabMethodID						Not required.
LabMethodName						Not required.
LabName						Not required.
MethodCode						Not required.
MethodID	X	X	X	X	X	Report "SOM02.3".
MethodModificationDescription						Not required.
MethodModificationID						Not required.
MethodName						Not required.
MethodSource	X	X	X	X	X	Report "EPA_CLP".
MethodVersion	X	X	X	X	X	Report the month and year the SOW was issued.
PreparationBatch						Not required.
ProcedureID						Not required.
ProcedureName						Not required.
ReferenceDate						Not required.

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
ResultBasis	X	X	X	X		Report "Dry" for soil/sediment samples.
RunBatch	X	X	X	X	X	Links this analysis to an initial calibration. Report the Lab File ID of the standard that started the ICAL sequence.
Temperature						Not required.
TemperatureUnits						Not required.
Wavelength						Not required.
WavelengthUnits						Not required.
Yield						Not required.
AnalysisGroup						Not required.
Handling						Not required.
ReportedResult	X	X	X	X		
AnalysisGroupID						Not required.
AnalyteGroupID						Not required.
AnalyteName	X	X	X	X		Report the analytes as they appear in the SOW.
AnalyteNameContext	X	X	X	X		Report "CAS".
AnalyteType	X	X	X	X		Report "Target" for all target analytes or "Spike" for all target analytes designated as spike analytes for MS/MSD and LCS analysis.
BiasErrorRatio						Not required.
CASRegistryNumber	X	X	X	X		Report the CAS Numbers as they appear in the SOW.
ClientAnalyteID	X	X	X	X		Report CAS Number.
ClientAnalyteName	X	X	X	X		Report the analytes as they appear in the SOW.
ClientDetectionLimit						Not required.
ClientDetectionLimitUnits						Not required.
ClientQuantitationLimit	X	X	X	X		Report the unadjusted CRQL.
ClientQuantitationLimitUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
Comment						Not required.
DetectionLimit	X	X	X	X		For target analytes, report the current MDL, adjusted for sample weight/volume, percent solids, and dilution factor to at least two significant figures.
DetectionLimitType	X	X	X	X		Report "MDL_sa".
DetectionLimitUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
DifferenceErrorRatio						Not required.

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
ExpectedResult						Not required.
ExpectedResultUncertainty						Not required.
ExpectedResultUncertaintyConfidenceLevel						Not required.
ExpectedResultUncertaintyDetermination						Not required.
ExpectedResultUncertaintyIntervalType						Not required.
ExpectedResultUncertaintyLimitHigh						Not required.
ExpectedResultUncertaintyLimitLow						Not required.
ExpectedResultUncertaintyType						Not required.
ExpectedResultUncertaintyUnits						Not required.
ExpectedResultUnits						Not required.
LabAnalysisID	X	X	X	X		Report the Lab File ID from the analysis this reported result was derived from.
LabAnalyteID						Not required.
LabQualifiers	X	X	X	X		Report flags as specified in the SOW. Includes the Q qualifiers from Form 1-OR.
LabResultStatus	X	X				Report "Preliminary" or "Final" as applicable.
PeakID						Not required.
PercentDifference	X	X	X	X		For Confirmation analyses, report the percent difference between the reported results and the confirmation result to the nearest whole percent (excluding IB).
PercentDifferenceLimitHigh	X	X	X	X		Report the upper limit for the percent difference to the nearest whole percent (excluding IB).
PercentDifferenceLimitLow						Not required.
PercentDifferenceLimitType						Not required.
PercentRecovery						Not required.
PercentRecoveryLimitHigh						Not required.
PercentRecoveryLimitLow						Not required.
PercentRecoveryLimitType						Not required.
PercentRecoveryType						Not required.
QuantitationLimit	X	X	X	X		For target analytes, report the CRQL adjusted for sample weight/volume, percent solids, and dilution factor to at least two significant figures.
QuantitationLimitType	X	X	X	X		Report "CRQL_sa".
QuantitationLimitUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
ReportingLimit						Not required.
ReportingLimitType						Not required.
ReportingLimitUnits						Not required.
Result	X	X	X	X		Report the final calculated result for detects per the SOW.

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
ResultLimitHigh						Not required.
ResultLimitLow						Not required.
ResultLimitType						Not required.
ResultType	X	X	X	X		Report "=" for all detected analytes. Report "Not_Detected" for non-detects.
ResultUncertainty						Not required.
ResultUncertaintyConfidenceLevel						Not required.
ResultUncertaintyDetermination						Not required.
ResultUncertaintyIntervalType						Not required.
ResultUncertaintyLimitHigh						Not required.
ResultUncertaintyLimitLow						Not required.
ResultUncertaintyType						Not required.
ResultUncertaintyUnits						Not required.
ResultUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
RetentionTime						Not required.
RetentionTimeUnits						Not required.
RPD						Not required.
RPDLimitHigh						Not required.
RPDLimitType						Not required.
RPDType						Not required.
PreparationPlusCleanup	X	X	X	X		
AliquotAmount	X	X	X	X		Report the sample amount in grams for soil/sediment or milliliters for aqueous/water to at least three significant figures.
AliquotAmountUnits	X	X	X	X		Report "g" for soil/sediment or "mL" for aqueous/water.
Analyst	X	X	X	X		Report the Analyst's initials.
CleanedUpDate	X	X	X	X		Report the date and time the sample was cleaned up.
CleanupBatch	X	X	X	X		Links all samples that were cleaned up together. Report the Lab File ID of the associated blank or other unique identifier.
CleanupType	X	X	X	X		Report "GPC", "Florisil", "Sulfur", or "Sulfuric_Acid" as applicable.
ClientMethodCode						Not required.
ClientMethodID	X	X	X	X		Report the sample preparation ID as given in Exhibit B – Reporting and Deliverables Requirements.

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
ClientMethodModificationDescription						Not required.
ClientMethodModificationID						Not required.
ClientMethodName						Not required.
ClientMethodSource	X	X	X	X		Report "EPA_CLP".
ClientMethodVersion	X	X	X	X		Report the month and year the SOW was issued.
Comment						Not required.
FinalAmount	X	X	X	X		Report the Final Amount of material produced upon completion of this prep or cleanup in microliters.
FinalAmountUnits	X	X	X	X		Report "uL".
InitialAmount	X	X	X	X		Report the initial amount of extracted sample used for this cleanup method in microliters.
InitialAmountUnits	X	X	X	X		Report "uL".
LabID						Not required.
LabMethodID						Not required.
LabMethodName						Not required.
LabName						Not required.
LotNumber						Not required.
MethodCode						Not required.
MethodID	X	X	X	X		Report "SOM02.3".
MethodModificationDescription						Not required.
MethodModificationID						Not required.
MethodName						Not required.
MethodSource	X	X	X	X		Report "EPA_CLP".
MethodVersion	X	X	X	X		Report the month and year the SOW was issued.
PreparationBatch	X	X	X	X		Links all samples that were prepared together. Report the Lab File ID of the associated Method Blank.
PreparationPlusCleanupType	X	X	X	X		Report "Preparation" or "Cleanup" as applicable.
PreparationType	X	X	X	X		Report "Sonication", "Soxhlet", or "Pressurized_Fluid" for soil/sediment. Report "Sep_Funnel", "Liq_Liq", or "Liq_Membrane" for aqueous/water.
PreparedDate	X	X	X	X		Report the date and time the sample was prepared.
ProcedureID						Not required.
ProcedureName						Not required.
Solvent						Not required.

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
Analyte	X	X	X	X		
AnalyteGroupID						Not required.
AnalyteName	X	X	X	X		Report the analytes as they appear in the SOW.
AnalyteNameContext	X	X	X	X		Report "CAS".
AnalyteType	X	X	X	X		Report "Target" for all target analytes; "Spike" for all target analytes designated as spike analytes for MS/MSD or LCS; or "Surrogate" for surrogate compounds.
BiasErrorRatio						Not required.
CalibrationBasis						Not required.
CalibrationFactor						Not required.
CalibrationFactorUnits						Not required.
CalibrationType						Not required.
CASRegistryNumber	X	X	X	X		Report the CAS Number as it appears in the SOW.
ClientAnalyteID	X	X	X	X		Report CAS Number.
ClientAnalyteName	X	X	X	X		Report the analytes as they appear in the SOW.
Coeffa0						Not required.
Coeffa1						Not required.
Coeffa2						Not required.
Coeffa3						Not required.
CoeffOfDetermination						Not required.
CoeffOfDeterminationLimitLow						Not required.
CoeffOfDeterminationLimitType						Not required.
Comment						Not required.
CorrelationCoeff						Not required.
CorrelationCoeffLimitLow						Not required.
CorrelationCoeffLimitType						Not required.
Counts						Not required.
CountsUncertainty						Not required.
CountsUncertaintyConfidenceLevel						Not required.
CountsUncertaintyDetermination						Not required.
CountsUncertaintyIntervalType						Not required.
CountsUncertaintyLimitHigh						Not required.
CountsUncertaintyLimitLow						Not required.
CountsUncertaintyType						Not required.
CountsUnits						Not required.
DetectionLimit	X	X	X	X		Report the MDL.
DetectionLimitType	X	X	X	X		Report "MDL".

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
DetectionLimitUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
DifferenceErrorRatio						Not required.
Efficiency						Not required.
ExpectedResult	X	X	X	X		Report the theoretical final calculated concentration for MS/MSD and LCS. Report surrogates in nanograms.
ExpectedResultUncertainty						Not required.
ExpectedResultUncertaintyConfidenceLevel						Not required.
ExpectedResultUncertaintyDetermination						Not required.
ExpectedResultUncertaintyIntervalType						Not required.
ExpectedResultUncertaintyLimitHigh						Not required.
ExpectedResultUncertaintyLimitLow						Not required.
ExpectedResultUncertaintyType						Not required.
ExpectedResultUncertaintyUnits						Not required.
ExpectedResultUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
Inclusion						Not required.
LabAnalyteID						Not required.
LabQualifiers	X	X	X	X		Report the qualifiers as specified in the SOW.
LotNumber	X	X	X	X		Report the vendor/manufacturer assigned lot number for this standard.
Mass						Not required.
MassUnits						Not required.
MeanCalibrationFactor						Not required.
MeanCalibrationFactorUnits						Not required.
MeanRRF						Not required.
MeanRRFLimitLow						Not required.
MeanRRFLimitType						Not required.
PeakID	X	X	X	X		If response from a single peak is used for quantitation, report the ID of that peak.
PercentBreakdown						Not required.
PercentBreakdownLimitHigh						Not required.
PercentBreakdownLimitType						Not required.
PercentDifference						Not required.
PercentDifferenceLimitHigh						Not required.
PercentDifferenceLimitLow						Not required.
PercentDifferenceLimitType						Not required.
PercentRecovery	X	X	X	X		Report the final calculated percent recovery of the spikes and surrogates to the nearest whole percent.

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
PercentRecoveryLimitHigh	X	X	X	X		Report the upper limit for the percent recovery of the spikes and surrogates to the nearest whole percent.
PercentRecoveryLimitLow	X	X	X	X		Report the lower limit of the percent recovery of the spikes and surrogates to the nearest whole percent.
PercentRecoveryLimitType	X	X	X	X		Report "Method".
PercentRecoveryType						Not required.
PercentRSD						Not required.
PercentRSDLimitHigh						Not required.
PercentRSDLimitLow						Not required.
PercentRSDLimitType						Not required.
QuantitationBasis						Not required.
QuantitationLimit	X	X	X	X		Report the CRQL.
QuantitationLimitType	X	X	X	X		Report "CRQL".
QuantitationLimitUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
ReportingLimit						Not required.
ReportingLimitType						Not required.
ReportingLimitUnits						Not required.
Result	X	X	X	X		Report the final calculated concentration or amount to at least two significant figures. Leave blank if compound is not detected.
ResultLimitHigh						Not required.
ResultLimitLow						Not required.
ResultLimitType						Not required.
ResultType	X	X	X	X		Report "=" for all detected analytes. Report "Not_Detected" for non-detects.
ResultUncertainty						Not required.
ResultUncertaintyConfidenceLevel						Not required.
ResultUncertaintyDetermination						Not required.
ResultUncertaintyIntervalType						Not required.
ResultUncertaintyLimitHigh						Not required.
ResultUncertaintyLimitLow						Not required.
ResultUncertaintyType						Not required.
ResultUncertaintyUnits						Not required.
ResultUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
RPD		X				Report the RPD to the nearest percent.
RPDLimitHigh		X				Report the upper limit for the RPD to the nearest whole percent.
RPDLimitType		X				Report "Method".

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
RPDType						Not required.
RRF						Not required.
RRFLimitLow						Not required.
RRFLimitType						Not required.
StandardSource	X	X	X	X		Report the vendor/manufacturer for this standard.
TailingFactor						Not required.
TailingFactorLimitHigh						Not required.
TailingFactorLimitType						Not required.
Wavelength						Not required.
WavelengthUnits						Not required.
WeightingFactor						Not required.
AnalyteGroup						Not required.
Peak						Not required.
PeakComparison						Not required.

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability				Instructions
	IPC	ICAL	CCV	FLO/GPC	
Header	X	X	X	X	
ClientID	X	X	X	X	Report "1" for Region 1, "2" for Region 2, etc. For samples received from QATS, report "91".
ClientName					Not required.
Comment					Not required.
DateFormat	X	X	X	X	Report MMDDYYYYThh:mm:ss. All dates and times reported in the EDD must follow this format. If any part of the time is unknown, report "00" for the unknown hours, minutes, and seconds.
EDDID	X	X	X	X	Report "SEDD".
EDDImplementationID	X	X	X	X	Report "SEDD_5-2_GENERAL_2b" (This is the DTD used).
EDDImplementationVersion	X	X	X	X	Report "3" (This is the version of the DTD used).
EDDVersion	X	X	X	X	Report "5.2".
GeneratingSystemID	X	X	X	X	Report the name of generating software or vendor.
GeneratingSystemVersion	X	X	X	X	Report the software version number.
LabContract	X	X	X	X	Report the Contract Number.
LabContractModificationDescription					Not required.
LabContractModificationID					Not required.
LabDataPackageID	X	X	X	X	Report the SDG.
LabDataPackageName	X	X	X	X	Report "Pest" or "Aroclor" as applicable.
LabDataPackageVersion	X	X	X	X	Report "1", then increment with each resubmission.
LabID	X	X	X	X	Report the Agency-assigned Lab Code.
LabName	X	X	X	X	Report the Lab Name.
LabNarrative					Not required.
LabQualifiersDefinition	X	X	X	X	Use the format 'Qualifier:Definition' to report each qualifier used. Use a ';' to separate the definitions of multiple qualifiers.
LabReportedDate	X	X	X	X	Report the date this data was reported to the client.
ProjectID	X	X	X	X	Report the Case Number.
ProjectName					Not required.
SiteID					Not required.
SiteName					Not required.
SamplePlusMethod					Not required.
InstrumentQC	X	X	X	X	
ClientInstrumentQCType	X	X			For Pesticides, for RESC and standards, report "1" if using a single mixture to calibrate instrument. Report "2" if using two mixtures to calibrate instrument.
ClientMethodCode					Not required.
ClientMethodID	X	X		X	Report "SOM02.3".
ClientMethodModificationDescription					Not required.
ClientMethodModificationID					Not required.

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability				Instructions
	IPC	ICAL	CCV	FLO/GPC	
ClientMethodName					Not required.
ClientMethodSource	X	X	X	X	Report "EPA_CLP".
ClientMethodVersion	X	X	X	X	Report the month and year the SOW was issued.
Comment					Not required.
LabID	X	X	X	X	Report the Agency-assigned Lab Code.
LabInstrumentQCID	X	X	X	X	Report the EPA Sample Number. For ICAL, report the EPA Sample Number of the first standard.
LabMethodID					Not required.
LabMethodName					Not required.
LabName	X	X	X	X	Report the Lab Name.
MethodCode					Not required.
MethodID	X	X	X	X	Report "SOM02.3".
MethodModificationDescription					Not required.
MethodModificationID					Not required.
MethodName					Not required.
MethodSource	X	X	X	X	Report "EPA_CLP".
MethodVersion	X	X	X	X	Report the month and year the SOW was issued.
QCLinkage	X	X	X	X	Report "RunBatch" for ICAL and IPC; "AnalysisBatch" for CCV; or "CleanupBatch" for FLO and GPC.
QCType	X	X	X	X	Report "Instrument_Performance_Check_Tune" for RESC; "Instrument_Performance_Check_PEM" for the PEM standards that are part of the ICAL; "Initial_Calibration" for calibration; "Continuing_Calibration_Verification" for CCV; "Florisil_Cartridge_Check for the Florisil cartridge check; or "GPC_Calibration_Check" for the GPC calibration check.
ContactInformation	X	X	X	X	
LabAddress1	X	X	X	X	Report the street address of the laboratory.
LabAddress2	X	X	X	X	If applicable, report any additional address information (e.g., suite, maildrop). Otherwise leave blank.
LabCity	X	X	X	X	Report the city in which the laboratory is located.
LabCountry	X	X	X	X	Report the country in which the laboratory is located.
LabID	X	X	X	X	Report the Agency-assigned Lab Code.
LabName	X	X	X	X	Report the Lab Name.
LabPointOfContact	X	X	X	X	Report the name of person at the laboratory serving as the point of contact.
LabPointOfContactElectronicAddress	X	X	X	X	Report the Email address of the point of contact.
LabPointOfContactTitle	X	X	X	X	Report the title of the point of contact.
LabPointOfContactType					Not required.
LabState	X	X	X	X	Report the state or province in which the laboratory is located.

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability				Instructions
	IPC	ICAL	CCV	FLO/GPC	
LabTelephoneNumber	X	X	X	X	Report the 10-digit phone number for the laboratory.
LabType					Not required.
LabZipCode	X	X	X	X	Report the ZIP or postal code.
Analysis	X	X	X	X	
AliquotAmount					Not required.
AliquotAmountUnits					Not required.
AnalysisBatch			X		Links this analysis to the beginning of a 12-hour period. Report the Lab File ID of the standard (IB for CCV; IB or resolution check for ICAL) that starts this sequence. For the standard that starts the 12-hour period, enter the Lab File ID of the standard itself.
AnalysisBatchEnd			X		Links this analysis to the end of a 12-hour period. Report the Lab File ID of the CCV that ends this sequence. For the closing CCV that closes the 12-hour period, report the Lab File ID of the standard itself.
AnalysisDuration					Not required.
AnalysisDurationUnits					Not required.
AnalysisGroupID		X			Links a group of analyses together that are used for the initial calibration. Report the Lab File ID of the standard that starts this ICAL sequence.
AnalysisType	X	X	X	X	For IPC, FLO, and GPC, report "Initial". For ICAL/CCV, report the calibration level used.
Analyst	X	X	X	X	Report the Analyst's initials.
AnalyzedAmount					Not required.
AnalyzedAmountUnits					Not required.
AnalyzedDate	X	X	X	X	Report the date and time the sample was analyzed.
ClientAnalysisID	X	X	X	X	Report the full EPA Sample Number with applicable suffixes per the requirements in Exhibit B – Reporting and Deliverables Requirements.
ClientMethodCode					Not required.
ClientMethodID	X	X	X	X	Report "SOM02.3".
ClientMethodModificationDescription					Not required.
ClientMethodModificationID					Not required.
ClientMethodName					Not required.
ClientMethodSource	X	X	X	X	Report "EPA_CLP".
ClientMethodVersion	X	X	X	X	Report the month and year the SOW was issued.
Column	X	X	X	X	Report the GC Column used.
ColumnInternalDiameter	X	X	X	X	Report the GC Column Internal Diameter in millimeters.
ColumnInternalDiameterUnits	X	X	X	X	Report "mm".
ColumnLength	X	X	X	X	Report the GC Column Length in meters.
ColumnLengthUnits	X	X	X	X	Report "m".
Comment					Not required.

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability				Instructions
	IPC	ICAL	CCV	FLO/GPC	
ConfirmationAnalysisID					Not required.
Counts					Not required.
CountsUncertainty					Not required.
CountsUncertaintyConfidenceLevel					Not required.
CountsUncertaintyDetermination					Not required.
CountsUncertaintyIntervalType					Not required.
CountsUncertaintyLimitHigh					Not required.
CountsUncertaintyLimitLow					Not required.
CountsUncertaintyType					Not required.
CountsUnits					Not required.
DetectorID					Not required.
DetectorType	X	X	X	X	Report "ECD".
DilutionFactor	X	X	X	X	Report the Dilution Factor used to the nearest tenth. Report "1.0" when no dilutions are used.
Efficiency					Not required.
HeatedPurge					Not required.
Inclusion		X			Report "Yes" if the ICAL standard is to be included in the calibration curve; otherwise report "No".
InjectionVolume	X	X	X	X	Report the injection volume in microliters. Report volume to at least two significant figures.
InjectionVolumeUnits	X	X	X	X	Report "uL".
InstrumentID	X	X	X	X	Report the laboratory identifier for the instrument used for this analysis.
LabAnalysisID	X	X	X	X	Report the Lab File ID.
LabFileID	X	X	X	X	Report the Lab File ID.
LabID					Not required.
LabMethodID					Not required.
LabMethodName					Not required.
LabName					Not required.
MethodCode					Not required.
MethodID	X	X	X	X	Report "SOM02.3".
MethodModificationDescription					Not required.
MethodModificationID					Not required.
MethodName					Not required.
MethodSource	X	X	X	X	Report "EPA_CLP".
MethodVersion	X	X	X	X	Report the month and year the SOW was issued.
PreparationBatch					Not required.
ProcedureID					Not required.
ProcedureName					Not required.
ReferenceDate					Not required.
ResultBasis					Not required.

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: IPC	ICAL	CCV	FLO/GPC	Instructions
RunBatch	X	X	X	X	Links this analysis to an initial calibration. Report the Lab File ID of the standard that started the ICAL sequence.
Temperature					Not required.
TemperatureUnits					Not required.
Wavelength					Not required.
WavelengthUnits					Not required.
Yield					Not required.
AnalysisGroup		X			
AnalysisGroupID		X			This links a group of analyses together that are used for the initial calibration. Report the Lab File ID of the standard that starts this calibration sequence.
AnalysisType		X			Report "Initial_Calibration".
Comment					Not required.
Handling					Not required.
ReportedResult					Not required.
PreparationPlusCleanup				X	
AliquotAmount					Not required.
AliquotAmountUnits					Not required.
Analyst				X	Report the Analyst's initials.
CleanedUpDate				X	Report the date and time the sample was cleaned up.
CleanupBatch				X	Links all samples that were cleaned up together. Report the Lab File ID of the associated cleanup blank.
CleanupType				X	Report "GPC" or "Florisil" as applicable.
ClientMethodCode					Not required.
ClientMethodID				X	Report "SOM02.3".
ClientMethodModificationDescription					Not required.
ClientMethodModificationID					Not required
ClientMethodName					Not required.
ClientMethodSource				X	Report "EPA_CLP".
ClientMethodVersion				X	Report the month and year the SOW was issued.
Comment					Not required.
FinalAmount				X	Report the final amount of material produced upon completion of this prep or cleanup step in microliters.
FinalAmountUnits				X	Report "uL".
InitialAmount				X	Report the initial amount of extracted sample used for this cleanup method in microliters.
InitialAmountUnits				X	Report "uL".
LabID					Not required.

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: IPC	ICAL	CCV	FLO/GPC	Instructions
LabMethodID					Not required.
LabMethodName					Not required.
LabName					Not required.
LotNumber				X	Report the manufacturer's lot number for the Florisil cartridges.
MethodCode					Not required.
MethodID				X	Report "SOM02.3".
MethodModificationDescription					Not required.
MethodModificationID					Not required.
MethodName					Not required.
MethodSource				X	Report "EPA_CLP".
MethodVersion					Report the month and year the SOW was issued.
PreparationBatch					Not required.
PreparationPlusCleanupType					Report "Cleanup".
PreparationType					Not required.
PreparedDate					Not required.
ProcedureID					Not required.
ProcedureName					Not required.
Solvent					Not required.
Analyte	X	X	X	X	
AnalyteGroupID					Not required.
AnalyteName	X	X	X	X	Report the analytes as they appear in the SOW.
AnalyteNameContext	X	X	X	X	Report "CAS".
AnalyteType	X	X	X	X	Report "Target" for all target analytes or "Surrogate" for surrogate standards.
BiasErrorRatio					Not required.
CalibrationBasis		X			Report "Peak" under the AnalysisGroup node.
CalibrationFactor					Not required.
CalibrationFactorUnits					Not required.
CalibrationType					Not required.
CASRegistryNumber	X	X	X	X	Report the CAS Number as it appears in the SOW.
ClientAnalyteID	X	X	X	X	Report CAS Number.
ClientAnalyteName	X	X	X	X	Report the analytes as they appear in the SOW.
Coeffa0					Not required.
Coeffa1					Not required.
Coeffa2					Not required.
Coeffa3					Not required.
CoeffOfDetermination					Not required.
CoeffOfDeterminationLimitLow					Not required.
CoeffOfDeterminationLimitType					Not required.

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability				Instructions
	IPC	ICAL	CCV	FLO/GPC	
Comment					Not required.
CorrelationCoeff					Not required.
CorrelationCoeffLimitLow					Not required.
CorrelationCoeffLimitType					Not required.
Counts					Not required.
CountsUncertainty					Not required.
CountsUncertaintyConfidenceLevel					Not required.
CountsUncertaintyDetermination					Not required.
CountsUncertaintyIntervalType					Not required.
CountsUncertaintyLimitHigh					Not required.
CountsUncertaintyLimitLow					Not required.
CountsUncertaintyType					Not required.
CountsUnits					Not required.
DetectionLimit					Not required.
DetectionLimitType					Not required.
DetectionLimitUnits					Not required.
DifferenceErrorRatio					Not required.
Efficiency					Not required.
ExpectedResult	X	X	X	X	Report the final amount added in nanograms.
ExpectedResultUncertainty					Not required.
ExpectedResultUncertaintyConfidenceLevel					Not required.
ExpectedResultUncertaintyDetermination					Not required.
ExpectedResultUncertaintyIntervalType					Not required.
ExpectedResultUncertaintyLimitHigh					Not required.
ExpectedResultUncertaintyLimitLow					Not required.
ExpectedResultUncertaintyType					Not required.
ExpectedResultUncertaintyUnits					Not required.
ExpectedResultUnits	X	X	X	X	Report "ng".
Inclusion		X			Report "No" if an analyte in a standard is not to be included in the calibration curve; otherwise report "Yes".
LabAnalyteID					Not required.
LabQualifiers	X	X	X	X	Report qualifiers as specified in the SOW.
LotNumber	X	X	X	X	Report the vendor/manufacturer assigned lot number for this standard.
Mass					Not required.
MassUnits					Not required.
MeanCalibrationFactor					Not required.
MeanCalibrationFactorUnits					Not required.
MeanRRF					Not required.

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: IPC	ICAL	CCV	FLO/GPC	Instructions
MeanRRFLimitLow					Not required.
MeanRRFLimitType					Not required.
PeakID	X	X	X	X	If response from a single peak is used for quantitation, report the ID of that peak.
PercentBreakdown	X				For pesticides, report the calculated percent breakdown for 4,4'-DDT and Endrin to the nearest whole percent.
PercentBreakdownLimitHigh	X				Report the upper limit for the percent breakdown to the nearest whole percent.
PercentBreakdownLimitType	X				Report "Method".
PercentDifference					Not required.
PercentDifferenceLimitHigh					Not required.
PercentDifferenceLimitLow					Not required.
PercentDifferenceLimitType					Not required.
PercentRecovery				X	Report the final calculated Percent Recovery to the nearest whole percent.
PercentRecoveryLimitHigh				X	Report the upper limit for the Percent Recovery to the nearest whole percent.
PercentRecoveryLimitLow				X	Report the lower limit for the Percent Recovery to the nearest whole percent.
PercentRecoveryLimitType				X	Report "Method".
PercentRecoveryType					Not required.
PercentRSD					Not required.
PercentRSDLimitHigh					Not required.
PercentRSDLimitLow					Not required.
PercentRSDLimitType					Not required.
QuantitationBasis		X			Report "External_Standard" under the AnalysisGroup node.
QuantitationLimit					Not required.
QuantitationLimitType					Not required.
QuantitationLimitUnits					Not required.
ReportingLimit					Not required.
ReportingLimitType					Not required.
ReportingLimitUnits					Not required.
Result					Not required.
ResultLimitHigh					Not required.
ResultLimitLow					Not required.
ResultLimitType					Not required.
ResultType					Not required.
ResultUncertainty					Not required.
ResultUncertaintyConfidenceLevel					Not required.
ResultUncertaintyDetermination					Not required.

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: IPC	ICAL	CCV	FLO/GPC	Instructions
ResultUncertaintyIntervalType					Not required.
ResultUncertaintyLimitHigh					Not required.
ResultUncertaintyLimitLow					Not required.
ResultUncertaintyType					Not required.
ResultUncertaintyUnits					Not required.
ResultUnits					Not required.
RPD					Not required.
RPDLimitHigh					Not required.
RPDLimitType					Not required.
RPDType					Not required.
RRF					Not required.
RRFLimitLow					Not required.
RRFLimitType					Not required.
StandardSource	X	X	X	X	Report the vendor/manufacturer for this standard.
TailingFactor					Not required.
TailingFactorLimitHigh					Not required.
TailingFactorLimitType					Not required.
Wavelength					Not required.
WavelengthUnits					Not required.
WeightingFactor					Not required.
AnalyteGroup					Not required.
Peak	X	X	X	X	
CalibrationFactor		X	X		Report the calculated Calibration Factor.
CalibrationFactorUnits		X	X		Report the units for the Calibration Factor.
CalibrationType		X			Report "Calibration_Factor" under the AnalysisGroup node.
Coeffa0					Not required.
Coeffa1					Not required.
Coeffa2					Not required.
Coeffa3					Not required.
CoeffOfDetermination					Not required.
CoeffOfDeterminationLimitLow					Not required.
CoeffOfDeterminationLimitType					Not required.
Comment					Not required.
CorrelationCoeff					Not required.
CorrelationCoeffLimitLow					Not required.
CorrelationCoeffLimitType					Not required.
DifferenceErrorRatio					Not required.
Efficiency					Not required.

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: IPC	ICAL	CCV	FLO/GPC	Instructions
Inclusion		X			Report "No" if a peak in a standard is not to be included in the calibration curve; otherwise report "Yes".
LabQualifiers					Not required.
Mass					Not required.
MassLimitHigh					Not required.
MassLimitLow					Not required.
MassLimitType					Not required.
MassUnits					Not required.
MeanCalibrationFactor		X			Report the calculated Mean Calibration Factor under the AnalysisGroup node only.
MeanCalibrationFactorUnits		X			Report the units for the Mean Calibration Factor under the AnalysisGroup node only.
MeanRetentionTime		X			Report the mean retention time in decimal minutes from the ICAL.
MeanRetentionTimeLimitHigh		X			Report the upper limit for the mean retention time in decimal minutes from the ICAL.
MeanRetentionTimeLimitLow		X			Report the lower limit for the mean retention time in decimal minutes from the ICAL.
MeanRetentionTimeLimitType		X			Report "Method".
MeanRetentionTimeUnits		X			Report "Minutes".
MeanRRF					Not required.
MeanRRFLimitLow					Not required.
MeanRRFLimitType					Not required.
PeakID	X	X	X	X	Report the peak identifier as used by the laboratory to uniquely identify this peak. This identifier must be consistent throughout an analytical sequence.
PercentDifference				X	Report the calculated Percent Difference for this peak to the nearest tenth of a percent.
PercentDifferenceLimitHigh				X	Report the upper limit for the Percent Difference to the nearest tenth of a percent.
PercentDifferenceLimitLow				X	Report the lower limit for the Percent Difference to the nearest tenth of a percent.
PercentDifferenceLimitType				X	Report "Method".
PercentRecovery					Not required.
PercentRecoveryLimitHigh					Not required.
PercentRecoveryLimitLow					Not required.
PercentRecoveryLimitType					Not required.
PercentRecoveryType					Not required.
PercentRSD		X			Report the calculated %RSD to the nearest tenth of a percent under the AnalysisGroup only.
PercentRSDLimitHigh		X			Report the upper limit for the %RSD to the nearest tenth of a percent under the AnalysisGroup only.

TABLE 5. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability				Instructions
	IPC	ICAL	CCV	FLO/GPC	
PercentRSDLimitLow					Not required.
PercentRSDLimitType		X			Report "Method".
Resolution	X	X	X		For pesticides, report the percent resolution for midpoint INDA, INDB, or INDC initial calibration standards only. Report resolutions for all PEMs used in initial and calibration verification standards.
ResolutionLimitHigh					Not required.
ResolutionLimitLow	X	X	X		Report the lower limit for the percent resolution.
ResolutionLimitType	X	X	X		Report "Method".
ResolutionType	X	X	X		Report "Percent_Resolution".
ResolutionUnits	X	X	X		Report "Percent".
Result					Not required.
ResultLimitHigh					Not required.
ResultLimitLow					Not required.
ResultLimitType					Not required.
ResultType					Not required.
ResultUncertainty					Not required.
ResultUnits					Not required.
RRF					Not required.
RRFLimitLow					Not required.
RRFLimitType					Not required.
TailingFactor					Not required.
TailingFactorLimitHigh					Not required.
TailingFactorLimitType					Not required.
Wavelength					Not required.
WavelengthUnits					Not required.
WeightingFactor					Not required.
PeakComparison					Not required.

TABLE 6. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
Header	X	X	X	X	X	
ClientID	X	X	X	X	X	Report "1" for Region 1, "2" for Region 2, etc. For samples received from QATS, report "91".
ClientName						Not required.
Comment						Not required.
DateFormat	X	X	X	X	X	Report MMDDYYYYThh:mm:ss. All dates and times reported in the EDD must follow this format. If any part of the time is unknown, report "00" for the unknown hours, minutes, and seconds.
EDDID	X	X	X	X	X	Report "SEDD".
EDDImplementationID	X	X	X	X	X	Report "SEDD_5-2_GENERAL_2a" (This is the DTD used).
EDDImplementationVersion	X	X	X	X	X	Report "2" (This is the version of the DTD used).
EDDVersion	X	X	X	X	X	Report "5.2".
GeneratingSystemID	X	X	X	X	X	Report the name of generating software or vendor.
GeneratingSystemVersion	X	X	X	X	X	Report the software version number.
Lab Contract	X	X	X	X	X	Report the Contract Number.
LabContractModificationDescription						Not required.
LabContractModificationID						Not required.
LabDataPackageID	X	X	X	X	X	Report the SDG.
LabDataPackageName	X	X	X	X	X	Report "Pest" or "Aroclor" as applicable.
LabDataPackageVersion	X	X	X	X	X	Report "1", then increment with each resubmission.
LabID						Report the Agency-assigned Lab Code.
Lab Name	X	X	X	X	X	Report the Lab Name.
LabNarrative						Not required.
LabQualifiersDefinition	X	X	X	X	X	Use the format 'Qualifier:Definition' to report each qualifier used. Use a ';' to separate the definitions of multiple qualifiers.
LabReportedDate	X	X	X	X	X	Report the date this data was reported to the client.
ProjectID	X	X	X	X	X	Report the Case Number.
ProjectName						Not required.
SiteID						Not required.
SiteName						Not required.
SamplePlusMethod	X	X	X	X	X	
ClientID	X	X				Report "1" for Region 1, "2" for Region 2, etc. For samples received from QATS, report "91".
ClientMethodCategory						Not required.

TABLE 6. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
ClientMethodCode						Not required.
ClientMethodID	X	X	X	X	X	Report "SOM02.3".
ClientMethodModificationDescription						Not required.
ClientMethodModificationID	X	X	X	X		Report the Modified Analysis Number, if applicable.
ClientMethodName						Not required.
ClientMethodSource	X	X	X	X	X	Report "EPA_CLP".
ClientMethodType	X	X	X	X	X	Report "GCECD_External_Standard".
ClientMethodVersion	X	X	X	X	X	Report the month and year the SOW was issued.
ClientName						Not required.
ClientSampleID	X	X	X	X		Report the EPA Sample Number.
CollectedDate	X	X				Report the date and time the sample was collected.
CollectedEndDate						Not required.
Comment						Not required.
Composite						Not required.
CoolerID						Not required.
CustodyID	X	X				Report the Traffic Report/Chain of Custody Record Form number.
EquipmentBatch						Not required.
Filtered						Not required.
LabContract	X	X	X	X		Report the Contract Number.
LabContractModificationDescription						Not required.
LabContractModificationID						Not required.
LabID	X	X	X	X	X	Report the Agency-assigned Lab Code.
LabMethodID						Not required.
LabMethodName						Not required.
LabName	X	X	X	X	X	Report the Lab Name.
LabReceiptDate	X	X				Report the date and time the sample was received.
LabReportingBatch	X	X	X	X	X	Links all samples analyzed to this deliverable. Report the SDG Number.
LabSampleID	X	X	X	X	X	Report the Lab Sample ID as assigned by the laboratory.
LocationID						Not required.
LocationName						Not required.
MatrixID	X	X	X	X	X	Report "Water" or "Soil" as applicable.
MatrixMedium	X	X	X	X	X	Report "Aqueous" or "Solid" as applicable.
MethodBatch						Not required.
MethodCategory						Not required.
MethodCode						Not required.

TABLE 6. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
MethodID	X	X	X	X	X	Report "SOM02.3".
MethodLevel	X	X				Report "Low".
MethodModificationDescription						Not required.
MethodModificationID						Not required.
MethodName						Not required.
MethodSource	X	X	X	X	X	Report "EPA_CLP".
MethodType	X	X	X	X	X	Report "GC".
MethodVersion	X	X	X	X	X	Report the month and year the SOW was issued.
OriginalClientSampleID		X				Report the EPA Sample Number of the original sample this sample was derived from.
OriginalLabSampleID						Not required.
PhaseAnalyzed						Not required.
Preservative	X	X				Report any chemical or physical preservative used.
ProjectID	X	X	X	X		Report the Case Number.
ProjectName						Not required.
QCCategory		X	X	X		Report "Blank" for MB, LEB, IB, or CB; "Spike" for MS; "Spike_Duplicate" for MSD; or "Blank_Spike" for LCS.
QCLinkage		X	X	X		Report "LabReportingBatch" for MS/MSD; "PreparationBatch" for MB and LCS; "AnalysisBatch" for IB; or "CleanupBatch" for CB.
QCType	X	X	X	X	X	Report "Field_Sample" for field samples; "Field_Blank" for field, equipment, rinse, or trip blanks; "Instrument_Blank" for IB; "PT_Sample" for Performance Evaluation samples or Proficiency Testing samples; "Method_Blank" for MB; "Leachate_Extraction_Blank" for LEB; "Cleanup_Blank" for CB; "Matrix_Spike" for MS; "Matrix_Spike_Duplicate" for MSD; "Laboratory_Control_Sample" for LCS; or "Non_Client_Sample".
Quarantine	X					Report "Yes" or "No" based on sampling information.
SamplingBatch						Not required.
ShippingBatch						Not required.
SiteID						Not required.
SiteName						Not required.
StorageBatch						Not required.
Characteristic	X	X	X	X		
CharacteristicType	X	X	X	X		Report "Percent_Solids" for each SamplePlusMethod. Report "pH" and "Temperature" for samples, received at the laboratory, under each SamplePlusMethod node.

TABLE 6. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
CharacteristicValue	X	X	X	X		Report the percent solids to two significant figures if less than 10 and three significant figures if greater than or equal to 10 for soil/sediment samples for "Percent_Solids"; the pH for aqueous/water samples (and soil/sediment samples as requested) to the nearest tenth for "pH"; and the temperature at receipt to the nearest degree for "Temperature".
CharacteristicUnits	X	X	X	X		Report "C" for "Temperature".
Comment						Not required.
ContactInformation	X	X	X	X	X	
LabAddress1	X	X	X	X	X	Report the street address of the laboratory.
LabAddress2	X	X	X	X	X	If applicable, report any additional address information (e.g., suite, maildrop). Otherwise leave blank.
LabCity	X	X	X	X	X	Report the city in which the laboratory is located.
LabCountry	X	X	X	X	X	Report the country in which the laboratory is located.
LabID	X	X	X	X	X	Report the Agency-assigned Lab Code.
LabName	X	X	X	X	X	Report the Lab Name.
LabPointOfContact	X	X	X	X	X	Report the name of the person at the laboratory serving as the point of contact.
LabPointOfContactElectronicAddress	X	X	X	X	X	Report the Email address of the point of contact.
LabPointOfContactTitle	X	X	X	X	X	Report the title of the point of contact.
LabPointOfContactType						Not required.
LabState	X	X	X	X	X	Report the state or province in which the laboratory is located.
LabTelephoneNumber	X	X	X	X	X	Report the 10-digit phone number for the laboratory.
LabType						Not required.
LabZipCode	X	X	X	X	X	Report the ZIP or postal code.
Analysis	X	X	X	X	X	
AliquotAmount						Not required.
AliquotAmountUnits						Not required.
AnalysisDuration						Not required.
AnalysisDurationUnits						Not required.
AnalysisGroupID						Not required.
AnalysisType	X	X	X	X		Report "Initial", "Dilution-01", "Reanalysis-01", or "Reinjection-01", then increment as necessary.
Analyst	X	X	X	X		Report the Analyst's initials.

TABLE 6. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
AnalyzedAmount	X	X	X	X		Report the volume of final extract added to the sample vial in microliters to at least two significant figures.
AnalyzedAmountUnits	X	X	X	X		Report "uL".
AnalyzedDate	X	X	X	X	X	Report the date and time the sample was analyzed.
ClientAnalysisID	X	X	X	X		Report the full EPA Sample Number with applicable suffixes per the requirements in Exhibit B – Reporting and Deliverables Requirements.
ClientMethodCode				X		Not required.
ClientMethodID	X	X	X	X	X	Report "SOM02.3".
ClientMethodModificationDescription						Not required.
ClientMethodModificationID						Not required.
ClientMethodName						Not required.
ClientMethodSource	X	X	X	X	X	Report "EPA_CLP".
ClientMethodVersion	X	X	X	X	X	Report month and year the SOW was issued.
Column	X	X	X	X		Report the GC Column used.
ColumnInternalDiameter	X	X	X	X		Report the GC Column Internal Diameter in millimeters.
ColumnInternalDiameterUnits	X	X	X	X		Report the Column Length in meters.
ColumnLength	X	X	X	X		Report "m".
ColumnLengthUnits						Not required.
Comment						Not required.
ConfirmationAnalysisID						Not required.
Counts						Not required.
CountsUncertainty						Not required.
CountsUncertaintyConfidenceLevel						Not required.
CountsUncertaintyDetermination						Not required.
CountsUncertaintyIntervalType						Not required.
CountsUncertaintyLimitHigh						Not required.
CountsUncertaintyLimitLow						Not required.
CountsUncertaintyType						Not required.
CountsUnits						Not required.
DetectorID						Not required.
DetectorType	X	X	X	X		Report "ECD".
DilutionFactor	X	X	X	X		Report the Dilution Factor used to the nearest tenth. Report "1.0" when no dilutions are used.
Efficiency						Not required.
HeatedPurge						Not required.
Inclusion						Not required.

TABLE 6. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
InjectionVolume	X	X	X	X		Report the injection volume in microliters. Report volume to at least two significant figures.
InjectionVolumeUnits	X	X	X	X		Report "uL".
InstrumentID	X	X	X	X	X	Report the laboratory identifier for the instrument used for this analysis.
LabAnalysisID	X	X	X	X	X	Report the Lab File ID.
LabFileID	X	X	X	X	X	Report the Lab File ID.
LabID						Not required.
LabMethodID						Not required.
LabMethodName						Not required.
LabName						Not required.
MethodCode						Not required.
MethodID	X	X	X	X	X	Report "SOM02.3".
MethodModificationDescription						Not required.
MethodModificationID						Not required.
MethodName						Not required.
MethodSource	X	X	X	X	X	Report "EPA_CLP".
MethodVersion	X	X	X	X	X	Report the month and year the SOW was issued.
PreparationBatch						Not required.
ProcedureID						Not required.
ProcedureName						Not required.
ReferenceDate						Not required.
ResultBasis	X	X	X	X		Report "Dry" for soil/sediment samples.
Temperature						Not required.
TemperatureUnits						Not required.
Wavelength						Not required.
WavelengthUnits						Not required.
Yield						Not required.
AnalysisGroup						Not required.
Handling						Not required.
ReportedResult	X	X	X	X		
AnalysisGroupID						Not required.
AnalyteGroupID						Not required.
AnalyteName	X	X	X	X		Report the analytes as they appear in the SOW.
AnalyteNameContext	X	X	X	X		Report "CAS".
AnalyteType	X	X	X	X		Report "Target" for all target analytes or "Spike" for all target analytes designated as spike analytes for MS/MSD and LCS analysis.

TABLE 6. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
BiasErrorRatio						Not required.
CASRegistryNumber	X	X	X	X		Report the CAS Numbers as it appears in the SOW.
ClientAnalyteID	X	X	X	X		Report CAS Number.
ClientAnalyteName	X	X	X	X		Report the analytes as they appear in the SOW.
ClientDetectionLimit						Not required.
ClientDetectionLimitUnits						Not required.
ClientQuantitationLimit	X	X	X	X		Report the unadjusted CRQL.
ClientQuantitationLimitUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
Comment						Not required.
DetectionLimit	X	X	X	X		For target analytes, report the current MDL, adjusted for sample weight/volume, percent solids, and dilution factor to at least two significant figures.
DetectionLimitType	X	X	X	X		Report "MDL_sa".
DetectionLimitUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
DifferenceErrorRatio						Not required.
ExpectedResult						Not required.
ExpectedResultUncertainty						Not required.
ExpectedResultUncertaintyConfidenceLevel						Not required.
ExpectedResultUncertaintyDetermination						Not required.
ExpectedResultUncertaintyIntervalType						Not required.
ExpectedResultUncertaintyLimitHigh						Not required.
ExpectedResultUncertaintyLimitLow						Not required.
ExpectedResultUncertaintyType						Not required.
ExpectedResultUncertaintyUnits						Not required.
ExpectedResultUnits						Not required.
LabAnalysisID	X	X	X	X		Report the Lab File ID from the analysis this reported result was derived from.
LabAnalyteID						Not required.
LabQualifiers	X	X	X	X		Report flags as specified in the SOW. Includes the Q qualifiers from Form 1-OR.
LabResultStatus	X	X				Report "Preliminary" or "Final" as applicable.
PeakID						Not required.
PercentDifference	X	X	X	X		For Confirmation analyses, report the percent difference between the reported results and the confirmation results to the nearest whole percent (excluding IB).
PercentDifferenceLimitHigh	X	X	X	X		Report the upper limit for the percent difference to the nearest whole percent (excluding IB).
PercentDifferenceLimitLow						Not required.

TABLE 6. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
PercentDifferenceLimitType	X	X	X	X		Report "Method" (excluding IB).
PercentRecovery						Not required.
PercentRecoveryLimitHigh						Not required.
PercentRecoveryLimitLow						Not required.
PercentRecoveryLimitType						Not required.
PercentRecoveryType						Not required.
QuantitationLimit	X	X	X	X		For target analytes, report the CRQL adjusted for sample weight/volume, percent solids, and dilution factor to at least two significant figures.
QuantitationLimitType	X	X	X	X		Report "CRQL_sa".
QuantitationLimitUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
ReportingLimit						Not required.
ReportingLimitType						Not required.
ReportingLimitUnits						Not required.
Result	X	X	X	X		Report the final calculated result for detects per the SOW.
ResultLimitHigh						Not required.
ResultLimitLow						Not required.
ResultLimitType						Not required.
ResultType	X	X	X	X		Report "=" for all detected analytes. Report "Not_Detected" for non-detects.
ResultUncertainty						Not required.
ResultUncertaintyConfidenceLevel						Not required.
ResultUncertaintyDetermination						Not required.
ResultUncertaintyIntervalType						Not required.
ResultUncertaintyLimitHigh						Not required.
ResultUncertaintyLimitLow						Not required.
ResultUncertaintyType						Not required.
ResultUncertaintyUnits						Not required.
ResultUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
RetentionTime						Not required.
RetentionTimeUnits						Not required.
RPD						Not required.
RPDLimitHigh						Not required.
RPDLimitType						Not required.
RPDType						Not required.

TABLE 6. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
PreparationPlusCleanup	X	X	X	X		
AliquotAmount	X	X	X	X		Report the sample amount in grams for soil/sediment or milliliters for aqueous/water to at least three significant figures.
AliquotAmountUnits	X	X	X	X		Report "g" for soil/sediment or "mL" for aqueous/water.
Analyst	X	X	X	X		Report the Analyst's initials.
CleanedUpDate	X	X	X	X		Report the date and time the sample was cleaned up.
CleanUpBatch	X	X	X	X		Links all samples that were cleaned up together. Report the Lab File ID of the associated blank or other unique identifier.
CleanUpType	X	X	X	X		Report "GPC", "Florisil", "Sulfur", or "Sulfuric_Acid" as applicable.
ClientMethodCode						Not required.
ClientMethodID	X	X	X	X		Report the sample preparation ID as given in Exhibit B – reporting and Deliverables Requirements.
ClientMethodModificationDescription						Not required.
ClientMethodModificationID						Not required.
ClientMethodName						Not required.
ClientMethodSource	X	X	X	X		Report "EPA_CLP".
ClientMethodVersion	X	X	X	X		Report the month and year the SOW was issued.
Comment						Not required.
FinalAmount	X	X	X	X		Report the volume of material produced upon completion of this Prep or Cleanup in microliters.
FinalAmountUnits	X	X	X	X		Report "uL".
InitialAmount	X	X	X	X		Report the initial amount of extracted sample used for this cleanup method in microliters.
InitialAmountUnits	X	X	X	X		Report "uL".
LabID						Not required.
LabMethodID						Not required.
LabMethodName						Not required.
LabName						Not required.
LotNumber	X	X	X	X		Report the manufacturer's lot number for the Florisil cartridges used.
MethodCode						Not required.
MethodID	X	X	X	X		Report "SOM02.3".
MethodModificationDescription						Not required.
MethodModificationID						Not required.
MethodName						Not required.

TABLE 6. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
MethodSource	X	X	X	X		Report "EPA_CLP".
MethodVersion	X	X	X	X		Report the month and year the SOW was issued.
PreparationBatch	X	X	X	X		Links all samples that were prepared together. Report the Lab File ID of the associated Method Blank.
PreparationPlusCleanupType	X	X	X	X		Report "Preparation" or "Cleanup" as applicable.
PreparationType	X	X	X	X		Report "Sonication", "Soxhlet", or "Pressurized_Fluid" for soil/sediment. Report "Sep_Funnel", "Liq_Liq", or "Liq_Membrane" for aqueous/water.
PreparedDate	X	X	X	X		Report the date and time the sample was prepared.
ProcedureID						Not required.
ProcedureName						Not required.
Solvent						Not required.
Analyte	X	X	X	X		
AnalyteGroupID						Not required.
AnalyteName	X	X	X	X		Report the analytes as they appear in the SOW.
AnalyteNameContext	X	X	X	X		Report "CAS".
AnalyteType	X	X	X	X		Report "Target" for all target analytes; "Spike" for all target analytes designated as spike analytes for MS/MSD or LCS analysis; or "Surrogate" for surrogate standards.
BiasErrorRatio						Not required.
CASRegistryNumber	X	X	X	X		Report the CAS Number as it appears in the SOW.
ClientAnalyteID	X	X	X	X		Report CAS Number.
ClientAnalyteName	X	X	X	X		Report the analytes as they appear in the SOW.
Comment						Not required.
Counts						Not required.
CountsUncertainty						Not required.
CountsUncertaintyConfidenceLevel						Not required.
CountsUncertaintyDetermination						Not required.
CountsUncertaintyIntervalType						Not required.
CountsUncertaintyLimitHigh						Not required.
CountsUncertaintyLimitLow						Not required.
CountsUncertaintyType						Not required.
CountsUnits						Not required.
DetectionLimit	X	X	X	X		Report the MDL.
DetectionLimitType	X	X	X	X		Report "MDL".
DetectionLimitUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
DifferenceErrorRatio						Not required.

TABLE 6. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
Efficiency						Not required.
ExpectedResult	X	X	X	X		Report the theoretical final calculated concentration for MS/MSD and LCS. Report surrogates in nanograms.
ExpectedResultUncertainty						Not required.
ExpectedResultUncertaintyConfidenceLevel						Not required.
ExpectedResultUncertaintyDetermination						Not required.
ExpectedResultUncertaintyIntervalType						Not required.
ExpectedResultUncertaintyLimitHigh						Not required.
ExpectedResultUncertaintyLimitLow						Not required.
ExpectedResultUncertaintyType						Not required.
ExpectedResultUncertaintyUnits						Not required.
ExpectedResultUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
Inclusion						Not required.
LabAnalyteID						Not required.
LabQualifiers	X	X	X	X		Report qualifiers as specified in the SOW.
LotNumber	X	X	X	X		Report the vendor/manufacturer assigned lot number for this standard.
PeakID	X	X	X	X		If response from a single peak is used for quantitation, report the ID of that peak.
PercentRecovery	X	X	X	X		Report the final calculated percent recovery of the spikes and surrogates to the nearest whole percent.
PercentRecoveryLimitHigh	X	X	X	X		Report the upper limit for the percent recovery of the spikes and surrogates to the nearest whole percent.
PercentRecoveryLimitLow	X	X	X	X		Report the lower limit for the percent recovery of the spikes and surrogates to the nearest whole percent.
PercentRecoveryLimitType	X	X	X	X		Report "Method".
PercentRecoveryType						Not required.
QuantitationLimit	X	X	X	X		Report the CRQL.
QuantitationLimitType	X	X	X	X		Report "CRQL".
QuantitationLimitUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
ReportingLimit						Not required.
ReportingLimitType						Not required.
ReportingLimitUnits						Not required.
Result	X	X	X	X		Report the final calculated concentration or amount to at least two significant figures. Leave blank if compound is not detected.
ResultLimitHigh						Not required.

TABLE 6. GAS CHROMATOGRAPHY DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS/MSD	LCS	MB/LEB/IB/CB	NCS	Instructions
ResultLimitLow						Not required.
ResultLimitType						Not required.
ResultType	X	X	X	X		Report "=" for all detected analytes. Report "Not_Detected" for non-detects.
ResultUncertainty						Not required.
ResultUncertaintyConfidenceLevel						Not required.
ResultUncertaintyDetermination						Not required.
ResultUncertaintyIntervalType						Not required.
ResultUncertaintyLimitHigh						Not required.
ResultUncertaintyLimitLow						Not required.
ResultUncertaintyType						Not required.
ResultUncertaintyUnits						Not required.
ResultUnits	X	X	X	X		Report "ug/kg" for soil/sediment or "ug/L" for aqueous/water (or "mg/L" for TCLP).
StandardSource	X	X	X	X		Report the vendor/manufacturer for this standard.
Wavelength						Not required.
WavelengthUnits						Not required.
AnalyteGroup						Not required.

TABLE 7. ABBREVIATIONS

Abbreviation	Definition
%D	Percent Difference
%RSD	Percent Relative Standard Deviation
CAS	Chemical Abstracts Service
CB	Cleanup Blank
CCV	Continuing Calibration Verification
CRQL	Contract Required Quantitation Limit
DMC	Deuterated Monitoring Compound
DTD	Document Type Definition
EDD	Electronic Data Deliverable
FLO	Florisil Cartridge Check
GC	Gas Chromatography or Gas Chromatograph
GPC	Gel Permeation Chromatography Calibration Verification
IB	Instrument Blank
ICAL	Initial Calibration
ID	Identifier
IPC	Instrument Performance Check
LCS	Laboratory Control Sample
MDL	Method Detection Limit
MB	Method Blank
MS	Matrix Spike or Mass Spectrometer or Mass Spectrometry
MSD	Matrix Spike Duplicate
NCS	Non-Client (ZZZZZ) Sample
PEM	Performance Evaluation Mixture
QATS	Quality Assurance Technical Support
QC	Quality Control
RESC	Resolution Check Mixture
RPD	Relative Percent Difference
RRF	Relative Response Factor
SB	Storage Blank
SDG	Sample Delivery Group
SPLP	Synthetic Precipitation Leaching Procedure
SOW	Statement of Work
SVOA	Semivolatile Organic Analyte
TCLP	Toxicity Characteristic Leaching Procedure
TIC	Tentatively Identified Compound
VOA	Volatile Organic Analyte

APPENDIX A – FORMAT CHARACTERISTICS FOR METHOD DETECTION LIMIT STUDY DATA

1.0 FORMAT CHARACTERISTICS FOR METHOD DETECTION LIMIT STUDY DATA

The Method Detection Limit (MDL) study data deliverable consists of a Microsoft® Excel spreadsheet containing the following columns (Table A-1) in the order specified.

The "Required" field in Table A-1 identifies the columns that are always required to be populated.

The Contractor shall provide one spreadsheet for each combination of instrument ID, analytical method, and preparation method used to report results under this contract.

The Contractor shall deliver the spreadsheets to the recipients specified in Table 1 of Exhibit B – Reporting and Deliverables Requirements.

The format for the Microsoft® Excel file name shall be MDL_#.xls, where # can be any naming convention selected by the Contractor.

TABLE A-1. MDL STUDY DATA DELIVERABLE

Column	Required	Instruction
LabID	X	Report the agency assigned Lab Code.
LabContract	X	Report the Lab Contract Number per the instructions for Header/LabContract.
MethodSource	X	Report the SOW per the instructions for SamplePlusMethod/ClientMethodID.
Method	X	Report the analytical method per the instructions for Header/LabDataPackageName.
PreparationMethod		Report the preparation method per the instructions for PreparationPlusCleanup/ClientMethodID.
ClientMethodCategory		Report the subset analyzed per the instructions for SamplePlusMethod/ClientMethodCategory if applicable.
ClientMethodModificationID		Report the MA number per the instructions for SamplePlusMethod/ClientMethodModificationID if applicable. Otherwise leave null.
Level		Report the sample level per the instructions for SamplePlusMethod/MethodLevel.
Matrix	X	Report the sample matrix per the instructions for SamplePlusMethod/MatrixID.
InstrumentID	X	Report the instrument ID per the instructions for Analysis/InstrumentID.
ColumnID	X	Report the GC column ID per the instructions for Analysis/Column if applicable.
ClientAnalyteID	X	Report the analyte per the instructions for ReportedResult/ClientAnalyteID.

Column	Required	Instruction
Peak	X	Report the Peak ID per the instructions for Peak/PeakID.
ResultUnits	X	Report the units for the replicate concentrations reported per the instructions for ReportedResult/ResultUnits.
Replicate##	X	The Laboratory shall include as many columns as there are replicates reported. Usually this would be seven, but more than seven replicates can be reported. The Laboratory shall report the results of the analysis of each replicate for each analyte. Each column shall be labeled "Replicate##", where the ## shall be replaced with the numeric designation of the replicate (e.g., Replicate01 for the first, Replicate02 for the second, Replicate03 for the third, etc.).
LabAnalysisID##	X	Following each Replicate## column, the Laboratory shall report a LabAnalysisID## column, reporting the LabAnalysisID of that replicate for that analyte per the instructions for Analysis/LabAnalysisID. The LabAnalysisID## columns shall be labeled in the same manner as the Replicate## columns.
AnalyzedDate##	X	Following each LabAnalysisID## column, the Laboratory shall report a AnalyzedDate## column, reporting the analysis date and time for that replicate for that analyte per the instructions for the Analysis/AnalyzedDate data element. The AnalyzedDate## columns shall be labeled in the same manner as the Replicate## columns. (MMDDYYYYThh:mm:ss)
StandardDeviation	X	Report the calculated standard deviation of the replicates for each analyte to at least three significant figures.
StudentsTValue	X	Report the appropriate Student’s T value for the degrees of freedom based on the number of replicates and 99% for the one-sided test.
DetectionLimit	X	Report the calculated Detection Limit for each analyte per the instructions for ReportedResult/DetectionLimit.
DetectionLimitUnits	X	Report the appropriate units for the preparation method per the instructions for ReportedResult/DetectionLimitUnits.
MDLAcceptable	X	Enter "Y" if the calculated MDL is less than the CRQL for the analyte and matrix. Otherwise enter "N".
ExpectedResult	X	Report the concentration for each analyte in the MDL standards per the instructions for ReportedResult/ExpectedResult.

Column	Required	Instruction
ExpectedResultUnits	X	Report the concentration units for each analyte in the MDL standards per the instructions for ReportedResult/ExpectedResultUnits.
ConcentrationAcceptable	X	Enter "Y" if the concentration of the analyte in the MDL standards was less than or equal to 10 times the calculated MDL for that analyte. Otherwise enter "N".
EffectiveDate	X	Report the date on which the Laboratory began to use the calculated MDL for reporting sample results for that analyte, instrument, and method formatted per the instructions for Header/DateFormat. This date cannot precede the analysis date of the MDL replicates.

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