CLARIFICATIONS TO SOM01.1

September 26, 2006

This document represents the final updated version of the clarifications made to the Contract Laboratory Program Analytical Methods for Organics Analysis, SOM01.1 dated **March 23, 2006, August 11, 2006 and September 13, 2006**. This document is intended to provide a high level summary of changes made to Exhibits B, D-Trace Volatile, D-Low-Medium Volatile, D-Semivolatile, D-Pesticide, D-Aroclor and Exhibit H. It is recommended that the document be reviewed in its entirety.

EXHIBIT/SECTION(S)	CLARIFICATION
EXHIBIT B	
B-Item 1 Exhibit B: Section 2.5.3.1.4	The following sentence: "NOTE: This form is not required for the optional analysis when submitting data using SIM technique." is updated to: "NOTE: This form is required for analysis when submitting data using SIM technique, although Instrument Performance Check information on this form is optional."
B-Item 2 Exhibit B: Section 2.5.4.1.4	The following sentence: "NOTE: This form is not required when submitting data for the analysis of Polynuclear Aromatic Hydrocarbons (PAHs)/pentachlorophenol using the SIM technique." is updated to: "NOTE: This form **is required** for analysis when submitting data for the analysis of Polynuclear Aromatic Hydrocarbons (PAHs)/pentachlorophenol using SIM technique, **although Instrument Performance Check information on this form is optional."**
B-Item 3 Exhibit B: Section 3.4.1	The following sentence: "Furthermore, pesticide instrument blank (PIBLKs) shall be reported on a per column/per analysis basis on Form I PEST" is updated to: "**For example**, pesticide instrument blank (PIBLKs) shall be reported on a per column/per analysis basis on Form I PEST."

EXHIBIT/SECTION(S)	CLARIFICATION
EXHIBIT D - TRACE VOLATILES	
TVOA-Item 1 Exhibit D - Trace Volatile: Section 10.2.10.1	The following sentence: "NOTE: If the laboratory has evidence or highly suspects, because of sample color or physical properties, that a sample may contain high concentrations of either target or non-target compounds, then SMO shall be contacted immediately." is updated to: "NOTE: If the laboratory has evidence or highly suspects, because of sample color or physical properties, that a sample **(including requested SIM analysis)** may contain high concentrations of either target or non-target compounds, then SMO shall be contacted immediately."
TVOA-Item 2 Exhibit D - Trace Volatile: Section 11.5.5	The following sentence is added: "NOTE: If the laboratory determines that SIM analysis as requested is not feasible, contact SMO for guidance."
EXHIBIT D – LOW-MED VOA	
L-MVOA-Item 1 Exhibit D – Low-Med Volatile: Section 8.1.1.2.1	The following: sentence: "For each preserved sample, samplers should send approximately 5g (weight excluding preservative) of sample containing preservative in a pre-weighed glass vial." is updated to: "For each **methanol-preserved** sample, samplers should send approximately 5g (weight excluding preservative) of sample containing preservative in a pre-weighed glass vial."
L-MVOA-Item 1a Exhibit D – Low-Med Volatile: Section 8.1.1.2.1	The following: sentence: "The Contractor shall weigh this vial immediately upon receipt and then store at less than -7 ^{o} C." is updated to: "The Contractor shall weigh this vial immediately upon receipt and then store **at 4^{o}C (± 2 ^{o}C)**."
L-MVOA-Item 2 Exhibit D – Low-Med Volatile: Section 11.2.1.4 Equation 9	The following: "AV_t = Adjusted Total Volume of the methanol extract plus soil water in milliliters(mL) determined by: $AV_t = V_t + \{W_s - [W_s (D)]\}$ Where V_t = total volume of methanol extract in milliliters (mL). This volume is typically **10 mL**,….." is updated to "AV_t = Adjusted Total Volume of the methanol extract plus soil water in milliliters(mL) determined by: $AV_t = V_t + \{W_s - [W_s (D)]\}$ Where V_t = total volume of methanol extract in milliliters (mL). This volume is typically **5 mL**,….."

EXHIBIT D - SEMIVOLATILES

SV-Item 1

Exhibit D - Semivolatile: Section 11.2.1.6.1, Equation 5: Concentration of Water Sample

The equation is further expanded to allow for greater flexibility in the preparation and cleanup steps as follows:

$$\text{Concentration } \mu\text{g/L} = \left(\frac{A_x \times I_s}{A_{is} \times \overline{RRF}}\right)\left(\frac{DF}{V_a}\right)\left(\frac{V_t}{V_o}\right)\left(\frac{CV_{out}}{CV_{in}}\right)_1\left(\frac{CV_{out}}{CV_{in}}\right)_2 \cdots \left(\frac{CV_{out}}{CV_{in}}\right)_n$$

where,

A_x	=	Area of the characteristic ion for the compound to be measured
A_{is}	=	Area of the characteristic ion for the internal standard
I_s	=	Amount of internal standard added to the vial on the instrument (in ng)
$\overline{RRF}$	=	Mean Relative Response Factor determined from the initial calibration for the compound to be measured
DF	=	Dilution Factor
V_a	=	Volume of sample extract (in µL) placed on the instrument for analysis to which internal standards are added
V_t	=	Volume of extract produced by the preparation process (extraction and concentration), and before cleanup, in µL.
V_o	=	Volume of the original water sample extracted in mL.
CV_{out}	=	Volume of extract produced by a cleanup process (cleanup and concentration), in µL. There will be one value for each cleanup technique performed.
CV_{in}	=	Volume of extract subjected to a cleanup process, excluding any portion that may not pass through or is mechanically lost during the cleanup step, in µL. There will be one value for each cleanup technique performed.

SV-Item 2

Exhibit D - Semivolatile: Section 11.2.1.6.2, Equation 6: Concentration of Soil/Sediment Sample

The equation is further expanded to allow for greater flexibility in the preparation and cleanup steps as follows:

$$\text{Concentration } \mu\text{g/kg} = \left(\frac{A_x \times I_s}{A_{is} \times \overline{RRF}}\right)\left(\frac{DF}{V_a}\right)\left(\frac{V_t}{W_t \times D}\right)\left(\frac{CV_{out}}{CV_{in}}\right)_1\left(\frac{CV_{out}}{CV_{in}}\right)_2 \cdots \left(\frac{CV_{out}}{CV_{in}}\right)_n$$

where,

$A_x, A_{is}, I_s,$ $\overline{\text{RRF}}$, DF, V_a, V_t, CV_{out}, and CV_{in}, are the same as Equation 5 above.

W_t = Weight of the original soil sample extracted in g.

$$D = \frac{100 - \%\text{Moisture}}{100}$$

SV-Item 3

Exhibit D - Semivolatile: Section 11.2.3.1, Equation 7: Aqueous Adjusted CRQL

The equation is further expanded to allow for greater flexibility in the preparation and cleanup steps as follows:

$$\text{Adjusted CRQL} = (\text{Contract CRQL})\left(\frac{V_x}{V_o}\right)\left(\frac{V_t}{V_y}\right)(\text{DF})\left(\frac{CV_{out}}{CV_{in}}\right)_1\left(\frac{CV_{out}}{CV_{in}}\right)_2 \cdots \left(\frac{CV_{out}}{CV_{in}}\right)_n$$

where,

Contract CRQL = The CRQL value reported in Exhibit C – Semivolatiles (µg/L)

V_x = Contract Sample volume (1000 mL)

V_o = Volume of water extracted (in mL)

V_t = Volume of the extract produced by the preparation process (extraction and concentration) and before cleanup (in µL)

V_y = Contract concentrated extract volume (1,000 µL)

DF = Dilution Factor

CV_{out} = Volume of extract produced by a cleanup process (cleanup and concentration), in µL. There will be one value for each cleanup technique performed.

CV_{in} = Volume of extract subjected to a cleanup process, excluding any portion that may not pass through or is mechanically lost during the cleanup step, in µL. There will be one value for each cleanup technique performed.

SV-Item 4

Exhibit D - Semivolatile: Section 11.2.3.2, Equation 8: Soil/Sediment Adjusted CRQL

The equation is further expanded to allow for greater flexibility in the preparation and cleanup steps as follows:

$$\text{Adjusted CRQL} = (\text{Contract CRQL})\left(\frac{W_x}{W_s \times D}\right)\left(\frac{V_t}{V_y}\right)(DF)\left(\frac{CV_{out}}{CV_{in}}\right)_1\left(\frac{CV_{out}}{CV_{in}}\right)_2 \cdots \left(\frac{CV_{out}}{CV_{in}}\right)_n$$

where,

Contract CRQL	=	The CRQL value reported in Exhibit C – Semivolatile (µg/kg)
W_x	=	Contract sample weight (30 g for low level soil/sediment and 1.0g for medium level soil/sediment samples)
W_s	=	Weight of samples extracted (in grams)
D	=	$\frac{100 - \%\text{Moisture}}{100}$
V_t	=	Volume of the extract produced by the preparation process (extraction and concentration) and before cleanup (in µL)
V_y	=	Contract concentrated extract volume (1,000 µL)
DF	=	Dilution Factor
CV_{out}	=	Volume of extract produced by a cleanup process (cleanup and concentration), in µL. There will be one value for each cleanup technique performed.
CV_{in}	=	Volume of extract subjected to a cleanup process, excluding any portion that may not pass through or is mechanically lost during the cleanup step, in µL. There will be one value for each cleanup technique performed.

SV-Item 5 Exhibit D – Semivolatile: Section 11.4.1	The following sentence is added: "NOTE: If the laboratory determines that SIM analysis as requested is not feasible, contact SMO for guidance."
SV-Item 6 Exhibit D – Semivolatile: Table 3, Page D-64	The following: "Indeno(1,2,3-cd)pyrene 276 138, 227" is updated to: "Indeno(1,2,3-cd)pyrene 276 138, **277"**

EXHIBIT D - PESTICIDES

Pest-Item 1

Exhibit D - Pesticide: Section 11.2.1.6.1.1, Equation 14: Concentration Calculation of Target Compounds in Water Samples

The equation is further expanded to allow for greater flexibility in the preparation and cleanup steps as follows:

$$\text{Concentration } \mu g/L = \left(\frac{A_x}{\overline{CF}}\right)\left(\frac{DF}{V_i}\right)\left(\frac{V_t}{V_o}\right)\left(\frac{CV_{out}}{CV_{in}}\right)_1\left(\frac{CV_{out}}{CV_{in}}\right)_2 \cdots \left(\frac{CV_{out}}{CV_{in}}\right)_n$$

where,

A_x	=	Peak area or peak height of the compound to be measured.
$\overline{CF}$	=	Mean Calibration Factor determined from the initial calibration for the compound to be measured, in area/ng
DF	=	Dilution Factor
V_i	=	Volume of extract injected in µL
V_t	=	Volume of extract produced by the preparation process (extraction and concentration), and before cleanup, in µL.
V_o	=	Volume of the original water sample extracted in mL. Note: for instrument and sulfur blanks assume a volume of 1000mL.
CV_{out}	=	Volume of extract produced by a cleanup process (cleanup and concentration), in µL. There will be one value for each cleanup technique performed.
CV_{in}	=	Volume of extract subjected to a cleanup process, excluding any portion that may not pass through or is mechanically lost during the cleanup step, in µL. There will be one value for each cleanup technique performed.

Pest-Item 2 Exhibit D - Pesticide: Section 11.2.1.6.2.1, Equation 16	The variable "D = % dry weight or $\frac{100 - \%Moisture}{100}$" is updated to "D = $\frac{100 - \%Moisture}{100}$".

Pest-Item 3

Exhibit D - Pesticide: Section 11.2.1.6.2.1, Equation 16: Concentration of Target Compounds in Soil/Sediment Samples

The equation is further expanded to allow for greater flexibility in the preparation and cleanup steps as follows*:*

$$\text{Concentration } \mu g/kg = \left(\frac{A_x}{\overline{CF}}\right)\left(\frac{DF}{V_i}\right)\left(\frac{V_t}{W_t \times D}\right)\left(\frac{CV_{out}}{CV_{in}}\right)_1\left(\frac{CV_{out}}{CV_{in}}\right)_2 \cdots \left(\frac{CV_{out}}{CV_{in}}\right)_n$$

where,

A_x, $\overline{CF}$, DF, V_i, V_t, CV_{out}, and CV_{in}, are the same as Equation 14 above.

W_t = Weight of the original soil sample extracted in g.

$$D = \frac{100 - \%\text{Moisture}}{100}$$

Pest-Item 4

Exhibit D - Pesticide: Section 11.2.2.1, Equation 19: CRQL for Water Samples

The equation is further expanded to allow for greater flexibility in the preparation and cleanup steps as follows:

$$\text{Adjusted CRQL} = (\text{Contract CRQL})\left(\frac{V_x}{V_o}\right)\left(\frac{V_t}{V_y}\right)(DF)\left(\frac{CV_{out}}{CV_{in}}\right)_1\left(\frac{CV_{out}}{CV_{in}}\right)_2 \cdots \left(\frac{CV_{out}}{CV_{in}}\right)_n$$

where,

Contract CRQL = The CRQL value reported in Exhibit C – Pesticide (µg/L)

V_x = Contract sample volume (1000 mL)

V_o = Volume of water extracted (mL). Note: for instrument and sulfur blanks assume a volume of 1000mL.

V_t = Volume of the extract produced by the preparation process (extraction and concentration) and before cleanup (in µL)

V_y = Contract concentrated extract volume (10,000 µL)

DF = Dilution Factor

CV_{out} = Volume of extract produced by a cleanup process (cleanup and concentration), in µL. There will be one value for each cleanup technique performed.

CV_{in} = Volume of extract subjected to a cleanup process, excluding any portion that may not pass through or is mechanically lost during the cleanup step, in µL. There will be one value for each cleanup technique performed.

Pest-Item 5

Exhibit D - Pesticide: Section 11.2.2.2 Equation 20: CRQL for Soil/Sediment Samples

The equation is further expanded to allow for greater flexibility in the preparation and cleanup steps as follows:

$$\text{Adjusted CRQL} = (\text{Contract CRQL})\left(\frac{W_x}{W_s \times D}\right)\left(\frac{V_t}{V_y}\right)(DF)\left(\frac{CV_{out}}{CV_{in}}\right)_1\left(\frac{CV_{out}}{CV_{in}}\right)_2 \cdots \left(\frac{CV_{out}}{CV_{in}}\right)_n$$

where,

Contract CRQL	=	The CRQL value reported in Exhibit C – Pesticides (µg/Kg)
W_x	=	Contract sample weight (30 g)
W_s	=	Weight of sample extracted (in grams)
D	=	$\frac{100 - \%\text{Moisture}}{100}$
V_t	=	Volume of the extract produced by the preparation process (extraction and concentration) and before cleanup (in µL)
V_y	=	Contract concentrated extract volume (10,000 µL)
DF	=	Dilution Factor
CV_{out}	=	Volume of extract produced by a cleanup process (cleanup and concentration), in µL. There will be one value for each cleanup technique performed.
CV_{in}	=	Volume of extract subjected to a cleanup process, excluding any portion that may not pass through or is mechanically lost during the cleanup step, in µL. There will be one value for each cleanup technique performed.

Pest-Item 6 Exhibit D – Pesticide, Section 12.3.2.1	The following two sentences are added: "MS/MSD samples shall be analyzed unless otherwise specified on the Traffic Report/Chain of Custody Record (TR/COC). If no MS/MSD samples are specified on the TR/COC, the Contractor shall contact the Sample Management Office (SMO) to confirm that MS/MSD analyses are not required."

EXHIBIT/SECTION(S)	CLARIFICATION
EXHIBIT D - AROCLORS	
Aro-Item 1 Exhibit D - Aroclor: Section 9.2.3.5	The following is moved to the end of the Section : "Note: The single-point Aroclor standards may be analyzed after the analysis of the five levels of the Aroclor 1016/1260 standards. The steps pertaining to the instrument blank are used as part of the calibration verification as well."
Aro-Item 2 Exhibit D - Aroclor: Section 9.2.4.4	The following sentence is added at the end of the second paragraph in this section: "Calibration Factors (CF) for the surrogates must be generated for each of the five calibration standards of Aroclor 1016/1260 or from Aroclor 1016 if analyzed as a separate mixture and $\overline{CF}$ is calculated as the average of the five values."
Aro-Item 2a Exhibit D - Aroclor: Section 9.2.5.1	The sentence: "The initial calibration sequence must be analyzed according to the procedure listed in Section 9.2.3, at the concentration listed in Section 7.2.3.5, and at the frequency listed in Section 9.2.2." is updated to: "The initial calibration sequence must be analyzed according to the procedure listed in Section 9.2.3, at the concentration listed in Section **7.2.3.4**, and at the frequency listed in Section 9.2.2."
Aro-Item 3 Exhibit D - Aroclor: Section 10.2.2.3.1	The sentence: "Using a syringe or a volumetric pipet, transfer all of the hexane extract to a 10mL vial and, in a fume hood, carefully add 5mL of the 1:1 (v/v) sulfuric acid/water solution." is updated to: "Using a syringe or a volumetric pipet, transfer **an aliquot (1 or 2 mL)** of the hexane extract to a 10mL vial and, in a fume hood, carefully add 5mL of the 1:1 (v/v) sulfuric acid/water solution."
Aro-Item 4 Exhibit D - Aroclor: Section 10.2.2.3.1 and 10.2.2.3.2	The language for these two sections must be switched, that is the updated sentence for Section 10.2.2.3.1 will become Section 10.2.2.3.2 and vice versa.
Aro-Item 5 Exhibit D - Aroclor: Section 11.2.1.1.1, Equation 7: Concentration Calculation for Water Samples The equation is further expanded to allow for greater flexibility in the preparation and cleanup steps as follows: $$\text{Concentration } \mu g/L = \left(\frac{A_x}{\overline{CF}}\right)\left(\frac{DF}{V_i}\right)\left(\frac{V_t}{V_o}\right)\left(\frac{CV_{out}}{CV_{in}}\right)_1\left(\frac{CV_{out}}{CV_{in}}\right)_2 \cdots \left(\frac{CV_{out}}{CV_{in}}\right)_n$$ where,	

A_x	=	Peak area or peak height of the compound to be measured.
$\overline{CF}$	=	Mean Calibration Factor determined from the initial calibration for the compound to be measured, in area/ng.
DF	=	Dilution Factor
V_i	=	Volume of extract injected in µL.
V_t	=	Volume of extract produced by the preparation process (extraction and concentration), and before cleanup, in µL.
V_o	=	Volume of the original water sample extracted in mL.
CV_{out}	=	Volume of extract produced by a cleanup process (cleanup and concentration), in µL. There will be one value for each cleanup technique performed.
CV_{in}	=	Volume of extract subjected to a cleanup process, excluding any portion that may not pass through or is mechanically lost during the cleanup step, in µL. There will be one value for each cleanup technique performed.

Aro-Item 6

Exhibit D - Aroclor: Section 11.2.1.2.1, Equation 9: Concentration Calculation for Soil Samples
The equation is further expanded to allow for greater flexibility in the preparation and cleanup steps as follows:

$$\text{Concentration } \mu g/L = \left(\frac{A_x}{\overline{CF}}\right)\left(\frac{DF}{V_i}\right)\left(\frac{V_t}{(W_t)(D)}\right)\left(\frac{CV_{out}}{CV_{in}}\right)_1\left(\frac{CV_{out}}{CV_{in}}\right)_2 \cdots \left(\frac{CV_{out}}{CV_{in}}\right)_n$$

where,

A_x, $\overline{CF}$, DF, V_i, V_t, CV_{out}, and CV_{in} are the same as Equation 7 above.

W_t	=	Weight of the original soil sample extracted in g.
D	=	$\frac{100 - \%\text{Moisture}}{100}$

EXHIBIT/SECTION(S)	CLARIFICATION
EXHIBIT H	
Exhibit H: Section 3.1.3, Page H-9	The paragraph is updated to the following: "The "AnalysisBatch" and "AnalysisBatchEnd" link samples (including field samples, field blanks, PE samples, matrix spikes, and laboratory control samples), blanks (including method blanks, VOA instrument blanks, cleanup blanks, and storage blanks), and cleanup standards (florisil cartridge checks and GPC calibration checks) to their associated opening and closing instrument QC. All samples, blanks, and cleanup standards must have the same content for the "AnalysisBatch" element as the associated opening instrument QC (IPC, CCV, and/or instrument blank), and must have the same content for the "AnalysisBatchEnd" as the associated closing instrument QC (IPC, CCV, and/or instrument blank)."
Exhibit H: Section 6.0, Table 1, page H-23, Analysis node, AnalysisBatch element	The instructions are updated to the following: "Links this analysis to the QC sample(s) that started this specific 12-hour period. Report the same value that was reported in the AnalysisBatch element of the associated IPC (tune) and/or CCV and/or ICAL that started this sequence."
Exhibit H: Section 6.0, Table 1, page H-23, Analysis node, AnalysisBatchEnd element	The instructions are updated to the following: "Links this analysis to the QC sample(s) that ended this specific 12-hour period. Report the same value that was reported in the AnalysisBatchEnd element of the associated IPC (tune) and/or CCV that ended this sequence."
Exhibit H: Section 6.0, Table 1, page H-23, Analysis node, AnalysisType element	The instructions are updated to include the following: "Report "Reanalysis-01" for medium-level soil samples that were initially analyzed as low level (samples with an "ME" suffix)."
Exhibit H: Section 6.0, Table 1, page H-23, Analysis node, AnalyzedAmount element	The instructions, "Report the Soil Aliquot Volume (for Medium Soils) in microliters to at least two significant figures." are updated to "For Medium Level Soils, report the aliquot volume (in uL) of the methanol taken from the medium level soil extraction and placed in the purge vessel to which the internal standards are added. Leave blank for water and low-level soil samples."
Exhibit H: Section 6.0, Table 1, page H-26, Analyte node, AmountAdded element	The instructions, "Report the volume of the internal standard, DMC, or MS/MSD spiking solution added to the sample in uL." are updated to "Report the volume (in µL) of the internal standard, DMC, or spiking standard (MS/MSD) added to the sample."
Exhibit H: Section 6.0, Table 1, page H-27, Analyte node, StandardConcentration element	The instructions, "Report the concentration of the internal standard, DMC, or MS/MSD spiking solution added to the sample in ug/L." are updated to " Report the concentration (in ug/L) of the internal standard, DMC or spiking standard (MS/MSD) added to the sample."
Exhibit H: Section 6.0, Table 1, page H-31, Analysis node, AnalysisBatch element	The instructions are updated to the following: "Report the same unique laboratory-assigned identifier to each InstrumentQC analysis that is part of this QC sequence. A QC sequence may include an IPC (tune) and CCV, an IPC (tune) and initial calibration standards or a CCV by itself as required. A QC sequence may be used to start a 12-hour period, end a 12-hour

EXHIBIT/SECTION(S)	CLARIFICATION
	period or serve as both when it is used to end a previous 12-hour period and begin a new 12-hour period. Each QC sequence reported must be assigned a unique laboratory-assigned identifier."
Exhibit H: Section 6.0, Table 1, page H-31, Analysis node, AnalysisBatchEnd element	The instructions are updated to the following: "Report the same unique laboratory-assigned identifier to each InstrumentQC analysis that was reported in the AnalysisBatch element."
Exhibit H: Section 6.0, Table 1, page H-31, Analysis node, AnalyzedAmount element	The instructions, "Report the volume of the sample in microliters that internal standards are added to." are updated to "Not required." Also, this element should NOT be marked "X" for the ICAL or CCV column.
Exhibit H: Section 6.0, Table 1, page H-32, Analyte node, AmountAdded element	The instructions, "Report the volume of the standard used in microliters." are updated to "Report the volume (in uL) of the standard used."
Exhibit H: Section 6.0, Table 1, page H-33, Analyte node, StandardConcentration element	The instructions, "Report the concentration of the standard used in micrograms per liter." are updated to "Report the concentration (in ug/L) of the standard used."
Exhibit H: Section 6.0, Table 2, page H-37, Analysis node, AnalysisBatch element	The instructions are updated to the following: "Links this analysis to the QC sample(s) that started this specific 12-hour period. Report the same value that was reported in the AnalysisBatch element of the associated IPC (tune) and/or CCV and/or ICAL that started this sequence."
Exhibit H: Section 6.0, Table 2, page H-37, Analysis node, AnalysisBatchEnd element	The instructions are updated to the following: "Links this analysis to the QC sample(s) that ended this specific 12-hour period. Report the same value that was reported in the AnalysisBatchEnd element of the associated IPC (tune) and/or CCV that ended this sequence."
Exhibit H: Section 6.0, Table 2, page H-37, SamplePlusMethod node, pH element	The instructions, "Report the pH as measured by the laboratory upon receipt to the nearest tenth of a pH unit." are updated to "Report the pH as measured by the laboratory. For soil/sediment samples, report the pH to the nearest tenth of a pH unit."
Exhibit H: Section 6.0, Table 2, page H-38, Analysis node, AnalysisType element	The instructions are updated to include the following: "If a sample extract was subjected to additional cleanup steps after the initial analysis and reinjected, report "Reinjection-01"."
Exhibit H: Section 6.0, Table 2, page H-38, Analysis node, AnalyzedAmount element	The instructions, "Report the volume of sample in microliters that internal standards are added to." are updated to "Report the volume (in uL) of sample extract placed on the instrument for analysis to which the internal standards are added."
Exhibit H: Section 6.0, Table 2, page H-41, PreparationPlusCleanup node, FinalAmount element	The instructions, "Report the Final Amount of material produced upon completion of this Prep or Cleanup in microliters." are updated to "Report the Final Amount of material produced upon completion of this Prep or Cleanup (including concentration) in microliters."
Exhibit H: Section 6.0, Table 2, page H-41, PreparationPlusCleanup node, InitialAmount element	The instructions, "Report the initial amount of extracted sample used for this cleanup method in microliters." are updated to "Report the initial amount of extracted sample used for this cleanup method excluding any portion that may not pass through or is mechanically lost during the cleanup step, in microliters."

EXHIBIT/SECTION(S)	CLARIFICATION
Exhibit H: Section 6.0, Table 2, page H-41, Analyte node, AmountAdded element	The instructions, "Report the volume of the internal standard, DMC, or MS/MSD spiking solution added to the sample in uL." are updated to "Report the volume (in uL) of the DMC or spiking standard (MS/MSD) added to the sample. Report the volume (in uL) of the internal standard added to the total volume of sample extract placed on the instrument for analysis."
Exhibit H: Section 6.0, Table 2, page H-42, Analyte node, StandardConcentration element	The instructions, "Report the concentration of the internal standard, DMC, or MS/MSD spiking solution added to the sample in ug/L." are updated to "Report the concentration (in ug/L) of the DMC or spiking standard (MS/MSD) added to the sample. Report the concentration (in ug/L) of the internal standard added to the total volume of sample extract placed on the instrument for analysis."
Exhibit H: Section 6.0, Table 2, page H-45, Analysis node, AnalysisBatch element	The instructions are updated to the following: "Report the same unique laboratory-assigned identifier to each InstrumentQC analysis that is part of this QC sequence. A QC sequence may include an IPC (tune) and CCV, an IPC (tune) and initial calibration standards or a CCV by itself as required. A QC sequence may be used to start a 12-hour period, end a 12-hour period or serve as both when it is used to end a previous 12-hour period and begin a new 12-hour period. Each QC sequence reported must be assigned a unique laboratory-assigned identifier."
Exhibit H: Section 6.0, Table 2, page H-46, Analysis node, AnalysisBatchEnd element	The instructions are updated to the following: "Report the same unique laboratory-assigned identifier to each InstrumentQC analysis that was reported in the AnalysisBatch element."
Exhibit H: Section 6.0, Table 2, page H-46, Analysis node, AnalyzedAmount element	The instructions, "Report the volume of the sample in microliters that internal standards are added to." are updated to "Report the volume (in uL) of the standard in the vial itself."
Exhibit H: Section 6.0, Table 2, page H-47, Analyte node, AmountAdded element	The instructions, "Report the volume of the standard used in microliters." are updated to "Report the volume (in uL) of the standard used. This is either: (a) the volume of the standard in the vial itself, or (b) the volume of the standard spiked into the vial."
Exhibit H: Section 6.0, Table 2, page H-48, Analyte node, StandardConcentration element	The instructions, "Report the concentration of the standard used in micrograms per liter." are updated to "Report the concentration (in ug/L) of the standard used. This is either: (a) the concentration of the standard in the vial itself, or (b) the concentration of the standard spiked into the vial."
Exhibit H: Section 6.0, Table 3, page H-52, SamplePlusMethod node, pH element	The instructions, "Report the pH as measured by the laboratory upon receipt to the nearest tenth of a pH unit." are updated to "Report the pH as measured by the laboratory. For soil/sediment samples, report the pH to the nearest tenth of a pH unit."
Exhibit H: Section 6.0, Table 3, page H-53, Analysis node, AnalysisBatch element	The instructions are updated to the following: "Links this analysis to the QC sample(s) that started this specific 12-hour period. Report the same value that was reported in the AnalysisBatch element of the associated IPC (RESC) and/or IPC (PEM) and/or PIBLK and/or CCV and/or ICAL that started this sequence."

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Exhibit H: Section 6.0, Table 3, page H-53, Analysis node, AnalysisBatchEnd element	The instructions are updated to the following: "Links this analysis to the QC sample(s) that ended this specific 12-hour period. Report the same value that was reported in the AnalysisBatchEnd element of the associated PIBLK and/or IPC (PEM) and/or CCV that ended this sequence."
Exhibit H: Section 6.0, Table 3, page H-53, Analysis node, AnalysisType element	The instructions are updated to include the following: "If a sample extract was subjected to additional cleanup steps after the initial analysis and reinjected, report "Reinjection-01"."
Exhibit H: Section 6.0, Table 3, page H-53, Analysis node, AnalyzedAmount element	The instructions, "Report the volume of final extract added to the sample vial in microliters." are updated to "Report the total volume (in uL) of sample extract placed on the instrument for analysis."
Exhibit H: Section 6.0, Table 3, page H-56, PreparationPlusCleanup node, FinalAmount element	The instructions, "Report the Final Amount of material produced upon completion of this Prep or Cleanup in microliters." are updated to "Report the Final Amount of material produced upon completion of this Prep or Cleanup (including concentration) in microliters."
Exhibit H: Section 6.0, Table 3, page H-57, PreparationPlusCleanup node, InitialAmount element	The instructions, "Report the initial amount of extracted sample used for this cleanup method in microliters." are updated to "Report the initial amount of extracted sample used for this cleanup method excluding any portion that may not pass through or is mechanically lost during the cleanup step, in microliters."
Exhibit H: Section 6.0, Table 3, page H-57, Analyte node, AmountAdded element	The instructions, "Report the volume of the surrogate standard or spiking solution added to the sample in uL." are updated to "Report the volume (in uL) of the surrogate standard or spiking standard (MS/MSD/LCS) added to the sample."
Exhibit H: Section 6.0, Table 3, page H-58, Analyte node, StandardConcentration element	The instructions, "Report the concentration of the surrogate standard or spiking solution used in ug/L." are updated to "Report the concentration (in ug/L) of the surrogate standard or spiking standard (MS/MSD/LCS) added to the sample."
Exhibit H: Section 6.0, Table 3, page H-62, Analysis node, AnalysisBatch element	The instructions are updated to the following: "Report the same unique laboratory-assigned identifier to each InstrumentQC analysis that is part of this QC sequence. A QC sequence may include a PIBLK and IPC (PEM), a PIBLK and CCV or an IPC (RESC) and IPC (PEM) and initial calibration standards as required. A QC sequence may be used to start a 12-hour period, end a 12-hour period or serve as both when it is used to end a previous 12-hour period and begin a new 12-hour period. Each QC sequence reported must be assigned a unique laboratory-assigned identifier."
Exhibit H: Section 6.0, Table 3, page H-62, Analysis node, AnalysisBatchEnd element	The instructions are updated to the following: "Report the same unique laboratory-assigned identifier to each InstrumentQC analysis that was reported in the AnalysisBatch element."
Exhibit H: Section 6.0, Table 3, page H-62, Analysis node, AnalyzedAmount element	The instructions, "Report the volume of the standard placed on instrument for analysis in microliters." are updated to "Report the volume (in uL) of the standard in the vial itself."
Exhibit H: Section 6.0, Table 3, page H-	The instructions, "Report the Final Amount of material produced

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63, PreparationPlusCleanup node, FinalAmount element	upon completion of this Prep or Cleanup in microliters." are updated to "Report the Final Amount of material produced upon completion of this Prep or Cleanup (including concentration) in microliters."
Exhibit H: Section 6.0, Table 3, page H-63, PreparationPlusCleanup node, InitialAmount element	The instructions, "Report the initial amount of extracted sample used for this cleanup method in microliters." are updated to "Report the initial amount of extracted sample used for this cleanup method excluding any portion that may not pass through or is mechanically lost during the cleanup step, in microliters."
Exhibit H: Section 6.0, Table 3, page H-64, Analyte node, AmountAdded element	The instructions, "Report the volume of the standard used in microliters." are updated to "Report the volume (in uL) of the standard used. This is either: (a) the volume of the standard in the vial itself, or (b) the volume of the standard spiked into the vial."
Exhibit H: Section 6.0, Table 3, page H-64, Analyte node, PercentBreakdown element	This element should be marked "X" for the CCV column. Also, the instructions, "Report the calculated Percent Breakdown for 4,4'-DDT and Endrin to the nearest whole percent." are updated to "Report the calculated Percent Breakdown for 4,4'-DDT and Endrin to the nearest tenth of a percent for PEM standards only."
Exhibit H: Section 6.0, Table 3, page H-64, Analyte node, PercentBreakdownLimitHigh element	This element should be marked "X" for the CCV column. Also, the instructions, "Report the upper limit for the Percent_Breakdown to the nearest whole percent." are updated to "Report the upper limit for the Percent_Breakdown to the nearest tenth of a percent for PEM standards only."
Exhibit H: Section 6.0, Table 3, page H-64, Analyte node, PercentBreakdownLimitType element	This element should be marked "X" for the CCV column.
Exhibit H: Section 6.0, Table 3, page H-64, Analyte node, StandardConcentration element	The instructions, "Report the concentration of the standard used in micrograms per liter." are updated to "Report the concentration (in ug/L) of the standard used. This is either: (a) the concentration of the standard in the vial itself, or (b) the concentration of the standard spiked into the vial."
Exhibit H: Section 6.0, Table 4, page H-68, SamplePlusMethod node, pH element	The instructions, "Report the pH as measured by the laboratory upon receipt to the nearest tenth of a pH unit." are updated to "Report the pH as measured by the laboratory. For soil/sediment samples, report the pH to the nearest tenth of a pH unit."
Exhibit H: Section 6.0, Table 4, page H-69, Analysis node, AnalysisBatch element	The instructions are updated to the following: "Links this analysis to the QC sample(s) that started this specific 14-hour period. Report the same value that was reported in the AnalysisBatch element of the associated PIBLK and/or CCV(s) and/or ICAL that started this sequence."
Exhibit H: Section 6.0, Table 4, page H-69, Analysis node, AnalysisBatchEnd element	The instructions are updated to the following: "Links this analysis to the QC sample(s) that ended this specific 14-hour period. Report the same value that was reported in the AnalysisBatchEnd element of the associated PIBLK and/or CCV(s) that ended this sequence."
Exhibit H: Section 6.0, Table 4, page H-69, Analysis node, AnalysisType	The instructions are updated to include the following: "If a sample extract was subjected to additional cleanup steps after the

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element	initial analysis and reinjected, report "Reinjection-01"."
Exhibit H: Section 6.0, Table 4, page H-69, Analysis node, AnalyzedAmount element	The instructions, "Report the volume of final extract added to the sample vial in microliters." are updated to "Report the total volume (in uL) of sample extract placed on the instrument for analysis."
Exhibit H: Section 6.0, Table 4, page H-73, PreparationPlusCleanup node, InitialAmount element	The instructions, "Report the initial amount of extracted sample used for this cleanup method in microliters." are updated to "Report the initial amount of extracted sample used for this cleanup method excluding any portion that may not pass through or is mechanically lost during the cleanup step, in microliters."
Exhibit H: Section 6.0, Table 4, page H-73, PreparationPlusCleanup node, FinalAmount element	The instructions, "Report the Final Amount of material produced upon completion of this Prep or Cleanup in microliters." are updated to "Report the Final Amount of material produced upon completion of this Prep or Cleanup (including concentration) in microliters."
Exhibit H: Section 6.0, Table 4, page H-73, Analyte node, AmountAdded element	The instructions, "Report the volume of the surrogate standard or spiking solution added to the sample in uL." are updated to "Report the volume (in µL) of the surrogate standard or spiking standard (MS/MSD/LCS) added to the sample."
Exhibit H: Section 6.0, Table 4, page H-74, Analyte node, StandardConcentration element	The instructions, "Report the concentration of the surrogate standard or spiking solution used in ug/L." are updated to "Report the concentration (in ug/L) of the surrogate standard or spiking standard (MS/MSD/LCS) added to the sample."
Exhibit H: Section 6.0, Table 4, page H-77, Analysis node, AnalysisBatch element	The instructions are updated to the following: "Report the same unique laboratory-assigned identifier to each InstrumentQC analysis that is part of this QC sequence. A QC sequence may include a PIBLK and CCV(s) or initial calibration standards and PIBLK as required. A QC sequence may be used to start a 14-hour period, end a 14-hour period or serve as both when it is used to end a previous 14-hour period and begin a new 14-hour period. Each QC sequence reported must be assigned a unique laboratory-assigned identifier."
Exhibit H: Section 6.0, Table 4, page H-77, Analysis node, AnalysisBatchEnd element	The instructions are updated to the following: "Report the same unique laboratory-assigned identifier to each InstrumentQC analysis that was reported in the AnalysisBatch element."
Exhibit H: Section 6.0, Table 4, page H-78, Analysis node, AnalyzedAmount element	The instructions, "Report the volume of the standard placed on instrument for analysis in microliters." are updated to "Report the volume (in uL) of the standard in the vial itself."
Exhibit H: Section 6.0, Table 4, page H-77, InstrumentQC node, QCType element	The instructions, "Report "Initial_Calibration" or "Continuing_Calibration_Verification"." are updated to, "Report "Initial_Calibration", "Continuing_Calibration_Verification", or "GPC_Calibration_Check"."
Exhibit H: Section 6.0, Table 4, page H-79, Analyte node, AmountAdded element	The instructions, "Report the volume of the standard used in microliters." are updated to "Report the volume (in uL) of the standard used. This is either: (a) the volume of the standard in the vial itself, or (b) the volume of the standard spiked into the vial."
Exhibit H: Section 6.0, Table 4, page H-	The instructions, "Report the concentration of the standard used

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79, Analyte node, StandardConcentration element	in micrograms per liter." are updated to "Report the concentration (in ug/L) of the standard used. This is either: (a) the concentration of the standard in the vial itself, or (b) the concentration of the standard spiked into the vial."