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/Digestion/Distillation procedures;
- Extraction/Digestion/Distillation bench sheets; and
- Extraction/Digestion/Distillation 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 digested samples and distilled samples) 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 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., digestion 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, post-digestion/distillation spikes, duplicates, serial dilutions, Interference Check Samples, tunes, initial calibrations/verifications, 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.

8.2.5.1.1 Instrument data files for Inductively Coupled Plasma – Atomic Emission Spectroscopy (ICP-AES) and Inductively Coupled Plasma – Mass Spectroscopy (ICP-MS) shall include raw intensities and as applicable, associated background corrected and background subtracted intensities. Mercury and Cyanide files shall include raw absorbances or integrated areas.

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, duplicates, 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: Inorganic 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: Inorganic 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 Inorganic Analyses 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.
	ICP-AES 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.
	ICP-MS 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: Inorganic Analytical Methods (Cont'd)	Mercury 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.
	Cyanide 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 11.0.	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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ABSORBANCE - A measure of the decrease in incident light passing through a sample into a detector. It is defined mathematically as:

$$A = -\log \frac{I}{I_O}$$

WHERE, I = Radiation intensity of a sample.
I_o = Radiation intensity of a blank.

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

ANALYSIS DATE/TIME - The date and military time (24-hour clock) of the introduction of the sample, standard, or blank into the analysis system.

ANALYTE - The element or ion an analysis seeks to determine; the element of interest.

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, Initial Calibration Verification (ICV), Initial Calibration Blank (ICB), Continuing Calibration Verification (CCV), Continuing Calibration Blank (CCB), and tunes. Note the following are all defined as analytical samples: undiluted and diluted samples (EPA and non-EPA), matrix spike samples, duplicate samples, serial dilution samples, post-digestion spike samples, Interference Check Samples (ICSs), Laboratory Control Samples (LCSs), Performance Evaluation (PE) samples, and Preparation 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) and Continuing Calibration Blank (CCB). 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.

BACKGROUND CORRECTION - A technique to compensate for variable background contribution to the instrument signal in the determination of trace elements.

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, preparation blanks, and field blanks. See the individual definitions for types of blanks.

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. The calibration standards must be prepared using the same type of reagents or concentration of acids as used in the sample preparation.

CALIBRATION BLANK - A blank solution containing all of the reagents and in the same concentration as those used in the analytical sample preparation. This blank is not subjected to the preparation method for Inductively Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES) and Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS), but is digested for mercury and cyanide. Calibration blanks are used to verify that the instrument baseline stable and the instrument is free of contamination.

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).

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

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. However, all parameters being measured by the particular system must be represented in this standard and the standard must have the same matrix (i.e., the same amount of reagents and/or preservatives) as the samples. The CCV should have a concentration in the middle of the calibration range and shall be analyzed at the beginning of the day prior to the analysis of samples, and every 2 hours (1 hour for Hg and CN).

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.

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

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.

DIGESTION LOG - An official record of the sample preparation (digestion or distillation).

DISSOLVED METALS - Analyte elements in an aqueous/water sample which will pass through a 0.45 micrometer (µm) filter.

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

DUPLICATE - A second aliquot of a sample that is treated the same as the original sample in order to evaluate the precision.

EPA ASB INORGANIC CLP CONTRACTING OFFICER'S REPRESENTATIVE (ASB CLP COR) - The EPA ASB official who manages the Inorganic 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.

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.

HARDNESS (TOTAL) – Total hardness is defined as the sum of calcium and magnesium concentrations, both expressed as calcium carbonate in mg/L. Total hardness is calculated according to the Standard Method 2340B.

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 analysis.

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

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.

INDUCTIVELY COUPLED PLASMA-ATOMIC EMISSION SPECTROSCOPY (ICP-AES) – A technique for the simultaneous or sequential multi-element determination of elements in solution. The basis of the method is the measurement of atomic emission by an optical spectroscopic technique. Characteristic atomic line emission spectra are produced by excitation of the sample in a radio frequency inductively coupled plasma.

INDUCTIVELY COUPLED PLASMA-MASS SPECTROMETRY (ICP-MS) - A technique for the multi-element determination of elements in solution. The basis of the technique is the detection of atomic ions produced by an ICP and sorted by mass-to-charge (m/z) ratio.

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.

INITIAL CALIBRATION VERIFICATION (ICV) - Solution(s) prepared from stock standard solutions, metals, or salts obtained from a source separate from that utilized to prepare the calibration standards. The ICV is used to verify the concentration of the calibration standards and the adequacy of the instrument calibration. The ICV should be traceable to National Institute of Standards and Technology (NIST) or other certified standard sources when the EPA ICV solutions are not available.

INTERFERENCE CHECK SAMPLE (ICS) - A solution containing both interfering and analyte elements of known concentration that can be used to verify background and interelement correction factors.

INTERFERENTS - Substances which affect the analysis for the analyte of interest.

INTERNAL STANDARD - A non-target element added to a sample at a known concentration after preparation but prior to analysis. Instrument responses to internal standards are monitored as a means of assessing overall instrument performance.

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 not synonymous with phase (liquid or solid).

MATRIX EFFECT – In general, the effect of a particular matrix on the constituents under study. The enhancement or suppression of minor element spectral lines due to a particular matrix constituent.

MATRIX SPIKE - Aliquot of a sample (aqueous/water or soil/sediment) 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.

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.

MONITORED MASS - A mass that counts are collected from during analysis that may be subsequently used in isobaric correction equations or for the interpretation of possible interferences in analyte mass results.

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

POST-DIGESTION SPIKE – Post-digestion spikes are samples prepared for metals analyses that have an analyte spike added to determine if matrix effects may be a factor in the results. The spike addition should produce a method-specified minimum concentration above the method reporting limit. A post digestion spike is analyzed with each batch of samples and recovery criteria are specified for each method.

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 (digestion or distillation).

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.

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".

REFERENCE MATERIAL - Standards, typically provided by the EPA, used to verify method and instrument performance. Examples include Initial Calibration Verification (ICV) standards and Interference Check Solution (ICS) standards.

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).

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.

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, 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.

SERIAL DILUTION - The dilution of a sample by a factor of five. When corrected by the dilution factor, the diluted sample must agree with the original undiluted sample within specified limits. Serial dilution may reflect the influence of interferents.

SOIL - Synonymous with soil/sediment as used herein.

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

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.

TARGET ANALYTE LIST - A list of Inorganic Analytes (metals and cyanide) as designated in Exhibit C – Inorganic Target Analyte List and Contract Required Quantitation Limits.

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.

TUNE - A solution containing a range of isotope masses to establish ICP-MS accuracy, resolution, and precision prior to calibration. May also be called Instrument Performance Check sample (IPC).

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.

EXHIBIT H

FORMAT FOR ELECTRONIC DATA DELIVERABLES

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1.0 FORMAT CHARACTERISTICS FOR METHOD DETECTION LIMIT STUDY DATA.....133

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1.0 INTRODUCTION

The inorganic 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 no rounding shall be performed until reaching the final result.

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 must be present where required and correct: 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; Correlation Coefficient (level 2b and 3 only); Intercept (level 2b and 3 only); Method ID; 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; 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 (see Exhibit H, 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, Post-Digestion Spike (PDS) sample (if applicable), Duplicate (Dup) sample, Serial Dilution (SD) sample, Preparation Blank (PB), Leachate Extraction Blank (LEB), 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.

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 (ICP-MS Tune), initial calibration sequence, Initial Calibration Verification (ICV), Continuing Calibration Verification (CCV), Initial Calibration Blank (ICB), Continuing Calibration Blank (CCB), and Interference Check Samples (ICSA and ICSAB).

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.

3.1.7 Analysis Node (Required for All Deliverable Levels)

Each SamplePlusMethod node must contain at least one Analysis node. A separate Analysis node is required for each dilution or reanalysis. Each InstrumentQC node (other than Initial Calibration) must contain one Analysis node.

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 (except Hardness), monitored interferent, and internal standard. Each Analysis node under an InstrumentQC node must contain one Analyte node for each target analyte (except Hardness), monitored interferent, 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.

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". For Serial Dilution and Post-Digestion Spike samples, the associated PreparationPlusCleanup node shall contain data for the preparation of the original sample. For those methods requiring digested Quality Control, each InstrumentQC node must contain one PreparationPlusCleanup node with a PreparationPlusCleanupType equal to "Preparation".

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

Each Analyte node must contain at least one Peak node. 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 Inductively Coupled Plasma-Mass Spectrometry (ICP-MS), each Peak node must contain a PeakComparison node for each applicable internal standard.

3.1.12 PeakReplicate Node (Required for Level 3 Deliverables only)

For Inductively Coupled Atomic Emission Spectroscopy (ICP-AES) and ICP-MS, each Peak node must contain a PeakReplicate node for each replicate exposure or integration collected and shall contain at least the number of PeakReplicate nodes necessary to report the required minimum number of exposures or integrations.

3.1.13 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.

3.1.14 Handling Node (required for Level 3 Deliverables only)

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

3.1.15 AnalyteComparison Node (For Level 3 Deliverables only)

For ICP-AES, each Analyte node must contain one AnalyteComparison node for each applicable Interelement Correction Factor.

3.1.16 AnalyteGroup Node

For ICP-AES, each Analysis node under a SamplePlusMethod node must contain one AnalyteGroup node for each derived analyte (i.e., Hardness) when required.

3.2 Detailed instructions for the content of each data element are provided in Tables 1, 2, and 3 of Section 7.0. 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 4 - 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 4 - Abbreviations.

Figure 1: Data Node Hierarchy for
Level 2a Deliverable

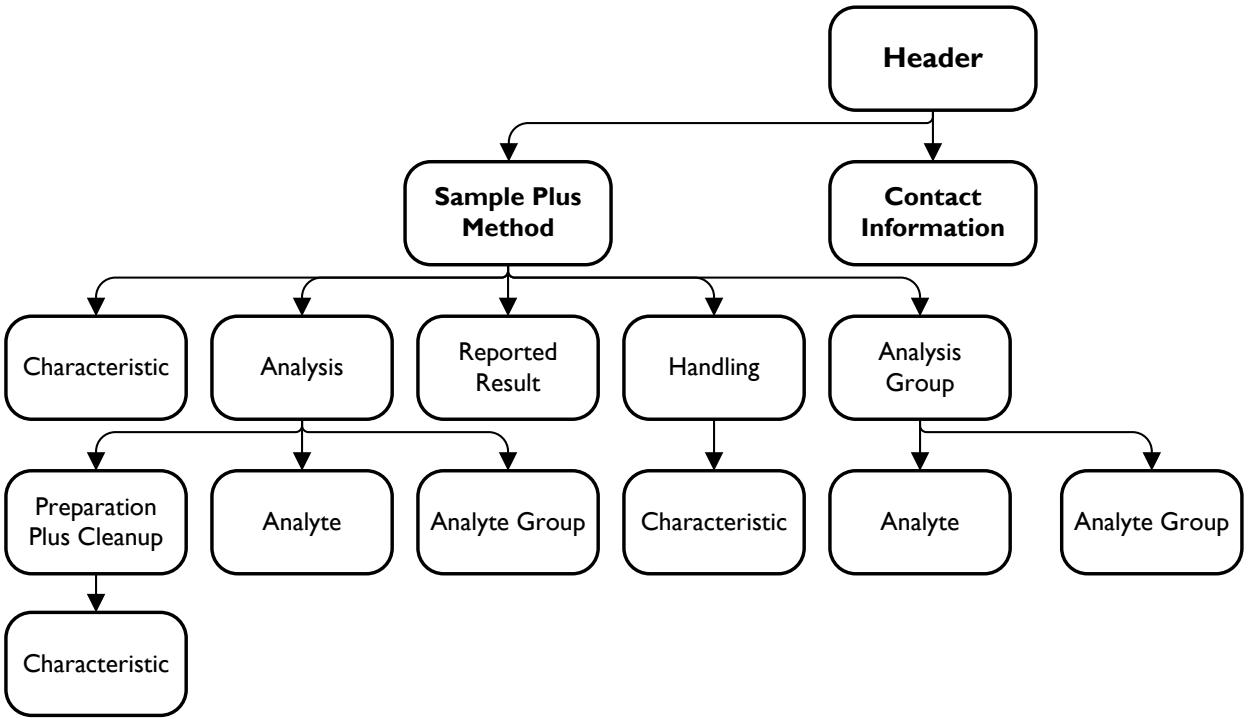


Figure 2: Data Node Hierarchy for
Level 2b Deliverable

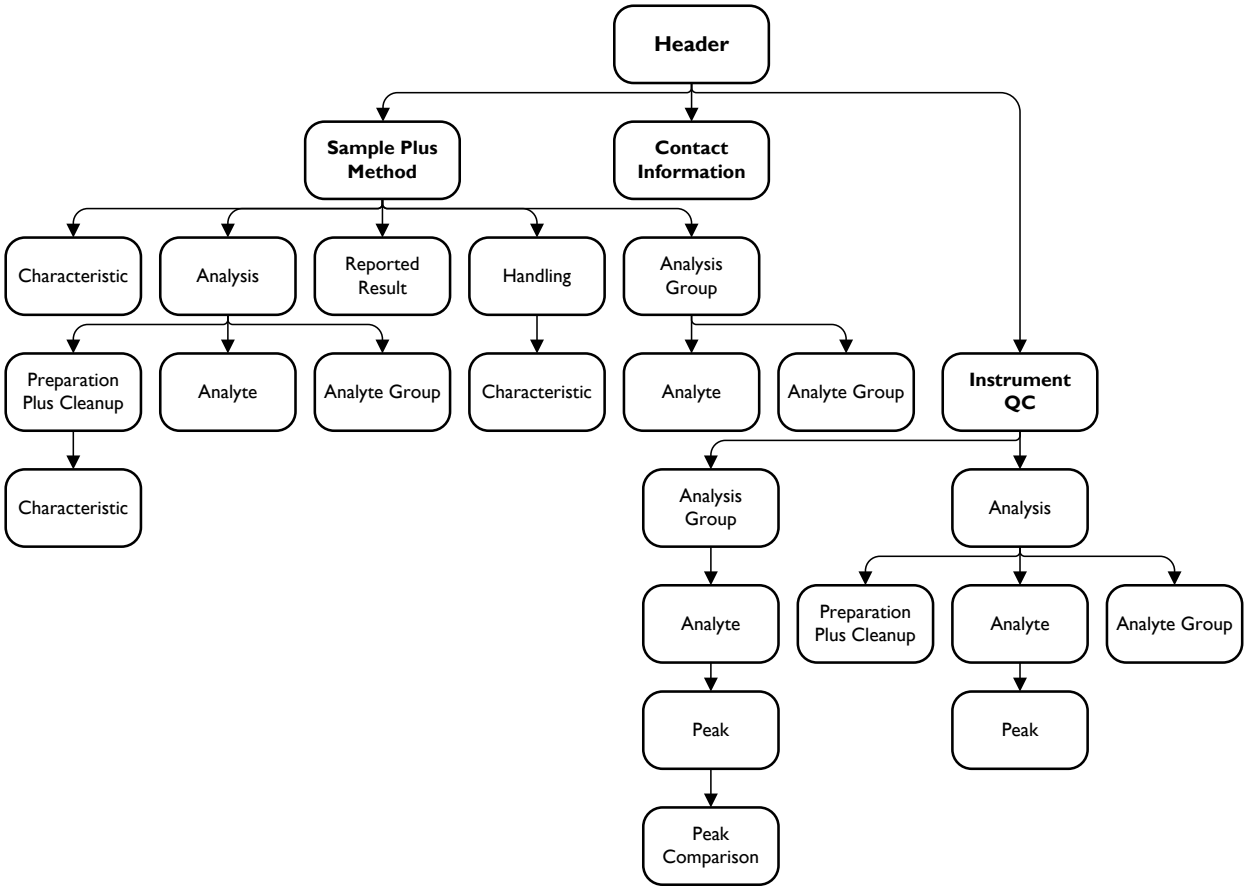
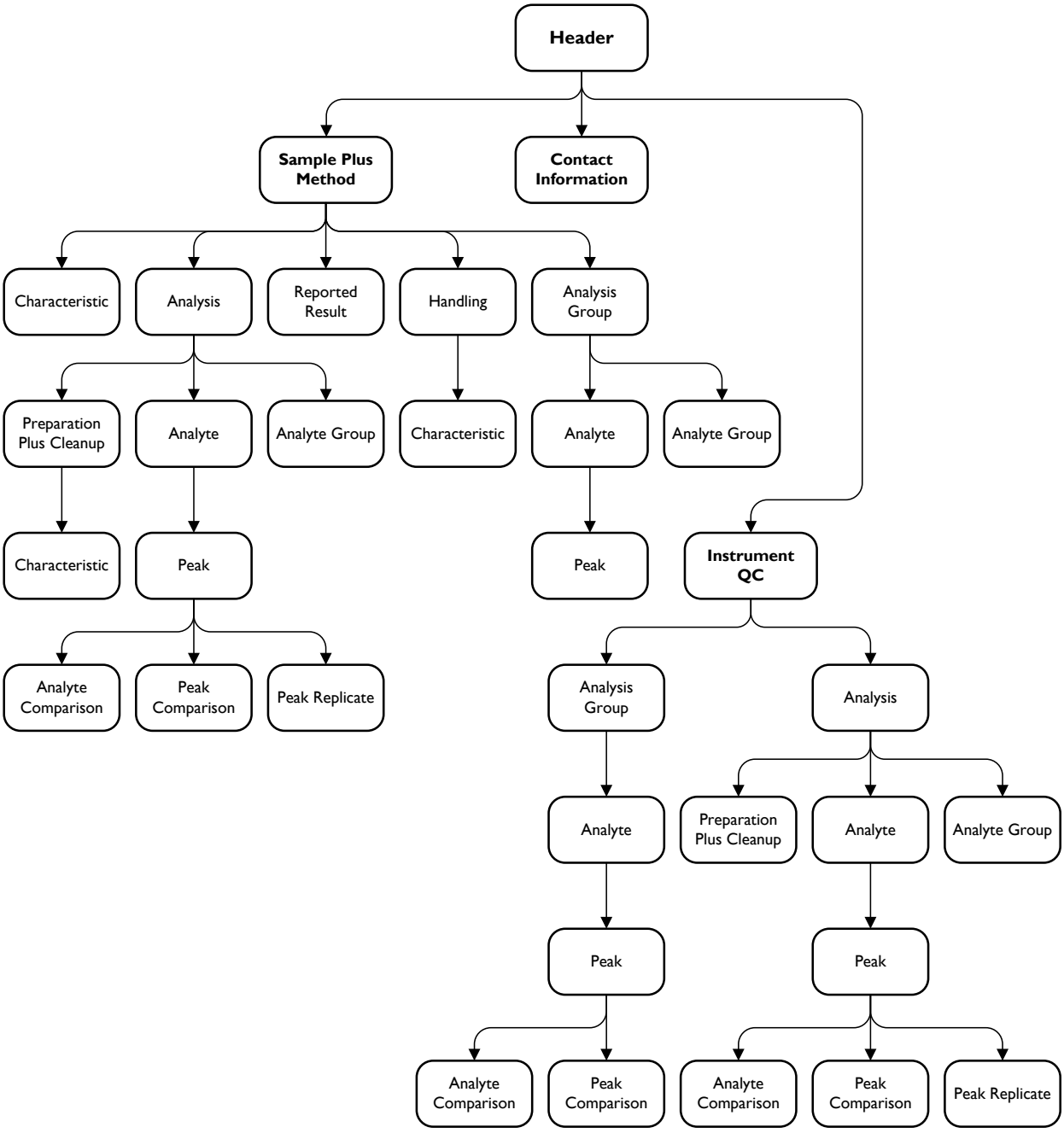


Figure 3: Data Node Hierarchy for
Level 3 Deliverable



4.0 BATCHES

4.1 This implementation requires the use of the following SEDD batches from the SEDD Specification: "LabReportingBatch"; "RunBatch"; "AnalysisBatch"; and "PreparationBatch". "HandlingBatch" is required when TCLP or SPLP extraction is performed.

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 (1- or 2-hour period and QC). 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 Preparation Blanks, Matrix Spikes, Duplicates, and LCSs that are prepared together must have the same content for the "PreparationBatch" element. For those methods using digested/distilled QC, all QC 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 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.

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: "ICP_AES"; "ICP_MS"; "Hg"; and "CN". 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 ICP-AES Analytical Method from SDG number MABC12, Case number 12345, contract EP-W-00-000 would be named 12345_MABC12_EP-W-00000_1_SEDD_5-2_GENERAL_3_3_ICP_AES.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|
```

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|
                ProcedureID|
                ProcedureName|
                ReferenceDate|
                ResultBasis|
                RunBatch|
                SampleAmount|
                SampleAmountUnits|
                Temperature|
                TemperatureUnits|
                Wavelength|
                WavelengthUnits|
                Yield|
                PreparationPlusCleanup|
                Analyte|
                AnalyteGroup
                        )*>
<!ELEMENT AnalysisGroup (
                AnalysisGroupID|
                AnalysisType|
                Comment|
                Analyte|
                AnalyteGroup
                        )*>
<!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|
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                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|

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                ResponseLimitHigh|
                ResponseLimitLow|
                ResponseLimitType|
                ResponseUnits|
                Result|
                ResultLimitHigh|
                ResultLimitLow|
                ResultLimitType|
                ResultType|
                ResultUncertainty|
                ResultUncertaintyConfidenceLevel|
                ResultUncertaintyDetermination|
                ResultUncertaintyIntervalType|
                ResultUncertaintyLimitHigh|
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                ResultUncertaintyType|
                ResultUncertaintyUnits|
                ResultUnits|
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                RPDLimitHigh|
                RPDLimitType|
                RPDType|
                RRF|
                RRFLimitLow|
                RRFLimitType|
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                StandardDeviation|
                StandardDeviationUnits|
                StandardFinalAmount|
                StandardFinalAmountUnits|
                StandardID|
                StandardSource|
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                TailingFactorLimitType|
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                WavelengthUnits|
                WeightingFactor|
                Peak
                        )*>
<!ELEMENT AnalyteComparison (
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                ClientAnalyteID|
                ClientAnalyteName|
                Comment|
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                LabAnalyteID
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<!ELEMENT Characteristic (
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                Comment
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                ClientAnalyteID|
                ClientAnalyteName|
                Comment|
                LabAnalyteID|
                LabQualifiers|
                Result|
                ResultType|
                ResultUncertainty|
                ResultUnits
                        )*>
<!ELEMENT ContactInformation (
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                LabCity|
                LabCountry|
                LabID|
                LabName|
                LabPointOfContact|
                LabPointOfContactElectronicAddress|
                LabPointOfContactTitle|
                LabPointOfContactType|
                LabState|
                LabTelephoneNumber|
                LabType|
                LabZipCode
                        )*>
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                ClientMethodModificationID|
                ClientMethodName|
                ClientMethodSource|
                ClientMethodVersion|
                Comment|
                HandledDate|
                HandlingBatch|
                HandlingType|
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                LabID|
                LabMethodID|
                LabMethodName|
                LabName|
                MethodCode|
                MethodID|
                MethodModificationDescription|
                MethodModificationID|
                MethodName|
                MethodSource|
                MethodVersion|
                ProcedureID|
                ProcedureName|
```

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                Characteristic
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                ClientMethodName|
                ClientMethodSource|
                ClientMethodVersion|
                Comment|
                LabID|
                LabInstrumentQCID|
                LabMethodID|
                LabMethodName|
                LabName|
                MethodCode|
                MethodID|
                MethodModificationDescription|
                MethodModificationID|
                MethodName|
                MethodSource|
                MethodVersion|
                QCLinkage|
                QCType|
                AnalysisGroup|
                Analysis
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                Coeffa2|
                Coeffa3|
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                CoeffOfDeterminationLimitLow|
                CoeffOfDeterminationLimitType|
                Comment|
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                CorrelationCoeffLimitLow|
                CorrelationCoeffLimitType|
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                DetectionLimitUnits|
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                Efficiency|
                Inclusion|
                IntermediateResult|
                IntermediateResultLimitHigh|
                IntermediateResultLimitLow|
                IntermediateResultLimitType|
                IntermediateResultUnits|
                LabQualifiers|
                ManualIntegration|
```

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MeanCalibrationFactorUnits|
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MeanRetentionTimeLimitHigh|
MeanRetentionTimeLimitLow|
MeanRetentionTimeLimitType|
MeanRetentionTimeUnits|
MeanRRF|
MeanRRFLimitLow|
MeanRRFLimitType|
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PeakRatio|
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PeakRatioLimitLow|
PeakRatioLimitType|
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PercentDifferenceLimitHigh|
PercentDifferenceLimitLow|
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PercentRecoveryLimitLow|
PercentRecoveryLimitType|
PercentRecoveryType|
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PercentRSDLimitLow|
PercentRSDLimitType|
QuantitationLimit|
QuantitationLimitType|
QuantitationLimitUnits|
ReportingLimit|
ReportingLimitType|
ReportingLimitUnits|
Resolution|
ResolutionLimitHigh|
ResolutionLimitLow|
ResolutionLimitType|
ResolutionType|
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Response|
ResponseLimitHigh|
ResponseLimitLow|
ResponseLimitType|
ResponseType|
ResponseUnits|
Result|
ResultLimitHigh|
ResultLimitLow|
```

```
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                ResultType|
                ResultUncertainty|
                ResultUnits|
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                RetentionTimeLimitHigh|
                RetentionTimeLimitLow|
                RetentionTimeLimitType|
                RetentionTimeUnits|
                RRF|
                RRFLimitLow|
                RRFLimitType|
                StandardDeviation|
                StandardDeviationUnits|
                TailingFactor|
                TailingFactorLimitHigh|
                TailingFactorLimitType|
                Wavelength|
                WavelengthUnits|
                WeightingFactor|
                AnalyteComparison|
                PeakComparison|
                PeakReplicate
                        )*>
<!ELEMENT PeakComparison (
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                LabAnalyteID|
                PeakID|
                PeakRatio|
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                PercentRatioLimitType
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                IntermediateResultLimitLow|
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                MassLimitLow|
                MassLimitType|
                MassUnits|
                PeakReplicateID|
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                ResolutionLimitHigh|
                ResolutionLimitLow|
                ResolutionLimitType|
```

```
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                ResponseLimitType|
                ResponseType|
                ResponseUnits
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<!ELEMENT PreparationPlusCleanup (
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                CleanupType|
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                ClientMethodID|
                ClientMethodModificationDescription|
                ClientMethodModificationID|
                ClientMethodName|
                ClientMethodSource|
                ClientMethodVersion|
                Comment|
                Efficiency|
                FinalAmount|
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                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 (
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                AnalyteNameContext|
                AnalyteType|
```

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BiasErrorRatio|
CASRegistryNumber|
ClientAnalyteID|
ClientAnalyteName|
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ClientDetectionLimitUnits|
ClientQuantitationLimit|
ClientQuantitationLimitUnits|
Comment|
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DetectionLimitType|
DetectionLimitUnits|
DifferenceErrorRatio|
ExpectedResult|
ExpectedResultUncertainty|
ExpectedResultUncertaintyConfidenceLevel|
ExpectedResultUncertaintyDetermination|
ExpectedResultUncertaintyIntervalType|
ExpectedResultUncertaintyLimitHigh|
ExpectedResultUncertaintyLimitLow|
ExpectedResultUncertaintyType|
ExpectedResultUncertaintyUnits|
ExpectedResultUnits|
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LabAnalyteID|
LabQualifiers|
LabResultStatus|
PeakID|
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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|
```

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                ClientMethodID|
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                ClientMethodModificationID|
                ClientMethodName|
                ClientMethodSource|
                ClientMethodType|
                ClientMethodVersion|
                ClientName|
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                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|
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                OriginalLabSampleID|
                PhaseAnalyzed|
                Preservative|
                ProjectID|
                ProjectName|
                QCCategory|
```

```
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                QCType|
                Quarantine|
                SamplingBatch|
                ShippingBatch|
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                SiteName|
                StorageBatch|
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                AnalysisGroup|
                Characteristic
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<!ELEMENT Yield (#PCDATA)>
```

6.3 General Stage 2b DTD

```
<?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 -->
<!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|
                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|
                RunBatch|
                Temperature|
                TemperatureUnits|
                Wavelength|
                WavelengthUnits|
                Yield|
                PreparationPlusCleanup|
                Analyte|
                AnalyteGroup
                        )*>
<!ELEMENT AnalysisGroup (
                AnalysisGroupID|
                AnalysisType|
                Comment|
```

```
                Analyte|
                AnalyteGroup
                        )*>
<!ELEMENT Analyte (
                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|
                LabAnalyteID|
                LabQualifiers|
                LotNumber|
                Mass|
                MassUnits|
                MeanCalibrationFactor|
                MeanCalibrationFactorUnits|
                MeanRRF|
                MeanRRFLimitLow|
```

```
                MeanRRFLimitType|
                PeakID|
                PercentBreakdown|
                PercentBreakdownLimitHigh|
                PercentBreakdownLimitType|
                PercentDifference|
                PercentDifferenceLimitHigh|
                PercentDifferenceLimitLow|
                PercentDifferenceLimitType|
                PercentRecovery|
                PercentRecoveryLimitHigh|
                PercentRecoveryLimitLow|
                PercentRecoveryLimitType|
                PercentRecoveryType|
                PercentRSD|
                PercentRSDLimitHigh|
                PercentRSDLimitLow|
                PercentRSDLimitType|
                QuantitationBasis|
                QuantitationLimit|
                QuantitationLimitType|
                QuantitationLimitUnits|
                ReportingLimit|
                ReportingLimitType|
                ReportingLimitUnits|
                Result|
                ResultLimitHigh|
                ResultLimitLow|
                ResultLimitType|
                ResultType|
                ResultUncertainty|
                ResultUncertaintyConfidenceLevel|
                ResultUncertaintyDetermination|
                ResultUncertaintyIntervalType|
                ResultUncertaintyLimitHigh|
                ResultUncertaintyLimitLow|
                ResultUncertaintyType|
                ResultUncertaintyUnits|
                ResultUnits|
                RPD|
                RPDLimitHigh|
                RPDLimitType|
                RPDType|
                RRF|
                RRFLimitLow|
                RRFLimitType|
                StandardSource|
                TailingFactor|
                TailingFactorLimitHigh|
                TailingFactorLimitType|
                Wavelength|
                WavelengthUnits|
                WeightingFactor|
                Peak
                         )*>
<!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 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|
                DifferenceErrorRatio|
                Efficiency|
                Inclusion|
                LabQualifiers|
                Mass|
                MassLimitHigh|
                MassLimitLow|
                MassLimitType|
                MassUnits|
                MeanCalibrationFactor|
                MeanCalibrationFactorUnits|
                MeanRetentionTime|
                MeanRetentionTimeLimitHigh|
                MeanRetentionTimeLimitLow|
                MeanRetentionTimeLimitType|
                MeanRetentionTimeUnits|
```

```
                MeanRRF|
                MeanRRFLimitLow|
                MeanRRFLimitType|
                PeakID|
                PercentDifference|
                PercentDifferenceLimitHigh|
                PercentDifferenceLimitLow|
                PercentDifferenceLimitType|
                PercentRecovery|
                PercentRecoveryLimitHigh|
                PercentRecoveryLimitLow|
                PercentRecoveryLimitType|
                PercentRecoveryType|
                PercentRSD|
                PercentRSDLimitHigh|
                PercentRSDLimitLow|
                PercentRSDLimitType|
                Resolution|
                ResolutionLimitHigh|
                ResolutionLimitLow|
                ResolutionLimitType|
                ResolutionType|
                ResolutionUnits|
                Result|
                ResultLimitHigh|
                ResultLimitLow|
                ResultLimitType|
                ResultType|
                ResultUncertainty|
                ResultUnits|
                RRF|
                RRFLimitLow|
                RRFLimitType|
                TailingFactor|
                TailingFactorLimitHigh|
                TailingFactorLimitType|
                Wavelength|
                WavelengthUnits|
                WeightingFactor|
                PeakComparison
                        )*>
<!ELEMENT PeakComparison (
                Comment|
                PeakID|
                PercentRatio|
                PercentRatioLimitHigh|
                PercentRatioLimitLow|
                PercentRatioLimitType
                        )*>
<!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
                         )*>
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<!ELEMENT AliquotAmountUnits (#PCDATA)>
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<!ELEMENT AnalysisType (#PCDATA)>
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<!ELEMENT AnalyteGroupID (#PCDATA)>
<!ELEMENT AnalyteName (#PCDATA)>
<!ELEMENT AnalyteNameContext (#PCDATA)>
<!ELEMENT AnalyteType (#PCDATA)>
<!ELEMENT AnalyzedAmount (#PCDATA)>
<!ELEMENT AnalyzedAmountUnits (#PCDATA)>
<!ELEMENT AnalyzedDate (#PCDATA)>
<!ELEMENT BiasErrorRatio (#PCDATA)>
<!ELEMENT CalibrationBasis (#PCDATA)>
```

```
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<!ELEMENT CharacteristicValue (#PCDATA)>
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<!ELEMENT CleanupType (#PCDATA)>
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<!ELEMENT ClientAnalyteName (#PCDATA)>
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<!ELEMENT ClientDetectionLimitUnits (#PCDATA)>
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<!ELEMENT ClientInstrumentQCType (#PCDATA)>
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<!ELEMENT ClientMethodCode (#PCDATA)>
<!ELEMENT ClientMethodID (#PCDATA)>
<!ELEMENT ClientMethodModificationDescription (#PCDATA)>
<!ELEMENT ClientMethodModificationID (#PCDATA)>
<!ELEMENT ClientMethodName (#PCDATA)>
<!ELEMENT ClientMethodSource (#PCDATA)>
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<!ELEMENT ClientMethodVersion (#PCDATA)>
<!ELEMENT ClientName (#PCDATA)>
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<!ELEMENT ClientSampleID (#PCDATA)>
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<!ELEMENT Coeffa1 (#PCDATA)>
<!ELEMENT Coeffa2 (#PCDATA)>
<!ELEMENT Coeffa3 (#PCDATA)>
<!ELEMENT CoeffOfDetermination (#PCDATA)>
<!ELEMENT CoeffOfDeterminationLimitLow (#PCDATA)>
<!ELEMENT CoeffOfDeterminationLimitType (#PCDATA)>
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<!ELEMENT CollectedEndDate (#PCDATA)>
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<!ELEMENT ColumnLengthUnits (#PCDATA)>
<!ELEMENT Comment (#PCDATA)>
<!ELEMENT Composite (#PCDATA)>
<!ELEMENT ConfirmationAnalysisID (#PCDATA)>
<!ELEMENT CoolerID (#PCDATA)>
<!ELEMENT CorrelationCoeff (#PCDATA)>
<!ELEMENT CorrelationCoeffLimitLow (#PCDATA)>
<!ELEMENT CorrelationCoeffLimitType (#PCDATA)>
<!ELEMENT Counts (#PCDATA)>
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<!ELEMENT CountsUncertaintyConfidenceLevel (#PCDATA)>
<!ELEMENT CountsUncertaintyDetermination (#PCDATA)>
<!ELEMENT CountsUncertaintyIntervalType (#PCDATA)>
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<!ELEMENT CountsUncertaintyLimitLow (#PCDATA)>
<!ELEMENT CountsUncertaintyType (#PCDATA)>
<!ELEMENT CountsUnits (#PCDATA)>
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<!ELEMENT DateFormat (#PCDATA)>
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<!ELEMENT DetectionLimitUnits (#PCDATA)>
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<!ELEMENT DilutionFactor (#PCDATA)>
<!ELEMENT EDDID (#PCDATA)>
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<!ELEMENT EDDImplementationVersion (#PCDATA)>
<!ELEMENT EDDVersion (#PCDATA)>
<!ELEMENT Efficiency (#PCDATA)>
<!ELEMENT EquipmentBatch (#PCDATA)>
<!ELEMENT ExpectedResult (#PCDATA)>
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<!ELEMENT ExpectedResultUncertaintyDetermination (#PCDATA)>
<!ELEMENT ExpectedResultUncertaintyIntervalType (#PCDATA)>
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<!ELEMENT HandledDate (#PCDATA)>
<!ELEMENT HandlingBatch (#PCDATA)>
<!ELEMENT HandlingType (#PCDATA)>
<!ELEMENT HeatedPurge (#PCDATA)>
<!ELEMENT Inclusion (#PCDATA)>
<!ELEMENT InitialAmount (#PCDATA)>
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<!ELEMENT InjectionVolumeUnits (#PCDATA)>
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<!ELEMENT LabName (#PCDATA)>
<!ELEMENT LabNarrative (#PCDATA)>
<!ELEMENT LabPointOfContact (#PCDATA)>
<!ELEMENT LabPointOfContactElectronicAddress (#PCDATA)>
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<!ELEMENT LabReceiptDate (#PCDATA)>
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<!ELEMENT LabType (#PCDATA)>
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<!ELEMENT LotNumber (#PCDATA)>
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<!ELEMENT MeanRetentionTimeLimitType (#PCDATA)>
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<!ELEMENT MethodModificationID (#PCDATA)>
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<!ELEMENT MethodVersion (#PCDATA)>
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<!ELEMENT OriginalLabSampleID (#PCDATA)>
<!ELEMENT PeakID (#PCDATA)>
<!ELEMENT PercentBreakdown (#PCDATA)>
<!ELEMENT PercentBreakdownLimitHigh (#PCDATA)>
<!ELEMENT PercentBreakdownLimitType (#PCDATA)>
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<!ELEMENT PercentRatio (#PCDATA)>
<!ELEMENT PercentRatioLimitHigh (#PCDATA)>
<!ELEMENT PercentRatioLimitLow (#PCDATA)>
<!ELEMENT PercentRatioLimitType (#PCDATA)>
<!ELEMENT PercentRecovery (#PCDATA)>
```

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<!ELEMENT PercentRecoveryLimitHigh (#PCDATA)>
<!ELEMENT PercentRecoveryLimitLow (#PCDATA)>
<!ELEMENT PercentRecoveryLimitType (#PCDATA)>
<!ELEMENT PercentRecoveryType (#PCDATA)>
<!ELEMENT PercentRSD (#PCDATA)>
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<!ELEMENT PercentRSDLimitLow (#PCDATA)>
<!ELEMENT PercentRSDLimitType (#PCDATA)>
<!ELEMENT PhaseAnalyzed (#PCDATA)>
<!ELEMENT PreparationBatch (#PCDATA)>
<!ELEMENT PreparationPlusCleanupType (#PCDATA)>
<!ELEMENT PreparationType (#PCDATA)>
<!ELEMENT PreparedDate (#PCDATA)>
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<!ELEMENT ProjectID (#PCDATA)>
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<!ELEMENT QCLinkage (#PCDATA)>
<!ELEMENT QCType (#PCDATA)>
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<!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)>
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<!ELEMENT ResolutionLimitType (#PCDATA)>
<!ELEMENT ResolutionType (#PCDATA)>
<!ELEMENT ResolutionUnits (#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)>
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<!ELEMENT ResultUncertaintyUnits (#PCDATA)>
<!ELEMENT ResultUnits (#PCDATA)>
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<!ELEMENT RetentionTimeUnits (#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|
```

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                ResultUncertaintyUnits|
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                StandardSource|
                Wavelength|
                WavelengthUnits
                        )*>
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                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|
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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|

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                ResultUnits|
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                RetentionTimeUnits|
                RPD|
                RPDLimitHigh|
                RPDLimitType|
                RPDType
                          )*>
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                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
                        )*>
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<!ELEMENT AnalyzedAmountUnits (#PCDATA)>
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<!ELEMENT ClientQuantitationLimitUnits (#PCDATA)>
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<!ELEMENT CollectedEndDate (#PCDATA)>
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<!ELEMENT ColumnInternalDiameterUnits (#PCDATA)>
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<!ELEMENT ColumnLengthUnits (#PCDATA)>
<!ELEMENT Comment (#PCDATA)>
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<!ELEMENT CountsUncertaintyConfidenceLevel (#PCDATA)>
<!ELEMENT CountsUncertaintyDetermination (#PCDATA)>
<!ELEMENT CountsUncertaintyIntervalType (#PCDATA)>
<!ELEMENT CountsUncertaintyLimitHigh (#PCDATA)>
<!ELEMENT CountsUncertaintyLimitLow (#PCDATA)>
<!ELEMENT CountsUncertaintyType (#PCDATA)>
<!ELEMENT CountsUnits (#PCDATA)>
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<!ELEMENT DetectionLimitUnits (#PCDATA)>
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<!ELEMENT DilutionFactor (#PCDATA)>
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<!ELEMENT ExpectedResultUncertaintyDetermination (#PCDATA)>
<!ELEMENT ExpectedResultUncertaintyIntervalType (#PCDATA)>
<!ELEMENT ExpectedResultUncertaintyLimitHigh (#PCDATA)>
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<!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)>
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```

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<!ELEMENT LabAddress2 (#PCDATA)>
<!ELEMENT LabAnalysisID (#PCDATA)>
<!ELEMENT LabAnalyteID (#PCDATA)>
<!ELEMENT LabCity (#PCDATA)>
<!ELEMENT LabContract (#PCDATA)>
<!ELEMENT LabContractModificationDescription (#PCDATA)>
<!ELEMENT LabContractModificationID (#PCDATA)>
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<!ELEMENT LabDataPackageID (#PCDATA)>
<!ELEMENT LabDataPackageName (#PCDATA)>
<!ELEMENT LabDataPackageVersion (#PCDATA)>
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<!ELEMENT LabMethodName (#PCDATA)>
<!ELEMENT LabName (#PCDATA)>
<!ELEMENT LabNarrative (#PCDATA)>
<!ELEMENT LabPointOfContact (#PCDATA)>
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<!ELEMENT LabPointOfContactType (#PCDATA)>
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<!ELEMENT LabReportedDate (#PCDATA)>
<!ELEMENT LabReportingBatch (#PCDATA)>
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<!ELEMENT LabSampleID (#PCDATA)>
<!ELEMENT LabState (#PCDATA)>
<!ELEMENT LabTelephoneNumber (#PCDATA)>
<!ELEMENT LabType (#PCDATA)>
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<!ELEMENT MatrixID (#PCDATA)>
<!ELEMENT MatrixMedium (#PCDATA)>
<!ELEMENT MethodBatch (#PCDATA)>
<!ELEMENT MethodCategory (#PCDATA)>
<!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)>
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<!ELEMENT OriginalLabSampleID (#PCDATA)>
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<!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)>
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<!ELEMENT ReferenceDate (#PCDATA)>
<!ELEMENT ReportingLimit (#PCDATA)>
<!ELEMENT ReportingLimitType (#PCDATA)>
<!ELEMENT ReportingLimitUnits (#PCDATA)>
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<!ELEMENT ResultLimitHigh (#PCDATA)>
<!ELEMENT ResultLimitLow (#PCDATA)>
<!ELEMENT ResultLimitType (#PCDATA)>
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<!ELEMENT ResultUncertaintyDetermination (#PCDATA)>
<!ELEMENT ResultUncertaintyIntervalType (#PCDATA)>
<!ELEMENT ResultUncertaintyLimitHigh (#PCDATA)>
<!ELEMENT ResultUncertaintyLimitLow (#PCDATA)>
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<!ELEMENT SiteID (#PCDATA)>
<!ELEMENT SiteName (#PCDATA)>
<!ELEMENT Solvent (#PCDATA)>
<!ELEMENT StandardSource (#PCDATA)>
<!ELEMENT StorageBatch (#PCDATA)>
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<!ELEMENT TemperatureUnits (#PCDATA)>
<!ELEMENT Wavelength (#PCDATA)>
<!ELEMENT WavelengthUnits (#PCDATA)>
<!ELEMENT Yield (#PCDATA)>
```

7.0 DATA ELEMENT INSTRUCTION TABLES

Column abbreviations: Matrix Spike (MS), Duplicate Sample (Dup), Laboratory Control Sample (LCS), Preparation Blank (PB), Leachate Extraction Blank (LEB), Post-Digestion/Distillation Spike (PDS), Serial Dilution (SD), Non-Client Sample (NCS), and Instrument Performance Check (IPC).

7.1 Stage 3

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS

	Applicability								
Node and Data Elements	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	Instructions
Header	X	X	X	X	X	X	X	X	
ClientID	X	X	X	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	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	X	X	X	Report "SEDD".
EDDImplementationID	X	X	X	X	X	X	X	X	Report "SEDD_5-2_GENERAL_3" (This is the DTD used).
EDDImplementationVersion	X	X	X	X	X	X	X	X	Report "3" (This is the version of the DTD used).
EDDVersion	X	X	X	X	X	X	X	X	Report "5.2".
GeneratingSystemID	X	X	X	X	X	X	X	X	Report the name of generating software or vendor.
GeneratingSystemVersion	X	X	X	X	X	X	X	X	Report the software version number.
LabContract	X	X	X	X	X	X	X	X	Report the Contract Number.
LabContractModificationDescription									Not required.
LabContractModificationID									Not required.
LabDataPackageID	X	X	X	X	X	X	X	X	Report the SDG.
LabDataPackageName	X	X	X	X	X	X	X	X	Report "ICP_AES", "ICP_MS", "Hg", or "CN" as applicable.
LabDataPackageVersion	X	X	X	X	X	X	X	X	Report "1", then increment with each resubmission.
LabID	X	X	X	X	X	X	X	X	Report the Agency-assigned Lab Code.
LabName	X	X	X	X	X	X	X	X	Report the Lab Name.
LabNarrative									Not required.
LabQualifiersDefinition	X	X	X	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	X	X	X	Report the date this data was reported to the client.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	Instructions
ProjectID	X	X	X	X	X	X	X	X	Report the Case Number.
ProjectName									Not required.
SiteID									Not required.
SiteName									Not required.
SamplePlusMethod	X	X	X	X	X	X	X	X	
Bottles									Not required.
BottleType									Not required.
ClientID	X	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	X	X	X	Report "ISM02.3".
ClientMethodModificationDescription									Not required.
ClientMethodModificationID	X	X	X	X	X	X	X		Report the Modified Analysis Number, if applicable.
ClientMethodName									Not required.
ClientMethodSource	X	X	X	X	X	X	X	X	Report "EPA_CLP".
ClientMethodType	X	X	X	X	X	X	X	X	Report "ICP/AES", "ICP/MS", "CVAA", or "Spectrophotometry" as applicable.
ClientMethodVersion	X	X	X	X	X	X	X	X	Report the month and year the SOW was issued.
ClientName									Not required.
ClientSampleID	X	X	X	X	X	X	X	X	Report the EPA Sample Number.
CollectedDate	X	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								Report the Traffic Report/Chain of Custody Record Form number.
EquipmentBatch									Not required.
Filtered	X								Report "Yes" for dissolved metals, or "No" for total metals.
LabContract	X	X	X	X	X	X	X		Report the Contract Number.
LabContractModificationDescription									Not required.
LabContractModificationID									Not required.
LabID	X	X	X	X	X	X	X	X	Report the Agency-assigned Lab Code.
LabMethodID									Not required.
LabMethodName									Not required.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
LabName	X	X	X	X	X	X	X	X	Report the Lab Name.
LabReceiptDate	X	X	X						Report the date and time the sample was received.
LabReportingBatch	X	X	X	X	X	X	X	X	Links all samples analyzed to this deliverable. Report the SDG Number.
LabSampleID	X	X	X	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	X	X	X	Report "Water", "Soil", or "Wipe" as applicable.
MatrixMedium	X	X	X	X	X	X	X	X	Report "Aqueous" or "Solid" as applicable. Use "Solid" for wipes.
MethodBatch									Not required.
MethodCategory									Not required.
MethodCode									Not required.
MethodID	X	X	X	X	X	X	X	X	Report "ISM02.3".
MethodLevel									Not required.
MethodModificationDescription									Not required.
MethodModificationID									Not required.
MethodName									Not required.
MethodSource	X	X	X	X	X	X	X	X	Report "EPA_CLP".
MethodType	X	X	X	X	X	X	X	X	Report "ICP/AES", "ICP/MS", "CVAA", or "Spectrophotometry" as applicable.
MethodVersion	X	X	X	X	X	X	X	X	Report the month and year the SOW was issued.
OriginalClientSampleID		X	X			X	X		Report the EPA Sample Number of the original sample this sample was derived from.
OriginalLabSampleID									Not required.
PhaseAnalyzed									Not required.
Preservative	X	X	X						Report any chemical or physical preservative used.
ProjectID	X	X	X	X	X	X	X		Report the Case Number.
ProjectName									Not required.
QCCategory		X	X	X	X	X	X		Report "Blank" for PB and LEB, "Spike" for MS and post-digestion spike, "Blank_Spike" for LCS, "Duplicate" for duplicate, or "Serial_Dilution" for SD.
QCLinkage		X	X	X	X	X	X		Report "LabReportingBatch" for MS, post-digestion spike, Dup, and SD; "PreparationBatch" for PB and LCS or "HandlingBatch" for LEB.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
QCType	X	X	X	X	X	X	X	X	Report "Field_Sample" for field samples; "Field_Blank" for field, equipment, rinse, or trip blanks; "PT_Sample" for Performance Evaluation samples or Proficiency Testing audit samples; "Method_Blank" for PB; "Leachate_Extraction_Blank" for LEB; "Matrix_Spike" for MS; "Duplicate" for Dup; "Laboratory_Control_Sample" for LCS; "Post_Digestion_Spike" for post-digestion spikes; "Serial_Dilution" for SD; or "Non_Client_Sample" for NCS.
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.
InstrumentQC									Not required.
Characteristic	X	X	X	X	X	X	X		
CharacteristicType	X	X	X	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	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	X	X	X		Report "C" for "Temperature".
Comment									Not required.
ContactInformation	X	X	X	X	X	X	X	X	
LabAddress1	X	X	X	X	X	X	X	X	Report the street address of the laboratory.
LabAddress2	X	X	X	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	X	X	X	Report the city in which the laboratory is located.
LabCountry	X	X	X	X	X	X	X	X	Report the country in which the laboratory is located.
LabID	X	X	X	X	X	X	X	X	Report the Agency-assigned Lab Code.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	Instructions
LabName	X	X	X	X	X	X	X	X	Report the Lab Name.
LabPointOfContact	X	X	X	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	X	X	X	Report the Email address of the point of contact.
LabPointOfContactTitle	X	X	X	X	X	X	X	X	Report the title of the point of contact.
LabPointOfContactType									Not required.
LabState	X	X	X	X	X	X	X	X	Report the state or province in which the laboratory is located.
LabTelephoneNumber	X	X	X	X	X	X	X	X	Report the 10-digit phone number for the laboratory.
LabType									Not required.
LabZipCode	X	X	X	X	X	X	X	X	Report the ZIP or postal code.
Analysis	X	X	X	X	X	X	X	X	
AliquotAmount									Not required.
AliquotAmountUnits									Not required.
AnalysisBatch	X	X	X	X	X	X	X	X	Links this analysis to the instrument QC sample(s) that begins this sequence. Report the Lab Analysis ID of the CCV that starts the sequence.
AnalysisBatchEnd	X	X	X	X	X	X	X	X	Links this analysis to the instrument QC sample(s) that ends this sequence. Report the Lab Analysis ID of the CCV that ends this sequence.
AnalysisDuration									Not required.
AnalysisDurationUnits									Not required.
AnalysisGroupID									Not required.
AnalysisType	X	X	X	X	X	X	X		Report "Initial", "Dilution-01", or "Reanalysis-01"; then increment as necessary.
Analyst	X	X	X	X	X	X	X	X	Report the Analyst's initials.
AnalyzedAmount									Not required.
AnalyzedAmountUnits									Not required.
AnalyzedDate	X	X	X	X	X	X	X	X	Report the date and time the sample was analyzed.
BackgroundCorrection	X	X	X	X	X	X	X		For ICP-AES and ICP-MS, enter "Yes" if background correction were applied; otherwise enter "No".
BackgroundRawData	X	X	X	X	X	X	X		For ICP-AES and ICP-MS, enter "Yes" if background corrections applied before raw data generated. Otherwise enter "No".
BackgroundType									Not required.
BottleID									Not required.
ClientAnalysisID									Not required.
ClientMethodCode									Not required.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
ClientMethodID	X	X	X	X	X	X	X	X	Report "ISM02.3".
ClientMethodModificationDescription									Not required.
ClientMethodModificationID									Not required.
ClientMethodName									Not required.
ClientMethodSource	X	X	X	X	X	X	X	X	Report "EPA_CLP".
ClientMethodVersion	X	X	X	X	X	X	X	X	Report the month and year the SOW was issued.
Column									Not required.
ColumnInternalDiameter									Not required.
ColumnInternalDiameterUnits									Not required.
ColumnLength									Not required.
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.
DilutionFactor	X	X	X	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									Not required.
InjectionVolumeUnits									Not required.
InstrumentID	X	X	X	X	X	X	X	X	Report the laboratory identifier for the instrument used for this analysis.
InterelementCorrection	X	X	X	X	X	X	X		For ICP-AES and ICP-MS, enter "Yes" if interelement corrections were applied; otherwise enter "No".
LabAnalysisID	X	X	X	X	X	X	X	X	Report a unique identifier.
LabFileID	X	X	X	X	X	X	X	X	Report the lab file ID.
LabID									Not required.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
LabMethodID									Not required.
LabMethodName									Not required.
LabName									Not required.
MethodCode									Not required.
MethodID	X	X	X	X	X	X	X	X	Report "ISM02.3".
MethodModificationDescription									Not required.
MethodModificationID									Not required.
MethodName									Not required.
MethodSource	X	X	X	X	X	X	X	X	Report "EPA_CLP".
MethodVersion	X	X	X	X	X	X	X	X	Report the month and year the SOW was issued.
OriginalLabAnalysisID									Not required.
PreparationBatch									Not required.
ProcedureID									Not required.
ProcedureName									Not required.
ReferenceDate									Not required.
ResultBasis	X	X	X	X	X				Report "Dry" for soil/sediment samples. For aqueous/water samples, report "Dissolved" if sample field-filtered; otherwise report "Total".
RunBatch	X	X	X	X	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 (Initial Calibration) 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		X				
Analyst									Not required.
BottleID									Not required.
ClientMethodCode									Not required.
ClientMethodID	X	X	X		X				Report "ISM02.3".
ClientMethodModificationDescription									Not required.
ClientMethodModificationID									Not required.
ClientMethodName									Not required.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	Instructions
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.
HandledDate	X	X	X		X				Enter the date and time TCLP or SPLP extraction began.
HandlingBatch	X	X	X		X				Links all samples that were TCLP or SPLP extracted together. Report a unique identifier for each batch.
HandlingType	X	X	X		X				Report "TCLP" or "SPLP".
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		X				Report "ISM02.3".
MethodModificationDescription									Not required.
MethodModificationID									Not required.
MethodName									Not required.
MethodID									Not required.
MethodSource	X	X	X		X				Report "EPA_CLP".
MethodVersion	X	X	X		X				Report month and year the SOW was issued.
ProcedureID									Not required.
ProcedureName									Not required.
SampleAmount									Not required.
SampleAmountUnits									Not required.
ReportedResult	X	X	X	X	X	X	X		
AnalysisGroupID									Not required.
AnalyteGroupID	X	X	X	X	X	X	X		Report the unique identifier from the AnalyteGroup the Hardness result is derived from.
AnalyteName	X	X	X	X	X	X	X		Report the analytes as they appear in the SOW.
AnalyteNameContext	X	X	X	X	X	X	X		Report "CAS" (Chemical Abstract Service).
AnalyteType	X	X	X	X	X	X	X		Report "Target" for all target analytes except Hardness or "Spike" for all target analytes designated as spike analytes for Matrix Spike, Post-Digestion Spike, and LCS analyses. Report "Derived" for Hardness.
BiasErrorRatio									Not required.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
CASRegistryNumber	X	X	X	X	X	X	X		Report the CAS Number as it appears in the SOW.
ClientAnalyteID	X	X	X	X	X	X	X		Report CAS number.
ClientAnalyteName	X	X	X	X	X	X	X		Report the analytes as they appear in the SOW.
ClientDetectionLimit									Not required.
ClientDetectionLimitUnits									Not required.
ClientQuantitationLimit	X	X	X	X	X	X	X		Report the unadjusted CRQL.
ClientQuantitationLimitUnits	X	X	X	X	X	X	X		Report "mg/kg" for soil/sediment, "ug/L" (or "mg/L" for Hardness or TCLP) for aqueous/water, or "ug" for wipe samples.
Comment									Not required.
DetectionLimit	X	X	X	X	X	X	X		Report the current MDL, adjusted for sample weight/volume, percent solids, and dilution factor to at least two significant figures. Not required for Hardness.
DetectionLimitType	X	X	X	X	X	X	X		Report "MDL_sa".
DetectionLimitUnits	X	X	X	X	X	X	X		Report "mg/kg" for soil/sediment, "ug/L" (or "mg/L" for TCLP) for aqueous/water, or "ug" for wipe samples.
DifferenceErrorRatio									Not required.
ExpectedResult		X		X		X			Report the theoretical final calculated concentration (the spike added) for the spiked analytes or the true value for LCS.
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 "mg/kg" for soil/sediment, "ug/L" for aqueous/water (or "mg/L" for TCLP), or "ug" for wipe samples.
LabAnalysisID	X	X	X	X	X	X	X		Report the unique identifier from the analysis this reported result was derived from. Not required for Hardness.
LabAnalyteID									Not required.
LabQualifiers	X	X	X	X	X	X	X		Report flags as specified in the SOW. Include the Q qualifiers from Form I.
LabResultStatus	X	X	X						Report "Preliminary" or "Final" as applicable.
PeakID									Not required.
PercentDifference							X		Report the Percent Difference to the nearest whole percent.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
PercentDifferenceLimitHigh							X		Report the upper limit for the Percent Difference to the nearest whole percent.
PercentDifferenceLimitLow									Not required.
PercentDifferenceLimitType							X		Report "Method".
PercentRecovery		X		X		X			Report the Percent Recovery to the nearest whole percent.
PercentRecoveryLimitHigh		X		X					Report the upper limit for the Percent Recovery to the nearest whole percent.
PercentRecoveryLimitLow		X		X					Report the lower limit for the Percent Recovery to the nearest whole percent.
PercentRecoveryLimitType		X		X					Report "Method".
PercentRecoveryType									Not required.
QuantitationLimit	X	X	X	X	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	X	X	X	X		Report "CRQL_sa".
QuantitationLimitUnits	X	X	X	X	X	X	X		Report "mg/kg" for soil/sediment, "ug/L" (or "mg/L" for Hardness or TCLP) for aqueous/water, or "ug" for wipe samples.
ReportingLimit									Not required.
ReportingLimitType									Not required.
ReportingLimitUnits									Not required.
Result	X	X	X	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	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	X	X	X		Report "mg/kg" for soil/sediment, "ug/L" (or "mg/L" for Hardness or TCLP) for aqueous/water, or "ug" for wipe samples.
RetentionTime									Not required.
RetentionTimeUnits									Not required.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
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	X	X	X	X		
AliquotAmount	X	X	X	X	X	X	X		Report the sample amount in grams for soil/sediment or mL for aqueous/water to at least three significant figures. Not required for wipes.
AliquotAmountUnits	X	X	X	X	X	X	X		Report "g" for soil/sediment or "mL" for aqueous/water. Not required for wipes.
Analyst	X	X	X	X	X	X	X		Report the Analyst's initials.
BottleID									Not required.
CleanedUpDate									Not required.
CleanUpBatch									Not required.
CleanUpType									Not required.
ClientMethodCode									Not required.
ClientMethodID	X	X	X	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	X	X	X		Report "EPA_CLP".
ClientMethodVersion	X	X	X	X	X	X	X		Report the month and year the SOW was issued.
Comment									Not required.
Efficiency									Not required.
FinalAmount	X	X	X	X	X	X	X		Report the volume of digestate produced by the preparation method in mL.
FinalAmountUnits	X	X	X	X	X	X	X		Report "mL".
InitialAmount									Not required.
InitialAmountUnits									Not required.
LabID									Not required.
LabMethodID									Not required.
LabMethodName									Not required.
LabName									Not required.
LotNumber									Not required.
MethodCode									Not required.
MethodID	X	X	X	X	X	X	X		Report "ISM02.3".
MethodModificationDescription									Not required.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
MethodModificationID									Not required.
MethodName									Not required.
MethodSource	X	X	X	X	X	X	X		Report "EPA_CLP".
MethodVersion	X	X	X	X	X	X	X		Report month and year the SOW was issued.
PreparationBatch	X	X	X	X	X	X	X		Links all samples that were prepared together. Report a unique identifier for each batch.
PreparationPlusCleanupType	X	X	X	X	X	X	X		Report "Preparation".
PreparationType	X	X	X	X	X	X	X		Report "Automated" or "Manual".
PreparedDate	X	X	X	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	X	X	X		
AmountAdded		X		X		X			Volume of spiking solution added in uL.
AmountAddedUnits		X		X		X			Report "uL".
AmountAddedLocation		X		X		X			For matrix spike report "Aliquot"; for LCS report "Standard"; for PDS report "Extracted_Aliquot".
AnalyteGroupID	X	X	X	X	X	X	X		Report the identifier that links the Ca or Mg result to the AnalyteGroup Hardness result.
AnalyteName	X	X	X	X	X	X	X		Report the analytes as they appear in the SOW.
AnalyteNameContext	X	X	X	X	X	X	X		Report "CAS".
AnalyteType	X	X	X	X	X	X	X		Report "Target" for all target analytes except Hardness; "Spike" for all target analytes designated as spike analytes for Matrix Spike, Post-Digestion Spike, and LCS; "Internal_Standard" for internal standards; or "Monitor" for non-target interferences and masses requiring monitoring.
BiasErrorRatio									Not required.
CalibrationBasis									Not required.
CalibrationFactor									Not required.
CalibrationFactorUnits									Not required.
CalibrationType									Not required.
CASRegistryNumber	X	X	X	X	X	X	X		Report CAS Number as it appears in the SOW.
ClientAnalyteID	X	X	X	X	X	X	X		Report CAS number.
ClientAnalyteName	X	X	X	X	X	X	X		Report the analytes as they appear in the SOW.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
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	X	X	X		Report the MDL.
DetectionLimitType	X	X	X	X	X	X	X		Report "MDL".
DetectionLimitUnits	X	X	X	X	X	X	X		Report "mg/kg" for soil/sediment, "ug/L" (or "mg/L" for TCLP) for aqueous/water, or "ug" for wipe samples.
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.
IntermediateResult	X	X	X	X	X	X	X		Report the raw concentration output of the instrument uncorrected for dilution.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
IntermediateResultLimitHigh									Not required.
IntermediateResultLimitLow									Not required.
IntermediateResultLimitType									Not required.
IntermediateResultUnits	X	X	X	X	X	X	X		Report "ug/L".
LabAnalyteID									Not required.
LabQualifiers	X	X	X	X	X	X	X		Report qualifiers as specified in the SOW.
LotNumber	X	X	X	X	X	X	X		Report the vendor/manufacturer assigned lot number for this standard (Internal Standards and spiking analytes only).
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	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									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									Not required.
QuantitationLimit	X	X	X	X	X	X	X		Report the CRQL.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
QuantitationLimitType	X	X	X	X	X	X	X		Report "CRQL".
QuantitationLimitUnits	X	X	X	X	X	X	X		Report "mg/kg" for soil/sediment, "ug/L" (or "mg/L" for TCLP) for aqueous/water, or "ug" for wipe samples.
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	X	X	X		For target or spike analyte detects, and for monitored masses, report the final calculated result.
ResultLimitHigh									Not required.
ResultLimitLow									Not required.
ResultLimitType									Not required.
ResultType	X	X	X	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	X	X	X		Report "mg/kg" for soil/sediment, "ug/L" (or "mg/L" for TCLP) for aqueous/water, and "ug" for wipe samples.
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	X	X	X	X		Report the concentration in ug/L of the standard added.
StandardConcentrationUnits	X	X	X	X	X	X	X		Report "ug/L".
StandardDeviation									Not required.
StandardDeviationUnits									Not required.
StandardFinalAmount									Not required.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
StandardFinalAmountUnits									Not required.
StandardID									Not required.
StandardSource	X	X	X	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	X	X	X	X	X	X	X		
AnalyteGroupID	X	X	X	X	X	X	X		Report a unique identifier.
AnalyteName	X	X	X	X	X	X	X		Report "Hardness".
AnalyteNameContext	X	X	X	X	X	X	X		Report "CAS".
AnalyteType	X	X	X	X	X	X	X		Report "Derived".
CASRegistryNumber	X	X	X	X	X	X	X		Report "Hardness".
ClientAnalyteID	X	X	X	X	X	X	X		Report "Hardness".
ClientAnalyteName	X	X	X	X	X	X	X		Report "Hardness".
Comment									Not required.
LabAnalyteID									Not required.
LabQualifiers	X	X	X	X	X	X	X		Report qualifiers as specified in the SOW. Include the Q qualifiers from Form 1.
Result	X	X	X	X	X	X	X		Report the final calculated for detects per the SOW.
ResultType	X	X	X	X	X	X	X		Report "=" for detects. Report "Not_Detected" for non-detects (where both Ca and Mg are not detected).
ResultUncertainty									Not required.
ResultUnits	X	X	X	X	X	X	X		Report "mg/L".
Peak	X	X	X	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.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
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									Not required.
IntermediateResult	X	X	X	X	X	X	X		If calibrated, report the raw concentration output of the instrument in ug/L for the peak uncorrected for dilution.
IntermediateResultLimitHigh									Not required.
IntermediateResultLimitLow									Not required.
IntermediateResultLimitType									Not required.
IntermediateResultUnits	X	X	X	X	X	X	X		Report "ug/L".
LabQualifiers									Not required.
ManualIntegration									Not required.
Mass	X	X	X	X	X	X	X		For ICP-MS, report the isotope mass.
MassLimitHigh									Not required.
MassLimitLow									Not required.
MassLimitType									Not required.
MassUnits	X	X	X	X	X	X	X		Report "u".
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	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									Not required.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
PercentDifferenceLimitHigh									Not required.
PercentDifferenceLimitLow									Not required.
PercentDifferenceLimitType									Not required.
PercentRatio	X	X	X	X	X	X	X		For internal standards, report the %RI (Percent Relative Intensity).
PercentRatioLimitHigh	X	X	X	X	X	X	X		For internal standards, report the upper limit for the %RI to the nearest whole percent.
PercentRatioLimitLow	X	X	X	X	X	X	X		For internal standards, report the lower limit for the %RI to the nearest whole percent.
PercentRatioLimitType	X	X	X	X	X	X	X		Report "Method".
PercentRecovery									Not required.
PercentRecoveryLimitHigh									Not required.
PercentRecoveryLimitLow									Not required.
PercentRecoveryLimitType									Not required.
PercentRecoveryType									Not required.
PercentRSD	X	X	X	X	X	X	X		For ICP, report the %RSD of the replicates to the nearest whole percent.
PercentRSDLimitHigh	X	X	X	X	X	X	X		Report the upper limit for the %RSD to the nearest whole percent.
PercentRSDLimitLow									Not required.
PercentRSDLimitType	X	X	X	X	X	X	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	X	X	X	X		Report the mean instrument response output. For internal standards, report the uncorrected intensity.
ResponseLimitHigh									Not required.
ResponseLimitLow									Not required.
ResponseLimitType									Not required
ResponseType									Not required.
ResponseUnits	X	X	X	X	X	X	X		Report "Peak_Height", "Peak_Area", "Counts", or "Absorbance" as appropriate.
Result									Not required.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
ResultLimitHigh									Not required.
ResultLimitLow									Not required.
ResultLimitType									Not required.
ResultType									Not required.
ResultUncertainty									Not required.
ResultUnits									Not required.
RetentionTime									Not required.
RetentionTimeLimitHigh									Not required.
RetentionTimeLimitLow									Not required.
RetentionTimeLimitType									Not required.
RetentionTimeUnits									Not required.
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	X	X	X	X	X	X	X		For ICP-AES, Hg, and CN, report the wavelength of the peak in nm.
WavelengthUnits	X	X	X	X	X	X	X		Report "nm".
WeightingFactor									Not required.
PeakComparison	X	X	X	X	X	X	X		
AnalyteName	X	X	X	X	X	X	X		For ICP-MS, report the name of the associated internal standard as it appears in the SOW.
AnalyteNameContext	X	X	X	X	X	X	X		Report "CAS".
CASRegistryNumber	X	X	X	X	X	X	X		Report the CAS number.
ClientAnalyteID	X	X	X	X	X	X	X		Report the CAS number.
ClientAnalyteName									Not required.
Comment									Not required.
LabAnalyteID									Not required.
PeakID	X	X	X	X	X	X	X		Report the unique peak identifier for the associated 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.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
PeakReplicate	X	X	X	X	X	X	X		
Comment									Not required.
IntermediateResult									Not required.
IntermediateResultLimitHigh									Not required.
IntermediateResultLimitLow									Not required.
IntermediateResultLimitType									Not required.
IntermediateResultUnits									Not required.
Mass									Not required.
MassLimitHigh									Not required.
MassLimitLow									Not required.
MassLimitType									Not required.
MassUnits									Not required.
PeakReplicateID	X	X	X	X	X	X	X		Report a unique identifier for each replicate.
Resolution									Not required.
ResolutionLimitHigh									Not required.
ResolutionLimitLow									Not required.
ResolutionLimitType									Not required.
ResolutionType									Not required.
ResolutionUnits									Not required.
Response	X	X	X	X	X	X	X		Report the instrument response.
ResponseLimitHigh									Not required.
ResponseLimitLow									Not required.
ResponseLimitType									Not required.
ResponseType									Not required.
ResponseUnits	X	X	X	X	X	X	X		Report "Peak_Height", "Peak_Area", "Counts", or "Absorbance" as appropriate.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: IPC	Cal	ICV CCV	ICB CCB	ICS	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 "ICP_AES", "ICP_MS", "Hg", or "CN" 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.
SamplePlusMethod						Not required.
InstrumentQC	X	X	X	X	X	
ClientInstrumentQCType						Not required.
ClientMethodCode						Not required.
ClientMethodID	X	X	X	X	X	Report "ISM02.3".
ClientMethodModificationDescription						Not required.
ClientMethodModificationID						Not required.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability					Instructions
	IPC	Cal	ICV CCV	ICB CCB	ICS	
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.
Comment						Not required.
LabID	X	X	X	X	X	Report the Agency-assigned Lab Code.
LabInstrumentQCID	X	X	X	X	X	Report a unique ID for each QC.
LabMethodID						Not required.
LabMethodName						Not required.
LabName	X	X	X	X	X	Report the Lab Name.
MethodCode						Not required.
MethodID	X	X	X	X	X	Report "ISM02.3".
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.
QCLinkage	X	X	X	X	X	Report "RunBatch" for IPC, calibration, ICV, ICB, and ICS. Report "AnalysisBatch" for CCV and CCB.
QCType	X	X	X	X	X	Report "Instrument_Performance_Check_Tune" for Tune; "Initial_Calibration" for calibration; "Initial_Calibration_Verification" for ICV; "Initial_Calibration_Blank" for ICB; "Continuing_Calibration_Verification" for CCV; "Continuing_Calibration_Blank" for CCB; "Interference_Check_Standard_A" for ICSA; or "Interference_Check_Standard_A/B" for ICSAB.
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 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.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: IPC	Cal	ICV CCV	ICB CCB	ICS	Instructions
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.
AnalysisBatch			X	X		Links this analysis to the instrument QC sample that begins this sequence. Report the Lab Analysis ID of the CCV that starts the sequence.
AnalysisBatchEnd			X	X		Links this analysis to the instrument QC sample that ends this sequence. Report the Lab Analysis ID of the CCV that ends this sequence.
AnalysisDuration						Not required.
AnalysisDurationUnits						Not required.
AnalysisGroupID		X				Links a group of analyses together that are used for the initial calibration. Report the Lab Analysis ID of the standard that starts this calibration sequence.
AnalysisType	X	X	X	X	X	Report "Initial" or "Dilution-01"; then increment as necessary.
Analyst	X	X	X	X	X	Report the Analyst's initials.
AnalyzedAmount						Not required.
AnalyzedAmountUnits						Not required.
AnalyzedDate	X	X	X	X	X	Report the date and time the sample was analyzed.
BackgroundCorrection	X	X	X	X	X	For ICP-AES and ICP-MS, report "Yes" if background corrections applied; otherwise report "No".
BackgroundRawData	X	X	X	X	X	For ICP-AES and ICP-MS, report "Yes" if background corrections applied before raw data generated. Otherwise report "No".
BackgroundType						Not required.
BottleID						Not required.
ClientAnalysisID						Not required.
ClientMethodCode						Not required.
ClientMethodID	X	X	X	X	X	Report "ISM02.3".
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						Not required.
ColumnInternalDiameter						Not required.
ColumnInternalDiameterUnits						Not required.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability					Instructions
	IPC	Cal	ICV CCV	ICB CCB	ICS	
ColumnLength						Not required.
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.
DilutionFactor	X	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						Not required.
InjectionVolumeUnits						Not required.
InstrumentID	X	X	X	X	X	Report the laboratory identifier for the instrument used for this analysis.
InterelementCorrection		X	X	X	X	For ICP-AES and ICP-MS, report "Yes" if interelement corrections were applied; otherwise report "No".
LabAnalysisID	X	X	X	X	X	Report a unique identifier.
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 "ISM02.3".
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 month and year the SOW was issued.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: IPC	Cal	ICV CCV	ICB CCB	ICS	Instructions
OriginalLabAnalysisID						Not required.
PreparationBatch						Not required.
ProcedureID						Not required.
ProcedureName						Not required.
ReferenceDate						Not required.
ResultBasis						Not required.
RunBatch	X	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		X				
AnalysisGroupID		X				This links a group of analyses together that are used for the initial calibration. Report the lab analysis 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	X	X		
AliquotAmount		X	X	X		Report the actual amount of standard digested/distilled in mL to at least three significant figures.
AliquotAmountUnits		X	X	X		Report "mL".
Analyst		X	X	X		Report the Analyst's initials.
BottleID						Not required.
CleanedUpDate						Not required.
CleanupBatch						Not required.
CleanupType						Not required.
ClientMethodCode						Not required.
ClientMethodID		X	X	X		Enter the sample preparation ID as described in Exhibit B – Reporting and Deliverables Requirements.
ClientMethodModificationDescription						Not required.
ClientMethodModificationID						Not required.
ClientMethodName						Not required.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: IPC	Cal	ICV CCV	ICB CCB	ICS	Instructions
ClientMethodSource		X	X	X		Report "EPA_CLP".
ClientMethodVersion		X	X	X		Report month and year the SOW was issued.
Comment						Not required.
Efficiency						Not required.
FinalAmount		X	X	X		Report the volume of digestate produced by the preparation method in mL.
FinalAmountUnits		X	X	X		Report "mL".
InitialAmount						Not required.
InitialAmountUnits						Not required.
LabID						Not required.
LabMethodID						Not required.
LabMethodName						Not required.
LabName						Not required.
LotNumber						Not required.
MethodCode						Not required.
MethodID		X	X	X		Report "ISM02.3".
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. Report a unique identifier for each batch.
PreparationPlusCleanupType		X	X	X		Report "Preparation".
PreparationType		X	X	X		Report "Automated" or "Manual".
PreparedDate		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.
Characteristic						Not required.
Analyte	X	X	X	X	X	
AmountAdded						Not required.
AmountAddedUnits						Not required.
AmountAddedLocation						Not required.
AnalyteGroupID						Not required.
AnalyteName	X	X	X	X	X	Report the analytes as they appear in the SOW.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability					Instructions
	IPC	Cal	ICV CCV	ICB CCB	ICS	
AnalyteNameContext	X	X	X	X	X	Report "CAS".
AnalyteType	X	X	X	X	X	Report "Target" for all target analytes, "Internal_Standard" for internal standards, "Monitor" for non-target interferences and masses requiring monitoring, or "Instrument_Performance" for tune analytes.
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	X	Report the CAS Number as it appears in the SOW.
ClientAnalyteID	X	X	X	X	X	Report CAS number.
ClientAnalyteName	X	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 current MDL from the default aqueous preparation method or other appropriate method.
DetectionLimitType		X	X	X	X	Report "MDL".
DetectionLimitUnits		X	X	X	X	Report "ug/L".
DifferenceErrorRatio						Not required.
Efficiency						Not required.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability					Instructions
	IPC	Cal	ICV CCV	ICB CCB	ICS	
ExpectedResult		X	X		X	Report the concentration of the standard in ug/L.
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 "ug/L".
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 raw concentration output of the instrument uncorrected for dilution.
IntermediateResultLimitHigh						Not required.
IntermediateResultLimitLow						Not required.
IntermediateResultLimitType						Not required.
IntermediateResultUnits		X	X	X	X	Report "ug/L".
LabAnalyteID						Not required.
LabQualifiers	X	X	X	X	X	Report qualifiers as specified in the SOW.
LotNumber	X	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		X				Report the percent difference to the nearest whole percent.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: IPC	Cal	ICV CCV	ICB CCB	ICS	Instructions
PercentDifferenceLimitHigh		X				Report the upper limit for the percent difference to the nearest whole percent.
PercentDifferenceLimitLow		X				Report the lower limit for the percent difference to the nearest whole percent.
PercentDifferenceLimitType		X				Report "Method".
PercentMatch						Not required.
PercentRecovery			X		X	Report the percent recovery to the nearest whole percent. Not required for ICS when true value equals 0.
PercentRecoveryLimitHigh			X		X	Report the upper limit for the percent recovery to the nearest whole percent. Not required when ResultLimitHigh applies.
PercentRecoveryLimitLow			X		X	Report the lower limit for the percent recovery to the nearest whole percent. Not required when ResultLimitLow applies.
PercentRecoveryLimitType			X		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		X	X	X	X	Report the CRQL.
QuantitationLimitType		X	X	X	X	Report "CRQL".
QuantitationLimitUnits		X	X	X	X	Report "ug/L".
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	For detected target and spike analytes, and for monitored masses, report the final calculated result (in ug/L).
ResultLimitHigh					X	For analytes and interferents with true values less than 5x (10x for ICP-MS) CRQL.
ResultLimitLow					X	For analytes and interferents with true values less than 5x (10x for ICP-MS) CRQL.
ResultLimitType					X	Report "Method".
ResultType		X	X	X	X	Report "=" for all detected analytes. Report "Not_Detected" for non-detects.
ResultUncertainty						Not required.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability					Instructions
	IPC	Cal	ICV CCV	ICB CCB	ICS	
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/L".
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	X	Report the concentration of analyte or internal standard added to the sample in ug/L.
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	X	Report the laboratory assigned identifier for this standard.
StandardSource	X	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		X				
AnalyteName		X				Report the ICP-AES interfering analyte name under the AnalysisGroup node. For ICP-AES target analytes, report as they appear in the SOW.
AnalyteNameContext		X				Report "CAS" under the AnalysisGroup node.
CASRegistryNumber		X				Report the CAS number of the ICP-AES interfering analyte under the AnalysisGroup node. For ICP-AES target analytes, report as they appear in the SOW.
ClientAnalyteID		X				Report the CAS number of the ICP-AES interfering analyte under the AnalysisGroup node.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: IPC	Cal	ICV CCV	ICB CCB	ICS	Instructions
ClientAnalyteName		X				Report the ICP-AES interfering analyte name under the AnalysisGroup node. For ICP-AES target analytes, report as they appear in the SOW.
Comment						Not required.
CorrectionFactor		X				Enter the ICP-AES interelement correction factor under the AnalysisGroup node.
LabAnalyteID						Not required.
AnalyteGroup						Not required.
Peak	X	X	X	X	X	
CalibrationFactor						Not required.
CalibrationFactorUnits						Not required.
CalibrationType		X				Report "Linear_Regression"; "Linear_Regression_With_Blank_Force"; "Weighted_Linear_Regression"; or "Weighted_Linear_Regression_With_Blank_Force" under the AnalysisGroup node.
Coeffa0		X				Report the y-intercept of the calibration curve under the AnalysisGroup node.
Coeffa1		X				Report the slope of the calibration curve under the AnalysisGroup node.
Coeffa2						Not required.
Coeffa3						Not required.
CoeffOfDetermination						Not required.
CoeffOfDeterminationLimitLow						Not required.
CoeffOfDeterminationLimitType						Not required.
Comment						Not required.
CorrelationCoeff		X				Report the correlation coefficient (r) of the calibration curve to at least 4 significant figures under the AnalysisGroup node.
CorrelationCoeffLimitLow		X				Report the lower limit for the correlation coefficient to at least 4 significant figures under the AnalysisGroup node.
CorrelationCoeffLimitType		X				Report "Method" under the AnalysisGroup node.
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						Not required.
IntermediateResultLimitHigh						Not required.
IntermediateResultLimitLow						Not required.
IntermediateResultLimitType						Not required.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability					Instructions
	IPC	Cal	ICV CCV	ICB CCB	ICS	
IntermediateResultUnits						Not required.
LabQualifiers						Not required.
ManualIntegration						Not required.
Mass	X	X	X	X	X	For Tune, report the Average Measured Mass. For other ICP-MS analyses, report the isotope mass.
MassLimitHigh	X					For Tune, report the upper limit for the mass.
MassLimitLow	X					For Tune, report the lower limit for the mass.
MassLimitType	X					Report "method".
MassUnits	X	X	X	X	X	Report "u".
MeanCalibrationFactor						Not required.
MeanCalibrationFactorUnits						Not required.
MeanRetentionTime						Not required.
MeanRetentionTimeLimitHigh						Not required.
MeanRetentionTimeLimitLow						Not required.
MeanRetentionTimeLimitType						Not required.
MeanRetentionTimeUnits						Not required.
MeanRRF						Not required.
MeanRRFLimitLow						Not required.
MeanRRFLimitType						Not required.
PeakID	X	X	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						Not required.
PercentDifferenceLimitHigh						Not required.
PercentDifferenceLimitLow						Not required.
PercentDifferenceLimitType						Not required.
PercentRatio		X	X	X	X	For internal standards, report the %RI.
PercentRatioLimitHigh						Not required.
PercentRatioLimitLow						Not required.
PercentRatioLimitType						Not required.
PercentRecovery						Not required.
PercentRecoveryLimitHigh						Not required.
PercentRecoveryLimitLow						Not required.
PercentRecoveryLimitType						Not required.
PercentRecoveryType						Not required.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability					Instructions
	IPC	Cal	ICV CCV	ICB CCB	ICS	
PercentRSD	X	X	X	X	X	For ICP, report the %RSD of the replicates to the nearest whole percent.
PercentRSDLimitHigh	X	X	X	X	X	Report the upper limit for the %RSD to the nearest whole percent.
PercentRSDLimitLow						Not required.
PercentRSDLimitType	X	X	X	X	X	Report "Method".
QuantitationLimit						Not required.
QuantitationLimitType						Not required.
QuantitationLimitUnits						Not required.
ReportingLimit						Not required.
ReportingLimitType						Not required.
ReportingLimitUnits						Not required.
Resolution	X					Report the Average Peak Width to at least one decimal place.
ResolutionLimitHigh	X					Report the upper limit from the manufacturer specifications.
ResolutionLimitLow	X					Report the lower limit from the manufacturer specifications.
ResolutionLimitType	X					Report "Laboratory".
ResolutionType						Not required.
ResolutionUnits	X					Report "u".
Response	X	X	X	X	X	Report the mean instrument response output. For internal standards, report the uncorrected intensity.
ResponseLimitHigh						Not required.
ResponseLimitLow						Not required.
ResponseLimitType						Not required.
ResponseType						Not required.
ResponseUnits	X	X	X	X	X	Report "Peak_Height", "Peak_Area", "Counts", or "Absorbance" as appropriate.
Result						Not required.
ResultLimitHigh						Not required.
ResultLimitLow						Not required.
ResultLimitType						Not required.
ResultType						Not required.
ResultUncertainty						Not required.
ResultUnits						Not required.
RetentionTime						Not required.
RetentionTimeLimitHigh						Not required.
RetentionTimeLimitLow						Not required.
RetentionTimeLimitType						Not required.
RetentionTimeUnits						Not required.
RRF						Not required.
RRFLimitLow						Not required.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: IPC	Cal	ICV CCV	ICB CCB	ICS	Instructions
RRFLimitType						Not required.
StandardDeviation						Not required.
StandardDeviationUnits						Not required.
TailingFactor						Not required.
TailingFactorLimitHigh						Not required.
TailingFactorLimitType						Not required.
Wavelength	X	X	X	X	X	For ICP-AES, Hg, and CN, report the wavelength of the peak in nm.
WavelengthUnits	X	X	X	X	X	Report "nm".
WeightingFactor		X				Report "Inverse_Of_Concentration", "Inverse_Square_Of_Concentration", "Variance", "Standard Deviation", or "None" as applicable under the AnalysisGroup.
PeakComparison		X	X	X	X	
AnalyteName		X	X	X	X	For ICP-MS, report the name of the associated internal standard as it appears in the SOW.
AnalyteNameContext		X	X	X	X	Report "CAS".
CASRegistryNumber		X	X	X	X	Report the CAS number.
ClientAnalyteID		X	X	X	X	Report the CAS number.
ClientAnalyteName						
Comment						Not required.
PeakID		X	X	X	X	Report the unique peak identifier of the associated 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	X	X	X	X	X	
Comment						Not required.
IntermediateResult						Not required.
IntermediateResultLimitHigh						Not required.
IntermediateResultLimitLow						Not required.
IntermediateResultUnits						Not required.
Mass						Not required.
MassLimitHigh						Not required.

TABLE 1. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability					Instructions
	IPC	Cal	ICV CCV	ICB CCB	ICS	
MassLimitLow						Not required.
MassLimitType						Not required.
MassUnits						Not required.
PeakReplicateID	X	X	X	X	X	Report a unique identifier for each replicate.
Resolution						Not required.
ResolutionLimitHigh						Not required.
ResolutionLimitLow						Not required.
ResolutionLimitType						Not required.
ResolutionType						Not required.
ResolutionUnits						Not required.
Response	X	X	X	X	X	Report the instrument response.
ResponseLimitHigh						Not required.
ResponseLimitLow						Not required.
ResponseLimitType						Not required.
ResponseType						Not required.
ResponseUnits	X	X	X	X	X	Report "Peak_Height", "Peak_Area", "Counts", or "Absorbance" as applicable.

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TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
Header	X	X	X	X	X	X	X	X	
ClientID	X	X	X	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	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	X	X	X	Report "SEDD".
EDDImplementationID	X	X	X	X	X	X	X	X	Report "SEDD_5-2_GENERAL_2b" (This is the DTD used).
EDDImplementationVersion	X	X	X	X	X	X	X	X	Report "3" (This is the version of the DTD used).
EDDVersion	X	X	X	X	X	X	X	X	Report "5.2".
GeneratingSystemID	X	X	X	X	X	X	X	X	Report the name of generating software or vendor.
GeneratingSystemVersion	X	X	X	X	X	X	X	X	Report the software version number.
LabContract	X	X	X	X	X	X	X	X	Report the Contract Number.
LabContractModificationDescription									Not required.
LabContractModificationID									Not required.
LabDataPackageID	X	X	X	X	X	X	X	X	Report the SDG.
LabDataPackageName	X	X	X	X	X	X	X	X	Report "ICP_AES", "ICP_MS", "Hg", or "CN" as applicable.
LabDataPackageVersion	X	X	X	X	X	X	X	X	Report "1", then increment with each resubmission.
LabID	X	X	X	X	X	X	X	X	Report the Agency-assigned Lab Code.
LabName	X	X	X	X	X	X	X	X	Report the Lab Name.
LabNarrative									Not required.
LabQualifiersDefinition	X	X	X	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	X	X	X	Report the date this data was reported to the client.
ProjectID	X	X	X	X	X	X	X	X	Report the Case Number.
ProjectName									Not required.
SiteID									Not required.
SiteName									Not required.

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
SamplePlusMethod	X	X	X	X	X	X	X	X	
ClientID	X	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	X	X	X	Report "ISM02.3".
ClientMethodModificationDescription									Not required.
ClientMethodModificationID	X	X	X	X	X	X	X		Report the Modified Analysis Number, if applicable
ClientMethodName									Not required.
ClientMethodSource	X	X	X	X	X	X	X	X	Report "EPA_CLP".
ClientMethodType	X	X	X	X	X	X	X	X	Report "ICP/AES", "ICP/MS", "CVAA", or "Spectrophotometry" as applicable.
ClientMethodVersion	X	X	X	X	X	X	X	X	Report the month and year the SOW was issued.
ClientName									Not required.
ClientSampleID	X	X	X	X	X	X	X	X	Report the EPA Sample Number.
CollectedDate	X	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								Report the Traffic Report/Chain of Custody Record Form number.
EquipmentBatch									Not required.
Filtered	X								Report "Yes" for dissolved metals, or "No" for total metals.
LabContract	X	X	X	X	X	X	X		Report the Contract Number.
LabContractModificationDescription									Not required.
LabContractModificationID									Not required.
LabID	X	X	X	X	X	X	X	X	Report the Agency-assigned Lab Code.
LabMethodID									Not required.
LabMethodName									Not required.
LabName	X	X	X	X	X	X	X	X	Report the Lab Name.
LabReceiptDate	X	X	X						Report the date and time the sample was received.
LabReportingBatch	X	X	X	X	X	X	X	X	Links all samples analyzed to this deliverable. Report the SDG Number.
LabSampleID	X	X	X	X	X	X	X	X	Report the Lab Sample ID as assigned by the laboratory.
LocationID									Not required.

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
LocationName									Not required.
MatrixID	X	X	X	X	X	X	X	X	Report "Water", "Soil", or "Wipe" as applicable.
MatrixMedium	X	X	X	X	X	X	X	X	Report "Aqueous" or "Solid" as applicable. Use "Solid" for wipes.
MethodBatch									Not required.
MethodCategory									Not required.
MethodCode									Not required.
MethodID	X	X	X	X	X	X	X	X	Report "ISM02.3".
MethodLevel									Not required.
MethodModificationDescription									Not required.
MethodModificationID									Not required.
MethodName									Not required.
MethodSource	X	X	X	X	X	X	X	X	Report "EPA_CLP".
MethodType	X	X	X	X	X	X	X	X	Report "ICP/AES", "ICP/MS", "CVAA", or "Spectrophotometry" as applicable.
MethodVersion	X	X	X	X	X	X	X	X	Report the month and year the SOW was issued.
OriginalClientSampleID		X	X			X	X		Report the EPA Sample Number of the original sample this sample was derived from.
OriginalLabSampleID									Not required.
PhaseAnalyzed									Not required.
Preservative	X	X	X						Report any chemical or physical preservative used.
ProjectID	X	X	X	X	X	X	X		Report the Case Number.
ProjectName									Not required.
QCCategory		X	X	X	X	X	X		Report "Blank" for PB and LEB, "Spike" for MS and post-digestion spike, "Blank_Spike" for LCS, "Duplicate" for duplicate, or "Serial_Dilution" for SD.
QCLinkage		X	X	X	X	X	X		Report "LabReportingBatch" for MS, post-digestion spike, Dup, and SD; or "PreparationBatch" for PB and LCS.
QCType	X	X	X	X	X	X	X	X	Report "Field_Sample" for field samples; "Field_Blank" for field, equipment, rinse, or trip blanks; "PT_Sample" for Performance Evaluation samples or Proficiency Testing audit samples; "Method_Blank" for PB; "Leachate_Extraction_Blank" for LEB; "Matrix_Spike" for MS; "Duplicate" for Dup; "Laboratory_Control_Sample" for LCS; "Post_Digestion_Spike" for post-digestion spikes; "Serial_Dilution" for SD; or "Non_Client_Sample" for NCS.
Quarantine	X								Report "Yes" or "No" based on sampling information.

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
SamplingBatch									Not required.
ShippingBatch									Not required.
SiteID									Not required.
SiteName									Not required.
StorageBatch									Not required.
InstrumentQC									Not required.
Characteristic	X	X	X	X	X	X	X		
CharacteristicType	X	X	X	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	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	X	X	X		Report "C" for "Temperature".
Comment									Not required.
ContactInformation	X	X	X	X	X	X	X	X	
LabAddress1	X	X	X	X	X	X	X	X	Report the street address of the laboratory.
LabAddress2	X	X	X	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	X	X	X	Report the city in which the laboratory is located.
LabCountry	X	X	X	X	X	X	X	X	Report the country in which the laboratory is located.
LabID	X	X	X	X	X	X	X	X	Report the Agency-assigned Lab Code.
LabName	X	X	X	X	X	X	X	X	Report the Lab Name.
LabPointOfContact	X	X	X	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	X	X	X	Report the Email address of the point of contact.
LabPointOfContactTitle	X	X	X	X	X	X	X	X	Report the title of the point of contact.
LabPointOfContactType									Not required.
LabState	X	X	X	X	X	X	X	X	Report the state or province in which the laboratory is located.
LabTelephoneNumber	X	X	X	X	X	X	X	X	Report the 10-digit phone number for the laboratory.

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
LabType									Not required.
LabZipCode	X	X	X	X	X	X	X	X	Report the ZIP or postal code.
Analysis	X	X	X	X	X	X	X	X	
AliquotAmount									Not required.
AliquotAmountUnits									Not required.
AnalysisBatch	X	X	X	X	X	X	X	X	Links this analysis to the instrument QC sample(s) that begins this sequence. Report the Lab Analysis ID of the CCV that starts the sequence.
AnalysisBatchEnd	X	X	X	X	X	X	X	X	Links this analysis to the instrument QC sample(s) that ends this sequence. Report the Lab Analysis ID of the CCV that ends this sequence.
AnalysisDuration									Not required.
AnalysisDurationUnits									Not required.
AnalysisGroupID									Not required.
AnalysisType	X	X	X	X	X	X	X		Report "Initial", "Dilution-01", or "Reanalysis-01"; then increment as necessary.
Analyst	X	X	X	X	X	X	X	X	Report the Analyst's initials.
AnalyzedAmount									Not required.
AnalyzedAmountUnits									Not required.
AnalyzedDate	X	X	X	X	X	X	X	X	Report the date and time the sample was analyzed.
ClientAnalysisID									Not required.
ClientMethodCode									Not required.
ClientMethodID	X	X	X	X	X	X	X	X	Report "ISM02.3".
ClientMethodModificationDescription									Not required.
ClientMethodModificationID									Not required.
ClientMethodName									Not required.
ClientMethodSource	X	X	X	X	X	X	X	X	Report "EPA_CLP".
ClientMethodVersion	X	X	X	X	X	X	X	X	Report the month and year the SOW was issued.
Column									Not required.
ColumnInternalDiameter									Not required.
ColumnInternalDiameterUnits									Not required.
ColumnLength									Not required.
ColumnLengthUnits									Not required.
Comment									Not required.
ConfirmationAnalysisID									Not required.
Counts									Not required.
CountsUncertainty									Not required.

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
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	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									Not required.
InjectionVolumeUnits									Not required.
InstrumentID	X	X	X	X	X	X	X	X	Report the laboratory identifier for the instrument used for this analysis.
LabAnalysisID	X	X	X	X	X	X	X	X	Report a unique identifier.
LabFileID	X	X	X	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	X	X	X	Report "ISM02.3".
MethodModificationDescription									Not required.
MethodModificationID									Not required.
MethodName									Not required.
MethodSource	X	X	X	X	X	X	X	X	Report "EPA_CLP".
MethodVersion	X	X	X	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. For aqueous/water sample, report "Dissolved" if sample field-filtered; otherwise report "Total".

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
RunBatch	X	X	X	X	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	X	X	X	X		
AnalysisGroupID									Not required.
AnalyteGroupID	X	X	X	X	X	X	X		Report the unique identifier from the AnalyteGroup the Hardness result is derived from.
AnalyteName	X	X	X	X	X	X	X		Report the analytes as they appear in the SOW.
AnalyteNameContext	X	X	X	X	X	X	X		Report "CAS".
AnalyteType	X	X	X	X	X	X	X		Report "Target" for all target analytes except Hardness or "Spike" for all target analytes designated as spike analytes for Matrix Spike, Post-Digestion Spike, and LCS analyses. Report "Derived" for Hardness.
BiasErrorRatio									Not required.
CASRegistryNumber	X	X	X	X	X	X	X		Report the CAS Numbers as they appear in the SOW.
ClientAnalyteID	X	X	X	X	X	X	X		Report CAS number.
ClientAnalyteName	X	X	X	X	X	X	X		Report the analytes as they appear in the SOW.
ClientDetectionLimit									Not required.
ClientDetectionLimitUnits									Not required.
ClientQuantitationLimit	X	X	X	X	X	X	X		Report the unadjusted CRQL.
ClientQuantitationLimitUnits	X	X	X	X	X	X	X		Report "mg/kg" for soil/sediment, "ug/L" (or "mg/L" for Hardness or TCLP) for aqueous/water, or "ug" for wipe samples.
Comment									Not required.
DetectionLimit	X	X	X	X	X	X	X		Report the current MDL, adjusted for sample weight/volume, percent solids, and dilution factor to at least two significant figures. Not required for Hardness.
DetectionLimitType	X	X	X	X	X	X	X		Report "MDL_sa".

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	Instructions
DetectionLimitUnits	X	X	X	X	X	X	X		Report "mg/kg" for soil/sediment, "ug/L" (or "mg/L" for TCLP) for aqueous/water, or "ug" for wipe samples.
DifferenceErrorRatio									Not required.
ExpectedResult		X		X		X			Report the theoretical final calculated concentration (the spike added) for the spiked analytes or the true value for LCS.
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 "mg/kg" for soil/sediment, "ug/L" for aqueous/water (or "mg/L" for TCLP), or "ug" for wipe samples.
LabAnalysisID	X	X	X	X	X	X	X		Report the unique identifier from the analysis this reported result was derived from. Not required for Hardness.
LabAnalyteID									Not required.
LabQualifiers	X	X	X	X	X	X	X		Report flags as specified in the SOW. Includes the Q qualifiers from Form I.
LabResultStatus	X	X	X						Report "Preliminary" or "Final" as applicable.
PeakID									Not required.
PercentDifference							X		Report the Percent Difference to the nearest whole percent.
PercentDifferenceLimitHigh							X		Report the upper limit for the Percent Difference to the nearest whole percent.
PercentDifferenceLimitLow									Not required.
PercentDifferenceLimitType							X		Report "Method".
PercentRecovery		X		X		X			Report the Percent Recovery to the nearest whole percent.
PercentRecoveryLimitHigh		X		X					Report the upper limit for the Percent Recovery to the nearest whole percent.
PercentRecoveryLimitLow		X		X					Report the lower limit for the Percent Recovery to the nearest whole percent.
PercentRecoveryLimitType		X		X					Report "Method".
PercentRecoveryType									Not required.
QuantitationLimit	X	X	X	X	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	X	X	X	X		Report "CRQL_sa".

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
QuantitationLimitUnits	X	X	X	X	X	X	X		Report "mg/kg" for soil/sediment, "ug/L" (or "mg/L" for Hardness or TCLP) for aqueous/water, or "ug" for wipe samples.
ReportingLimit									Not required.
ReportingLimitType									Not required.
ReportingLimitUnits									Not required.
Result	X	X	X	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	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	X	X	X		Report "mg/kg" for soil/sediment, "ug/L" (or "mg/L" for Hardness or TCLP) for aqueous/water, or "ug" for wipe samples.
RetentionTime									Not required.
RetentionTimeUnits									Not required.
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	X	X	X	X		
AliquotAmount	X	X	X	X	X	X	X		Report the sample amount in grams for soil/sediment or mL for aqueous/water to at least three significant figures. Not required for wipes.
AliquotAmountUnits	X	X	X	X	X	X	X		Report "g" for soil/sediment or "mL" for aqueous/water. Not required for wipes.
Analyst	X	X	X	X	X	X	X		Report the Analyst's initials.
CleanedUpDate									Not required.
CleanUpBatch									Not required.
CleanUpType									Not required.
ClientMethodCode									Not required.

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
ClientMethodID	X	X	X	X	X	X	X		Report the sample preparation ID as given in Exhibit B.
ClientMethodModificationDescription									Not required.
ClientMethodModificationID									Not required.
ClientMethodName									Not required.
ClientMethodSource	X	X	X	X	X	X	X		Report "EPA_CLP".
ClientMethodVersion	X	X	X	X	X	X	X		Report the month and year the SOW was issued.
Comment									Not required.
FinalAmount	X	X	X	X	X	X	X		Report the volume of digestate produced by the preparation method in mL.
FinalAmountUnits	X	X	X	X	X	X	X		Report "mL".
InitialAmount									Not required.
InitialAmountUnits									Not required.
LabID									Not required.
LabMethodID									Not required.
LabMethodName									Not required.
LabName									Not required.
LotNumber									Not required.
MethodCode									Not required.
MethodID	X	X	X	X	X	X	X		Report "ISM02.3".
MethodModificationDescription									Not required.
MethodModificationID									Not required.
MethodName									Not required.
MethodSource	X	X	X	X	X	X	X		Report "EPA_CLP".
MethodVersion	X	X	X	X	X	X	X		Report the month and year the SOW was issued.
PreparationBatch	X	X	X	X	X	X	X		Links all samples that were prepared together. Report a unique identifier for each batch.
PreparationPlusCleanupType	X	X	X	X	X	X	X		Report "Preparation".
PreparationType	X	X	X	X	X	X	X		Report "Automated" or "Manual".
PreparedDate	X	X	X	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	X	X	X		
AnalyteGroupID	X	X	X	X	X	X	X		Report the identifier that links the Ca or Mg result to the AnalyteGroup Hardness result.
AnalyteName	X	X	X	X	X	X	X		Report the analytes as they appear in the SOW.

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
AnalyteNameContext	X	X	X	X	X	X	X		Report "CAS".
AnalyteType	X	X	X	X	X	X	X		Report "Target" for all target analytes except Hardness; "Spike" for all target analytes designated as spike analytes for Matrix Spike, Post-Digestion Spike, and LCS; "Internal_Standard" for internal standards; or "Monitor" for non-target interferences and masses requiring monitoring.
BiasErrorRatio									Not required.
CalibrationBasis									Not required.
CalibrationFactor									Not required.
CalibrationFactorUnits									Not required.
CalibrationType									Not required.
CASRegistryNumber	X	X	X	X	X	X	X		Report the CAS Number as it appears in the SOW.
ClientAnalyteID	X	X	X	X	X	X	X		Report CAS number.
ClientAnalyteName	X	X	X	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	X	X	X		Report the MDL.
DetectionLimitType	X	X	X	X	X	X	X		Report "MDL".

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
DetectionLimitUnits	X	X	X	X	X	X	X		Report "mg/kg" for soil/sediment, "ug/L" (or "mg/L" for TCLP) for aqueous/water, or "ug" for wipe samples.
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	X	X	X	X		Report the qualifiers as specified in the SOW.
LotNumber	X	X	X	X	X	X	X		Report the vendor/manufacturer assigned lot number for this standard (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	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									Not required.
PercentRecoveryLimitHigh									Not required.
PercentRecoveryLimitLow									Not required.
PercentRecoveryLimitType									Not required.
PercentRecoveryType									Not required.

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
PercentRSD									Not required.
PercentRSDLimitHigh									Not required.
PercentRSDLimitLow									Not required.
PercentRSDLimitType									Not required.
QuantitationBasis									Not required.
QuantitationLimit	X	X	X	X	X	X	X		Report the CRQL.
QuantitationLimitType	X	X	X	X	X	X	X		Report "CRQL".
QuantitationLimitUnits	X	X	X	X	X	X	X		Report "mg/kg" for soil/sediment, "ug/L" (or "mg/L" for TCLP) for aqueous/water, or "ug" for wipe samples.
ReportingLimit									Not required.
ReportingLimitType									Not required.
ReportingLimitUnits									Not required.
Result	X	X	X	X	X	X	X		For target or spike, analyte detects, and for monitored masses, report the final calculated result.
ResultLimitHigh									Not required.
ResultLimitLow									Not required.
ResultLimitType									Not required.
ResultType	X	X	X	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	X	X	X		Report "mg/kg" for soil/sediment, "ug/L" (or "mg/L" for TCLP) for aqueous/water, and "ug" for wipe samples.
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	X	X	X		Report the vendor/manufacturer for this standard.

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	Instructions
TailingFactor									Not required.
TailingFactorLimitHigh									Not required.
TailingFactorLimitType									Not required.
Wavelength									Not required.
WavelengthUnits									Not required.
WeightingFactor									Not required.
AnalyteGroup	X	X	X	X	X	X	X		
AnalyteGroupID	X	X	X	X	X	X	X		Report a unique identifier.
AnalyteName	X	X	X	X	X	X	X		Report "Hardness".
AnalyteNameContext	X	X	X	X	X	X	X		Report "CAS".
AnalyteType	X	X	X	X	X	X	X		Report "Derived".
CASRegistryNumber	X	X	X	X	X	X	X		Report "Hardness".
ClientAnalyteID	X	X	X	X	X	X	X		Report "Hardness".
ClientAnalyteName	X	X	X	X	X	X	X		Report "Hardness".
Comment									Not required.
LabAnalyteID									Not required.
LabQualifiers	X	X	X	X	X	X	X		Report qualifiers as specified in the SOW. Include the Q qualifiers from Form 1.
Result	X	X	X	X	X	X	X		Report the final calculated for detects per the SOW.
ResultType	X	X	X	X	X	X	X		Report "=" for detects. Report "Not_Detected" for non-detects (where both Ca and Mg are not detected).
ResultUncertainty									Not required.
ResultUnits	X	X	X	X	X	X	X		Report "mg/L".
Peak									Not required.
PeakComparison									Not required.

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: IPC	Cal	ICV CCV	ICB CCB	ICS	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 "ICP_AES", "ICP_MS", "Hg", or "CN" 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.
SamplePlusMethod						Not required.
InstrumentQC	X	X	X	X	X	
ClientInstrumentQCType						Not required.
ClientMethodCode						Not required.
ClientMethodID	X	X	X	X	X	Report "ISM02.3".
ClientMethodModificationDescription						Not required.
ClientMethodModificationID						Not required.

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability					Instructions
	IPC	Cal	ICV CCV	ICB CCB	ICS	
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.
Comment						Not required.
LabID	X	X	X	X	X	Report the Agency-assigned Lab Code.
LabInstrumentQCID	X	X	X	X	X	Report a unique ID for each QC.
LabMethodID						Not required.
LabMethodName						Not required.
LabName	X	X	X	X	X	Report the Lab Name.
MethodCode						Not required.
MethodID	X	X	X	X	X	Report "ISM02.3".
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.
QCLinkage	X	X	X	X	X	Report "RunBatch" for IPC, calibration, ICV, ICB, and ICS. Report "AnalysisBatch" for CCV and CCB.
QCType	X	X	X	X	X	Report "Instrument_Performance_Check_Tune" for Tune; "Initial_Calibration" for calibration; "Initial_Calibration_Verification" for ICV; "Initial_Calibration_Blank" for ICB; "Continuing_Calibration_Verification" for CCV; "Continuing_Calibration_Blank" for CCB; "Interference_Check_Standard_A" for ICSA; or "Interference_Check_Standard_A/B" for ICSAB.
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 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.

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: IPC	Cal	ICV CCV	ICB CCB	ICS	Instructions
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.
AnalysisBatch			X	X		Links this analysis to the instrument QC sample that begins this sequence. Report the Lab Analysis ID of the CCV that starts the sequence.
AnalysisBatchEnd			X	X		Links this analysis to the instrument QC sample that ends this sequence. Report the Lab Analysis ID of the CCV that ends this sequence.
AnalysisDuration						Not required.
AnalysisDurationUnits						Not required.
AnalysisGroupID		X				Links a group of analyses together that are used for the initial calibration. Report the Lab Analysis ID of the standard that starts this calibration sequence.
AnalysisType	X	X	X	X	X	Report "Initial" or "Dilution-01"; then increment as necessary.
Analyst	X	X	X	X	X	Report the Analyst's initials.
AnalyzedAmount						Not required.
AnalyzedAmountUnits						Not required.
AnalyzedDate	X	X	X	X	X	Report the date and time the sample was analyzed.
ClientAnalysisID						Not required.
ClientMethodCode						Not required.
ClientMethodID	X	X	X	X	X	Report "ISM02.3".
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						Not required.
ColumnInternalDiameter						Not required.
ColumnInternalDiameterUnits						Not required.
ColumnLength						Not required.
ColumnLengthUnits						Not required.
Comment						Not required.
ConfirmationAnalysisID						Not required.
Counts						Not required.
CountsUncertainty						Not required.

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability					Instructions
	IPC	Cal	ICV CCV	ICB CCB	ICS	
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	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						Not required.
InjectionVolumeUnits						Not required.
InstrumentID	X	X	X	X	X	Report the laboratory identifier for the instrument used for this analysis.
LabAnalysisID	X	X	X	X	X	Report a unique identifier.
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 "ISM02.3".
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						Not required.
RunBatch	X	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.

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: IPC	Cal	ICV CCV	ICB CCB	ICS	Instructions
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 analysis 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	X	X		
AliquotAmount		X	X	X		Report the actual amount of standard digested/distilled in mL to at least three significant figures.
AliquotAmountUnits		X	X	X		Report "mL".
Analyst		X	X	X		Report the Analyst's initials.
CleanedUpDate						Not required.
CleanupBatch						Not required.
CleanupType						Not required.
ClientMethodCode						Not required.
ClientMethodID		X	X	X		Enter the sample preparation ID as described in Exhibit B.
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 digestate produced by the preparation method in mL.
FinalAmountUnits		X	X	X		Report "mL".
InitialAmount						Not required.
InitialAmountUnits						Not required.
LabID						Not required.
LabMethodID						Not required.
LabMethodName						Not required.

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: IPC	Cal	ICV CCV	ICB CCB	ICS	Instructions
LabName						Not required.
LotNumber						Not required.
MethodCode						Not required.
MethodID		X	X	X		Report "ISM02.3".
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. Report a unique identifier for each batch.
PreparationPlusCleanupType		X	X	X		Report "Preparation".
PreparationType		X	X	X		Report "Automated" or "Manual".
PreparedDate		X	X	X		Report the date and time the sample was prepared.
ProcedureID						Not required.
ProcedureName						Not required.
Solvent						Not required.
Characteristic						Not required.
Analyte	X	X	X	X	X	
AnalyteGroupID						Not required.
AnalyteName	X	X	X	X	X	Report the analytes as they appear in the SOW.
AnalyteNameContext	X	X	X	X	X	Report "CAS".
AnalyteType	X	X	X	X	X	Report "Target" for all target analytes, "Internal_Standard" for internal standards, "Monitor" for non-target interferences and masses requiring monitoring, or "Instrument_Performance" for tune analytes.
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	X	Report the CAS Number as it appears in the SOW.
ClientAnalyteID	X	X	X	X	X	Report CAS number.
ClientAnalyteName	X	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.

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: IPC	Cal	ICV CCV	ICB CCB	ICS	Instructions
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 current MDL from the default aqueous preparation method or other appropriate method.
DetectionLimitType		X	X	X	X	Report "MDL".
DetectionLimitUnits		X	X	X	X	Report "ug/L".
DifferenceErrorRatio						Not required.
Efficiency						Not required.
ExpectedResult		X	X		X	Report the concentration of the standard in ug/L.
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 "ug/L".
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	X	Report qualifiers as specified in the SOW.
LotNumber	X	X	X	X	X	Report the vendor/manufacturer assigned lot number for this standard.

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability					Instructions
	IPC	Cal	ICV CCV	ICB CCB	ICS	
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		X				Report the percent difference to the nearest whole percent.
PercentDifferenceLimitHigh		X				Report the upper limit for the percent difference.
PercentDifferenceLimitLow		X				Report the lower limit for the percent difference.
PercentDifferenceLimitType		X				Report "Method".
PercentRecovery			X		X	Report the percent recovery to the nearest whole percent. Not required for ICS when true value equals 0.
PercentRecoveryLimitHigh			X		X	Report the upper limit for the percent recovery to the nearest whole percent. Not required when ResultLimitHigh applies.
PercentRecoveryLimitLow			X		X	Report the lower limit for the percent recovery to the nearest whole percent. Not required when ResultLimitLow applies.
PercentRecoveryLimitType			X		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		X	X	X	X	Report the CRQL.
QuantitationLimitType		X	X	X	X	Report "CRQL".
QuantitationLimitUnits		X	X	X	X	Report "ug/L".
ReportingLimit						Not required.
ReportingLimitType						Not required.
ReportingLimitUnits						Not required.
Result		X	X	X	X	For detected target and spike analytes, and for monitored masses, report the final calculated result (in ug/L).
ResultLimitHigh					X	For analytes and interferents with true values less than 5x (10x for ICP-MS) CRQL.

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: IPC	Cal	ICV CCV	ICB CCB	ICS	Instructions
ResultLimitLow					X	For analytes and interferents with true values less than 5x (10x for ICP-MS) CRQL.
ResultLimitType					X	Report "Method".
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/L".
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	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	X	
CalibrationFactor						Not required.
CalibrationFactorUnits						Not required.
CalibrationType		X				Report "Linear_Regression"; "Linear_Regression_With_Blank_Force"; "Weighted_Linear_Regression"; or "Weighted_Linear_Regression_With_Blank_Force" under the AnalysisGroup node.
Coeffa0		X				Report the y-intercept of the calibration curve under the AnalysisGroup node.

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability					Instructions
	IPC	Cal	ICV CCV	ICB CCB	ICS	
Coeffa1		X				Report the slope of the calibration curve under the AnalysisGroup node.
Coeffa2						Not required.
Coeffa3						Not required.
CoeffOfDetermination						Not required.
CoeffOfDeterminationLimitLow						Not required.
CoeffOfDeterminationLimitType						Not required.
Comment						Not required.
CorrelationCoeff		X				Report the correlation coefficient (r) of the calibration curve to at least 4 significant figures under the AnalysisGroup node.
CorrelationCoeffLimitLow		X				Report the lower limit for the correlation coefficient to at least 4 significant figures under the AnalysisGroup node.
CorrelationCoeffLimitType		X				Report "Method" under the AnalysisGroup node.
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	X					Report the Average Measured Mass.
MassLimitHigh	X					Report the upper limit for the mass.
MassLimitLow	X					Report the lower limit for the mass.
MassLimitType	X					Report "method".
MassUnits	X					Report "u".
MeanCalibrationFactor						Not required.
MeanCalibrationFactorUnits						Not required.
MeanRetentionTime						Not required.
MeanRetentionTimeLimitHigh						Not required.
MeanRetentionTimeLimitLow						Not required.
MeanRetentionTimeLimitType						Not required.
MeanRetentionTimeUnits						Not required.
MeanRRF						Not required.
MeanRRFLimitLow						Not required.
MeanRRFLimitType						Not required.
PeakID	X	X	X	X	X	Report a unique identifier. This identifier must be consistent throughout an analytical sequence.
PercentDifference						Not required.
PercentDifferenceLimitHigh						Not required.
PercentDifferenceLimitLow						Not required.
PercentDifferenceLimitType						Not required.

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: IPC	Cal	ICV CCV	ICB CCB	ICS	Instructions
PercentRecovery						Not required.
PercentRecoveryLimitHigh						Not required.
PercentRecoveryLimitLow						Not required.
PercentRecoveryLimitType						Not required.
PercentRecoveryType						Not required.
PercentRSD	X	X	X	X	X	For ICP, report the %RSD of the replicates to the nearest whole percent.
PercentRSDLimitHigh	X	X	X	X	X	Report the upper limit for the %RSD to the nearest whole percent.
PercentRSDLimitLow						Not required.
PercentRSDLimitType	X	X	X	X	X	Report "Method".
Resolution	X					Report the Average Peak Width to at least one decimal place.
ResolutionLimitHigh	X					Report the upper limit from the manufacturer specifications.
ResolutionLimitLow	X					Report the lower limit from the manufacturer specifications.
ResolutionLimitType	X					Report "Laboratory".
ResolutionType						Not required.
ResolutionUnits	X					Report "u".
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	X	X	X	X	X	For ICP-AES, Hg, and CN, report the wavelength of the peak in nm.
WavelengthUnits	X	X	X	X	X	Report "nm".
WeightingFactor		X				Report "Inverse_Of_Concentration", "Inverse_Square_Of_Concentration", "Variance", "Standard_Deviation", or "None" as applicable under the AnalysisGroup node.
PeakComparison		X	X	X	X	
Comment						Not required.
PeakID		X	X	X	X	Report the unique peak identifier of the associated internal standard.

TABLE 2. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: IPC	Cal	ICV CCV	ICB CCB	ICS	Instructions
PercentRatio						Not required.
PercentRatioLimitHigh						Not required.
PercentRatioLimitLow						Not required.
PercentRatioLimitType						Not required.

TABLE 3. INORGANICS DATA ELEMENT INSTRUCTIONS

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
Header	X	X	X	X	X	X	X	X	
ClientID	X	X	X	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	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	X	X	X	Report "SEDD".
EDDImplementationID	X	X	X	X	X	X	X	X	Report "SEDD_5-2_GENERAL_2a" (This is the DTD used).
EDDImplementationVersion	X	X	X	X	X	X	X	X	Report "2" (This is the version of the DTD used).
EDDVersion	X	X	X	X	X	X	X	X	Report "5.2".
GeneratingSystemID	X	X	X	X	X	X	X	X	Report the name of generating software or vendor.
GeneratingSystemVersion	X	X	X	X	X	X	X	X	Report the software version number.
Lab Contract	X	X	X	X	X	X	X	X	Report the Contract Number.
LabContractModificationDescription									Not required.
LabContractModificationID									Not required.
LabDataPackageID	X	X	X	X	X	X	X	X	Report the SDG.
LabDataPackageName	X	X	X	X	X	X	X	X	Report "ICP_AES", "ICP_MS", "Hg", or "CN" as applicable.
LabDataPackageVersion	X	X	X	X	X	X	X	X	Report "1", then increment with each resubmission.
LabID	X	X	X	X	X	X	X	X	Report the Agency-assigned Lab Code.
Lab Name	X	X	X	X	X	X	X	X	Report the Lab Name.
LabNarrative									Not required.
LabQualifiersDefinition	X	X	X	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	X	X	X	Report the date this data was reported to the client.
ProjectID	X	X	X	X	X	X	X	X	Report the Case Number.
ProjectName									Not required.
SiteID									Not required.
SiteName									Not required.
SamplePlusMethod	X	X	X	X	X	X	X	X	
ClientID	X	X	X						Report "1" for Region 1, "2" for Region 2, etc. For samples received from QATS, report "91".
ClientMethodCategory									Not required.

TABLE 3. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
ClientMethodCode									Not required.
ClientMethodID	X	X	X	X	X	X	X	X	Report "ISM02.3".
ClientMethodModificationDescription									Not Required.
ClientMethodModificationID	X	X	X	X	X	X	X		Report the Modified Analysis Number, if applicable.
ClientMethodName									Not required.
ClientMethodSource	X	X	X	X	X	X	X	X	Report "EPA_CLP".
ClientMethodType	X	X	X	X	X	X	X	X	Report "ICP/AES", "ICP/MS", "CVAA", or "Spectrophotometry" as applicable.
ClientMethodVersion	X	X	X	X	X	X	X	X	Report the month and year the SOW was issued.
ClientName									Not required.
ClientSampleID	X	X	X	X	X	X	X	X	Report the EPA Sample Number.
CollectedDate	X	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								Report the Traffic Report/Chain of Custody Record Form number.
EquipmentBatch									Not required.
Filtered	X								Report "Yes" for dissolved metals, or "No" for total metals.
LabContract	X	X	X	X	X	X	X		Report the Contract Number.
LabContractModificationDescription									Not required.
LabContractModificationID									Not required.
LabID	X	X	X	X	X	X	X	X	Report the Agency-assigned Lab Code.
LabMethodID									Not required.
LabMethodName									Not required.
LabName	X	X	X	X	X	X	X	X	Report the Lab Name.
LabReceiptDate	X	X	X						Report the date and time the sample was received.
LabReportingBatch	X	X	X	X	X	X	X	X	Links all samples analyzed to this deliverable. Report the SDG Number.
LabSampleID	X	X	X	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	X	X	X	Report "Water", "Soil", or "Wipe" as applicable.
MatrixMedium	X	X	X	X	X	X	X	X	Report "Aqueous" or "Solid" as applicable. Use "Solid" for wipes.
MethodBatch									Not required.

TABLE 3. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
MethodCategory									Not required.
MethodCode									Not required.
MethodID	X	X	X	X	X	X	X	X	Report "ISM02.3".
MethodLevel									Not required.
MethodModificationDescription									Not required.
MethodModificationID									Not required.
MethodName									Not required.
MethodSource	X	X	X	X	X	X	X	X	Report "EPA_CLP".
MethodType	X	X	X	X	X	X	X	X	Report "ICP/AES", "ICP/MS", "CVAA", or "Spectrophotometry" as applicable.
MethodVersion	X	X	X	X	X	X	X	X	Report the month and year the SOW was issued.
OriginalClientSampleID		X	X			X	X		Report the EPA Sample Number of the original sample this sample was derived from.
OriginalLabSampleID									Not required.
PhaseAnalyzed									Not required.
Preservative	X	X	X						Report any chemical or physical preservative used.
ProjectID	X	X	X	X	X	X	X		Report the Case Number.
ProjectName									Not required.
QCCategory		X	X	X	X	X	X		Report "Blank" for PB and LEB, "Spike" for MS and post-digestion spike, "Blank_Spike" for LCS, "Duplicate" for duplicate, or "Serial_Dilution" for SD.
QCLinkage		X	X	X	X	X	X		Report "LabReportingBatch" for MS, post-digestion spike, Dup, and SD; or "PreparationBatch" for PB and LCS.
QCType	X	X	X	X	X	X	X	X	Report "Field_Sample" for field samples; "Field_Blank" for field, equipment, rinse, or trip blanks; "PT_Sample" for Performance Evaluation samples or Proficiency Testing audit samples; "Method_Blank" for PB; "Leachate_Extraction_Blank" for LEB; "Matrix_Spike" for MS; "Duplicate" for Dup; "Laboratory_Control_Sample" for LCS; "Post_Digestion_Spike" for post-digestion spikes; "Serial_Dilution" for SD; or "Non_Client Sample" for NCS.
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.

TABLE 3. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability: Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	Instructions
Characteristic	X	X	X	X	X	X	X		
CharacteristicType									Report "Percent_Solids" for each SamplePlusMethod. Report "pH" and "Temperature" for samples, received at the laboratory, under each SamplePlusMethod node.
CharacteristicValue									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									Report "C" for "Temperature".
Comment									Not required.
ContactInformation	X	X	X	X	X	X	X	X	
LabAddress1	X	X	X	X	X	X	X	X	Report the street address of the laboratory.
LabAddress2	X	X	X	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	X	X	X	Report the city in which the laboratory is located.
LabCountry	X	X	X	X	X	X	X	X	Report the country in which the laboratory is located.
LabID	X	X	X	X	X	X	X	X	Report the Agency-assigned Lab Code.
LabName	X	X	X	X	X	X	X	X	Report the Lab Name.
LabPointOfContact	X	X	X	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	X	X	X	Report the Email address of the point of contact.
LabPointOfContactTitle	X	X	X	X	X	X	X	X	Report the title of the point of contact.
LabPointOfContactType									Not required.
LabState	X	X	X	X	X	X	X	X	Report the state or province in which the laboratory is located.
LabTelephoneNumber	X	X	X	X	X	X	X	X	Report the 10-digit phone number for the laboratory.
LabType									Not required.
LabZipCode	X	X	X	X	X	X	X	X	Report the ZIP or postal code.
Analysis	X	X	X	X	X	X	X	X	
AliquotAmount									Not required.
AliquotAmountUnits									Not required.
AnalysisDuration									Not required.

TABLE 3. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
AnalysisDurationUnits									Not required.
AnalysisGroupID									Not required.
AnalysisType	X	X	X	X	X	X	X		Report "Initial", "Dilution-01", or "Reanalysis-01"; then increment as necessary.
Analyst	X	X	X	X	X	X	X	X	Report the Analyst's initials.
AnalyzedAmount									Not required.
AnalyzedAmountUnits									Not required.
AnalyzedDate	X	X	X	X	X	X	X	X	Report the date and time the sample was analyzed.
ClientAnalysisID									Not required.
ClientMethodCode									Not required.
ClientMethodID	X	X	X	X	X	X	X	X	Report "ISM02.3".
ClientMethodModificationDescription									Not required.
ClientMethodModificationID									Not required.
ClientMethodName									Not required.
ClientMethodSource	X	X	X	X	X	X	X	X	Report "EPA_CLP".
ClientMethodVersion	X	X	X	X	X	X	X	X	Report month and year the SOW was issued.
Column									Not required.
ColumnInternalDiameter									Not required.
ColumnInternalDiameterUnits									Not required.
ColumnLength									Not required.
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.
DilutionFactor	X	X	X	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 3. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
InjectionVolume									Not required.
InjectionVolumeUnits									Not required.
InstrumentID	X	X	X	X	X	X	X	X	Report the laboratory identifier for the instrument used for this analysis.
LabAnalysisID	X	X	X	X	X	X	X	X	Report a unique identifier.
LabFileID	X	X	X	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	X	X	X	Report "ISM02.3".
MethodModificationDescription									Not required.
MethodModificationID									Not required.
MethodName									Not required.
MethodSource	X	X	X	X	X	X	X	X	Report "EPA_CLP".
MethodVersion	X	X	X	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. For aqueous/water samples, report "Dissolved" if field-filtered; otherwise report "Total".
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	X	X	X		
AnalysisGroupID									Not required.
AnalyteGroupID	X	X	X	X	X	X	X		Report the unique identifier from the AnalyteGroup the Hardness result is derived from.
AnalyteName	X	X	X	X	X	X	X		Report the analytes as they appear in the SOW.
AnalyteNameContext	X	X	X	X	X	X	X		Report "CAS".

TABLE 3. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
AnalyteType	X	X	X	X	X	X	X		Report "Target" for all target analytes except Hardness or "Spike" for all target analytes designated as spike analytes for Matrix Spike, Post-Digestion Spike, and LCS analyses. Report "Derived" for Hardness.
BiasErrorRatio									Not required.
CASRegistryNumber	X	X	X	X	X	X	X		Report the CAS Numbers as they appear in the SOW.
ClientAnalyteID	X	X	X	X	X	X	X		Report CAS number.
ClientAnalyteName	X	X	X	X	X	X	X		Report the analytes as they appear in the SOW.
ClientDetectionLimit									Not required.
ClientDetectionLimitUnits									Not required.
ClientQuantitationLimit	X	X	X	X	X	X	X		Report the CRQL.
ClientQuantitationLimitUnits	X	X	X	X	X	X	X		Report "mg/kg" for soil/sediment, "ug/L" (or "mg/L" for Hardness or TCLP) for aqueous/water, or "ug" for wipe samples.
Comment									Not required.
DetectionLimit	X	X	X	X	X	X	X		Report the current MDL, adjusted for sample weight/volume, percent solids, and dilution factor to at least two significant figures. Not required for Hardness.
DetectionLimitType	X	X	X	X	X	X	X		Report "MDL_sa".
DetectionLimitUnits	X	X	X	X	X	X	X		Report "mg/kg" for soil/sediment, "ug/L" (or "mg/L" for TCLP) for aqueous/water, or "ug" for wipe samples.
DifferenceErrorRatio									Not required.
ExpectedResult		X		X		X			Report the theoretical final calculated concentration (the spike added) for the spiked analytes or the true value for LCS.
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 "mg/kg" for soil/sediment, "ug/L" for aqueous/water (or mg/L for TCLP), or "ug" for wipe samples.
LabAnalysisID	X	X	X	X	X	X	X		Report the unique identifier from the analysis this reported result was derived from. Not required for Hardness.
LabAnalyteID									Not required.
LabQualifiers	X	X	X	X	X	X	X		Report flags as specified in the SOW. Includes the Q qualifiers from Form I.

TABLE 3. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
LabResultStatus	X	X	X						Report "Preliminary" or "Final" as applicable.
PeakID									Not required.
PercentDifference							X		Report the Percent Difference to the nearest whole percent.
PercentDifferenceLimitHigh							X		Report the upper limit for the Percent Difference to the nearest whole percent.
PercentDifferenceLimitLow									Not required.
PercentDifferenceLimitType							X		Report "Method".
PercentRecovery		X		X		X			Report the Percent Recovery.
PercentRecoveryLimitHigh		X		X					Report the upper limit for the Percent Recovery to the nearest whole percent.
PercentRecoveryLimitLow		X		X					Report the lower limit for the Percent Recovery to the nearest whole percent.
PercentRecoveryLimitType		X		X					Report "Method".
PercentRecoveryType									Not required.
QuantitationLimit	X	X	X	X	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	X	X	X	X		Report "CRQL_sa".
QuantitationLimitUnits	X	X	X	X	X	X	X		Report "mg/kg" for soil/sediment, "ug/L" (or "mg/L" for Hardness or TCLP) for aqueous/water, or "ug" for wipe samples.
ReportingLimit									Not required.
ReportingLimitType									Not required.
ReportingLimitUnits									Not required.
Result	X	X	X	X	X	X	X		Report the final calculated result for detects.
ResultLimitHigh									Not required.
ResultLimitLow									Not required.
ResultLimitType									Not required.
ResultType	X	X	X	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	X	X	X		Report "mg/kg" for soil/sediment, "ug/L" (or "mg/L" for Hardness or TCLP) for aqueous/water, or "ug" for wipe samples.
RetentionTime									Not required.

TABLE 3. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
RetentionTimeUnits									Not required.
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	X	X	X	X		
AliquotAmount	X	X	X	X	X	X	X		Report the sample amount in grams for soil/sediment or mL for aqueous/water to at least three significant figures. Not required for wipes.
AliquotAmountUnits	X	X	X	X	X	X	X		Report "g" for soil/sediment or "mL" for aqueous/water. Not required for wipes.
Analyst	X	X	X	X	X	X	X		Report the Analyst's initials.
CleanedUpDate									Not required.
CleanUpBatch									Not required.
CleanUpType									Not required.
ClientMethodCode									Not required.
ClientMethodID	X	X	X	X	X	X	X		Report the sample preparation ID as given in Exhibit B.
ClientMethodModificationDescription									Not required.
ClientMethodModificationID									Not required.
ClientMethodName									Not required.
ClientMethodSource	X	X	X	X	X	X	X		Report "EPA_CLP".
ClientMethodVersion	X	X	X	X	X	X	X		Report the month and year the SOW was issued.
Comment									Not required.
FinalAmount	X	X	X	X	X	X	X		Report the volume of digestate produced by the preparation method in mL.
FinalAmountUnits	X	X	X	X	X	X	X		Report "mL".
InitialAmount									Not required.
InitialAmountUnits									Not required.
LabID									Not required.
LabMethodID									Not required.
LabMethodName									Not required.
LabName									Not required.
LotNumber									Not required.
MethodCode									Not required.
MethodID	X	X	X	X	X	X	X		Report "ISM02.3".
MethodModificationDescription									Not required.
MethodModificationID									Not required.
MethodName									Not required.

TABLE 3. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
MethodSource	X	X	X	X	X	X	X		Report "EPA_CLP".
MethodVersion	X	X	X	X	X	X	X		Report the month and year the SOW was issued.
PreparationBatch	X	X	X	X	X	X	X		Links all samples that were prepared together. Report a unique identifier for each batch.
PreparationPlusCleanupType	X	X	X	X	X	X	X		Report "Preparation".
PreparationType	X	X	X	X	X	X	X		Report "Automated" or "Manual".
PreparedDate	X	X	X	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	X	X	X		
AnalyteGroupID	X	X	X	X	X	X	X		Report the identifier that links the Ca or Mg result to the AnalyteGroup Hardness result.
AnalyteName	X	X	X	X	X	X	X		Report the analytes as they appear in the SOW.
AnalyteNameContext	X	X	X	X	X	X	X		Report "CAS".
AnalyteType	X	X	X	X	X	X	X		Report "Target" for all target analytes except Hardness; "Spike" for all target analytes designated as spike analytes for Matrix Spike, Post-Digestion Spike, and LCS; "Internal_Standard" for internal standards; or "Monitor" for non-target interferences and masses requiring monitoring.
BiasErrorRatio									Not required.
CASRegistryNumber	X	X	X	X	X	X	X		Report the CAS Number as it appears in the SOW.
ClientAnalyteID	X	X	X	X	X	X	X		Report CAS number.
ClientAnalyteName	X	X	X	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	X	X	X		Report the MDL.
DetectionLimitType	X	X	X	X	X	X	X		Report "MDL".
DetectionLimitUnits	X	X	X	X	X	X	X		Report "mg/kg" for soil/sediment, "ug/L" (or "mg/L" for TCLP) for aqueous/water, or "ug" for wipe samples.

TABLE 3. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
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	X	X	X	X		Report qualifiers as specified in the SOW.
LotNumber	X	X	X	X	X	X	X		Report the vendor/manufacturer assigned lot number for this standard (Internal Standards and spiking analytes only).
PeakID	X	X	X	X	X	X	X		If response from a single peak is used for quantitation, report the ID of that peak.
PercentRecovery									Not required.
PercentRecoveryLimitHigh									Not required.
PercentRecoveryLimitLow									Not required.
PercentRecoveryLimitType									Not required.
PercentRecoveryType									Not required.
QuantitationLimit	X	X	X	X	X	X	X		Report the CRQL.
QuantitationLimitType	X	X	X	X	X	X	X		Report "CRQL".
QuantitationLimitUnits	X	X	X	X	X	X	X		Report "mg/kg" for soil/sediment, "ug/L" (or "mg/L" for TCLP) for aqueous/water, or "ug" for wipe samples.
ReportingLimit									Not required.
ReportingLimitType									Not required.
ReportingLimitUnits									Not required.
Result	X	X	X	X	X	X	X		For target or spike analyte detects, and for monitored masses, report the final calculated result.
ResultLimitHigh									Not required.
ResultLimitLow									Not required.
ResultLimitType									Not required.
ResultType	X	X	X	X	X	X	X		Report "=" for all detected analytes. Report "Not_Detected" for non-detects.
ResultUncertainty									Not required.

TABLE 3. INORGANICS DATA ELEMENT INSTRUCTIONS (Con't)

Node and Data Elements	Applicability								Instructions
	Sample	MS	Dup	LCS	PB/LEB	PDS	SD	NCS	
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	X	X	X		Report "mg/kg" for soil/sediment, "ug/L" (or "mg/L" for TCLP) for aqueous/water, or "ug" for wipe samples.
StandardSource	X	X	X	X	X	X	X		Report the vendor/manufacturer for this standard.
Wavelength									Not required.
WavelengthUnits									Not required.
AnalyteGroup	X	X	X	X	X	X	X		
AnalyteGroupID	X	X	X	X	X	X	X		Report a unique identifier.
AnalyteName	X	X	X	X	X	X	X		Report "Hardness".
AnalyteNameContext	X	X	X	X	X	X	X		Report "CAS".
AnalyteType	X	X	X	X	X	X	X		Report "Derived".
CASRegistryNumber	X	X	X	X	X	X	X		Report "Hardness".
ClientAnalyteID	X	X	X	X	X	X	X		Report "Hardness".
ClientAnalyteName	X	X	X	X	X	X	X		Report "Hardness".
Comment									Not required.
LabAnalyteID									Not required.
LabQualifiers	X	X	X	X	X	X	X		Report qualifiers as specified in the SOW. Include the Q qualifiers from Form 1.
Result	X	X	X	X	X	X	X		Report the final calculated for detects per the SOW.
ResultType	X	X	X	X	X	X	X		Report "=" for detects. Report "Not_Detected" for non-detects (where both Ca and Mg are not detected).
ResultUncertainty									Not required.
ResultUnits	X	X	X	X	X	X	X		Report "mg/L".

TABLE 4. ABBREVIATIONS

Abbreviation/Acronym	Definition
%R	Percent Recovery
%RSD	Percent Relative Standard Deviation
CAS	Chemical Abstracts Service
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CN	Cyanide
CRQL	Contract Required Quantitation Limit
DTD	Document Type Definition
Dup	Duplicate Sample
EDD	Electronic Data Deliverable
Hg	Mercury
ICAL	Initial Calibration
ICB	Initial Calibration Blank
ICP-AES	Inductively Coupled Plasma - Atomic Emission Spectroscopy
ICP-MS	Inductively Coupled Plasma - Mass Spectrometry
ICS	Interference Check Sample
ICSA	Interference Check Sample Solution A
ICSAB	Interference Check Sample Solution AB
ICV	Initial Calibration Verification
ID	Identifier
IEC	Interelement Correction
IPC	Instrument Performance Check (Tune)
Lab	Laboratory
LCS	Laboratory Control Sample
LEB	Leachate Extraction Blank
MDL	Method Detection Limit
MS	Matrix Spike
NCS	Non-Client (ZZZZZZ) Sample
PB	Preparation Blank
PDS	Post-Digestion/Distillation Spike
QATS	Quality Assurance Technical Support
QC	Quality Control
%RI	Percent Relative Intensity
RPD	Relative Percent Difference
SD	Serial Dilution
SDG	Sample Delivery Group
SPLP	Synthetic Precipitation Leaching Procedure
SOW	Statement of Work
TCLP	Toxicity Characteristic Leaching Procedure
u	Atomic Mass Unit

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	X	Report the preparation method per the instructions for PreparationPlusCleanup/ClientMethodID.
ClientMethodCategory		Leave null.
ClientMethodModificationID		Report the MA number per the instructions for SamplePlusMethod/ClientMethodModificationID if applicable. Otherwise leave null.
Level		Leave null.
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		Leave null.
ClientAnalyteID	X	Report the analyte per the instructions for ReportedResult/ClientAnalyteID.
Peak	X	Report the wavelength or mass at which measurements are taken per the instructions for Peak/Wavelength or Peak/Mass.
ResultUnits	X	Report the units for the replicate concentrations reported per the instructions for ReportedResult/ResultUnits.

Column	Required	Instruction
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 one-half 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.
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".

Column	Required	Instruction
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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