EPA CONTRACT LABORATORY PROGRAM STATEMENT OF WORK FOR SUPERFUND ANALYTICAL METHODS

Multi-Media, Multi-Concentration

SFAM01.1

November 2020

This document updates the EPA's Contract Laboratory Program's (CLP's) Statement of Work (SOW) for Superfund Analytical Methods from SFAM01.0 to SFAM01.1. The revisions identified in this document shall be used in conjunction with the SFAM01.0 SOW. Upon implementation of this document, all SFAM01.0 SOW references shall be updated to SFAM01.1.

Exhibit, Section(s)	Revisions
All Exhibits, Sections (wherever applicable)	All references to the following terms have been revised: 1. REPLACE: "EPA Regional CLP COR" WITH: "CLP Regional Representative" 2. REPLACE: "ASB CLP COR" WITH: "CLP COR" 3. REPLACE: "OAM CO" WITH: "CLP CO"
Exhibit A, Section 5.4.4.3	The instructions for shipping container temperature measurement have been revised: "To determine the temperature of the shipping container, the Contractor shall locate the shipping container temperature indicator bottle in the sample shipping container, invert it several times, remove the cap, and

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	insert a calibrated [National Institute of Standards and Technology (NIST)-traceable] thermometer into the shipping container temperature indicator bottle. Prior to recording the temperature, the Contractor shall allow a minimum of 3 minutes, but not greater than 5 minutes, for the thermometer to equilibrate with the liquid in the bottle. BEGIN INSERTION Other devices [e.g., infrared (IR) thermometer, digital thermometers, thermocouples] which can measure temperature may be used. END INSERTION At a minimum, the thermometer used shall be capable of measuring and registering the temperature of the shipping container with an accuracy of ±1°C."
Exhibit B, Section 1.1, Table 1	The deliverables schedule and distribution requirements have been revised: INSERT AND INCREASE SUBSEQUENT ITEMS LETTERS: **Item J**: "Determination of Inductively Coupled Plasma – Atomic Emission Spectroscopy (ICP-AES) Interelement Correction (IEC) Factors" **No. of Copies[1]**: "1" **Delivery Schedule**: "Prior to analysis of field samples, annually thereafter, and after major instrument adjustments. Submission of deliverables within 7 days of determinations." **Distribution**: "X" under column "QATS"
Exhibit B, Section 1.1, Table 1, Footnote 3	The Data Receipt Date (DRD) definition has been revised: REPLACE: "The delivery and timeliness of routine deliverables [hardcopy of CSF (if requested), PDF file of the CSF, and EDD] will be determined by the Data Receipt Date (DRD) of the SDG. The DRD is the date upon which the last of the routine deliverables was received by the designated recipient. If the deliverables are due on a Saturday, Sunday, or Federal holiday, then they shall be delivered on the next business day. Deliverables received after this time will be considered late." WITH:

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	"The delivery and timeliness of routine deliverables (PDF file of the CSF and EDD) will be determined by the Data Receipt Date (DRD) of the SDG. The DRD is the date upon which the last deliverable of the PDF file of the CSF and the EDD are received by the designated recipient. The EDD must pass initial assessment to be considered "delivered". If the deliverables are due on a Saturday, Sunday, or Federal holiday, then they shall be delivered on the next business day. Compliant deliverables received after this time will be considered late."
Exhibit B, Section 2.1	INSERT AS BULLET #5: "All reports and documentation in the Complete SDG File (CSF) hardcopy, which is to be delivered to the EPA Region only if specifically requested by the EPA Region at the time of sample scheduling, shall be double-sided."
Exhibit D – Introduction, Section 5.1; and Exhibit D – ICP-AES; ICP-MS; Mercury; Cyanide; and TOC, Section 8.1.1	The pH requirements for metals (including mercury), Total Organic Carbon (TOC), and cyanide have been revised: REPLACE: pH ≤2 for metals (including mercury) and TOC; pH ≥10 for cyanide WITH: pH <2 for metals (including mercury) and TOC; pH >10 for cyanide
Exhibit D – Introduction, Section 5.1.2; Exhibit D – General, Section 10.1.2.1, bullet #2; and Exhibit D – Cyanide, Section 8.1.2	The pH level for cyanide samples at time of receipt, for which the Contractor shall notify the Sample Management Office (SMO) has been revised: REPLACE: pH <10 WITH: pH ≤10
Exhibit D – Introduction, Section 5.1.4; Exhibit D – General, Section 10.1.2.1, bullet #4; and	The pH level for TOC samples at time of receipt, for which the Contractor shall notify the Sample Management Office (SMO) has been revised: REPLACE:

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Exhibit D – TOC, Section 8.1.2	pH >2 WITH: pH ≥2
Exhibit D – General, Section 10.1.2.1, bullet #1; and Exhibit D – ICP-AES; ICP-MS; and Mercury, Section 8.1.2	The requirements for pH verification/adjustment of metals and mercury samples have been revised: REPLACE: "If the pH is >2, the Contractor shall add sufficient nitric acid to the sample to reduce the pH to ≤2, return the sample to storage for a minimum of 16 hours before proceeding with the preparation of the sample, and document the pH adjustment in the SDG Narrative." WITH: "If the pH is ≥2, the Contractor shall add sufficient nitric acid to the sample to reduce the pH to <2, return the sample to storage for a minimum of 16 hours before proceeding with the preparation of the sample, and document the pH adjustment in the SDG Narrative."
Exhibit D – General, Section 10.2.1.1.1	The instructions for preliminary evaluation of Toxicity Characteristic Leaching Procedure (TCLP) and Synthetic Precipitation Leaching Procedure (SPLP) samples have been revised: REPLACE: "If a sample will obviously yield no liquid when subjected to pressure filtration (i.e., is 100% solids), proceed to extraction." WITH: "If a sample will obviously yield no liquid when subjected to pressure filtration (i.e., is 100% solids), proceed to Section 10.2.1.3 for particle size determination
Exhibit D – General, Section 10.2.1.3	The Toxicity Characteristic Leaching Procedure (TCLP) and Synthetic Precipitation Leaching Procedure (SPLP) preliminary evaluation steps have been revised: "To determine if particle size reduction is required BEGIN INSERTION for the portion of the sample to be extracted,

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	END INSERTION using a fresh portion of sample, examine the solid portion for particle size. If the material is less than 1 centimeter (cm) in its narrowest dimension (i.e., is capable of passing through a 9.5 mm standard sieve), no particle size reduction is required. Otherwise, prepare the solid portion for extraction by crushing, cutting, or grinding the sample to meet the above criterion."
Exhibit D – Trace Volatiles and Low/Medium Volatiles, Section 9.3.5.4	The language for minimum Relative Response Factor (RRF) technical acceptance criteria in Initial Calibration for full scan analysis has been revised: REPLACE: "Up to two different target analytes and DMCs…" WITH: "Up to two different target analytes and DMCs (i.e., 2 targets + 0 DMCs, 1 target + 1 DMC, or 0 targets + 2 DMCs)…"
Exhibit D – Trace Volatiles, Sections 9.3.5.5, 9.4.5.3, 9.5.5.2, 9.5.5.3, and 9.5.5.4	The language for maximum Percent Relative Standard Deviation (%RSD) technical acceptance criteria in Initial Calibration, for maximum Percent Difference (%D) technical acceptance criteria in Initial Calibration Verification (ICV), and for minimum Relative Response Factor (RRF) and maximum %D technical acceptance criteria in Continuing Calibration Verification (CCV) for full scan analysis has been revised: REPLACE: "Up to two target analytes and DMCs…" WITH: "Up to two target analytes and DMCs (i.e., 2 targets + 0 DMCs, 1 target + 1 DMC, or 0 targets + 2 DMCs)…"
Exhibit D – Trace Volatiles, Section 9.4.5.2	The language for minimum Relative Response Factor (RRF) technical acceptance criteria in Initial Calibration Verification (ICV) for full scan analysis has been revised: REPLACE: "For an ICV for the full scan analysis, the required minimum RRF value for each target analyte and DMC is listed in Exhibit D – Trace VOA, Table 4. Target analytes and DMCs with a minimum RRF requirement of 0.010

Exhibit, Section(s)	Revisions
	must meet the criteria. Up to two target analytes and DMCs with minimum RRF requirements greater than 0.010 may fail to meet the RRF criteria listed in Exhibit D – Trace VOA, Table 4, but these compounds must still meet the minimum RRF requirement of 0.010 for the CCV to be considered acceptable." WITH: "For an ICV for the full scan analysis, the required minimum RRF value for each target analyte and DMC is listed in Exhibit D – Trace VOA, Table 4. Target analytes and DMCs with a minimum RRF requirement of 0.010 must meet the criteria. Up to two target analytes and DMCs (i.e., 2 targets + 0 DMCs, 1 target + 1 DMC, or 0 targets + 2 DMCs) with minimum RRF requirements greater than 0.010 may fail to meet the RRF criteria listed in Exhibit D – Trace VOA, Table 4, but these compounds must still meet the minimum RRF requirement of 0.010 for the ICV to be considered acceptable."
Exhibit D – Trace Volatiles, Section 12.2.2.1	The Matrix Spike (MS)/Matrix Spike Duplicate (MSD) frequency requirements have been revised: "If requested, an MS/MSD analysis shall be performed for each group of 20 BEGIN INSERTION or fewer END INSERTION field samples in an SDG, or each SDG, whichever is most frequent."
Exhibit D – Trace Volatiles; Low/Medium Volatiles; Semivolatiles; Pesticides; and Aroclors, Section 12.2.4.2	The Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Relative Percent Difference (RPD) calculation requirements have been revised: REPLACE: "Calculate the Relative Percent Difference (RPD) of the recoveries of each analyte in the MS/MSD sample using Equation 24A in Exhibit G – List of Abbreviations & Acronyms, Glossary of Terms, and Equations." WITH: "Calculate the Relative Percent Difference (RPD) of the results of each analyte in the MS/MSD sample using Equation 24A in Exhibit G – List of Abbreviations & Acronyms, Glossary of Terms, and Equations."

Exhibit, Section(s)	Revisions
Exhibit D – Trace Volatiles; Low/Medium Volatiles; Semivolatiles; and Pesticides, Section 12.4.1.1	The requirements for Method Detection Limits (MDLs) determination have been revised: REPLACE: "To determine the MDLs, the Contractor shall perform MDL studies following the procedures in Title 40 of the Code of Federal Regulations (CFR), Part 136, Appendix B, Revision 2." WITH: "To determine the MDLs, the Contractor shall perform MDL studies following the procedures in Title 40 of the Code of Federal Regulations (CFR), Part 136, Appendix B, Revision 2, with the exception of combining MDL data to assign one MDL for multiple instruments. MDLs are required to be determined for each instrument analyzing samples for the EPA Contract Laboratory Program (CLP)."
Exhibit D – Low/Medium Volatiles, Section 7.2.2.4.2	The instructions for the Deuterated Monitoring Compound (DMC) spiking solution preparation have been revised: "DMCs are to be added to each sample blank, and matrix spike/matrix spike duplicate (MS/MSD), as well as to the ICAL standards, ICV standard, and CCV standards. Use the same source of DMCs (i.e., same manufacturer and lot) for the preparation of calibration standards, initial and continuing calibration verification standards, samples, blanks, and MS/MSDs. BEGIN INSERTION Add the same DMC spiking solution to CCVs, samples, blanks, and MS/MSDs." END INSERTION
Exhibit D – Low/Medium Volatiles, Section 9.3.3.4	The Initial Calibration procedure has been revised: REPLACE: "The Contractor may analyze different matrices in the same 12-hour period under the same tune, as long as separate calibration verifications are performed for each matrix within that 12-hour period." WITH:

Exhibit, Section(s)	Revisions
	"The Contractor may analyze different matrices in the same 12-hour period, as long as separate calibration verifications are performed for each matrix within that 12-hour period."
Exhibit D – Low/Medium Volatiles, Sections 9.3.5.5, 9.4.5.2, 9.4.5.3, 9.5.5.2 and 9.5.5.4	The language for maximum Percent Relative Standard Deviation (%RSD) technical acceptance criteria in Initial Calibration, and for minimum Relative Response Factor (RRF) and maximum Percent Difference (%D) technical acceptance criteria in Initial Calibration Verification (ICV) and Continuing Calibration Verification (CCV) has been revised: REPLACE: "Up to two target analytes and DMCs…" WITH: "Up to two target analytes and DMCs (i.e., 2 targets + 0 DMCs, 1 target + 1 DMC, or 0 targets + 2 DMCs)…"
Exhibit D – Low/Medium Volatiles, Section 9.5.5.3	The language for maximum Percent Difference (%D) technical acceptance criteria in opening Continuing Calibration Verification (CCV) has been revised: REPLACE: "Up to two target analytes and DMCs with maximum %D requirements of less than 40.0% may fail to meet the maximum %D criteria listed in Exhibit D – Low/Med VOA, Table 4, but these compounds must still meet the maximum %RSD requirement of 40.0% for the CCV to be considered acceptable." WITH: "Up to two target analytes and DMCs (i.e., 2 targets + 0 DMCs, 1 target + 1 DMC, or 0 targets + 2 DMCs) with maximum %D requirements of less than 40.0% may fail to meet the maximum %D criteria listed in Exhibit D – Low/Med VOA, Table 4, but these compounds must still meet the maximum %D requirement of 40.0% for the CCV to be considered acceptable."
Exhibit D – Low/Medium Volatiles, Section 12.2.2.1	The Matrix Spike (MS)/Matrix Spike Duplicate (MSD) frequency requirements have been revised as follows: "If requested, an MS/MSD analysis shall be performed for each group of 20 BEGIN INSERTION

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	or fewer END INSERTION field samples of a similar matrix in an SDG.”
Exhibit D – Low/Medium Volatiles, Section 17.0, Table 9	The list of target analytes associated with 1,4-Dichlorobenzene-d_4 (IS) internal standard has been revised: INSERT: “1,2,3-Trichloropropane”
Exhibit D – Semivolatiles, Section 9.3.5.4	The language for minimum Relative Response Factor (RRF) technical acceptance criteria in Initial Calibration for full scan analysis has been revised: REPLACE: “Up to four different target analytes and DMCs…” WITH: “Up to four different target analytes and DMCs (i.e., 4 targets + 0 DMCs, 3 targets + 1 DMC, 2 targets + 2 DMCs, 1 target + 3 DMCs, or 0 targets + 4 DMCs)…”
Exhibit D – Semivolatiles, Sections 9.3.5.5, 9.4.5.2, 9.4.5.3, and 9.5.5.2	The language for maximum Percent Relative Standard Deviation (%RSD) technical acceptance criteria in Initial Calibration, for minimum Relative Response Factor (RRF) and maximum Percent Difference (%D) technical acceptance criteria in Initial Calibration Verification (ICV), and for minimum RRF technical acceptance criteria in Continuing Calibration Verification (CCV) for full scan analysis has been revised: REPLACE: “Up to four target analytes and DMCs…” WITH: “Up to four target analytes and DMCs (i.e., 4 targets + 0 DMCs, 3 targets + 1 DMC, 2 targets + 2 DMCs, 1 target + 3 DMCs, or 0 targets + 4 DMCs)…”
Exhibit D – Semivolatiles, Sections 9.3.5.6, 9.3.5.7, and 9.3.5.8	The language for minimum Relative Response Factor (RRF) and maximum Percent Relative Standard Deviation (%RSD) technical acceptance criteria in Initial Calibration for optional analysis of Polynuclear Aromatic

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	Hydrocarbons (PAHs) and pentachlorophenol (PCP) by full scan or Selected Ion Monitoring (SIM) technique has been revised: REPLACE: "Up to two different target analytes and DMCs…" WITH: "Up to two different target analytes and DMCs (i.e., 2 targets + 0 DMCs, 1 target + 1 DMC, or 0 targets + 2 DMCs)…"
Exhibit D – Semivolatiles, Sections 9.4.5.4, 9.4.5.5, 9.4.5.6, 9.5.5.5, 9.5.5.6, 9.5.5.7, and 9.5.5.8	The language for minimum Relative Response Factor (RRF) and maximum Percent Difference (%D) technical acceptance criteria in Initial Calibration Verification (ICV) and for minimum RRF and maximum %D technical acceptance criteria in Continuing Calibration Verification (CCV) for optional analysis of Polynuclear Aromatic Hydrocarbons (PAHs) and pentachlorophenol (PCP) by full scan or Selected Ion Monitoring (SIM) technique has been revised: REPLACE: "Up to two target analytes and DMCs…" WITH: "Up to two target analytes and DMCs (i.e., 2 targets + 0 DMCs, 1 target + 1 DMC, or 0 targets + 2 DMCs)…"
Exhibit D – Semivolatiles, Section 9.5.1	The Continuing Calibration Verification (CCV) analysis requirements have been revised as follows: REPLACE: "If the closing CCV meets opening CCV criteria, an additional DFTPP tune is not required and the next 12-hour period begins with this CCV." WITH: "If the closing CCV meets opening CCV criteria, the next 12-hour period begins with this CCV."
Exhibit D – Semivolatiles, Section 9.5.5.3	The language for maximum Percent Difference (%D) technical acceptance criteria in opening Continuing Calibration Verification (CCV) for full scan analysis has been revised: REPLACE:

Exhibit, Section(s)	Revisions
	"Up to four target analytes and DMCs with maximum %D requirements of less than 40.0% may fail to meet the maximum %D criteria listed in Exhibit D – SVOA, Table 5, but these compounds must still meet the maximum %RSD requirement of 40.0% for the CCV to be considered acceptable." WITH: "Up to four target analytes and DMCs (i.e., 4 targets + 0 DMCs, 3 targets + 1 DMC, 2 targets + 2 DMCs, 1 target + 3 DMCs, or 0 targets + 4 DMCs) with maximum %D requirements of less than 40.0% may fail to meet the maximum %D criteria listed in Exhibit D – SVOA, Table 5, but these compounds must still meet the maximum %D requirement of 40.0% for the CCV to be considered acceptable."
Exhibit D – Semivolatiles, Section 9.5.5.4	The language for maximum Percent Difference (%D) technical acceptance criteria in closing Continuing Calibration Verification (CCV) for full scan analysis has been revised: REPLACE: "Up to six target analytes and DMCs…" WITH: "Up to six target analytes and DMCs (i.e., 6 targets + 0 DMCs, 5 targets + 1 DMC, 4 targets + 2 DMCs, 3 targets + 3 DMCs, 2 targets + 4 DMCs, 1 target + 5 DMCs, or 0 targets + 6 DMCs)…"
Exhibit D – Semivolatiles, Section 10.2.3.1	The language for aqueous/water samples final extract volume has been revised: REPLACE: "For aqueous/water samples that underwent GPC cleanup, the extract shall be brought to a final volume equal to V_{out}…" WITH: "For aqueous/water samples that underwent GPC cleanup, the extract shall be brought to a final volume equal to CV_{out}…"
Exhibit D – Semivolatiles, Section 12.1.2.2, bullet #1	The language has been revised: REPLACE:

Exhibit, Section(s)	Revisions
	"Be prepared with the same procedures and reagents used to extract and cleanup the samples…" WITH: "Be prepared with the same procedures and reagents used to extract and clean up the samples…"
Exhibit D – Semivolatiles, Section 12.2.2.1	The Matrix Spike (MS)/Matrix Spike Duplicate (MSD) frequency requirements have been revised as follows: "If requested, an MS/MSD analysis shall be performed for each group of 20 BEGIN INSERTION or fewer END INSERTION field samples of a similar matrix in an SDG."
Exhibit D – Semivolatiles, Section 12.3.3.2, NOTE 2	The procedure for low-level soil/sediment and waste Laboratory Control Sample (LCS) preparation has been revised as follows: REPLACE: "For analysis of 1,4-Dioxane only by the full scan method, add 500 µL of LCS spiking solution corresponding to 16 µg of 1,4-Dioxane spiking analyte, and add 500 µL of DMC spiking solution corresponding to 8.0 µg of the DMC (0.80 µg of the SIM DMC if extract separately)." WITH: "For analysis of 1,4-Dioxane only by the full scan method, add 500 µL of LCS spiking solution corresponding to 16 µg of 1,4-Dioxane spiking analyte, and add 500 µL of DMC spiking solution corresponding to 8.0 µg of the DMC."
Exhibit D – Semivolatiles, Section 17.0, Table 10	The list of target analytes associated with Phenanthrene-d_{10} internal standard has been revised: REMOVE: "Fluoranthene"

Exhibit, Section(s)	Revisions
Exhibit D – Pesticides, Section 17.0, Table 7	The Gel Permeation Chromatography (GPC) Calibration Verification Solution (µg/mL) column has been revised: REMOVE "0.040" from the 4,4'-DDD row INSERT: "0.040" in the 4,4'-DDT row
Exhibit D – Aroclors, Section 12.4.1.1	The requirements for Method Detection Limits (MDLs) determination have been revised: REPLACE: "To determine the MDLs for Aroclor 1016 and Aroclor 1260, the Contractor shall perform MDL studies following the procedures in Title 40 of the Code of Federal Regulations (CFR), Part 136, Appendix B, Revision 2." WITH: "To determine the MDLs for Aroclor 1016 and Aroclor 1260, the Contractor shall perform MDL studies following the procedures in Title 40 of the Code of Federal Regulations (CFR), Part 136, Appendix B, Revision 2, with the exception of combining MDL data to assign one MDL for multiple instruments. MDLs are required to be determined for each instrument analyzing samples for the EPA Contract Laboratory Program (CLP)."
Exhibit D – Aroclors, Section 17.0, Table 2, NOTE	The concentrations of surrogates tetrachloro-m-xylene and decachlorobiphenyl in the Aroclor 1242 CS1 Standard have been revised: REPLACE: Aroclor 1016 and 1260 standards can be prepared together but the other Aroclor standards (1221 - 1268) shall be prepared individually. For example, Aroclor 1016/1260 CS3 standard will contain both Aroclor 1016 and Aroclor 1260 at a concentration of 400 ng/mL, and the surrogates tetrachloro-m-xylene and decachlorobiphenyl at concentrations of 20 and 40 ng/mL, respectively. Aroclor 1242 CS1 Standard will contain only Aroclor 1242, tetrachloro-m-xylene, and decachlorobiphenyl at 100, 20, and 40 ng/mL, respectively. WITH:

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	Aroclor 1016 and 1260 standards can be prepared together but the other Aroclor standards (1221 - 1268) shall be prepared individually. For example, Aroclor 1016/1260 CS3 standard will contain both Aroclor 1016 and Aroclor 1260 at a concentration of 400 ng/mL, and the surrogates tetrachloro-m-xylene and decachlorobiphenyl at concentrations of 20 and 40 ng/mL, respectively. Aroclor 1242 CS1 Standard will contain only Aroclor 1242, tetrachloro-m-xylene, and decachlorobiphenyl at 100, 5.0, and 10 ng/mL, respectively.
Exhibit D – ICP-AES; Mercury; Cyanide; Anions; Hexavalent Chromium; and Total Organic Carbon (TOC), Section 9.6.5	The technical acceptance criteria for calibration blanks have been revised: REPLACE: “The absolute value of each calibration blank result must be less than or equal to the CRQL for aqueous/water samples for the analyte.” WITH: “The absolute value of each calibration blank result must be less than the CRQL for aqueous/water samples for the analyte.”
Exhibit D - ICP-AES; Mercury; Cyanide; Anions; Hexavalent Chromium; and Total Organic Carbon (TOC), Section 9.6.6	The corrective action criteria for calibration blanks have been revised: REPLACE: “If the absolute value of the calibration blank exceeds the CRQL for aqueous/water samples, the analysis shall be terminated, the problem corrected, the instrument recalibrated, the calibration verified, and reanalysis of all affected analytical samples analyzed since the last compliant calibration blank performed for the analytes affected.” WITH: “If the absolute value of the calibration blank is greater than or equal to the CRQL for aqueous/water samples, the analysis shall be terminated, the problem corrected, the instrument recalibrated, the calibration verified, and reanalysis of all affected analytical samples analyzed since the last compliant calibration blank performed for the analytes affected.”
Exhibit D – ICP-AES; Mercury; Cyanide; Anions; Hexavalent Chromium; and Total Organic Carbon (TOC), Section 12.1.5.1	The technical acceptance criteria for Preparation Blanks have been revised: REPLACE: “The absolute value of the Preparation Blank result must be less than or equal to the CRQL.”

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	WITH: "The absolute value of the Preparation Blank result must be less than the CRQL."
Exhibit D – ICP-AES; Mercury; Cyanide; Anions; Hexavalent Chromium; and Total Organic Carbon (TOC), Section 12.1.5.2	The technical acceptance criteria for Preparation Blanks have been revised: "For aqueous/water, soil/sediment, and waste samples, any analyte concentration in the Preparation Blank may be greater than BEGIN INSERTION or equal to END INSERTION the CRQL, if the concentration of the analyte in the associated samples is greater than or equal to 10 times the blank concentration."
Exhibit D – ICP-AES; Mercury; Cyanide; Anions; Hexavalent Chromium; and Total Organic Carbon (TOC), Section 12.1.5.3	The technical acceptance criteria for Preparation Blanks have been revised: "For aqueous/water, soil/sediment, and waste samples, any analyte concentration in the Preparation Blank may be less than BEGIN INSERTION or equal to END INSERTION the negative CRQL, if the concentration in the associated samples is greater than or equal to 10 times the CRQL."
Exhibit D – ICP-AES; Mercury; Cyanide; Anions; Hexavalent Chromium; and Total Organic Carbon (TOC), Section 12.1.6.1	The corrective action criteria for Preparation Blanks have been revised: "For aqueous/water, soil/sediment, and waste samples, if any analyte concentration in the Preparation Blank is greater than BEGIN INSERTION or equal to END INSERTION

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	the CRQL, and the concentration of the analyte in any of the associated samples is less than 10 times the blank concentration, then all samples with less than 10 times the blank concentration shall be reprepared and reanalyzed with appropriate new QC for that analyte."
Exhibit D – ICP-AES; Mercury; Cyanide; Anions; Hexavalent Chromium; and Total Organic Carbon (TOC), Section 12.1.6.2	The corrective action criteria for Preparation Blanks have been revised: "For aqueous/water, soil/sediment, and waste samples, if any analyte concentration in the Preparation Blank is less than BEGIN INSERTION or equal to END INSERTION the negative CRQL, and the concentration in any of the associated samples is less than 10 times the CRQL, then all samples with less than 10 times the CRQL concentration shall be reprepared and reanalyzed with appropriate new QC for that analyte."
Exhibit D – ICP-AES, Section 12.3.6.2	The exceptions for post-digestion spike analysis have been revised: REPLACE: "When the Matrix Spike recovery is outside the control limits and the sample result does not exceed four times the spike added, a Post-Digestion Spike analysis shall be performed for those analytes that do not meet the specified criteria (exception: Ag)." WITH: "When the Matrix Spike recovery is outside the control limits and the sample result does not exceed four times the spike added, a Post-Digestion Spike analysis shall be performed for those analytes that do not meet the specified criteria (exceptions: Ag, Sb)."
Exhibit D – ICP-AES, Section 12.7.1.1	The requirements for Method Detection Limits (MDLs) determination have been revised: REPLACE: "To determine the MDLs, the Contractor shall perform MDL studies following the procedures in Title 40 of the Code of Federal Regulations (CFR), Part 136, Appendix B, Revision 2." WITH:

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	"To determine the MDLs, the Contractor shall perform MDL studies following the procedures in Title 40 of the Code of Federal Regulations (CFR), Part 136, Appendix B, Revision 2, with the exception of combining MDL data to assign one MDL for multiple instruments. MDLs are required to be determined for each instrument analyzing samples for the EPA Contract Laboratory Program (CLP)."
Exhibit D – ICP-MS, Section 9.7.5	The technical acceptance criteria for calibration blanks have been revised: REPLACE: "The absolute value of each calibration blank result must be less than or equal to the CRQL for aqueous/water samples for the analyte." WITH: "The absolute value of each calibration blank result must be less than the CRQL for aqueous/water samples for the analyte."
Exhibit D – ICP-MS, Section 9.7.6	The corrective action criteria for calibration blanks have been revised: REPLACE: "If the absolute value of the calibration blank exceeds the CRQL for aqueous/water samples, the analysis shall be terminated, the problem corrected, the instrument recalibrated, the calibration verified, and reanalysis of all affected analytical samples analyzed since the last compliant calibration blank performed for the analytes affected." WITH: "If the absolute value of the calibration blank is greater than or equal to the CRQL for aqueous/water samples, the analysis shall be terminated, the problem corrected, the instrument recalibrated, the calibration verified, and reanalysis of all affected analytical samples analyzed since the last compliant calibration blank performed for the analytes affected."
Exhibit D – ICP-MS, Section 12.1.5.1	The technical acceptance criteria for Preparation Blanks have been revised as follows: REPLACE: "The absolute value of the Preparation Blank result must be less than or equal to the CRQL." WITH:

Exhibit, Section(s)	Revisions
	"The absolute value of the Preparation Blank result must be less than the CRQL."
Exhibit D – ICP-MS, Section 12.1.5.2	The technical acceptance criteria for Preparation Blanks have been revised as follows: "For aqueous/water, soil/sediment, and waste samples, any analyte concentration in the Preparation Blank may be greater than BEGIN INSERTION or equal to END INSERTION the CRQL, if the concentration of the analyte in the associated samples is greater than or equal to 10 times the blank concentration."
Exhibit D – ICP-MS, Section 12.1.5.3	The technical acceptance criteria for Preparation Blanks have been revised: "For aqueous/water, soil/sediment, and waste samples, any analyte concentration in the Preparation Blank may be less than BEGIN INSERTION or equal to END INSERTION the negative CRQL, if the concentration in the associated samples is greater than or equal to 10 times the CRQL."
Exhibit D – ICP-MS, Section 12.1.6.1	The corrective action criteria for Preparation Blanks have been revised: "For aqueous/water, soil/sediment, and waste samples, if any analyte concentration in the Preparation Blank is greater than BEGIN INSERTION or equal to END INSERTION the CRQL, and the concentration of the analyte in any of the associated samples is less than 10 times the blank concentration, then all samples with less than 10 times the blank concentration shall be reprepared and reanalyzed with appropriate new QC for that analyte."

Exhibit, Section(s)	Revisions
Exhibit D – ICP-MS, Section 12.1.6.2	The corrective action criteria for Preparation Blanks have been revised: "For aqueous/water, soil/sediment, and waste samples, if any analyte concentration in the Preparation Blank is less than BEGIN INSERTION or equal to END INSERTION the negative CRQL, and the concentration in any of the associated samples is less than 10 times the CRQL, then all samples with less than 10 times the CRQL concentration shall be reprepared and reanalyzed with appropriate new QC for that analyte."
Exhibit D – ICP-MS, Sections 12.7.5 and 12.7.6.1	The technical acceptance criteria for internal standard Percent Relative Intensity (%RI) have been revised: REPLACE: "The absolute response of any one internal standard, calculated as %RI, must not deviate more than ±30% from the original response in the calibration blank." WITH: "The absolute response of any one internal standard, calculated as %RI, must not deviate more than 60-125% from the original response in the calibration blank."
Exhibit D – ICP-MS, Section 12.8.1.1	The requirements for Method Detection Limits (MDLs) determination have been revised: REPLACE: "To determine the MDLs, the Contractor shall perform MDL studies following the procedures in Title 40 of the Code of Federal Regulations (CFR), Part 136, Appendix B, Revision 2." WITH: "To determine the MDLs, the Contractor shall perform MDL studies following the procedures in Title 40 of the Code of Federal Regulations (CFR), Part 136, Appendix B, Revision 2, with the exception of combining MDL data to assign one MDL for multiple instruments. MDLs are required

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	to be determined for each instrument analyzing samples for the EPA Contract Laboratory Program (CLP)."
Exhibit D – Mercury, Section 12.4.1.1	The requirements for Method Detection Limits (MDLs) determination have been revised: REPLACE: "To determine the MDLs, the Contractor shall perform MDL studies following the procedures in Title 40 of the Code of Federal Regulations (CFR), Part 136, Appendix B, Revision 2." WITH: "To determine the MDLs, the Contractor shall perform MDL studies following the procedures in Title 40 of the Code of Federal Regulations (CFR), Part 136, Appendix B, Revision 2, with the exception of combining MDL data to assign one MDL for multiple instruments. MDLs are required to be determined for each instrument analyzing samples for the EPA Contract Laboratory Program (CLP)."
Exhibit D – Cyanide, Section 10.3.1.5	The procedure for aqueous/water/SPLP leachate sample preparation by Midi-Distillation has been revised: REPLACE: "Test the sample for nitrate and/or nitrite using an appropriate test strip or kit." WITH: "Test the sample for nitrate and nitrite using an appropriate test strip or kit."
Exhibit D – Cyanide, Section 12.4.1.1	The requirements for Method Detection Limits (MDLs) determination have been revised: REPLACE: "To determine the MDLs, the Contractor shall perform MDL studies following the procedures in Title 40 of the Code of Federal Regulations (CFR), Part 136, Appendix B, Revision 2." WITH: "To determine the MDLs, the Contractor shall perform MDL studies following the procedures in Title 40 of the Code of Federal Regulations

Exhibit, Section(s)	Revisions
	(CFR), Part 136, Appendix B, Revision 2, with the exception of combining MDL data to assign one MDL for multiple instruments. MDLs are required to be determined for each instrument analyzing samples for the EPA Contract Laboratory Program (CLP)."
Exhibit D – Anions, Section 9.4.2	The Initial Calibration Verification (ICV) analysis requirements have been revised: "The ICV shall be analyzed immediately after the instrument has been calibrated BEGIN INSERTION and each day, prior to the analysis of the opening CCV and CCB." END INSERTION
Exhibit D – Anions; Hexavalent Chromium; and Total Organic Carbon (TOC), Section 12.5.1.1	The requirements for Method Detection Limits (MDLs) determination have been revised: REPLACE: "To determine the MDLs, the Contractor shall perform MDL studies following the procedures in Title 40 of the Code of Federal Regulations (CFR), Part 136, Appendix B, Revision 2." WITH: "To determine the MDLs, the Contractor shall perform MDL studies following the procedures in Title 40 of the Code of Federal Regulations (CFR), Part 136, Appendix B, Revision 2, with the exception of combining MDL data to assign one MDL for multiple instruments. MDLs are required to be determined for each instrument analyzing samples for the EPA Contract Laboratory Program (CLP)."
Exhibit E, Section 2.4	The language has been revised as follows: "The QMP shall document the following: the mission and quality policy of the organization; the specific roles, authorities, and responsibilities of management and staff with respect to QA and QC activities BEGIN INSERTION , including an organization chart END INSERTION

Exhibit, Section(s)	Revisions
	; the means by which effective communications with personnel actually performing the work are assured; the processes used to plan, implement, and assess the work performed; the process by which measures of effectiveness for QA and QC activities will be established and how frequently effectiveness will be measured; and the continual improvement based on lessons learned from previous experience.”
Exhibit E, Sections 3.3.1 and 4.4.1	The Submission of the Quality Assurance Project Plan and the Standard Operating Procedures have been revised: REPLACE: “EPA CO” WITH: “Government”
Exhibit F, Sections 6.1 and 6.3.1	References to the EPA Regional CLP COR as participant in on-site laboratory audits and recipient of related correspondence have been revised: REMOVE: “EPA Regional CLP COR”
Exhibit F, Section 4.2.6.2	The language for Proficiency Testing Audits has been revised: “Acceptable, Response Explaining Deficiencies BEGIN INSERTION May Be END INSERTION Required: Score greater than or equal to 75, but less than 90. Deficiencies exist in the Contractor’s performance. Corrective action response BEGIN INSERTION may be END INSERTION requested by EPA.”

Exhibit, Section(s)	Revisions
Exhibit G, Section 3.5, Equation 21	The following parameter associated with the calculation of Cleanup Factor has been revised: REPLACE: "CV_{in} = Reported PreparationPlusCleanup/ from each cleanup node (µL)." WITH: "CV_{out} = Reported PreparationPlusCleanup/FinalAmount from each cleanup node (µL)."
Exhibit G, Section 3.5, Equation 26A	The definition of the following parameter associated with the calculation of Laboratory Control Sample (LCS) Percent Recovery (%R) for Semivolatiles by Gas Chromatography/Mass Spectrometry (GC/MS), and Pesticides and Aroclors by GC has been revised: REPLACE: "Q_d = The Concentration value from EQs. 4C, 4D, 5D, 5E, 5E-a, 5F, 5G, or 5G-a (µg/L, µg/kg, µg, or µg/cm^2). Use a value of 0 (zero) in the calculation when the ReportedResult/ResultType for the result is "Not_Detected"." WITH: "Q_d = The Concentration value from EQs. 4B, 4C, 4D, 5C, 5D, 5E, 5E-a, 5F, 5G, or 5G-a (µg/L, µg/kg, µg, or µg/cm^2). Use a value of 0 (zero) in the calculation when the ReportedResult/ResultType for the result is "Not_Detected"."
Exhibit H, Section 3.1.16	The AnalyteGroup Node requirements have been revised: REPLACE: "Each Analysis node under a SamplePlusMethod node must contain one AnalyteGroup node for each derived analyte calculated from that analysis only (not combining results across analyses) (i.e., Hardness) when required." WITH: "Each Analysis node under a SamplePlusMethod node must contain one AnalyteGroup node for each derived analyte (e.g., Hardness) calculated from that analysis only (not combining results across analyses) when

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	required. Each AnalysisGroup node under a SamplePlusMethod node must contain one AnalyteGroup Node for each derived analyte calculated from the combined results across analyses in the AnalysisGroup.”
Exhibit H, Section 5.3	The language has been revised: REPLACE: “The Contractor must follow the delivery instructions in Exhibit B – Reporting and Deliverables Requirements, of this Statement of Work (SOW), and deliver the EDD and Portable Document Format (PDF) of the Complete SDG File (CSF) to SMO concurrently. If one of these items is delivered on a later date, the Data Receipt Date (DRD) for the SDG will be the later of the two dates.” WITH: “The Contractor must follow the delivery instructions in Exhibit B – Reporting and Deliverables Requirements, of this Statement of Work (SOW), and deliver the EDD and Portable Document Format (PDF) of the Complete SDG File (CSF) to SMO concurrently. The DRD is the date upon which the last deliverable of the EDD and the PDF file of the CSF are received by SMO. The EDD must pass initial assessment to be considered “delivered”. If the deliverables are due on a Saturday, Sunday, or Federal holiday, then they shall be delivered on the next business day. Compliant deliverables received after this time will be considered late.”
Exhibit H, Section 7.1/Table 1 and Section 7.2/Table 2	The instructions for reporting the Initial Calibration (ICAL) PEM standards in the QCType data element associated with the InstrumentQC node have been revised: REPLACE: “Initial_Performance_Check_PEM" for the PEM standards that are part of the ICAL…” WITH: “Instrument_Performance_Check_PEM" for the PEM standards that are part of the ICAL…”
Exhibit H, Section 7.1/Table 1	The instructions for Analysis/OriginalLabAnalysisID data element associated with SamplePlusMethod node have been revised: “If a dilution or reanalysis of a previously analyzed sample

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	BEGIN INSERTION extract END INSERTION is performed (with added internal standards for SVOA for example), report the Lab Analysis ID of the original sample extract that was used for the dilution or reanalysis.”
Exhibit H, Section 7.1/Table 1 and Section 7.2/Table 2	The instructions for Analysis/Analyte/Result data element associated with InstrumentQC node have been revised: “For ICB and CCB less than BEGIN INSERTION or equal to END INSERTION the negative MDL (-MDL), report a leading "-".”
Exhibit H, Section 7.1/Table 1 and Section 7.2/Table 2	The instructions for Analysis/Analyte/ResultType data element associated with InstrumentQC node have been revised: “Report "Negative" for ICB, CCB, or ICS results less than BEGIN INSERTION or equal to END INSERTION the negative MDL (-MDL).”
Exhibit H, Section 7.1/Table 1, Section 7.2/Table 2, and Section 7.3/Table 3	The instructions for ReportedResult/ResultType and Analysis/Analyte/ResultType data elements associated with SamplePlusMethod node have been revised: “Report "Negative" for PB or Inorganic LEB results less than BEGIN INSERTION or equal to END INSERTION

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	the negative MDL (-MDL)."

Appendix, Table	Revisions
Appendix A, Table 1	The Instruction for Column "LabName" in the Preliminary Results Data Deliverable table has been revised: "Report the Lab Name per the instructions for Header/LabName BEGIN INSERTION enclosed in double quotation marks (e.g., "Testing Lab")." END INSERTION
Appendix A, Table 1	The Instruction for Column "AnalyteName" in the Preliminary Results Data Deliverable table has been revised: "Report the Analyte Name per the instructions for ReportedResult/AnalyteName BEGIN INSERTION enclosed in double quotation marks (e.g., "1,1-Dichloroethene")." END INSERTION
Appendix D, Table 1	The Instruction for Column "SampleShipDate" in the Sample Delivery Group (SDG) Traffic Report/Chain of Custody (TR/COC) Records Data Deliverable table has been revised: REPLACE: "Report the date and time the sample was shipped to the laboratory. Format as YYYYMMDDTHH:MM." WITH: "Report the date the sample was shipped to the laboratory. Format as YYYYMMDD."
Appendix D, Table 1	The Instruction for Column "CollectionStartDate" in the Sample Delivery Group (SDG) Traffic Report/Chain of Custody (TR/COC) Records Data Deliverable table has been revised: REPLACE:

Appendix, Table	Revisions
	"Report the date and time this sample was collected or sample collection was started. Format as YYYYMMDDTHH:MM." WITH: "Report the date this sample was collected or sample collection was started. Format as YYYYMMDD."
Appendix D, Table 1	The Instruction for Column "CollectionEndDate" in the Sample Delivery Group (SDG) Traffic Report/Chain of Custody (TR/COC) Records Data Deliverable table has been revised: REPLACE: "Report the date and time sample collection ended if provided. Otherwise leave null. Format as YYYYMMDDTHH:MM." WITH: "Report the date sample collection ended if provided. Otherwise, leave null. Format as YYYYMMDD."
Appendix D, Table 1	The Instruction for Column "AnalysisName" in the Sample Delivery Group (SDG) Traffic Report/Chain of Custody (TR/COC) Records Data Deliverable table has been revised: REPLACE: "Report the Analysis Name." WITH: "Report the Analysis Name enclosed in double quotation marks (e.g., "1,4-Dioxane")."