Attachment J

Data Validation Report - Blank Forms

i. DQO Summary Form
ii. ORDA/IRDA Form
iii. Telephone Log or Regional/Laboratory Communication Form
iv. Data Validation Worksheets
v. Chain-of-Custody Form
vi. Traffic Report

A separate Form should be completed for each sampling event. Refer to Attachment A for instructions on completing this form, Attachment B for a complete list of the parameter codes and Attachment C for an example of a completed form.

1. EPA Program: TSCA CERCLA RCRA DW NPDES CAA
Other:_____
Projected Date(s) of Sampling_____
EPA Site Manager_____
EPA Case Team Members_____
_____
_____

Site Name_____
Site Location_____
Assigned Site Latitude/Longitude_____
CERCLA Site/Spill Identifier No. 01 _____ (Include Operable Unit)
Phase: ERA SA/SI pre-RI RI (phase I, etc.) FS RD RA post-RA
(circle one) Other:_____

2. QAPjP Title and Revision Date_____
_____
Approved by:_____ Date of Approval:_____
Title of Approving Official:_____ Organization*:_____
*If other than EPA, record date approval authority was delegated:_____

EPA Oversight Project (circle one) Y N Type of EPA Oversight (circle one) PRP or FF Other:_____
Confirmatory Analysis for Field Screening Y N If EPA Oversight or Confirmatory: % splits_____
Are comparability criteria documented? Y N

3.									
a.	Matrix Code[1]								
b.	Parameter Code[2]								
c.	Preservation Code[3]								
d.	Analytical Services Mechanism								
e.	No. of Sample Locations								
	Field QC:								
f.	Field Duplicate Pairs								
g.	Equipment Blanks								
h.	VOA Trip Blanks								
i.	Cooler Temperature Blanks								
j.	Bottle Blanks								
k.	Other:_____ _____								
l.	PES sent to Laboratory								
	Laboratory QC:								
m.	Reagent Blank								
n.	Duplicate								
o.	Matrix Spike								
p.	Matrix Spike Duplicate								
q.	Other:_____ _____								

4. Site Information
Site Dimensions_____
List all potentially contaminated matrices_____
Range of Depth to Groundwater_____
Soil Types: Surface Subsurface Other:_____
Sediment Types: Stream Pond Estuary Wetland Other:_____ Expected Soil/Sediment Moisture Content: High Low

When multiple matrices will be sampled during a sampling event, complete Sections 5-10 for each matrix. Matrix Code[1]_____

5. Data Use (circle all that apply) Site Investigation/Assessment PRP Determination Removal Actions
Nature and Extent of Contamination Human and/or Ecological Risk Assessment Remediation Alternatives
Engineering Design Remedial Action
Post-Remedial Action (quarterly monitoring) Other:_____

6. Summarize DQOs:_____

Complete Table if applicable

COCs	Action Levels	Analytical Method-Quantitation Limits

7. Sampling Method (circle technique) Bailer Low flow pump (Region I method: Yes No) Peristaltic Pump
Positive Displacement Pump Faucet or Spigot Other:_____
Split Spoon Dredge Trowel Other:_____

Sampling Procedures (SOP name, No., Rev. #, and date)_____
List Background Sample Locations_____
Circle: Grab or Composite
"Hot spots" sampled: Yes No

8. Field Data (circle) ORP pH Specific Conductance Dissolved O_2 Temperature Turbidity
Other:_____

9. Analytical Methods and Parameters

Method title/SOP name	Method/SOP Identification number	Revision Date	Target Parameters (VOA, SV, Pest/PCB, Metals, etc.)

10. Validation Criteria (circle one) 1. Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part II, III or IV
2. Other Approved Validation Criteria:_____
Validation Tier (circle one) I II III Partial Tier III: _____
Company/Organization Performing Data Validation_____Prime or Subcontractor (circle one)

11. Company Name_____ Contract Number_____
Contract Name (e.g. START, RACS, etc.)_____ Work Assignment No._____
Person Completing Form/Title_____ Date of DQO Summary Form Completion_____

Matrix Codes[1] - Refer to Attachment B, Part I
Parameter Codes[2] - Refer to Attachment B, Part II

Preservation Codes[3]

1. HCl to pH ≤ 2
2. HNO_3
3. $NaHSO_4$
4. H_2SO_4
5. Cool @ 4°C (± 2°)
6. NaOH
7. $K_2Cr_2O_7$
8. Freeze
9. Room Temperature (avoid excessive heat)
10. Other (Specify)
N. Not preserved

* - To supplement Matrix Codes and/or Parameter Codes contact the QA Unit

ATTACHMENT A
Guidance for Completion of DQO Summary Form

DISTRIBUTION:

1) Copies of completed DQO Summary Forms should be included in the QAPjP/SAP.

2) A. Copies of completed DQO Summary Forms for all CLP RAS work requested by EPA Site Managers, EPA contractors, including RACS, ROC, and START, and other Federal Agencies under Interagency Agreements, i.e., ACOE, and States under Cooperative Agreements should be sent with the quarterly sample projections to the Region I RSCC. Completed DQO Summary Forms for CLP RAS work must be received by the RSCC prior to the sampling event.

B. Copies of completed DQO Summary Forms for non-CLP DAS work performed for EPA Site Managers and EPA contractors must be received by the Region I RSCC prior to the sampling event.

C. DQO Summary Forms for non-CLP work performed under Interagency Agreements, Cooperative Agreements, and Grants must be completed prior to the sampling event, submitted to the "Authorizing Organization", as delegated by EPA, and included in the site documents.

3) Copies of completed DQO Summary Forms also must be included in the Data Validation Report or Tier I Validation Cover Letter (refer to Part I of the "Data Validation Manual" in the Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses), December 1996, or most recent revision.

INSTRUCTIONS:

Note: A separate Form should be completed for each sampling event. For sampling events involving multiple environmental matrices, complete Sections 5-10 for each matrix and ensure that the two-letter matrix code is identified in Section 5. Enter the page number and total number of pages in the top right hand corner on the Form.

Section 1:

- Circle the appropriate EPA Program(s) involved in multi-media, multi-programmatic sampling events including, TSCA, CERCLA (i.e, Superfund), RCRA, DW (Drinking Water), NPDES, CAA (Clean Air), or fill in the blank for "Other:_____".
- List projected date(s) of sampling. The sampling dates should be inclusive of all matrices that will be sampled during this sampling event.
- Record the EPA Site Manager's name.
- List the names of the other EPA Case Team Members.
- Enter the site name. Use the NPL site name. If an NPL site name does not exist, then use the site name assigned under CERCLIS.
- Record the name of the city/town and State where the site is located in the "Site Location" field.
- Record the "Assigned Site Latitude/Longitude". Those numbers should be identical to those contained in CERCLIS database. Contact the EPA Site Manager to obtain correct Latitude/Longitude.
- Record the CERCLA site/spill identifier number, including the operable unit number. Contact the EPA Site Manager to obtain the correct identifier numbers.
- Circle the appropriate phase of Superfund site work (ERA: Environmental Risk Assessment, SA/SI: Site Assessment/Site Investigation, RI: Remedial Investigation, FS: Feasibility Study, RD: Remedial Design, RA: Remedial Assessment, post-RA: post-Remedial Assessment, i.e., quarterly monitoring). For non-Superfund site work, identify sampling event phase in the "Other" field.

Section 2:

- Record the complete title of the final QAPjP and revision date.
- Enter name of the Approving Official.
- Record date that the QAPjP was approved.
- Enter title of the Approving Official.
- Enter name of organization that has approval authority. This will be EPA, unless approval authority has been delegated by EPA to a State or other Federal Agency.
- If another organization has been delegated approval authority, then enter the date that EPA delegated approval authority (date of Quality Assurance Management Plan approval).
- Identify whether the project sampling event is an EPA oversight project, circle Yes or No.
- Indicate type of oversight by circling either Potentially Responsible Party (PRP) or Federal Facility (FF), or complete the blank for "Other:_____".
- Identify whether confirmatory sampling and analysis is being performed to verify field screening results, circle Yes or No.
- If EPA oversight or confirmatory analysis will be performed, record the percentage of split samples to be collected and analyzed.
- If EPA oversight or confirmatory analysis will be performed, identify whether comparability criteria are documented in the approved QAPjP or SAP, circle Yes or No.

Section 3:

a) List the two letter code for each matrix for samples that will be collected. Refer to Appendix B for a correct list of matrix codes. If a matrix does not have a corresponding code, then attach a description of the matrix to the DQO Summary Form.

Note: The matrix codes correspond to the matrix identifiers contained in the New England Sample Tracking System (NESTS) database. The current list of matrix codes are not intended to include all types of environmental matrices. However, they do represent groupings of similar-type matrices that potentially contain similar analytic interferences. For example, the matrix code GW (ground water) includes water from monitoring wells, supply wells, and public wells.

b) For each matrix, identify the analytical parameters for samples that will be collected by recording the appropriate parameter code. Refer to Appendix B for a current list of parameter codes. If an analytical parameter does not have a corresponding code, then the method title and/or SOP name, method and/or SOP identification number, and method and/or SOP revision date should be included and recorded in Section 9 of this Form.

Note: The parameter codes correspond to the analytical method parameters utilized in NESTS database. Appendix B includes a comprehensive list of analytical methods that have been used historically for Region I site work.

c) For each matrix and parameter, identify the preservation technique that will be used by recording the appropriate preservation code. Refer to the reverse side of this Form for a list of preservation codes.

d) Record the analytical service(s) mechanism that will be used for each matrix and parameter;

- CLP-RAS (CLP-Routine Analytical Service) This service may be utilized by EPA site managers, EPA contractors including, RACS, ROC, and START contracts. It may also be utilized under Interagency agreements, i.e., by the ACOE, and under Cooperative Agreements with the States.
- RACS-DAS (Remedial Alternative Contracting Strategy-Delivery of Analytical Services)
- ROC-DAS (Regional Oversight Contract-DAS)
- START-DAS (Superfund Technical Assessment and Remediation Contract-DAS)
- EPA-NERL (EPA-New England Regional Laboratory)

- Regional EPA-NE analytical contract
- State-Non-CLP
- Other Federal Agency Non-CLP
- If another analytical mechanism will be used, describe in detail on a separate page and attach to the Form.

e) Record the number of discrete locations that will be sampled for each parameter. The "No. of Sample Locations" count should include the site and background locations sampled.

- Record the number of each type of field QC sample that will be collected and sent to the laboratory for analysis for each matrix and parameter.

f) Record the number of Field duplicate sample pairs (which will equal "1" for each pair of field duplicates) that will be collected.
g) Enter the number of equipment/rinsate blanks.
h) Enter the number of VOA Trip blanks.
i) Enter the number of Cooler Temperature blanks that will be used.
j) Enter the number of Bottle Blanks that will be analyzed.
k) Describe any other field QC samples and the total number that were collected and that will be sent to the laboratory.
l) Enter the number of PESs that will be sent to the laboratory in accordance with EPA Region I Performance Evaluation Program Guidance, July 1996.

Note: The total of "e-l" equals the total number of samples sent to a laboratory for each matrix and parameter.

- Record the number of each type of laboratory QC sample that will be analyzed with the samples received.

m) Enter the minimum number of reagent blanks that will be analyzed.
n) Enter the number of laboratory Duplicates that will be analyzed.
o) Enter the number of matrix spikes that will be analyzed.
p) Enter the number of matrix spike duplicates that will be analyzed.
q) Describe any other laboratory QC samples and the total number that will be analyzed.

Section 4:

- Enter the approximate site dimensions with units.
- List all potentially contaminated matrices, regardless of whether or not they will be sampled during this sampling event.
- For well sampling, complete "Range of Depth to Groundwater" to ensure proper pump is utilized.
- For soil sampling, circle Surface or Subsurface or complete Other:_____.
- For sediment sampling, circle Stream, Pond, Estuary, Wetland, or complete Other:_____.
- For soil/sediment sampling, circle expected moisture content: High or Low. **Note: Analytical methods used for high moisture content samples should ensure that DQO-specified dry weight quantitation limits are achieved.**

Section 5:

When multiple matrices will be sampled during a sampling event, complete Sections 5-10 for each matrix and enter the Matrix Code.

- Identify the two-letter matrix code for which the information is provided in sections 5-10.
- Circle the potential uses for sample data such as, site investigation/assessment, PRP determination, removal actions, nature and extent of contamination, human and/or ecological risk assessment, remediation alternatives, engineering design, remedial action, post-remedial action, i.e., quarterly monitoring. A space is available for other potential uses of data.

Section 6:

- Briefly summarize the project DQOs. This section should describe the specific objectives of the sampling event, i.e., to identify health risks to children, ages 1-6, residing on the site who might be exposed to surface soils located in the area, or to characterize the extent of groundwater contamination. Identify the purpose of sampling, the decisions that will be made using the data, action level information, and any related information needed to identify that appropriate analytical and field sampling methods were chosen. Complete the table with the following information: contaminants of concern (COC), COC action levels and analytical method quantitation limits for each COC. **Note: Since this information will be used by data validators to identify potential data usability issues for the user, it is imperative that it is clear and concise.**

Section 7:

- Circle applicable sampling technique(s) used and/or complete "Other" to describe an innovative sampling technique or one that is not listed.
- Identify the SOPs that will be utilized for sample collection. Include SOP name, identification number and revision number and/or date.
- Record the discrete Background sample station location number(s) that will be sampled.
- Circle if samples will be "grab" or "composite".
- To indicate potential "Hot spots" on site, circle Yes or No.

Section 8:

- Identify the field data that will be collected including, ORP, pH, specific conductance, dissolved O_2, temperature, and turbidity. A space is available to indicate other field testing that will be performed.

Section 9:

- If an analytical method does not have a Parameter code (required information in Section 3), then the method title and/or SOP name, method and/or SOP identification number, and method and/or SOP revision date should be included. Attach a separate page if additional space is needed.
- Record the specific parameters required for analysis.

Section 10: **In accordance with Region I QA policy, all data must be validated in accordance with the most recent revision of Part I the "Data Validation Manual: The Data Quality System" of the Region I, EPA-NE Data Validation Functional Guidelines of Evaluating Environmental Analyses.**

- Circle the data validation criteria required by the QAPjP and/or SAP. In most cases, the QAPjP and/or SAP should cite the most recent revision of the Region I, EPA-NE Data Validation Functional Guidelines of Evaluating Environmental Analyses and identify the applicable Functional Guideline criteria procedures that will be used to validate the data: Part II-Volatile/Semivolatile Data Validation Functional Guidelines, Part III-Pesticide/PCB Data Validation Functional Guidelines, and Part IV-Inorganic Data Validation Functional Guidelines.
  If modified criteria or alternate data validation criteria will be utilized, the modified or alternate criteria must be documented in an approved QAPjP and/or SAP as stipulated in Part I, the "Data Validation Manual: The Data Quality System", December 1996 revision of the Region I, EPA-NE Data Validation Functional Guidelines of Evaluating Environmental Analyses, December 1996 revision.
- Circle the Region I Validation Tier that will be used.
- If a partial Tier III data validation is required, then the subset receiving a partial Tier III should be specified (e.g., benzene, VOA, etc).
- Identify the company performing the data validation. Circle either Prime or Subcontractor.

Section 11:

- Record the field sampling contractor company/organization name
- Contract number
- Name of contract
- Work assignment number
- Name and title of person completing Form
- Completion date of the DQO Summary Form

ATTACHMENT B - PART I

Matrix Codes[1]

Aqueous:
DW - Drinking Water
GW - Ground Water
LE - Leachate (includes porewater)
SW - Surface Water
WW - Waste Water (includes scrubber blowdown)

Solid:
SE - Sediment (includes tidal sediments)
SO - Soil

Biota:
BD - Bird Tissue
CF - Crawfish Tissue
FI - Fish (includes whole fish)
MU - Mussel (includes clam, quahog, and oyster tissue)
OF - Offal
PL - Plant
FF - Fish Fillet

Wastes:
AS - Ash (includes incinerator ash and boiler aggregate)
DU - Dust (includes concrete dust and fines)
OI - Oil (includes waste oil)
SL - Sludge
WD - Wood (includes chips, cuttings, and drillings)
WT - Waste (includes both solids and liquids)
ST - Still Bottoms

Miscellaneous:
AR - Air Samples
DN - DNAPLs
LN - LNAPLs
WI - Wipe Samples
PC - Paint Chips
CT - Concrete

ATTACHMENT B - PART II

PARAMETER CODES

PARAMETER CODE/METHOD IDENTIFICATION NUMBER	METHOD TITLE	REFERENCE	PARAMETER NAME
OLM03.1F	USEPA CLP Statement of Work for Organics Analysis - OLM03.1	1	Full organics (VOA, SV, P/P) CLP SOW Organic Analysis
OLM03.1P	USEPA CLP Statement of Work for Organics Analysis - OLM03.1	1	Pesticide/Aroclors Analysis CLP SOW Organic Analysis
OLM03.1S	USEPA CLP Statement of Work for Organics Analysis - OLM03.1	1	Semivolatile Organics Analysis CLP SOW Organic Analysis
OLM03.1V	USEPA CLP Statement of Work for Organics Analysis - OLM03.1	1	Volatile Organics Analysis CLP SOW Organic Analysis
1003	Halogenated Hydrocarbons	2	NIOSH 1003 Volatile on Charcoal Tubes
12/90-DI	USEPA CLP Statement of Work for Analysis of Polychlorinated Dibenzo-p-Dioxins (PCDD) and Polychlorinated Dibenzofurans (PCDF), DFLM1.0, Rev. 12/90	3	12/90 SOW Dioxin/Furan Analysis
130.1	Hardness, Total (mg/L) as $CaCO_3$, Colorimetric, Automated EDTA	4	Hardness-Colorimetric, Automated EDTA
130.2	Hardness, Total (mg/L) as $CaCO_3$, Titrimetric, EDTA	4	Hardness-Titrimetric, EDTA
13112007	Toxicity Characteristic Leaching Procedure and Determination of Metals and Trace Elements in Water and Wastes by Inductively Coupled Plasma-Atomic Emission Spectrometry	5 & 7	TCLP Extraction-Metals Analysis
13113.1F	Toxicity Characteristic Leaching Procedure and USEPA CLP Statement of Work for Organics Analysis - OLM03.1	5 & 1	TCLP Extraction-Full Organics Volatile, Semivolatile, Pesticide/PCB Analysis
13113.1P	Toxicity Characteristic Leaching Procedure and USEPA CLP Statement of Work for Organics Analysis - OLM03.1	5 & 1	TCLP Extraction-Pesticide/PCB Analysis
13113.1S	Toxicity Characteristic Leaching Procedure and USEPA CLP Statement of Work for Organics Analysis - OLM03.1	5 & 1	TCLP Extraction-Semivolatile Analysis
13113.1V	Toxicity Characteristic Leaching Procedure and USEPA CLP Statement of Work for Organics Analysis - OLM03.1	5 & 1	TCLP Extraction-Volatile Analysis
13118000	Toxicity Characteristic Leaching Procedure and Determination of Organic Analytes by Gas Chromatography	5	TCLP Extraction-Full Organics
13118080	Toxicity Characteristic Leaching Procedure and Determination of Organochlorine Pesticides and PCBs by Gas Chromatography	5	TCLP Extraction-Pesticide/PCB Analysis
13118240	Toxicity Characteristic Leaching Procedure and Determination of Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS)	5	TCLP Extraction-Volatile Analysis
13118270	Toxicity Characteristic Leaching Procedure and Determination of Semivolatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Column Technique	5	TCLP Extraction-Semivolatile Analysis

ATTACHMENT B - PART II

PARAMETER CODES

PARAMETER CODE/METHOD IDENTIFICATION NUMBER	METHOD TITLE	REFERENCE	PARAMETER NAME
160.1	Residue, Filterable, Gravimetric, Dried at 180 °C	4	Total Dissolved Solids (TDS)
160.2	Residue, Non-filterable, Gravimetric, Dried at 103-105 °C	4	Total Suspended Solids (TSS)
160.3	Residue, Total, Gravimetric, Dried at 103-105 °C	4	Total Solids
1613	Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilutions HRGC/HRMS	6	Dioxin/Furan High Resolution Analysis
200.7	Determination of Metals and Trace Elements in Water and Wastes by Inductively Coupled Plasma - Atomic Emission Spectrometry (Rev.4.4, 1994)	7	ICP Metals Analysis-Full List
200.7XX	Determination of Metals and Trace Elements in Water and Wastes by Inductively Coupled Plasma - Atomic Emission Spectrometry (Rev.4.4, 1994)	7	ICP Metals Analysis-XX Specific Metals
200.9/CD	Determination of Trace Elements by Stabilized Temperature Graphite Furnace Atomic Absorption Spectrometry (Rev. 2.2, 1994)	7	Graphite Furnace-Cadmium
200.9/SB	Determination of Trace Elements by Stabilized Temperature Graphite Furnace Atomic Absorption Spectrometry	7	Graphite Furnace-Antimony
200.9AS	Determination of Trace Elements by Stabilized Temperature Graphite Furnace Atomic Absorption Spectrometry	7	Graphite Furnace-Arsenic
204.2/SB	Antimony AA, Furnace	4	Graphite Furnace-Antimony
206.2	Arsenic AA, Furnace	4	Graphite Furnace-Arsenic
213.2/CD	Cadmium AA, Furnace	4	Graphite Furnace-Cadmium
2320.B	Alkalinity, Titration Method	8	Titration Method-Alkalinity
2340B	Hardness by Calculation	8	Hardness-Calculation
2340C	Hardness, EDTA Titrimetric Method	8	Hardness Titrimetric, EDTA
2540B	Total Solids Dried at 103-105 °C	8	Total Solids
2540C	Total Dissolved Solids Dried at 180 °C	8	Total Dissolved Solids (TDS)
2540D	Total Suspended Solids Dried at 103-105 °C	8	Total Suspended Solids (TSS)
300.0C1	Ion Chromatography		Determination Inorganic Anions in AQ by IC
300.0F	Ion Chromatography		Ion Chrom.-Fluoride
300.0N03	Ion Chromatography		Ion Chrom.-Nitrate
310.1	Alkalinity Titrimetric (pH 4.5)	4	Titrimetric Alkalinity

ATTACHMENT B - PART II

PARAMETER CODES

PARAMETER CODE/METHOD IDENTIFICATION NUMBER	METHOD TITLE	REFERENCE	PARAMETER NAME
310.2	Alkalinity, Colorimetric, Automated, Methyl Orange	4	Colorimetric-Alkalinity
3113B/AS	Metals by Electrothermal Atomic Absorption Spectrometry	8	Graphite Furnace-Arsenic
3113B/CD	Metals by Electrothermal Atomic Absorption Spectrometry	8	Graphite Furnace-Cadmium
3113B/SB	Metals by Electrothermal Atomic Absorption Spectrometry	8	Graphite Furnace-Antimony
325.2	Chloride, Colorimetric, Automated Ferricyanide AA II	4	Colorimetric-Chloride
325.3	Chloride, Titrimetric, Mercuric Nitrate	4	Titrimetric-Chloride
335.2	Cyanide, Total, Titrimetric; Spectrophotometric	4	Titrimetric-Total Cyanide
340.2	Fluoride, Potentiometric, Ion Selective Electrode	4	Electrode-Fluoride
350.1	Nitrogen, Ammonia, Colorimetric, Automated Phenate	4	Colorimetric-Ammonia
350.2	Nitrogen, Ammonia, Colorimetric; Titrimetric; Potentiometric-Distillation Procedure	4	Colorimetric, Titrimetric, Electrode-Dist.-Ammonia
350.3	Nitrogen, Ammonia, Potentiometric, Ion Selective Electrode	4	Electrode-Ammonia
351.2	Nitrogen, Kjeldahl, Total, Colorimetric, Semi-Automated Block Digester, AA II	4	Colorimetric Semi-Auto-Total Kjeldahl N (TKN)
351.3	Nitrogen, Kjeldahl, Total, Colorimetric; Titrimetric; Potentiometric	4	Colorimetric, Titrimetric, Electrode-Total Kjeldahl N (TKN)
352.1	Nitrogen, Nitrate, Colorimetric, Brucine	4	Colorimetric-Nitrate
353.1	Nitrogen, Nitrate-Nitrite, Colorimetric, Automated, Hydrazine Reduction	4	Colorimetric, Auto., Hydr-Red.-Nitrate
353.2	Nitrogen, Nitrate-Nitrite, Colorimetric, Automated, Cadmium Reduction	4	Colorimetric, Auto., Cd-Red.-Nitrate
353.3	Nitrogen, Nitrate-Nitrite, Spectrophotometric, Cadmium Reduction	4	Spectro., Cd-Red-Nitrate
354.1	Nitrogen, Nitrite, Spectrophotometric	4	Spectrophotometric-Nitrite
365.1	Phosphorus, All Forms, Colorimetric, Automated, Ascorbic Acid	4	Colorimetric, Auto, Ascorbic Acid-Phosphorus
365.2	Phosphorus, All Forms, Colorimetric, Ascorbic Acid, Single Reagent	4	Colorimetric, Ascorbic Acid, 1 Reag-Phosphorus
365.3	Phosphorus, All Forms, Colorimetric, Ascorbic Acid, Two Reagent	4	Colorimetric, Ascorbic Acid, 2 Reag-Phosphorus
365.4	Phosphorus, Total, Colorimetric, Automated, Block Digestor AA II	4	Colorimetric, Auto.-Phosphorus
370.1	Silica, Dissolved, Colorimetric	4	Colorimetric-Silica
375.1	Sulfate, Colorimetric, Automated, Chloranilate	4	Colorimetric, Automated-Sulfate

ATTACHMENT B - PART II

PARAMETER CODES

PARAMETER CODE/METHOD IDENTIFICATION NUMBER	METHOD TITLE	REFERENCE	PARAMETER NAME
375.3	Sulfate, Gravimetric	4	Gravimetric-Sulfate
375.4	Sulfate, Turbidimetric	4	Turbidimetric-Sulfate
376.1	Sulfide, Titrimetric, Iodine	4	Titrimetric-Sulfide
376.2	Sulfide, Colorimetric, Methylene Blue	4	Colorimetric-Sulfide
403	Bicarbonate		Bicarbonate
405.1	Biochemical Oxygen Demand BOD (5 day, 20°C)	4	5 Days 20°C -BOD
410.1	Chemical Oxygen Demand, Titrimetric, Mid-Level	4	Titrimetric-COD Mid. Level
410.2	Chemical Oxygen Demand, Titrimetric, Low Level	4	Titrimetric-COD Low Level
410.3	Chemical Oxygen Demand, Titrimetric, High Level for Saline Waters	4	Titrimetric-COD High Level
410.4	Chemical Oxygen Demand, Colorimetric, Automated; Manual	4	Spectrophotometric-COD Manual/Auto
4110	Determination of Anions by Ion Chromatography	8	Anions
413.1	Oil and Grease, Total Recoverable, Gravimetric, Separatory Funnel Extraction	4	Gravimetric-Oil & Grease
413.2	Oil and Grease, Total Recoverable, Spectrophotometric, Infrared	4	Oil and Grease (O & G) - IR Spec.
415.1	Organic Carbon, Total, Combustion or Oxidation	4	Combustion or Oxidation-TOC
415.2	Organic Carbon, Total, UV Promoted, Persulfate Oxidation		TOC-Low Level, UV Promoted
418.1	Petroleum Hydrocarbons, Total Recoverable, Spectrophotometric, Infrared	4	IR Spec-TPH, Petroleum Hydrocarbons
418.1TPH	Petroleum Hydrocarbons, Total Recoverable, Spectrophotometric, Infrared	4	Total Petroleum Hydrocarbons
4500-P/E	Phosphorus, Ascorbic Acid Method	8	Ascorbic Acid-Phosphorus
4500-P/F	Phosphorus, Automated Ascorbic Acid Reduction Method	8	Auto. Ascorbic Acid-Phosphorus
4500F/C	Fluoride, Ion-Selective Electrode Method	8	Electrode-Fluoride
4500NO2B	Nitrogen (Nitrite) Colorimetric Method	8	Colorimetric-Nitrite
4500NO3E	Nitrogen (Nitrate) Cadmium Reduction Method	8	Cadmium Red. Manual-Nitrate
4500NO3F	Nitrogen (Nitrate) Automated Reduction Method	8	Cadmium Red. Auto.-Nitrate
4500NO3H	Nitrogen (Nitrate) Automated Hydrazine Reduction	8	Automated Hydrazine-Nitrate

ATTACHMENT B - PART II

PARAMETER CODES

PARAMETER CODE/METHOD IDENTIFICATION NUMBER	METHOD TITLE	REFERENCE	PARAMETER NAME
4500S/D	Sulfide, Methylene Blue Method	8	Methylene Blue Sulfide
4500S/F	Sulfide, Iodometric Method	8	Iodometric-Sulfide
4500S04C	Sulfate, Gravimetric Method with Ignition of Residue	8	Grav.+Ignition-Sulfate
4500S04D	Sulfate, Gravimetric Method with Drying of Residue	8	Grav.+Drying-Sulfate
4500SI/D	Silica, Molybdosilicate Method	8	Molybdosilicate-Silica
504.1	1,2-Dibromethane (EDB), 1,2-Dibromo-3-chloropropane (DBCP), and 1,2,3-Trichloropropane (123 TCP) in Water by Microextraction and Gas Chromatography (Rev. 1.1, 1995)	9	EDB, DBCP & 123TCP, Microextraction & GC
5210/B	Biochemical Oxygen Demand (BOD), 5 Day BOD Test	8	5 Day-BOD
5220/C	Chemical Oxygen Demand (COD), Closed Reflux, Titrimetric Method	8	Titrimetric-COD Mid Level
5220/D	Chemical Oxygen Demand (COD), Closed Reflux, Colorimetric Method	8	Spectrophotometric-COD Manual/Auto
524.2	Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry (Rev. 4.0, 1992)	9	Measurement of Purgeable Organic Compounds in Water - Capillary Column by GC/MS
524.2+	Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry (Rev. 4.0, 1992)	9	524.2 Plus Additional Compounds
525.2	Determination of Organic Compounds in Drinking Water by Liquid-Solid Extraction and Capillary Column Gas Chromatography/Mass Spectrometry (Rev. 2.0, 1995)	9	Determination of Organic Compounds in DW by Liquid Solid Extraction Capillary Column by GC/MS
5310/B	Total Organic Carbon (TOC) Combustion-Infrared Method	8	Combustion-Infrared-TOC
5310/C	Total Organic Carbon (TOC) Persulfate-Ultraviolet Oxidation Method	8	Persulfate-UV Oxidation-TOC
5310/D	Total Organic Carbon (TOC) Wet-Oxidation Method	8	Wet-Oxidation-TOC
551.1	Detection of Chlorination Disinfection Byproducts and Chlorinated Solvents, and Halogenated Pesticides/Herbicides in Drinking Water by Liquid/Liquid Extraction and Gas Chromatography with Electron-Capture Detection	9	Det. Chloro. Disin. Byprods, Chloro Solv. by LL&GC
5520/B	Oil and Grease Partition-Gravimetric Method	8	Gravimetric-Oil & Grease
5520/C&F	Oil and Grease Partition-Infrared Method and Hydrocarbons	8	IR Spec-TPH, Petroleum, Hydrocarbon
601	Purgeable Halocarbons (Trap-GC/Hall Detector-Electrolytic Conductivity Detector)	10	Purgeable Halocarbons Trap-GC/ELCD
602	Purgeable Aromatics (Trap-GC/PID)	10	Purgeable Aromatics Trap-GC/PID

ATTACHMENT B - PART II

PARAMETER CODES

PARAMETER CODE/METHOD IDENTIFICATION NUMBER	METHOD TITLE	REFERENCE	PARAMETER NAME
608	Organochlorine Pesticides and PCBs by (GC/ECD)	10	Organochlorine Pest PCB-GC/ECD
624	Purgeables (Trap-GC/MS)	10	Purgeable Trap-GC/MS
625	Base/Neutrals and Acids (GC/MS)	10	Base/Neutrals&Acids Extr. GC/MS
8015A	Nonhalogenated Volatile Organics by Gas Chromatography	5	Nonhalogenated Volatile Org GC
8080A	Organochlorine Pesticides and Polychlorinated Biphenyls by Gas Chromatography (Rev. 1, 1994)	5	Organochlorine Pest.&PCB by GC/ECD
8240B	Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS) (Rev.2, 1994)	5	Volatile Organic Compounds by GC/MS
8270B	Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Column Technique (Rev. 2, 1994)	5	Semivolatile Organic Compounds by GC/MS
8290	Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by High-Resolution Gas Chromatography/High - Resolution Mass Spectrometry (HRGC/HRMS) (Rev.0, 1994)	5	PCDDS & PCDFS by HRGC/MS
ASTM2974	Standard Test Method for Moisture, Ash and Organic Matter of Peat and Other Organic Matter	11	TCOC - TOT Combustible Org Content
ASTMD422	Standard Test Method for Particle-Size Analysis of Soils	11	Grain Size Analysis
ILM040CN	USEPA CLP SOW for Inorganics Analysis - ILM04.0	12	Cyanide Inorganic CLP SOW
ILM040MT	USEPA CLP SOW for Inorganics Analysis - ILM04.0	12	Metals (no CN) Inorganic CLP SOW
ILM040TL	USEPA CLP SOW for Inorganics Analysis - ILM04.0	12	Metals & Cyanide Inorganic CLP SOW
TO-1	Determination of Volatile Organic Compounds in Ambient Air using Tenax Adsorption and GC/MS	13	VOC-AIR, Tenax Tubes
TO-14	Determination of Volatile Organic Compounds in Ambient Air Using Summa Passivated Canister Sampling and GC Analysis	13	VOC-AIR, Summa Canisters
TO-2	Determination of Volatile Organic compounds in Ambient Air using Carbon Molecular Sieve Adsorption and GC/MS	13	VOC-AIR, Carbon Molecular Sieve

NOTE: The method number is incorporated into the Parameter Code

REFERENCES:

1. USEPA CLP Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration, OLM03.1, August 1994
2. NIOSH Manual of Analytical Methods (Second, Part I), NIOSH Monitoring Methods, Volume I.

ATTACHMENT B - PART II

PARAMETER CODES

3. USEPA CLP Statement of Work for Analysis of Polychlorinated Dibenzo-p-Dioxins (PCDD) and Polychlorinated Dibenzofurans (PCDF), DFLM01.0/DFLM01.1 - Rev. 12/90 and Rev. 9/91.
4. Methods for Chemical Analysis of Water and Wastes, Environmental Protection Agency, EPA-600/4-79-020
5. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, Third Edition, July 1992 and Updates
6. Method 1613: Tetra- Through Octa- Chlorinated Dioxins and Furans by Isotope Dilutions HRGC/HRMS, EPA 821-B-94-005, October 1994, Rev. B.
7. Methods for the Determination of Metals in Environmental Samples, EPA/600/4-91/010, June 1991, and Supplement I, EPA-600/R-94/111, May 1994.
8. Standard Methods for the Examination of Water and Wastewater, 19th Edition, 1995
9. Methods for the Determination of Organic Compounds in Drinking Water, December 1988, EPA/600/4-88/039 and Updates
10. Code of Federal Regulations, 40 CFR, Part 136, App. A
11. American Society for Testing and Materials
12. USEPA CLP Statement of Work for Inorganics Analysis, Multi-media, Multi-concentration, ILM04.0
13. EPA Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, EPA-600/4-84-041, May, 1987.

REGION I, EPA-NE ORGANIC REGIONAL DATA ASSESSMENT (ORDA)*

CASE #: _____ SITE NAME: _____

LAB NAME: _____ # OF SAMPLES/MATRIX: _____

SDG #: _____ VALIDATION CONTRACTOR: _____

SOW #/CONTRACT #: _____ VALIDATOR'S NAME: _____

EPA-NE DV TIER LEVEL: _____ DATE DP REC'D BY EPA-NE: _____

TPO/PO: **ACTION ____ FYI ____ DV COMPLETION DATE: _____

ANALYTICAL DATA QUALITY SUMMARY

	VOA	SV	Pest/PCB
1. Preservation and Contractual Holding Times			
2. GC/MS / GC/ECD Instrument Performance Check			
3. Initial Calibration			
4. Continuing Calibration			
5. Blanks			
6. Surrogate Compounds			
7. Internal Standards			
8. Matrix Spike/Matrix Spike Duplicate			
9. Sensitivity Check			
10. PE Samples-Accuracy Check			
11. Target Compound Identification			
12. Compound Quantitation and Reported QLs			
13. Tentatively Identified Compounds			
14. Semivolatile Cleanup/Pesticide/PCB Cleanup			
15. Data Completeness			
16. Overall Evaluation of Data			

o = Data had no problems or were qualified due to minor contractual problems.
m = Data were qualified due to major contractual problems.
z = Data were rejected as unusable due major contractual problems.

ACTION ITEMS: (z items)_____

AREAS OF CONCERN: (m items)_____

COMMENTS: _____

*This form assesses the analytical data quality in terms of contractual compliance only. It does not assess sampling errors and/or non-contractual analytical issues that affect data quality.

**Check "ACTION" only if contractual defects resulted in reduced payment/data rejection recommendations.

Validator: _____ Date: _____

INSTRUCTIONS ON REVERSE SIDE

GUIDANCE FOR COMPLETING THE ORDA

The ORDA form provides the laboratory's CLP-TPO and other contract management personnel with an overview of the contractual analysis and reporting deficiencies found in an analytical data package and identifies those contractual deficiencies that resulted in reduced payment/data rejection recommendations/actions. The ORDA form is used to summarize analytical data quality only in terms of contractual compliance. Sampling errors and non-contractual analytical errors that affect data quality are not summarized on this form, but rather are documented in the Tier I Validation Cover Letter and Tier II/III Data Validation Reports. For instance, if the sampler did not ship the samples until after the holding time had expired, a notation would not be made on the ORDA form since the laboratory is not responsible for the sampler's actions.

The ORDA form should be completed as follows:

1. Fill in all of the header information (with the exception of the TPO Action/FYI field): Case Number, Site Name, Laboratory Name, number and matrix of samples in the data package, SDG Number, Validation Contractor, SOW#/Contract#, Data Validator's Name, EPA-NE Data Validation Tier Level (i.e., I, II, III or partial II/III), Date the Data Package was received by EPA-NE, and the Data Validation Completion Date.

2. Summarize the contractual problems discovered during data validation by fraction and by evaluation criteria in the "Analytical Data Summary " table, and in the "Action Items" and "Areas of Concern" sections as described in items 3 through 6 below. Use the Data Validation Memoranda as a guide when completing the ORDA form.

3. The following qualifiers must be utilized to document contractual problems on the ORDA forms.

o	=	Data had no problems or were qualified due to minor contractual problems
m	=	Data were qualified due to major contractual problems
z	=	Data were rejected as unusable due to major contractual problems

4. If the data were acceptable, or were qualified due to minor contractual problems, enter the qualifier "o" into the appropriate column (fraction) and row (evaluation criteria). No further documentation is necessary on the ORDA form. An example of a minor problem would be a semivolatile compound that slightly exceeded the SOW-specified %RSD initial calibration criterion.

5. If the data were qualified due to major contractual problems, enter the qualifier "m" into the appropriate column (fraction) and row (evaluation criteria). Use a different superscript (m^1, m^2, etc.) for each major contractual problem identified and provide a brief description of each major problem in the "Areas of Concern" section. An example of a major contractual problem resulting in data qualification would be a semivolatile internal standard that had extremely low area counts (below the lower limit of the SOW-specified acceptance criterion) and reanalysis was not performed.

6. If the data were rejected as unusable due to major contractual problems, enter the qualifier "z" in the appropriate column (fraction) and row (evaluation criteria). Use a different superscript (z^1, z^2, etc.) for each major contractual problem identified and provide a brief description of each major problem in the "Action Items" section. An example of a major contractual problem resulting in data rejection would be contractual holding time criteria that were exceeded for volatiles.

7. Complete the TPO Action/FYI field using the information contained in the "Action Items" and "Areas of Concern" sections. TPO Action should be indicated with a check mark (√) in the space following "Action" only if the contractual defects resulted in reduced payment or data rejection. If no TPO Actions are indicated, then a check mark (√) should be placed in the space following "FYI".

8. The validator who completed the ORDA form must sign his/her name in the "Validator" field and enter the ORDA completion date in the "Date" field.

For hardcopy of Telephone Log or
Regional/Laboratory Communication Form contact:

Steve Stodola, U.S. EPA Region I
TEL: 617-918-8634
EMAIL: stodola.steve@epamail.epa.gov

Site Name _____
Reference No. _____

REGION I ORGANIC DATA VALIDATION

The following data package has been validated:

Lab Name _____
Case/Project No. _____
SDG No. _____
No. of Samples/Matrix _____

SOW/Method No. _____
Sampling Date(s) _____
Shipping Date(s) _____
Date Rec'd by lab _____

Traffic Report Sample Nos. _____
_____
_____
Trip Blank No. _____
Equipment Blank No. _____
Bottle Blank No. _____
Field Duplicate Nos. _____

PES Nos. _____

The Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, revision _____ was used to evaluate the data and/or approved modifications to the EPA-NE Functional Guidelines were used to evaluate the data and are attached to this cover page: (attach modified criteria from EPA approved QAPjP or amendment to QAPjP).

A Tier II or Tier III evaluation was used to validate the data (circle one). If a Tier II validation with a partial Tier III was used, then identify samples, parameters, etc. that received partial Tier III validation

_____
.

The data were evaluated based upon the following parameters:

- Overall Evaluation of Data
- Data Completeness (CSF Audit - Tier I)
- Preservation & Technical Holding Times
- GC/MS & GC/ECD Instrument Performance Check
- Initial & Continuing Calibrations
- Blanks
- Surrogate Compounds
- Internal Standards
- Matrix Spike/Matrix Spike Duplicate
- Field Duplicates
- Sensitivity Check
- PE Samples/Accuracy Check
- Target Compound Identification
- Compound Quantitation and Reported Quantitation Limits
- TICs
- Semivolatile and Pesticide/PCB Cleanup
- System Performance

Region I Definitions and Qualifiers:

A - Acceptable Data
J - Numerical value associated with compound is an estimated quantity.
R - The data are rejected as unusable. The R replaces the numerical value or sample quantitation limit.
U - Compound not detected at that numerical sample quantitation limit.
UJ - The sample quantitation limit is an estimated quantity.
TB, BB, EB - Compound detected in aqueous trip blank, aqueous bottle blank, or aqueous equipment blank associated with soil/sediment samples.

Validator's Name _____ Company Name _____ Phone Number _____

Date Validation Started _____ Date Validation Completed _____

EPA-NE
Data Validation Worksheet Cover Page - Page 2

Check if all criteria are met and no hard copy worksheet provided. Indicate NA if worksheet is not applicable to analytical method. Note: there is no standard worksheet for System Performance, however, the validator must document all system performance issues in the Data Validation Memorandum.

VOA/SV worksheets:

VOA/SV-Pest/PCB	COMPLETE SDG FILE (CSF) AUDIT	_____
VOA/SV-Pest/PCB-I	PRESERVATION AND HOLDING TIMES	_____
VOA/SV-II	GC/MS INSTRUMENT PERFORMANCE CHECK (TUNING)	_____
VOA/SV-III	INITIAL CALIBRATION	_____
VOA/SV-IV	CONTINUING CALIBRATION	_____
VOA/SV-Pest/PCB-V-A	BLANK ANALYSIS	_____
VOA/SV-Pest/PCB-V-B	BLANK ANALYSIS	_____
VOA-VI	VOA SURROGATE SPIKE RECOVERIES	_____
SV-VI	SV SURROGATE SPIKE RECOVERIES	_____
VOA/SV-VII	INTERNAL STANDARD PERFORMANCE	_____
VOA/SV-Pest/PCB-VIII	MATRIX SPIKE/MATRIX SPIKE DUPLICATE	_____
VOA/SV-Pest/PCB-IX	FIELD DUPLICATE PRECISION	_____
VOA/SV-Pest/PCB-X	SENSITIVITY CHECK	_____
VOA/SV-Pest/PCB-XI	ACCURACY CHECK	_____
VOA/SV-Pest/PCB-XII	TARGET COMPOUND IDENTIFICATION	_____
VOA/SV-Pest/PCB-XIII	SAMPLE QUANTITATION	_____
VOA/SV-XIV	TENTATIVELY IDENTIFIED COMPOUNDS	_____
VOA/SV-XV	SEMIVOLATILE CLEANUP	_____
TABLE II-WORKSHEET	OVERALL EVALUATION OF DATA	_____

Pest/PCB worksheets:

VOA/SV-Pest/PCB	COMPLETE SDG FILE (CSF) AUDIT	_____
VOA/SV-Pest/PCB-I	PRESERVATION AND HOLDING TIMES	_____
Pest/PCB-IIA	GC/ECD INSTRUMENT PERFORMANCE CHECK-RESOLUTION	_____
Pest/PCB-IIB	GC/ECD INSTRUMENT PERFORMANCE CHECK-RETENTION TIMES	_____
Pest/PCB-IIC	GC/ECD INSTRUMENT PERFORMANCE CHECK-ACCURACY CHECK OF INITIAL CALIBRATION	_____
Pest/PCB-IID	GC/ECD INSTRUMENT PERFORMANCE CHECK-PESTICIDE DEGRADATION	_____
Pest/PCB-III	INITIAL CALIBRATION	_____
Pest/PCB-IV	CONTINUING CALIBRATION	_____
VOA/SV-Pest/PCB-V-A	BLANK ANALYSIS	_____
VOA/SV-Pest/PCB-V-B	BLANK ANALYSIS	_____
Pest/PCB-VI	SURROGATE COMPOUNDS: SPIKE RECOVERIES AND RETENTION TIME SHIFT	_____
Pest/PCB-VII	PESTICIDE CLEANUP	_____
VOA/SV-Pest/PCB-VIII	MATRIX SPIKE/MATRIX SPIKE DUPLICATE	_____
VOA/SV-Pest/PCB-IX	FIELD DUPLICATE PRECISION	_____
VOA/SV-Pest/PCB-X	SENSITIVITY CHECK	_____
VOA/SV-Pest/PCB-XI	ACCURACY CHECK	_____
Pest/PCB-XII	COMPOUND IDENTIFICATION	_____
VOA/SV-Pest/PCB-XIII	SAMPLE QUANTITATION	_____
TABLE II-WORKSHEET	OVERALL EVALUATION OF DATA	_____

I certify that all criteria were met for the worksheets checked above.

Signature:_____ Name:_____

Date: _____

The data validator generates a Data Validation Report, applicable to Data Validation Tiers II and III, that consists of the following components in the order specified below: (Refer to Section 11 for a description of each of the Data Validation Report components).

1. Organic Regional Data Assessment/Inorganic Regional Data Assessment (ORDA/IRDA) Form
2. Data Validation Memorandum
   a. Narrative
   b. Table I-Qualifier Recommendation Summary Table
   c. Table II-Overall Evaluation of Data
   d. Table III-Tentatively Identified Compounds
   e. Data Summary Tables
3. Standard Data Validation Worksheets
   a. Manual
   b. Automated Data Review Reports (i.e., CADRE)
4. Support Documentation
   a. Copy of non-CLP analytical method, e.g., DAS methods, modified EPA methods
   b. Copies of PES Score Reports/Vendor PES QC Acceptance Limits
   c. Copies of Telephone Logs/Communication Forms for:
      - RSCC communications
      - Requests for laboratory data resubmissions/clarifications
      - Communications with samplers resolving sampling problems
      - Communications with TPO/Lead Chemist to report contractually-deficient data for rejection/reduced payment
      - Communications with EPA Site Manager concerning possible data rejection
      - EPA Site Manager authorization for alternate DV tier
   d. Copies of data supporting recommendations for reduced payment resulting from CSF Audit and/or PE sample result evaluation
   e. Original data to support recommendations for data rejection/non-payment identified from Tier II or Tier III data validation
   f. Copies of field sampling notes and/or field report supplied by field sampler
   g. Copies of EPA-approved amendments to QAPjP and/or SAP describing modified criteria to be used for validating site data
5. CSF Completeness Evidence Audit
6. DQO Summary Form

The data validator is responsible for implementing all corrective actions required by the contractor Lead Chemist in response to EPA-NE data validation oversight findings.

Overall Evaluation of Data - Data Validation Memorandum - Table II

VOLATILE ORGANICS					
DQO (list all DQOs)	Sampling and/or Analytical Method Appropriate Yes or No	Measurement Error		Sampling Variability**	Potential Usability Issues
		Analytical Error	Sampling Error*		

* The evaluation of "sampling error" cannot be completely assessed in data validation.

** Sampling variability is not assessed in data validation.

Validator: _____ Date: _____

Overall Evaluation of Data - Data Validation Memorandum - Table II

SEMIVOLATILE ORGANICS					
DQO (list all DQOs)	Sampling and/or Analytical Method Appropriate Yes or No	Measurement Error		Sampling Variability**	Potential Usability Issues
		Analytical Error	Sampling Error*		

* The evaluation of "sampling error" cannot be completely assessed in data validation.

** Sampling variability is not assessed in data validation.

Validator: _____ Date: _____

COMPLETE SDG FILE (CSF) AUDIT

Organic Fractions:_____

Missing Information	Date Lab Contacted	Date Received

Validator: _____Date: _____

Sampler:_____ Company:_____ Contacted: Yes No Date:_____

I. PRESERVATION AND HOLDING TIMES - Circle sample numbers with exceeded technical holding times or omitted preservation.
List all required preservation codes and circle omitted preservation codes.
Circle all exceeded technical holding times.
Identify extraction technique after "# of Days"/(*Extraction Code).

Sample No. (TR No.)	Matrix	Pres. Code	Date Sampled	VOA			BNA					PEST/PCB				
				Date Analyzed	# of Days from Samp. to Anal.	Action	Date Extracted	# of Days from Samp. to Extr./(*)	Date Analyzed	# of Days from Extr. to Anal.	Action	Date Extracted	# of Days from Samp. to Extr./(*)	Date Analyzed	# of Days from Extr. to Anal.	Action

Preservation Code:
1. Cool @ 4°C (± 2°)
2. Preserve with HCl to at least pH 2
3. Protect from light
4. Freeze
5. Room Temperature (Avoid excessive heat)

(*Extraction Code:)
L/L - Liquid/Liquid
SON - Sonication
SEP - Separatory Funnel
SOX - Soxhlet
SPE - Solid Phase Extraction

Action Code:
J - Estimate (J) Detected Values
UJ - Estimate (UJ) Non-Detected Values
R - Reject (R) Non-Detected Values

Validator: _____ Date: _____

II. GC/MS INSTRUMENT PERFORMANCE CHECK (TUNING)

List all Instrument Performance Checks that are outside method QC tuning acceptance criteria.

Volatile Instrument Performance Check (Compound Name)	Analysis Date and Time	Instrument	Ion(s) Affected	Percent Relative Abundance	QC Limits	Samples Affected	Action
Comments:							

Semivolatile Instrument Performance Check (Compound Name)	Analysis Date and Time	Instrument	Ion(s) Affected	Percent Relative Abundance	QC Limits	Samples Affected	Action
Comments:							

If tuning compounds and criteria are different from those specified in CLP SOW OLM03.1, then the validator should include a copy of the method-specific tuning criteria with this worksheet.

Validator:_____ Date:_____

III. INITIAL CALIBRATION - List all analytes that are outside calibration criteria.

Date of ICAL	Instrument	Parameter	Matrix	Compound	% RSD	_____ RRF	Samples Affected	Action

Comments:

Validator: _____ Date: _____

IV. CONTINUING CALIBRATION - List all analytes that are outside calibration criteria.

Date of ICAL	Date of CCAL	Instrument	Parameter	Matrix	Compound	%D	RRF	Samples Affected	Action

Comments:

Validator:_____ Date:_____

V. BLANK ANALYSIS

List the blank contamination below. Concentration Level:____

Sampler: _____ Company: _____ Contacted: Yes No Date:_____

1. Laboratory: Method, Storage and Instrument Blanks

Date Extracted	Date Analyzed	Parameter/ Matrix	Sample No. (Blank Type)	Instrument/ Column	Compound	Conc. (units)

2. Field: Equipment (Rinsate), Trip and Bottle Blanks

Date Extracted	Date Analyzed	Parameter/ Matrix	Sample No. (Blank Type)	Instrument/ Column	Compound	Conc. (units)

Validator:_____ Date:_____

3. Blank Actions - List the maximum concentrations of blank compounds.

Compound	Type of Blank	Date Blank Sampled/Originated	Max. Conc. (units)	Action Level (units)	Sample QL	Samples Affected	Action

Comments: _____

_____

Validator:_____ Date:_____

VI. VOA SURROGATE SPIKE RECOVERIES - List all surrogate compound recoveries that are outside method QC acceptance criteria.

Method	Volatile Method QC Acceptance Criteria				
	Toluene-d_8	BFB	DCE-d_4	Other:	
OLM03.2	Water 88-110 Soil 84-138	Water 86-115 Soil 59-113	Water 76-114 Soil 70-121		
OLC02.1	NA	80-120	NA		
Other:					
Sample Number/Matrix	**% Recovery**	**% Recovery**	**% Recovery**	**% Recovery**	**Action**

Validator:_____ Date:_____

VI. SV SURROGATE SPIKE RECOVERIES - List all surrogate compound recoveries that are outside method QC acceptance criteria.

Method	Base/Neutral Method QC Acceptance Criteria					
	NBZ-d_5	2-FBP	TPH-d_{14}	1,2-DCB-d_4*	Other:	
OLM03.2	Water Soil 35-114 23-120	Water Soil 43-116 30-115	Water Soil 33-141 18-137	Water Soil 16-110 20-130		
OLC02.1	40-110	30-110	20-140	NA		
Other:						
Sample Number/Matrix	**% Recovery**	**% Recovery**	**% Recovery**	**% Recovery**	**% Recovery**	**Action**

Method	Acid Method QC Acceptance Criteria					
	Phenol-d_5	2-FP	2,4,6-TBP	2-CP-d_4*	Other:	
OLM03.2	Water Soil 10-110 24-113	Water Soil 21-110 25-121	Water Soil 10-123 19-122	Water Soil 33-110 20-130		
OLC02.1	15-115	15-110	15-130	NA		
Other:						
Sample Number/Matrix	**% Recovery**	**% Recovery**	**% Recovery**	**% Recovery**	**% Recovery**	**Action**

* Advisory Surrogates - OLM03.2

Validator:_____ Date:_____

VII. INTERNAL STANDARD PERFORMANCE

List the internal standards that are outside the area count and retention time method QC acceptance criteria.
IS Area Count method QC acceptance criteria:_____
IS Retention Time method QC acceptance criteria:_____

Sample Number (TR#)	Date and Time Analyzed	Instrument	Parameter	IS Outside Area Count and/or RT Criteria	__IS Area	RT Shift	Acceptable Range (IS area or RT shift)	Action

Validator:_____ Date:_____

EPA-NE - Data Validation Worksheet
VOA/SV - Pest/PCB-VIII

VIII. MATRIX SPIKE/MATRIX SPIKE DUPLICATE - List all MS/MSD analytes that are outside method QC acceptance criteria.

Use a separate worksheet for each MS/MSD pair.

Sample # _____ Matrix _____ Concentration Level _____

Parameter	Compound	MS %Rec	MSD %Rec	RPD	Method QC Limits		Concentration			% RSD	Action
					% Rec	RPD	Unspiked Sample	MS	MSD		

Validator: _____ Date: _____

IX. FIELD DUPLICATE PRECISION - List all field duplicate analytes that are outside criteria.

Use a separate worksheet for each field duplicate pair.

Sample Number _____ Duplicate Sample Number _____ Matrix _____

Parameter	Compound	Sample Conc.	Sample QL		Duplicate Conc.	Duplicate QL		RPD	QC Acceptance Criteria RPD or NA*	Action
			SQL	2xSQL		SQL	2xSQL			

* For instances where one duplicate result is ND (or reported less than the sample QL).

Does the MS/MSD data indicate acceptable laboratory precision? Y N

Comments: _____

_____

Sampler Name: _____ Contractor Name: _____ Date Contacted: _____

Reason for Contact and resolution obtained: _____

Validator: _____ Date: _____

X. SENSITIVITY CHECK (Method Detection Limit Study)

List all compounds, surrogates, and internal standards that are outside the MDL criteria.

- Has an appropriate MDL study been submitted with seven replicates for each compound and matrix of interest? **Y N**
- Date of Preparation/Analysis: _____ Within 1 year? **Y N**
- Instrument I.D.: _____ Same as samples? **Y N**
- Column I.D.: _____ Same as samples? **Y N**

Matrix	Compound	MDL > QL	Method QC Limits < 80% or > 120%	IS Outside Area Count and/or RT Criteria	RSD > 20%	Samples Affected	Action

If an MDL study has not been submitted, use only the LFB results to evaluate data.

(Laboratory Fortified Blank) - List all LFB compounds, surrogates and internal standards that are outside criteria.

- Has an appropriate and complete LFB been submitted at the proper frequency? **Y N**
- Does it contain all target compounds at the method-required QLs? **Y N**
- Was the LFB spiked with a standard from a source (vendor) independent of the calibration standard? **Y N**

Matrix	Compound	Method QC Limits < 60% or > 140% Other:	IS Outside Area Count and/or RT Criteria	Samples Affected	Action

Validator: _____ Date: _____

XI. ACCURACY CHECK (**Performance Evaluation Results**) - List all analytes that are outside criteria.

SDG No: _____ CASE: _____

Are more than one-half of the PES analytes within criteria for each parameter. **Y N**

PE Sample Number	Ampule Number	Parameter	Type of PES	Matrix	Analyte	Conc.	Region I EPA PES Scores*	Non-EPA PES Scores**	Samples Affected	Action

* For Region I PESs indicate the Region I PES Score Report Result: Action High; Action Low; TCL MISS; TCL CONTAMINANT; TIC HIT; TIC MISS; TIC CONTAMINANT

** For Non-EPA PESs indicate the Non-EPA PES Score: PES COMPOUND MISS; PES COMPOUND CONTAMINANT; PES COMPOUND HIT (% Recovery Limits)

Validator: _____Date: _____

XII. TARGET COMPOUND IDENTIFICATION - List the analytes that are outside the acceptance criteria.

Sample Number	Compound	___MS Ions	_____RRT	Action

Validator: _____ Date: _____

XIII. SAMPLE QUANTITATION

Recalculate, from the raw data, the concentrations for one positive detect and one reported sample quantitation limit for a non-detect in a diluted sample or soil sample per fraction. (Note: Although Section XIII, C.1.a, requires that one calculation for each fraction in each sample be performed, the validator is only required to reproduce an example, for each fraction, of one positive detect and one sample quantitation limit calculation on this worksheet.)

Do all soil/sediment samples have % solids greater than 30%? **Y N**
If no, list sample numbers_____

Fraction		Calculation
VOA		
Sample No.:		
Reported Compound:		
Reported Value:		
Not Detected Compound:		
Reported Quantitation Limit:		
BNA		
Sample No.:		
Reported Compound:		
Reported Value:		
Not Detected Compound:		
Reported Quantitation Limit:		
Pesticide/PCB		
Sample No.:		
Reported Compound:		
Reported Value:		
Not Detected Compound:		
Reported Quantitation Limit:		

Validator:_____ Date:_____

XIV. TENTATIVELY IDENTIFIED COMPOUNDS (TICs)

List the 5 TICs having the highest concentration for each sample parameter.

Sample Number	Parameter	Compound	RRT	Est. Conc.	Action

Validator: _____ Date: _____

XV. SEMIVOLATILE CLEANUP - List all analytes that are outside method cleanup QC criteria.

Cleanup Procedure	Instrument # or Lot #	Date/Time GPC Calibrated or Check Solution Analyzed	Compound	% Rec	QC Limits	Samples Affected	Action

Did the GPC column meet; resolution requirements? Y or N
peak shape requirements? Y or N
retention time shift requirements? Y or N

Was the GPC calibration, Silica Gel cleanup checked at the method required frequency with correct compounds and concentrations? Y or N

Were all compounds less than QL for the GPC/Silica Gel/Acid-Partition blank? Y or N

Did the blank surrogate recoveries and IS area counts and RTs (if added) meet method QC acceptance criteria? Y or N

Comments:_____

_____

Validator:_____ Date:_____

For hardcopy of Traffic Reports contact:

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