Final
Quality Assurance Project Plan Addendum
Remedial Investigation
Former NIKE PR-79 Control Area
Foster, Rhode Island
DERP-FUDS D01RI0063/02

May 11, 2022

This Quality Assurance Project Plan (QAPP) Addendum provides the protocols for sample collection, handling, and storage, chain-of-custody, laboratory and field analyses, data validation, data evaluation, and reporting that are specific to groundwater, surface water, porewater and drinking water sampling and testing to be conducted at the Former NIKE PR-79 Control Area in Foster, Rhode Island ("Property"). This document summarizes updates to the Final QAPP dated September 11, 2020 for Remedial Investigation (RI) and the first QAPP Addendum, dated January 2021, for residential drinking water sampling at the Property. RI investigations were conducted in 2020 and 2021 and the field activities included herein are being conducted for the purpose of monitoring seasonal fluctuations and bolstering the risk assessment data set. This second addendum was prepared to support the United States Army Corps of Engineers (USACE) New England District with additional groundwater (overburden and bedrock) sampling, surface water and porewater sampling, and continuation of an existing annual drinking water sampling program near the Property. Data validation protocols remain unchanged from the Final QAPP dated September 11, 2020 and the drinking water QAPP Addendum dated January 14, 2021, where the first sample delivery group (SDG) and residential groundwater data will be validated to Stage 2b and the remainder validated to Stage 2a. Stage 2a data may additionally be upgraded Stage 2b following identification of issues.

This QAPP Addendum incorporates changes related to updated sampling nomenclature, sampling locations, and modified Worksheets for changes in laboratory information related to newly added analytes and/or methods. Changes in analytical methods include:

- For drinking water:
    - Semivolatile organic compounds via EPA Method 525.2 because the method used in the previously round was designed for wastewater samples, not drinking water (Method 625). The replaces previously used Method 625.
    - Pentachlorophenol via EPA Method 515.3 because the selected laboratory does not analyze for this analyte via Method 525.2.

- For groundwater, pore water, surface water and drinking water:
    - 1,4 dioxane via SIM with isotope dilution because this method is expected to yield better surrogate, laboratory control sample (LCS), and matrix spike (MS). This method is being added in addition to SVOCs via 8270D.

All other programmatic and site-specific decisions for the RI presented in the Final QAPP and first QAPP Addendum remain unchanged, including laboratory worksheets for methods that remain unchanged.

The following Summary of Changes for this UFP-QAPP Addendum table (Page 3) briefly outlines which worksheets have been updated from the original RI QAPP (September 2020) and/or Residential Drinking Water QAPP Addendum (January 2021). The table additionally provides some information and context relative to the change included in this document in comparison to the original QAPPs. The following Summary of Cross Reference for Laboratory Worksheets for Planned Field Work Under this UFP-QAPP (Page 4) summarizes where in the original QAPPs to refer for existing laboratory worksheets that remain unchanged. Please refer to the September 2020 RI QAPP and January 2021 Residential Drinking Water QAPP Addendum for all other worksheets that did not require updates for the field work included herein.

Summary of Changes for this UFP QAPP Addendum

Worksheet Number and Title	Program	Matrix	Specific Change	Description/Reason for Change
12 - Measurement Performance Criteria	Res DW	DW	SVOCs 525.2	Analysis replaces previously used Method 625 because 625 was more appropriate for waste water.
12 - Measurement Performance Criteria	Res DW	DW	Pentachlorophenol 515.3	Analysis added because the selected laboratory does not analyze for this analyte by Method 525.2
12 - Measurement Performance Criteria	Res DW	DW	1,4-dioxane by GC/MS SIM with isotope dilution	Analysis added; expected to yield better surrogate recoveries, laboratory control samples, and matrix spike.
12 - Measurement Performance Criteria	RI	GW, SW, PW	1,4-dioxane by GC/MS SIM with isotope dilution	Analysis added; expected to yield better surrogate recoveries, laboratory control samples, and matrix spike.
14 & 16 - Project Tasks and Schedule	RI and Res DW	GW, SW, PW, DW		Analytical methods revised from the original RI list (see above)
15 - Project Action Limits and Laboratory Specific Detections/Quantitation Limits	Res DW	DW	SVOCs 525.2	Method and analyte list changes from previous addendum
15 - Project Action Limits and Laboratory Specific Detections/Quantitation Limits	Res DW	DW	Pentachlorophenol 515.3	Method added - analyte could not be measured by 525.2
15 - Project Action Limits and Laboratory Specific Detections/Quantitation Limits	Res DW	DW	1,4-dioxane by GC/MS SIM with isotope dilution	Updated to add new analytical method
15 - Project Action Limits and Laboratory Specific Detections/Quantitation Limits	RI	GW, SW, PW	1,4-dioxane by GC/MS SIM with isotope dilution	Updated to add new analytical method
15 - Project Action Limits and Laboratory Specific Detections/Quantitation Limits	RI	GW, SW, PW	Removal of 1,4-dioxane from 8270 SIM method.	Per direction from USACE, new Worksheets are not provided, but it is noted here that 1,4-dioxane will only be analyzed using the isotope dilution method.
17 - Sampling Design and Rational	RI and Res DW	GW, SW, PW, DW	Sample rationale for supplemental round of sampling.	Rationale updated from the original RI based on needing additional data for seasonality and risk assessment
18 - Sampling Locations and Methods	RI and Res DW	GW, SW, PW, DW	Sample nomenclature for supplemental round of sampling.	Sampling plan updated with updated sampling nomenclature and method numbers based on revised analyte list
19 & 30 - Sample Containers, Preservations, and Hold Times	Res DW	DW	SVOCs 525.2	Added relevant collection requirements for method.
19 & 30 - Sample Containers, Preservations, and Hold Times	Res DW	DW	Pentachlorophenol 515.3	Added relevant collection requirements for method.
19 & 30 - Sample Containers, Preservations, and Hold Times	Res DW	DW	1,4-dioxane by GC/MS SIM with isotope dilution	Added relevant collection requirements for method.
19 & 30 - Sample Containers, Preservations, and Hold Times	RI	GW, SW, PW	1,4-dioxane by GC/MS SIM with isotope dilution	Added relevant collection requirements for method.
20 - Field Quality Control Summary	Res DW	DW	SVOCs 525.2	Added estimated sample counts for matrix/parameter.
20 - Field Quality Control Summary	Res DW	DW	Pentachlorophenol 515.3	Added estimated sample counts for matrix/parameter.
20 - Field Quality Control Summary	Res DW	DW	1,4-dioxane by GC/MS SIM with isotope dilution	Added estimated sample counts for matrix/parameter.
21 - Field Quality Control Summary	Res DW	DW	VOCs 524.2	Added estimated sample counts for matrix/parameter.
20 - Field Quality Control Summary	RI	GW, SW, PW	1,4-dioxane by GC/MS SIM with isotope dilution	Added estimated sample counts for matrix/parameter.
20 - Field Quality Control Summary	RI	GW, SW, PW	VOCs 8260C and VOCs 8260C SIM	Added estimated sample counts for matrix/parameter.
20 - Field Quality Control Summary	RI	GW	SVOCS 8270D SIM	Added estimated sample counts for matrix/parameter.
20 - Field Quality Control Summary	RI	GW	Total and filtered metals 6010C/6020A/7470A	Added estimated sample counts for matrix/parameter.
20 - Field Quality Control Summary	IDW	IDW	Preliminary IDW parameters	Added estimated sample counts for matrix/parameter.
23 - Analytical Standard Operating Procedures Table	Res DW	DW	SVOCs 525.2	SOP references added for method.
23 - Analytical Standard Operating Procedures Table	Res DW	DW	Pentachlorophenol 515.3	SOP references added for method.
23 - Analytical Standard Operating Procedures Table	Res DW	DW	1,4-dioxane by GC/MS SIM with isotope dilution	SOP references added for method.
23 - Analytical Standard Operating Procedures Table	RI	GW, PW, SW	1,4-dioxane by GC/MS SIM with isotope dilution	SOP references added for method.
24 - Analytical Instrument Calibration Table	Res DW	DW	SVOCs 525.2	Calibration information added for method.
24 - Analytical Instrument Calibration Table	Res DW	DW	Pentachlorophenol 515.3	Calibration information added for method.
24 - Analytical Instrument Calibration Table	Res DW	DW	1,4-dioxane by GC/MS SIM with isotope dilution	Calibration information added for method.
28 - Analytical Quality Control and Corrective Action	Res DW	DW	SVOCs 525.2	QC item information and corrective actions added for method.
28 - Analytical Quality Control and Corrective Action	Res DW	DW	Pentachlorophenol 515.3	QC item information and corrective actions added for method.
28 - Analytical Quality Control and Corrective Action	Res DW	DW	1,4-dioxane by GC/MS SIM with isotope dilution	QC item information and corrective actions added for method.
28 - Analytical Quality Control and Corrective Action	RI	GW, PW, SW	1,4-dioxane by GC/MS SIM with isotope dilution	QC item information and corrective actions added for method.

Summary of Cross Reference for Laboratory Worksheets for Planned Field Work Under this UFP QAPP Addendum

Matrix/Parameter	Analytical Method	Worksheet 12: Measurement Performance Criteria	Worksheet 15: Project Action Limits	Worksheet 23: Analytical Standard Operating Procedures	Worksheet 24: Analytical Instrument Calibration	Worksheet 28: Analytical Quality Control and Corrective Action
Groundwater						
VOCs	SW846 8260C	WS 12, page WS 12-1 of UFP-QAPP (AECOM, 2020)	WS 15 of UFP-QAPP (AECOM, 2020), page 18 of 56	WS 23 of UFP-QAPP (AECOM, 2020)	WS 24 of UFP-QAPP (AECOM, 2020)	WS 28-1 of UFP-QAPP (AECOM, 2020)
VOCs SIM	SW846 8260C SIM	WS 12, page WS 12-1 of UFP-QAPP (AECOM, 2020)	WS 15 of UFP-QAPP (AECOM, 2020), page 25 of 56	WS 23 of UFP-QAPP (AECOM, 2020)	WS 24 of UFP-QAPP (AECOM, 2020)	WS 28-2 of UFP-QAPP (AECOM, 2020)
SVOCs SIM	SW846 8270D SIM	WS 12, page WS 12-1 of UFP-QAPP (AECOM, 2020)	WS 15 of UFP-QAPP (AECOM, 2020), page 5 of 56	WS 23 of UFP-QAPP (AECOM, 2020)	WS 24 of UFP-QAPP (AECOM, 2020)	WS 28-3 of UFP-QAPP (AECOM, 2020)
1-4-dioxane (Isotope Dilution)	SW846 8270E SIM	WS 12 of this UFP-QAPP Addendum	WS 15 of this UFP-QAPP Addendum	WS 23 of this UFP-QAPP Addendum	WS 24 of this UFP-QAPP Addendum	WS 28-18 of this UFP-QAPP Addendum
Total metals	SW846 6010C/6020A/7470A	WS 12, page WS 12-2 of UFP-QAPP (AECOM, 2020)	WS 15 of UFP-QAPP (AECOM, 2020), page 9, 12 and 15 of 56	WS 23 of UFP-QAPP (AECOM, 2020)	WS 24 of UFP-QAPP (AECOM, 2020)	WS 28-5 and 28-6 of UFP-QAPP (AECOM, 2020)
Filtered metals (field filtered)	SW846 6010C/6020A/7470A	WS 12, page WS 12-2 of UFP-QAPP (AECOM, 2020)	WS 15 of UFP-QAPP (AECOM, 2020), page 9, 12 and 15 of 58	WS 23 of UFP-QAPP (AECOM, 2020)	WS 24 of UFP-QAPP (AECOM, 2020)	WS 28-5 and 28-6 of UFP-QAPP (AECOM, 2020)
Surface Water						
VOCs	SW846 8260C	WS 12, page WS 12-1 of UFP-QAPP (AECOM, 2020)	WS 15 of UFP-QAPP (AECOM, 2020), page 22 of 56	WS 23 of UFP-QAPP (AECOM, 2020)	WS 24 of UFP-QAPP (AECOM, 2020)	WS 28-1 of UFP-QAPP (AECOM, 2020)
VOCs SIM	SW846 8260C SIM	WS 12, page WS 12-1 of UFP-QAPP (AECOM, 2020)	WS 15 of UFP-QAPP (AECOM, 2020), page 27 of 56	WS 23 of UFP-QAPP (AECOM, 2020)	WS 24 of UFP-QAPP (AECOM, 2020)	WS 28-2 of UFP-QAPP (AECOM, 2020)
1,4-dioxane (Isotope Dilution)	SW846 8270E SIM	WS 12 of this UFP-QAPP Addendum	WS 15 of this UFP-QAPP Addendum	WS 23 of this UFP-QAPP Addendum	WS 24 of this UFP-QAPP Addendum	WS 28-18 of this UFP-QAPP Addendum
Porewater						
VOCs	SW846 8260C	WS 12, page WS 12-1 of UFP-QAPP (AECOM, 2020)	WS 15 of UFP-QAPP (AECOM, 2020), page 20 of 56	WS 23 of UFP-QAPP (AECOM, 2020)	WS 24 of UFP-QAPP (AECOM, 2020)	WS 28-1 of UFP-QAPP (AECOM, 2020)
VOCs SIM	SW846 8260C SIM	WS 12, page WS 12-1 of UFP-QAPP (AECOM, 2020)	WS 15 of UFP-QAPP (AECOM, 2020), page 26 of 56	WS 23 of UFP-QAPP (AECOM, 2020)	WS 24 of UFP-QAPP (AECOM, 2020)	WS 28-2 of UFP-QAPP (AECOM, 2020)
1,4-dioxane (Isotope Dilution)	SW846 8270E SIM	WS 12 of this UFP-QAPP Addendum	WS 15 of this UFP-QAPP Addendum	WS 23 of this UFP-QAPP Addendum	WS 24 of this UFP-QAPP Addendum	WS 28-18 of this UFP-QAPP Addendum
Annual Residential Sampling						
VOCs	EPA 524.2	WS 12, page WS 12-1 of UFP-QAPP (AECOM, 2020)	WS 15 of UFP-QAPP Addendum (AECOM, 2021)	WS 23 of UFP-QAPP Addendum (AECOM, 2021)	WS 24 of UFP-QAPP (AECOM, 2020)	WS 28-19 of this UFP-QAPP Addendum
SVOCs	EPA 525.2	WS 12 of this UFP-QAPP Addendum	WS 15 of this UFP-QAPP Addendum	WS 23 of this UFP-QAPP Addendum	WS 24 of this UFP-QAPP Addendum	WS 28-16 of this UFP-QAPP Addendum
Pentachlorophenol	EPA 515.3	WS 12 of this UFP-QAPP Addendum	WS 15 of this UFP-QAPP Addendum	WS 23 of this UFP-QAPP Addendum	WS 24 of this UFP-QAPP Addendum	WS 28-17 of this UFP-QAPP Addendum
1,4-dioxane (Isotope Dilution)	SW846 8270E SIM	WS 12 of this UFP-QAPP Addendum	WS 15 of this UFP-QAPP Addendum	WS 23 of this UFP-QAPP Addendum	WS 24 of this UFP-QAPP Addendum	WS 28-18 of this UFP-QAPP Addendum

Shaded rows are new for this QAPP Addendum
EPA - Environmental Protection Agency
SIM - Selected ion monitoring
SVOCs - Semivolatile organic compounds
QAPP - Quality Assurance Project Plan
UFP - Uniform Federal Policy
VOCs - Volatile Organic Compounds

QAPP Worksheet #12: Measurement Performance Criteria

Matrix: Drinking Water
Analytical Group or Method: SVOCs (525.2 by GC/MS) and Pentachlorophenol (515.3 by GC/ECD)
Concentration Level: Low

Data Quality Indicator (DQI)	QC sample or measurement performance activity	Measurement Performance Criteria
Overall Precision	Field Duplicates	RPD ≤ 30% for aqueous when detects are at least 5x LOQ or within ±2x LOQ for results <5x LOQ
Overall Precision	Matrix Spike / Matrix Spike Duplicates	See WS #28
Overall accuracy/bias (contamination)	Equipment Blanks	No analytes detected > ½ LOQ or > 1/10th the amount measured in any sample or 1/10th the regulatory limit, whichever is greater. No common contaminants detected > LOQ.
Overall accuracy/bias (matrix)	Matrix Spikes	See WS #28
Analytical Accuracy/Bias	Laboratory Control Samples	See WS #28
Sensitivity	MDL, RL	MDL determined and verified as per method. RL greater than or equal to lowest calibration standard.
Completeness	As shown under Verification on WS #34	See WS #37

MDL-Method Detection Limit
QSM – Quality Systems Manual
RL-Reporting Limit
RPD – Relative Percent Difference
WS – Worksheet

Matrix: Drinking Water, Groundwater, Surface Water, Porewater
Analytical Group or Method: 1,4-Dioxane (8270 by GC/MS-SIM via Isotope Dilution)
Concentration Level: Low

Data Quality Indicator (DQI)	QC sample or measurement performance activity	Measurement Performance Criteria
Overall Precision	Field Duplicates	RPD ≤ 30% for aqueous when detects are at least 5x LOQ or within ±2x LOQ for results <5x LOQ
Overall Precision	Matrix Spike / Matrix Spike Duplicates	See WS #28
Overall accuracy/bias (contamination)	Equipment Blanks	No analytes detected > ½ LOQ or > 1/10th the amount measured in any sample or 1/10th the regulatory limit, whichever is greater.
Overall accuracy/bias (matrix)	Matrix Spikes	See WS #28
Analytical Accuracy/Bias	Laboratory Control Samples	See WS #28
Sensitivity	LOD and LOQ Verification	Per DoD QSM
Completeness	As shown under Verification on WS #34	See WS #37

DoD – Department of Defense
LOQ – Limit of Quantitation
QSM – Quality Systems Manual
RPD – Relative Percent Difference
WS – Worksheet

QAPP Worksheets #14 /16: Project Tasks & Schedule

The following project tasks will be performed as part of the Addendum (refer to WS18 and 20 for specific VOC and SVOC method for each matrix as bottleware, preservation, etc. may differ):

- Supplemental sampling of overburden groundwater monitoring well sampling at eight (8) monitoring wells, for VOCs (full scan and SIM), SVOCs (SIM), 1,4-dioxane (SIM via isotope dilution), total metals, and dissolved metals (field filtered). Additionally, two (2) hand dug wells and five (5) piezometers will also be sampled for VOCs and 1,4-dioxane via SVOC SIM with isotope dilution only, if sufficient groundwater is present
- Supplemental sampling of bedrock groundwater monitoring well sampling at five (5) bedrock wells (17 ports) plus one offsite location for VOCs (full scan and SIM), SVOCs (SIM), 1,4-dioxane (SIM via isotope dilution), total metals, and dissolved metals (field filtered)
- Supplemental sampling of surface water and porewater sampling for VOCs (full scan and SIM at five [5] locations) or 1,4-dioxane (SIM via isotope dilution (at one [1] location)
- Periodic residential drinking water sampling at six locations for VOCs (via 524.2), SVOCs (via 525.2), pentachlorophenol (via 515.3), and 1,4-dixoane (SIM via isotope dilution)
- Investigation derived waste sampling (see Worksheet #20)

The project task is described in the schedule and text below. The rationale for the specific sampling design and approach is presented in **Worksheet #17**.

Synoptic Groundwater Gauging

Groundwater levels will be used to monitor site-wide groundwater elevations and assess groundwater flow in the overburden and bedrock. A synoptic groundwater gauging round will take place at all wells prior to purging and sampling. Synoptic water level elevation measurements will be collected from the overburden monitoring wells, piezometers, and bedrock FLUTe ports from the survey measurement point using a water level meter (Solonist 101 or equivalent). Synoptic gauging will include stream gauging stations PR79-STATION-001 and PR79-STATION-002).

Overburden Groundwater Sampling

Overburden and weathered bedrock groundwater samples will be collected from eight monitoring wells, five piezometers, and two "hand dug" wells (PR79-WL-001 (located at 41 Winsor Rd) and PR79-WL-003 (located at 33 Winsor Rd)). The complete list of monitoring wells and piezometers is provided in **Worksheet #17** and shown on **Figure 17-1**.

Prior to sampling, groundwater levels will be measured in each well using a water level meter (Solonist 101 or equivalent). The monitoring wells will be purged following low-flow sampling techniques using a bladder or peristaltic pump and disposable tubing in accordance with AECOM *SOP 3-14: Monitoring Well Sampling*. Water clarity will be visually monitored and water quality parameters, including dissolved oxygen (DO), specific conductivity (SC), oxidation-reduction potential (ORP), pH, temperature, and turbidity will be measured using a flow-through cell per the AECOM *SOP 3-24: Water Quality Parameter Testing for Groundwater Sampling*. Readings will be collected every 5 minutes until the well produces clear (silt-free) water for a minimum of 3 stable water quality readings, as outlined above in SOP 3-14. The stabilization requirements are provided in SOP 3-14. The multi-parameter water quality meter and turbidity meter will be calibrated at the beginning of each day. A calibration check will be performed at the end of each day and anytime anomalous readings are encountered. Non-disposable sampling equipment will be decontaminated between each well per AECOM *SOP 3-14: Monitoring Well Sampling*.

Once the water quality parameters reach stabilization, field samples will be collected into laboratory-supplied bottleware for the methods listed in **Worksheets #18 and #20** as (refer to **Worksheet #19 & 30** for preservation, holding time, and bottleware requirements). Samples requiring filtering will be field filtered. In addition to the normal samples, quality control samples consisting of field duplicates, matrix spike (MS), and matrix spike duplicate (MSD) will be collected as outlined in **Worksheet #20**. One trip blank (TB) will be submitted each day if normal VOC samples are collected. Sample jars will be labeled with the appropriate information, placed in a Ziploc bag, and stored in a cooler containing bagged ice to maintain a preservation, as appropriate. Samples will be quality-control checked by the field team (label correctness, completeness, etc.) and recorded on Chain-of-Custody (CoC) forms. Samples will be packaged on ice and transported via overnight commercial carrier or a laboratory courier under standard chain-of-custody procedures to the laboratory.

Bedrock Groundwater Sampling

Bedrock groundwater samples will be collected from five FLUTe bedrock wells (17 sampling ports) and one bedrock background monitoring well (DW-69/ST2, also known as PR79-WL-002, located at 23A Theodore Foster Rd). The complete list and monitoring wells and sampling ports are provided in **Worksheet #17** and shown on **Figure 17-1**.

Groundwater sampling procedures have been developed by FLUTe based on the transmissivity testing performed during the FLUTe installation. Prior to sampling, the water level inside the FLUTe liner will be gauged to ensure water has not been lost since the previous sampling round. Water will be added, if needed, to raise the water level to the specified head (as per FLUTe

guidance). Next, the water level within each sampling port will be gauged using a Solinst 102 P10 (or similar). After completion, the nitrogen gas will be connected via a regulator to the FLUTe sampling manifold. The specific sampling gas pressure (determined by FLUTe) will be used during the purge and sampling cycles. Per FLUTe guidance, the pump and sample tube should be purged at the specific purge pressure four times prior to sampling. After this, sampling at the designated sample pressure can begin on the fifth cycle. The specific sampling procedures for all five of the FLUTe bedrock wells is included in the FLUTe SOP in **Appendix D** (see original QAPP March 2020). Samples will be collected into laboratory-supplied bottleware for the methods listed in **Worksheets #18 and #20** as (refer to **Worksheet #19 & 30** for preservation, holding time, and bottleware requirements).Samples requiring filtering will be field filtered. In addition to the normal samples, quality control samples consisting of field duplicates, MS, and MSD will be collected as outlined in **Worksheet #20**. One TB will be submitted each day if normal VOC samples are collected. Sample jars will be labeled with the appropriate information, placed in a Ziploc bag, and stored in a cooler containing bagged ice to maintain a preservation, as appropriate. Samples will be quality-control checked by the field team (label correctness, completeness, etc.) and recorded on CoC forms. Samples will be packaged on ice and transported via overnight commercial carrier or a laboratory courier under standard chain-of-custody procedures to the laboratory.

Surface Water and Porewater Sample Collection

Surface water and co-located porewater samples will be collected from six (6) locations from surface water exposure areas surrounding the Property (five for VOCs and one for 1,4-dioxane). The complete list of surface water and porewater sample locations are included in **Worksheet #18** and shown on **Figure 17-2**.

A handheld global positioning system (GPS) unit will be used to locate the previous sampling locations. The coordinates for the six sample locations are provided below.

Table 14-1 – Surface Water and Pore Water Sample Location Coordinates

Location ID	Northing	Easting
WT-007	276571.12	268585.26
WT-013	275573.07	269535.64
WT-026	278985.7	267991.76
WT-027	278845.51	268144.68
WT-028	278643.7	268137.49
WT-029	278481.79	268068.97

Surface water samples will be collected first at each location in accordance with AECOM *SOP 3-10: Surface Water and Liquid Sampling*. Surface water samples should not be collected directly following a rain event. Every effort will be made to collect surface water samples after several days without precipitation so that samples will represent baseflow conditions (i.e. surface water sampling to occur following three consecutive days of zero precipitation). Additionally, meteorological data will be monitored two weeks before the start of the sampling event. Sampling will occur from downstream to upstream in locations where surface flow direction can be clearly identified; agitation of the sediment and water at shallow locations will be minimized. Physical characteristics of the sampling locations (e.g., water depth, stream width, etc.) will be documented.

Surface water samples will be pumped from the source using a peristaltic pump with disposable tubing and placed into the appropriate laboratory-supplied bottleware. At the completion of sampling at each location, field parameters including ORP, pH, SC, temperature, DO, and turbidity will be measured with a water quality meter and recorded in the field logbook or sampling form.

After completion of surface water sampling, porewater samples will be collected from the bioactive zone as defined by the United States Environmental Protection Agency (USEPA) (0 to 1 ft bgs) using a push-point sampler (i.e.: Henry sampler) in accordance with AECOM *SOP 3-45: Porewater Sampling* (USEPA, 2013). The porewater samples should specifically target the water within the interstitial pore space of sediment below the surface of the overlaying sediment and within the bioactive zone (USEPA, 2013). To achieve this, water quality parameters will be monitored prior to sampling and compared against surface water parameters to ensure surface water is not being drawn into the Henry sampler. Using the Henry sampler, U-tube manometer readings will be collected to gauge pressure differences between the porewater and surface water. This will be performed following sample collection from within the interval sampled by the Henry sampler. Refer to AECOM *SOP 3-45: Pore Water Sampling* for additional details.

Samples will be collected into laboratory-supplied bottleware for the methods listed in **Worksheets #18 and #20** as (refer to **Worksheet #19 & 30** for preservation, holding time, and bottleware requirements). In addition to the normal samples, quality control samples consisting of field duplicates, MS, and MSD will be collected as outlined in **Worksheet #20**. One TB will be submitted each day if normal VOC samples are collected. Sample jars will be labeled with the appropriate information, placed in a Ziploc bag, and stored in a cooler containing bagged ice to maintain a preservation, as appropriate. Samples will be quality-control checked by the field team (label correctness, completeness, etc.) and recorded on CoC forms. Samples will be packaged on ice and transported via overnight commercial carrier or a laboratory courier under standard chain-of-custody procedures to the laboratory.

Residential Drinking Water Sampling

Drinking water samples will be collected from five residential properties (three of which have point-of-entry treatment [POET]) and from the POET system located at the Property. The four POET system samples will each have three samples collected: one pre-filtration, one between the two carbon filters, and one post-filtration. USACE will coordinate sampling with homeowners and provide access onto properties and into residential buildings. The sample locations are shown on **Figure 17-3** and are listed below:

- DW-39 (39 Winsor Road)
- DW-41 (41 Winsor Road)
- NIKE-1 (on-Property POET system)
- ROU-1 (POET system)
- ROU-2 (POET system)
- ROU-3 (POET system)

Prior to sampling, the field team performing the sampling will wash hands and don a new pair of powderless nitrile gloves. The cold water tap will be opened full flow and water will be flushed for 20 minutes (until the temperature has stabilized) before collection. Prior to sampling, the flow will be reduced to a low flow (i.e. the stream of water should be no more than the size of a pencil). The following considerations should be taken during sample collection:

- Primary consideration for sample location should be the kitchen faucet; however, acceptable locations include a laundry sink, outside tap/spigot, or other commonly used distribution points-of-use within the home.
- Avoid leaking or spraying.
- Samples should not be collected from any garden hose or other devices used for irrigation.
- If possible, note and remove any attachments from the tap, including aerators, screens, washers, and hoses.

Samples will be collected into laboratory-supplied bottleware for the methods listed in **Worksheets #18 and #20** as (refer to **Worksheet #19 & 30** for preservation, holding time, and bottleware requirements). In addition to the normal samples, quality control samples consisting of two field duplicates, two MS, and two MSD will be collected. One TB will be submitted each day normal VOC samples are collected. Sample jars will be labeled with the appropriate information, placed in a Ziploc bag, and stored in a cooler containing bagged ice to maintain a preservation, as appropriate. Samples will be quality-control checked by the field team (label correctness, completeness, etc.) and recorded on CoC forms. Samples will be packaged on ice and transported via overnight commercial carrier or a laboratory courier under standard chain-of-custody procedures to the laboratory.

Investigation Derived Waste (IDW) Management

IDW generated during field activities will be managed pursuant to applicable Federal, State, and local regulations and guidance, including USACE guidance (2013) and RIDEM Policy Memo 95-01 Guidelines for the Management of Investigative Derived Waste (RIDEM, 1995). Refer to AECOM *SOP 3-05: Investigation-Derived Waste Management* for procedures related to IDW management. Department of Transportation (DOT) compliant shipping containers will be used to stage IDW prior to offsite transport. Solid IDW (e.g., drill cuttings from boring/monitoring well installation that cannot be returned to the borehole of origin) will be stored in 55-gallon metal drums and/or a 20 cubic yard closed-top roll-off bin; liquid IDW (e.g., monitoring well development water, purge water, decontamination water) will be stored in frac tanks and/or 55-gallon metal drums. (Note that for the field work included in this QAPP Addendum, no solid IDW is anticipated).

The IDW containers will be properly labeled, sampled for waste characterization, and temporarily staged onsite at a designated secure location until waste characterization is completed. The IDW containers will subsequently be transported to the approved offsite disposal facility; the intended facility will confirm their acceptance of the waste prior to transport. IDW removal from the Property will be documented by manifest or bill of lading prepared by the waste disposal subcontractor.

QAPP Worksheet #15: Project Action Limits and Laboratory-Specific Detection/ Quantitation Limits

Matrix: **Aqueous**

Analytical Group: **Semivolatile Organic Compound Analysis by E525.2 (Drinking Water)**

Concentration Level (if applicable): Units: **µg/L**

Analyte	Project Action Limit	Project Action Limit Reference	Project Quantitation Limit Goal	Limit of Quantitation (LOQ)	Limit of Detection (LOD)	Detection Limit (DL)
2-Methylnaphthalene			0.5	0.1	0.1	0.02
Acenaphthene			0.5	0.1	0.1	0.01
Acenaphthylene			0.5	0.1	0.1	0.01
Anthracene			0.5	0.1	0.1	0.01
Benzo[a]anthracene			0.5	0.1	0.1	0.01
Benzo[a]pyrene	0.2	2019 May EPA MCL	0.1	0.02	0.02	0.01
Benzo[b]fluoranthene			0.5	0.1	0.1	0.03
Benzo[g,h,i]perylene			0.5	0.1	0.1	0.02
Benzo[k]fluoranthene			0.5	0.1	0.1	0.01
Bis(2-ethylhexyl) phthalate	6.0	2019 May EPA MCL	3	0.6	0.6	0.06
Butyl benzyl phthalate			5	1	1	0.2
Chrysene			0.5	0.1	0.1	0.01
Dibenz(a,h)anthracene			0.5	0.1	0.1	0.03
Dimethyl phthalate			5	1	1	0.2
Di-n-butyl phthalate			10	2	2	0.2
Fluoranthene			0.5	0.1	0.1	0.01
Fluorene			0.5	0.1	0.1	0.01
Hexachlorobenzene	1.0	2019 May EPA MCL	0.5	0.1	0.1	0.01
Hexachlorocyclopentadiene			0.5	0.1	0.1	0.01
Indeno[1,2,3-cd]pyrene			0.5	0.1	0.1	0.02
Naphthalene			0.5	0.1	0.1	0.02
Phenanthrene			0.5	0.1	0.1	0.01
Pyrene			0.5	0.1	0.1	0.01

Notes:

1. Results were compared to USEPA SDWA MCLs, which are the same as the State of Rhode Island Groundwater Quality Standards.
2. Project Action Limits are not shown for compounds where USEPA SDWA MCLs are not published.

Matrix: **Aqueous**

Analytical Group: **Pentachlorophenol by E515.3 (Drinking Water)**

Concentration Level (if applicable): Units: **µg/L**

Analyte	Project Action Limit	Project Action Limit Reference	Project Quantitation Limit Goal	Limit of Quantitation (LOQ)	Limit of Detection (LOD)	Detection Limit (DL)
Pentachlorophenol	1.0	2019 May EPA MCL	0.5	0.04	0.04	0.02

Notes:

1. Results were compared to USEPA SDWA MCLs, which are the same as the State of Rhode Island Groundwater Quality Standards.
2. Project Action Limits are not shown for compounds where USEPA SDWA MCLs are not published.

Matrix: **Aqueous**

Analytical Group: **GC/MS-SIM Analysis by SW8270 (SIM via Isotope Dilution) (Drinking Water)**

Concentration Level (if applicable): Units: **ng/L**

Analyte	Project Action Limit	Project Action Limit Reference	Project Quantitation Limit Goal	Limit of Quantitation (LOQ)	Limit of Detection (LOD)	Detection Limit (DL)
1,4-dioxane			250	150	100	33.9

Notes:

1. Results were compared to USEPA SDWA MCLs, which are the same as the State of Rhode Island Groundwater Quality Standards.
2. Project Action Limits are not shown for compounds where USEPA SDWA MCLs are not published.

Matrix: **Aqueous**

Analytical Group: **GC/MS-SIM Analysis by SW8270 (SIM via Isotope Dilution) (Groundwater,)**

Concentration Level (if applicable): Units: **ng/L**

Analyte	Project Action Limit	Project Action Limit Reference	Project Quantitation Limit Goal	Limit of Quantitation (LOQ)	Limit of Detection (LOD)	Detection Limit (DL)
1,4-dioxane	460	USEPA Tapwater RSL (TR=1E-6; THQ=0.1)	230	150	100	33.9

Matrix: **Aqueous**

Analytical Group: **GC/MS-SIM Analysis by SW8270 (SIM via Isotope Dilution) (Porewater and Surface Water)**

Concentration Level (if applicable): Units: **ng/L**

Analyte	Project Action Limit	Project Action Limit Reference	Project Quantitation Limit Goal	Limit of Quantitation (LOQ)	Limit of Detection (LOD)	Detection Limit (DL)
1,4-dioxane	22,000,000	USEPA Region 4 surface water screening levels - freshwater chronic	11,000,000	150	100	33.9

QAPP Worksheet #17: Sampling Design and Rationale

This worksheet describes the sampling design and basis for selection for the groundwater, surface water and porewater, and residential drinking water sample locations.

17.1 Groundwater Sampling

The primary goal for the monitoring well sampling is to select locations that targeted data gaps in the overburden, weathered bedrock, and bedrock where potential constituents of potential concern (COPCs) could be acting as a continuing source to the dissolved concentrations observed in downgradient water supply wells. A supplemental round of sampling is being conducted for VOCs (full scan and SIM), SVOCs (SIM), 1,4-dioxane (SIM via isotope dilution), total metals, and/or dissolved metals (field filtered) analysis to monitor seasonal fluctuations and bolster the data set for the risk assessment. **Table 17-1** provides the rational for the locations included in the groundwater sampling program. Sample locations are shown on **Figure 17-1**.

Table 17-1: Sampling Design and Rationale for Groundwater

AOC	Location ID	Screen Interval	Rationale
Overburden and Weathered Bedrock Monitoring Wells			
AOC-1	PR79-MW-001	20.6-30.6	Original rationale for this location as stated in the 2020 QAPP, was to assess potential COPCs in the weathered bedrock downgradient and north of AOC-1 (Former Radar Pad B) and upgradient of PZ-001. This location is being resampled to monitor seasonal fluctuations in support of the risk assessment.
AOC-1	PR79-MW-002	17-27	Original rationale for this location as stated in the 2020 QAPP was to assess potential COPCs in the weathered bedrock downgradient of the former Interconnecting Corridor and surface drainage feature. Placed along HGI Seismic Line 100 which identified a thicker weathered bedrock zone in this area. This location is being resampled to monitor seasonal fluctuations in support of the risk assessment.
AOC-1	PR79-MW-003	23-33	Original rationale for this location as stated in the 2020 QAPP was to further assess trace VOC detections in PZ-019 beneath the slab of the former Frequency Changer/Generator Building. Coincides with fractures identified along HGI Seismic Line 100. This location is being resampled to monitor seasonal fluctuations in support of the risk assessment.
AOC-1	PR79-MW-004	4-14	Original rationale for this location as stated in the 2020 QAPP was to assess potential releases related to operation and maintenance of the radar pad. Coincides with ANL Seismic Line 1 and potential weathered bedrock zone. Located within the zone of higher overburden hydraulic conductivity as determined by USACE in 2015. This location is being resampled to monitor seasonal fluctuations in support of the risk assessment.

AOC	Location ID	Screen Interval	Rationale
AOC-2	PR79-MW-005	2-10.8	Original rationale for this location as stated in the 2020 QAPP was to assess the potential for infiltration of potential COPCs from two drainage ditches and potential upgradient deicing activities. Also assesses, potential pathway to weathered bedrock trending northeast-southwest towards ROU-2. This location is being resampled to monitor seasonal fluctuations in support of the risk assessment.
AOC-3	PR79-MW-006	2-11	Original rationale for this location as stated in the 2020 QAPP was to target the shallow most water bearing unit adjacent to the former Mess Hall for human health risk assessment. This location is being resampled to monitor seasonal fluctuations in support of the risk assessment.
AOC-3	PR79-MW-007	2-10	Original rationale for this location as stated in the 2020 QAPP was to s assess potential overburden impacts from the former Leachfield and Septic Tank. This location is being resampled to monitor seasonal fluctuations in support of the risk assessment.
AOC-4	PR79-MW-008	4-14	Original rationale for this location as stated in the 2020 QAPP was to assess whether they affected groundwater quality at the former Sand Pits. Further investigation is warranted to determine the horizontal and vertical distribution of COPC due west of the Property. This location is being resampled to monitor seasonal fluctuations in support of the risk assessment.
AOC-1	PZ-001	5.5-15.5	Original rationale for this location as stated in the 2020 QAPP was to assess historic VOC detections and provide spatial coverage for future gauging. Only VOC and 1,4-dioxane samples to be collected if sufficient water is present for sampling. This location is being resampled to monitor seasonal fluctuations in support of the risk assessment.
AOC-1	PZ-005	6.5-11.5	Original rationale for this location as stated in the 2020 QAPP was to assess previous 1,1-DCE detections. Additionally, serves as a pair with weathered bedrock monitoring well MW-004. Only VOC and 1,4-dioxane samples to be collected if sufficient water is present for sampling. This location is being resampled to monitor seasonal fluctuations in support of the risk assessment.
AOC-1	PZ-007	3-13	Original rationale for this location as stated in the 2020 QAPP was to assess, previous VOC detections and provide spatial coverage for future gauging. Only VOC and 1,4-dioxane samples to be collected if sufficient water is present for sampling. This location is being resampled to monitor seasonal fluctuations in support of the risk assessment.
AOC-1	PZ-010	3.9-13.9	Original rationale for this location as stated in the 2020 QAPP was to provide spatial coverage in the monitoring well network for future gauging. Only VOC and 1,4-dioxane samples to be collected if sufficient water is present for sampling. This location is being resampled to monitor seasonal fluctuations in support of the risk assessment.

AOC	Location ID	Screen Interval	Rationale
AOC-1	PZ-014	7.5-12.5	Original rationale for this location as stated in the 2020 QAPP was to provide spatial coverage in the monitoring well network for future gauging. Additionally, serves as a pair with bedrock monitoring well BR-003. Only VOC and 1,4-dioxane samples to be collected if sufficient water is present for sampling. This location is being resampled to monitor seasonal fluctuations in support of the risk assessment.
41 Winsor Rd	PR79-WL-001	-18.15	Original rationale for this location as stated in the 2020 QAPP was to supplement a surface water, porewater, and sediment sample proposed from along Winsor Brook. Only VOC and 1,4-dioxane samples to be collected if sufficient water is present for sampling. This location is being resampled to monitor seasonal fluctuations in support of the risk assessment.
33 Winsor Rd	PR79-WL-003	-9.8	Original rationale for this location as stated in the 2020 QAPP was to supplement a surface water, porewater, and sediment sample proposed from along Winsor Brook. Only VOC and 1,4-dioxane samples to be collected if sufficient water is present for sampling. This location is being resampled to monitor seasonal fluctuations in support of the risk assessment.
Bedrock Monitoring Wells			
AOC-1	PR79-BR-001	23-38 51-56 100-105	Original rationale for this location as stated in the 2020 QAPP was to intercept transmissive north-northeast dipping fractures observed in NIKE-1. Located within the higher overburden hydraulic conductivity area as determined by USACE in 2015. This location is being resampled to monitor seasonal fluctuations in support of the risk assessment.
AOC-1	PR79-BR-002	31.9-41.9 61.9-66.9 76.9-81.9 89.9-94.9 266.9-271.9	Original rationale for this location as stated in the 2020 QAPP was to assess potential COPCs immediately downgradient of former Frequency Changer/ Generator Building. Coincides with fractures identified along HGI Seismic Line 100. This location is being resampled to monitor seasonal fluctuations in support of the risk assessment.
NA	PR79-BR-003	13.9-23.9 48.9-53.9 69.9-74.9 281.9-286.9	Original rationale for this location as stated in the 2020 QAPP was to assess potential COPCs in the vicinity of ROU-1 and downgradient of potential sources and beneath the weathered bedrock trough. Located immediately downgradient of the higher overburden hydraulic conductivity area as determined by USACE in 2015. This location is being resampled to monitor seasonal fluctuations in support of the risk assessment.
AOC-2	PR79-BR-004	15.7-25.7	Original rationale for this location as stated in the 2020 QAPP was to assess northeast-southwest trending weathered bedrock zones that may provide conduit for migration into bedrock toward ROU-2. Downgradient bedrock coverage on western side of the Property. This location is being resampled to monitor seasonal fluctuations in support of the risk assessment.

AOC	Location ID	Screen Interval	Rationale
AOC-3	PR79-BR-005	27.9-32.9 46.9-51.9 87.9-92.9 214.9-219.9	Original rationale for this location as stated in the 2020 QAPP was to evaluate potential migration along an identified lineament between NIKE-1 and locations south of the Property. Acts as off-Property, downgradient bedrock monitoring well. This location is being resampled to monitor seasonal fluctuations in support of the risk assessment.
23A Theodore Foster, AKA DW-69/ST2	PR79-WL-002	--	Original rationale for this location as stated in the 2020 QAPP was to assess background bedrock groundwater concentrations. This location is being resampled to monitor seasonal fluctuations in support of the risk assessment.

17.2 Surface Water and Porewater Sampling

The primary goal of the original sampling of porewater and surface water was to provide a dataset for determining the presence and/or absence of potential COPCs associated with former Department of Defense (DoD) activities and to assess the nature and extent of Property impacts within nearby stream channels, seeps, and delineated wetlands as identified in a *Wetland and Waters of the US Delineation Report* (Woodard & Curran, 2019). Results from the first round of sampling indicated the presence of TCE and or 1,4 dioxane at the below locations. This supplemental sampling is being conducted at these locations to monitor seasonal fluctuations for these potential COPCs at these locations and further bolster the data-set at locations where potential the COPCs were detected in support of the risk assessment. **Table 17-2** provides the rational for the locations included in the surface water and porewater sampling program. Sample locations are shown on **Figure 17-2**.

Table 17-2: Sampling Design and Rationale for Surface Water and Porewater

Location ID	Depth	Rationale
PR79-WT-007	SW: midpoint of water column PW: 0-1 ft below ground surface (bgs)	Located within a seep located downgradient of the former septic system. Original purpose was to assess potential COPCs migrating from the Property to the seep. TCE was detected during the 2020 RI field event. Re-sampling in order to monitor seasonal fluctuations and further bolster the data set in support of the risk assessment.
PR79-WT-013	SW: midpoint of water column PW: 0-1 ft bgs	Located to the south of the Property along previously identified stream within delineated wetland to assess potential impacts migrating from the Property. TCE was detected during the 2020 RI field event. Re-sampling in order to monitor seasonal fluctuations and further bolster the data set in support of the risk assessment.

Location ID	Depth	Rationale
PR79-WT-026 PR79-WT-027 PR79-WT-028	SW: midpoint of water column PW: 0-1 ft bgs	Originally proposed as upstream background locations located to the north-east of the Property along previously identified stream and wetland area to assess background concentrations of potential COPCs. TCE was detected during the 2020 RI field event. Re-sampling in order to monitor seasonal fluctuations and further bolster the data set in support of the risk assessment.
PR79-WT-029	SW: midpoint of water column PW: 0-1 ft bgs	Originally proposed as upstream background locations located to the north-east of the Property along previously identified stream and wetland area to assess background concentrations of potential COPCs. 1,4-dioxane was detected during the 2020 RI field event. Re-sampling in order to monitor seasonal fluctuations and further bolster the data set in support of the risk assessment.

17.3 Residential Drinking Water Sampling Evaluation

The goal of residential drinking water sampling is to determine the presence or absence of potential COPCs in nearby residential drinking water wells and test for carbon degradation in the four POET systems. **Table 17-3** provides the rational for the locations included in the residential drinking water sampling. Sample locations are shown on **Figure 17-3**.

Table 17-3: Sampling Design and Rationale for Residential Drinking Water Sampling

Location ID	Sample Design	Rationale
DW-39	One sample collected from tap. Located at 39 Winsor Road)	Continued periodic monitoring of potential COPCs at this drinking water well.
DW-41	One sample collected from tap. Located at 41 Winsor Road)	Continued periodic monitoring of potential COPCs at this drinking water well.
NIKE-1	Three samples collected (pre-filtration, between carbon filters, and post-filtration).	On-Property well supplying the administration building for the Foster-Glocester Regional School District, Northwest Special Education Region. Continued periodic monitoring of potential COPCs at this drinking water well. and test for potential carbon degradation of the existing POET system.
ROU-1	Three samples collected (pre-filtration, between carbon filters, and post-filtration).	Continued periodic monitoring of potential COPCs at this drinking water well. and test for potential carbon degradation of the existing POET system.
ROU-2	Three samples collected (pre-filtration, between carbon filters, and post-filtration).	Continued periodic monitoring of potential COPCs at this drinking water well. and test for potential carbon degradation of the existing POET system.
ROU-3	Three samples collected (pre-filtration, between carbon filters, and post-filtration).	Continued periodic monitoring of potential COPCs at this drinking water well. and test for potential carbon degradation of the existing POET system.

QAPP Worksheet #18: Sampling Locations and Methods

Groundwater

Sample Location (LOC ID)	Field Sample ID[1]	Matrix[2]	Depth Interval (ft bgs)	Type	Analyte / Analytical Group[3]	Sampling SOP	Comments
PR79-MW-001	PR79-MW-001-02	GW	20.6-30.6	Normal	VOCs (full scan and SIM, 8260C), SVOCs (SIM, 8270D), 1,4-dioxane (SIM via isotope dilution, 8270E), metals (filtered and non-filtered) (6010C/6020A/7470A)	3-14	Overburden
PR79-MW-002	PR79-MW-002-02	GW	17-27	Normal		3-14	Overburden
PR79-MW-003	PR79-MW-003-02	GW	23-33	Normal		3-14	Overburden
PR79-MW-004	PR79-MW-004-02	GW	4-14	Normal		3-14	Overburden
PR79-MW-005	PR79-MW-005-02	GW	2-10.8	Normal		3-14	Overburden
PR79-MW-006	PR79-MW-006-02	GW	2-11	Normal		3-14	Overburden
PR79-MW-007	PR79-MW-007-02	GW	2-10	Normal		3-14	Overburden
PR79-MW-008	PR79-MW-008-02	GW	4-14	Normal		3-14	Overburden
PZ-001	PZ-001-02	GW	5.5-15.5	Normal	VOCs (full scan and SIM, 8260C) 1,4-dioxane (SIM via isotope dilution, 8270E)	3-14	Overburden
PZ-005	PZ-005-02	GW	6.5-11.5	Normal		3-14	Overburden
PZ-007	PZ-007-02	GW	3-13	Normal		3-14	Overburden
PZ-010	PZ-010-02	GW	3.9-13.9	Normal		3-14	Overburden
PZ-014	PZ-014-02	GW	7.5-12.5	Normal		3-14	Overburden
41 Winsor	PR79-WL-001-02	GW	-18.15	Normal		3-14	Overburden
33 Winsor	PR79-WL-003-02	GW	-9.8	Normal		3-14	Overburden
PR79-BR-001	PR79-BR-001-P1-02	GW	23-38	Normal	VOCs (full scan and SIM, 8260C), SVOCs (SIM, 8270D), 1,4-dioxane (SIM via isotope dilution, 8270E), metals (filtered and non-filtered) (6010C/6020A/7470A)	3-14	Bedrock
	PR79-BR-001-P2-02	GW	51-56	Normal		3-14	Bedrock
	PR79-BR-001-P3-02	GW	100-105	Normal		3-14	Bedrock
PR79-BR-002	PR79-BR-002-P1-02	GW	31.9-41.9	Normal	VOCs (full scan and SIM, 8260C), SVOCs (SIM, 8270D), 1,4-dioxane (SIM via isotope dilution, 8270E), metals (filtered and non-filtered) (6010C/6020A/7470A)	3-14	Bedrock
	PR79-BR-002-P2-02	GW	61.9-66.9	Normal		3-14	Bedrock
	PR79-BR-002-P3-02	GW	76.9-81.9	Normal		3-14	Bedrock
	PR79-BR-002-P4-02	GW	89.9-94.9	Normal		3-14	Bedrock
	PR79-BR-002-P5-02	GW	266.9-271.9	Normal		3-14	Bedrock

Sample Location (LOC ID)	Field Sample ID[1]	Matrix[2]	Depth Interval (ft bgs)	Type	Analyte / Analytical Group[3]	Sampling SOP	Comments
PR79-BR-003	PR79-BR-003-P1-02	GW	13.9-23.9	Normal	VOCs (8260C), SVOCs including 1,4-dioxane via SIM with isotope dilution (8270D/E), metals (filtered and non-filtered) (6010C/6020A/7470A)	3-14	Bedrock
	PR79-BR-003-P2-02	GW	48.9-53.9	Normal		3-14	Bedrock
	PR79-BR-003-P3-02	GW	69.9-74.9	Normal		3-14	Bedrock
	PR79-BR-003-P4-02	GW	281.9-286.9	Normal		3-14	Bedrock
PR79-BR-004	PR79-BR-004-P1-02	GW	15.7-25.7	Normal	VOCs (full scan and SIM, 8260C), SVOCs (SIM, 8270D), 1,4-dioxane (SIM via isotope dilution, 8270E), metals (filtered and non-filtered) (6010C/6020A/7470A)	3-14	Bedrock
PR79-BR-005	PR79-BR-005-P1-02	GW	27.9-32.9	Normal	VOCs (full scan and SIM, 8260C), SVOCs (SIM, 8270D), 1,4-dioxane (SIM via isotope dilution, 8270E), metals (filtered and non-filtered) (6010C/6020A/7470A)	3-14	Bedrock
	PR79-BR-005-P2-02	GW	46.9-51.9	Normal		3-14	Bedrock
	PR79-BR-005-P3-02	GW	87.9-92.9	Normal		3-14	Bedrock
	PR79-BR-005-P4-02	GW	214.9-219.9	Normal		3-14	Bedrock
23A Theodore Foster	PR79-WL-002	GW	--	Normal	VOCs (full scan and SIM, 8260C), SVOCs (SIM, 8270D), 1,4-dioxane (SIM via isotope dilution, 8270E), metals (filtered and non-filtered) (6010C/6020A/7470A)	3-14	Bedrock
Field QC	PR79-GW-FD05-02	GW	--	Field QC	VOCs (full scan and SIM, 8260C), SVOCs (SIM, 8270D), 1,4-dioxane (SIM via isotope dilution, 8270E), metals (filtered and non-filtered) (6010C/6020A/7470A)	3-14	Field Duplicate
Field QC	PR79-GW-FD06-02	GW	--	Field QC		3-14	Field Duplicate
Field QC	PR79-GW-FD07-02	GW	--	Field QC		3-14	Field Duplicate
Field QC	PR79-GW-FD08-02	GW	--	Field QC		3-14	Field Duplicate
Field QC	TBD	GW	TBD	Field QC		3-14	MS/MSD
Field QC	TBD	GW	TBD	Field QC		3-14	MS/MSD
Field QC	GW-EB-02	AQ	NA	Field QC		--	Equipment Blank

Sample Location (LOC ID)	Field Sample ID[1]	Matrix[2]	Depth Interval (ft bgs)	Type	Analyte / Analytical Group[3]	Sampling SOP	Comments
Field QC	TB-01-02	AQ	NA	Field QC	VOCs (full scan and SIM, 8260C)	--	-02, -03, etc. if multiple collected in one day

Surface Water and Porewater

Sample Location (LOC ID)	Field Sample ID[1]	Matrix[2]	Depth Interval (ft bgs)	Type	Analyte / Analytical Group[3]	Sampling SOP	Comments
Surface Water							
PR79-WT-007	PR79-WT-007-SW-02	SW	Midpoint of Water Column	Normal	VOCs (full scan and SIM, 8260C)	3-10	
PR79-WT-013	PR79-WT-013-SW-02	SW	Midpoint of Water Column	Normal	VOCs (full scan and SIM, 8260C)	3-10	
PR79-WT-026	PR79-WT-026-SW-02	SW	Midpoint of Water Column	Normal	VOCs (full scan and SIM, 8260C)	3-10	
PR79-WT-027	PR79-WT-027-SW-02	SW	Midpoint of Water Column	Normal	VOCs (full scan and SIM, 8260C)	3-10	
PR79-WT-028	PR79-WT-028-SW-02	SW	Midpoint of Water Column	Normal	VOCs (full scan and SIM, 8260C)	3-10	
PR79-WT-029	PR79-WT-029-SW-02	SW	Midpoint of Water Column	Normal	1,4-dioxane via SIM with isotope dilution only (8270E)	3-10	
Field QC	PR79-SW-FD05-02	SW	Midpoint of Water Column	Field QC	VOCs (full scan and SIM, 8260C), 1,4-dioxane (SIM via isotope dilution, 8270E)	3-10	Field Duplicate
Field QC	TBD	SW	Midpoint of Water Column	Field QC	VOCs (full scan and SIM, 8260C), 1,4-dioxane (SIM via isotope dilution, 8270E)	3-10	MS/MSD
Porewater							
PR79-WT-007	PR79-WT-007-PW-02	PW	0-1	Normal	VOCs (full scan and SIM, 8260C)	3-45	

Sample Location (LOC ID)	Field Sample ID[1]	Matrix[2]	Depth Interval (ft bgs)	Type	Analyte / Analytical Group[3]	Sampling SOP	Comments
PR79-WT-013	PR79-WT-013-PW-02	PW	0-1	Normal	VOCs (full scan and SIM, 8260C)	3-45	
PR79-WT-026	PR79-WT-026-PW-02	PW	0-1	Normal	VOCs (full scan and SIM, 8260C)	3-45	
PR79-WT-027	PR79-WT-027-PW-02	PW	0-1	Normal	VOCs (full scan and SIM, 8260C)	3-45	
PR79-WT-028	PR79-WT-028-PW-02	PW	0-1	Normal	VOCs (full scan and SIM, 8260C)	3-45	
PR79-WT-029	PR79-WT-029-PW-02	PW	0-1	Normal	1,4-dioxane (SIM via isotope dilution only, 8270D)	3-45	
Field QC	PR79-PW-FD05-02	PW	0-1	Field QC	VOCs (full scan and SIM, 8260C), 1,4-dioxane (SIM via isotope dilution, 8270E)	3-45	Field Duplicate
Field QC	TBD	PW	0-1	Field QC	VOCs (full scan and SIM, 8260C), 1,4-dioxane (SIM via isotope dilution, 8270E)	3-45	MS/MSD

Residential Drinking Water

Sample Location (LOCID)	Field Sample ID	Matrix	Type	Analyte / Analytical Group[1]	Sampling SOP	Comments
DW-39	DW-39-TAP-MAY2022	DW	Normal	VOCs (524.2), SVOCs (525.2), pentachlorophenol (515.3), 1,4-dioxane (8270E)	3-10 & QAPP Addendum	
DW-41	DW-41-TAP-MAY2022	DW	Normal	VOCs (524.2), SVOCs (525.2), pentachlorophenol (515.3), 1,4-dioxane (8270E)	3-10 & QAPP Addendum	

Sample Location (LOCID)	Field Sample ID	Matrix	Type	Analyte / Analytical Group[1]	Sampling SOP	Comments
NIKE-1	NIKE-1-AC-MAY2022	DW	Normal	VOCs (524.2), SVOCs (525.2), pentachlorophenol (515.3), 1,4-dioxane (8270E)	3-10 & QAPP Addendum	
	NIKE-1-BC-MAY2022	DW	Normal	VOCs (524.2), SVOCs (525.2), pentachlorophenol (515.3), 1,4-dioxane (8270E)	3-10 & QAPP Addendum	
	NIKE-1-TAP-MAY2022	DW	Normal	VOCs (524.2), SVOCs (525.2), pentachlorophenol (515.3), 1,4-dioxane (8270E)	3-10 & QAPP Addendum	
ROU-1	ROU-1-AC-MAY2022	DW	Normal	VOCs (524.2), SVOCs (525.2), pentachlorophenol (515.3), 1,4-dioxane (8270E)	3-10 & QAPP Addendum	
	ROU-1-BC-MAY2022	DW	Normal	VOCs (524.2), SVOCs (525.2), pentachlorophenol (515.3), 1,4-dioxane (8270E)	3-10 & QAPP Addendum	
	ROU-1-TAP-MAY2022	DW	Normal	VOCs (524.2), SVOCs (525.2), pentachlorophenol (515.3), 1,4-dioxane (8270E)	3-10 & QAPP Addendum	
ROU-2	ROU-2-AC-MAY2022	DW	Normal	VOCs (524.2), SVOCs (525.2), pentachlorophenol (515.3), 1,4-dioxane (8270E)	3-10 & QAPP Addendum	
	ROU-2-BC-MAY2022	DW	Normal	VOCs (524.2), SVOCs (525.2), pentachlorophenol (515.3), 1,4-dioxane (8270E)	3-10 & QAPP Addendum	
	ROU-2-TAP-MAY2022	DW	Normal	VOCs (524.2), SVOCs (525.2), pentachlorophenol (515.3), 1,4-dioxane (8270E)	3-10 & QAPP Addendum	

Sample Location (LOCID)	Field Sample ID	Matrix	Type	Analyte / Analytical Group[1]	Sampling SOP	Comments
ROU-3	ROU-3-AC-MAY2022	DW	Normal	VOCs (524.2), SVOCs (525.2), pentachlorophenol (515.3), 1,4-dioxane (8270E)	3-10 & QAPP Addendum	
	ROU-3-BC-MAY2022	DW	Normal	VOCs (524.2), SVOCs (525.2), pentachlorophenol (515.3), 1,4-dioxane (8270E)	3-10 & QAPP Addendum	
	ROU-3-TAP-MAY2022	DW	Normal	VOCs (524.2), SVOCs (525.2), pentachlorophenol (515.3), 1,4-dioxane (8270E)	3-10 & QAPP Addendum	
NIKE-1	NIKE-1-BC-FD01	DW	Field QC	VOCs (524.2), SVOCs (525.2), pentachlorophenol (515.3), 1,4-dioxane (8270E)	3-10 & QAPP Addendum	Field Duplicate
ROU-3	ROU-3-TAP-MAY2022	DW	Field QC	VOCs (524.2), SVOCs (525.2), pentachlorophenol (515.3), 1,4-dioxane (8270E)	3-10 & QAPP Addendum	MS/MSD
DW-39	DW-39-TAP-FD02	DW	Field QC	VOCs (524.2), SVOCs (525.2), pentachlorophenol (515.3), 1,4-dioxane (8270E)	3-10 & QAPP Addendum	Field Duplicate

[1]Sample IDs for samples that are field-filtered will be appended with "-F".

[2]Key: GW = groundwater, SW = surface water, AQ=Aqueous, DW = drinking water

[3]See Worksheet #20 for full list of VOC, SVOC, and metals sampling suites.

MS/MSD = matrix spike/matrix spike duplicate
QC = quality control
SIM = selective ion monitoring
SVOCs = semi-volatile organic compounds
VOCs = volatile organic compounds

QAPP Worksheet #19 & 30: Sample Containers, Preservation, and Hold Times

Laboratory (Name, sample receipt address, POC, e-mail, and phone numbers)[6]: Refer to table below

List any required accreditations/certifications: DoD ELAP or Rhode Island State Certification[7]

Back-up Laboratory: None

Sample Delivery Method: Overnight Courier

Matrix/Analyte/Analyte Group[1]	Method/SOP[2]	Container(s) (number, size & type per sample)[3]	Preservation	Preparation Holding Time	Analytical Holding Time	Data Package Turnaround[4]	Laboratory[5]
Drinking Water							
Volatile Organic Compounds	USEPA 524.2 / CA-200-14	3 x 40-mL VOA vials	HCl to pH<2; ≤6°C but not frozen	NA	14 days	21 days	Katahdin Analytical Services, LLC
Semivolatile Organic Compounds	USEPA 525.2 / GCMS-SOP18109	2 L amber bottle	50 mg sodium sulfite[8], followed by 4 mL of 1:1 HCl in the field after dechlorination, ≤6°C but not frozen	14 days	30 days	21 days	Eurofins Eaton – South Bend
Pentachlorophenol	USEPA 515.3 / GCMS-SOP18111	2 120-mL amber bottles	6-8 mg sodium sulfite (if chlorinated), ≤6°C but not frozen	14 days	14 days	21 days	Eurofins Eaton – South Bend
1,4-dioxane	USEPA 8270E-SIM / SOP/2164	2 250-mL bottles	≤6°C but not frozen	7 days	40 days	21 days	Alpha Analytical, Inc.
Groundwater, Surface Water, and Porewater							
Volatile Organic Compounds (full scan and SIM)	SW-846 5035, 8260C/ CA-202, CA-220	3 x 40-mL VOA vials	≤6°C but not frozen HCl to pH < 2	NA	14 days	21 days	Katahdin Analytical Services, LLC
Semivolatile Organic Compounds (SIM)	SW846 3510C, 3520C, 8270D SIM/ CA-213, CA-502	2 x 1-L amber glass bottles	≤6°C but not frozen	7 days	40 days from extraction	21 days	Katahdin Analytical Services, LLC
6010 Metals (total or field-filtered)	SW846 3010A, 6010C/ CA-604, CA-608	1 x 250-mL polyethylene bottle	HNO3 to pH < 2	NA	6 months	21 days	Katahdin Analytical Services, LLC

Matrix/Analyte/Analyte Group[1]	Method/SOP[2]	Container(s) (number, size & type per sample)[3]	Preservation	Preparation Holding Time	Analytical Holding Time	Data Package Turnaround[4]	Laboratory[5]
6020 Metals (total or filed-filtered)	SW846 3010A, 6020A/ CA-604, CA-627	1 x 250-mL polyethylene bottle	HNO3 to pH < 2	NA	6 months	21 days	Katahdin Analytical Services, LLC
Mercury (total or field-filtered)	SW7470A/ CA-615	1 x 250-mL polyethylene bottle	HNO3 to pH <2	NA	28 days	21 days	Katahdin Analytical Services, LLC
1,4-dioxane	USEPA 8270E-SIM / SOP/2164	2 250-mL bottles	≤6°C but not frozen	7 days	40 days	21 days	Alpha Analytical, Inc.

Notes:
1 - Refer to Worksheet #15 for specific target analytes.
2 - Refer to the Analytical SOP References table (Worksheet #23).
3 - Sample containers and mass/volume required for analyses to be conducted by one laboratory may be consolidated.
4 – Turn Around Time (TAT) is presented in calendar days unless otherwise indicated.
5 - No backup laboratories have been identified. All laboratories are subcontracted by AECOM unless otherwise indicated.
6 - Katahdin Analytical Services, LLC, 600 Technology Way, Scarborough, Maine 04074. Point of Contact: Heather Manz, hmanz@katahdinlab.com, Direct – (207) 874-2400 x17, Fax – (207)775-4029, Alpha Analytical, Inc., 320 Forbes Boulevard, Mansfield, MA 02048, Point of Contact, Liz Porta, eporta@alphalab.com, Direct – (508) 844-4124, Main – (508) 989-9220, Eurofins Eaton – South Bend, 110 S Hill St, South Bend, IN 46617, Point of Contact, Ronald Milke, Ronald.milke@eurofinset.com, (215) 499-4578.
7 - DoD ELAP is held for all analyses and analytes for Katahdin and Alpha. Eurofins Eaton maintains appropriate state certification. See Appendix A.
8 – Sodium sulfite is required only for chlorinated samples. According to the laboratory, if chlorination status cannot be confirmed prior to sampling, this dechlorinating agent should be added.

QAPP Worksheet #20: Field Quality Control Summary

Matrix/Parameter	Analytical Method	FIELD SAMPLES				LABORATORY SAMPLES		TOTAL ANALYSES[4]
		Field Samples	Equipment Blank	Trip Blanks[1]	Field Duplicates[2]	MS[3]	MSD/ MD[3]	
Overburden GW/MWs								
VOCs	SW846 8260C	15	1	4	2	1	1	24
VOCs SIM	SW846 8260C SIM	15	1	4	2	1	1	24
SVOCs SIM	SW846 8270D SIM	8	1	0	1	1	1	12
1-4-dioxane (Isotope Dilution)	SW846 8270E SIM	15	1	0	2	1	1	20
Total metals	SW846 6010C/6020A/7470A	8	1	0	1	1	1	12
Filtered metals (field filtered)	SW846 6010C/6020A/7470A	8	1	0	1	1	1	12
Confirmatory Bedrock/Background GW								
VOCs	SW846 8260C	18	1	4	2	1	1	27
VOCs SIM	SW846 8260C SIM	18	1	4	2	1	1	27
SVOCs SIM	SW846 8270D SIM	18	1	0	2	1	1	23
1,4-dioxane (Isotope Dilution)	SW846 8270E SIM	18	1	0	2	1	1	23
Total metals	SW846 6010C/6020A/7470A	18	1	0	2	1	1	23
Filtered metals (field filtered)	SW846 6010C/6020A/7470A	18	1	0	2	1	1	23
Surface Water								
VOCs	SW846 8260C	5	1	1	1	1	1	10
VOCs SIM	SW846 8260C SIM	5	1	1	1	1	1	10
1,4-dioxane (Isotope Dilution)	SW846 8270E SIM	1	1	0	1	1	1	5
Annual Residential Sampling								
VOCs	EPA 524.2	14	0	2	2	1	1	20
SVOCs	EPA 525.2	14	0	0	2	1	1	18
Pentachlorophenol	EPA 515.3	14	0	0	2	1	1	18
1,4-dioxane (Isotope Dilution)	SW846 8270E SIM	14	0	0	2	1	1	18
Porewater								
VOCs	SW846 8260C	5	1	1	1	1	1	10

Matrix/Parameter	Analytical Method	FIELD SAMPLES				LABORATORY SAMPLES		TOTAL ANALYSES[4]
		Field Samples	Equipment Blank	Trip Blanks[1]	Field Duplicates[2]	MS[3]	MSD/ MD[3]	
VOCs SIM	SW846 8260C SIM	5	1	1	1	1	1	10
1,4-dioxane (Isotope Dilution)	SW846 8270E SIM	1	1	0	1	1	1	5
IDW								
TCLP VOCs	SW846 8260C	1	0	0	0	0	0	1
TCLP SVOCs	SW846 8270D	1	0	0	0	0	0	1
RCRA Metals	SW846 6010C	1	0	0	0	0	0	1
PCBs	SW846 8082A	1	0	0	0	0	0	1
Flashpoint	SW846 1010A	1	0	0	0	0	0	1
pH	SW846 9045C	1	0	0	0	0	0	1
Reactivity	SW846 Ch. 7.3.1.2	1	0	0	0	0	0	1
TSS/TDS	SM2540 C & D	1	0	0	0	0	0	1

Notes:
1 - One per cooler containing VOC samples. Assumes 1 cooler of VOC samples shipped per day of sampling.
2 - Ten percent of field samples, not including field QC samples, for the analyses and matrices shown.
3 - Five percent of field samples (not including field QC samples) per medium for methods required.
4 - Total includes MS, MSD, or MD.
MD - matrix duplicate
MS - matrix spike
MSD - matrix spike duplicate
PCB - polychlorinated biphenyl
SVOCs - semivolatile organic compounds
TCLP - toxicity characteristic leaching procedure
TSS/TDS - total suspended solids/total dissolved solids
VOCs - volatile organic compounds

QAPP Worksheet #23: Analytical Standard Operating Procedures Table

Laboratory/ SOP Number	Title, Revision Date, and Number	Definitive or Screening Data	Matrix and Analytical Group	Instrument	Variance to QSM[1]	Modified for Project Work? (Y/N)
Eurofins Eaton - South Bend						
GCMS-SOP18109	EPA 525.2 Revision 2.0-Analysis of Select Semi-Volatile Organic Compounds in Water by Capillary Gas Chromatography/Mass Spectrometry Using Liquid-Solid Extraction, 29-APR-2021, Version 14	Definitive	Water / SVOCs	GC/MS	Not Applicable	N
LCGC-SOP29494	EPA 515.3 Revision 1.0 - Analysis of Chlorinated Acids in Water by Liquid-Liquid Extraction, Derivatization and Capillary Gas Chromatography with Electron Capture or Mass Spectrometry Detection (GC/ECD/MS), 27-APR-2021, Version 14	Definitive	Water / Pentachlorophenol	GC/ECD/MS	Not Applicable	N
Alpha Analytical, Inc						
2164	1,4-Dioxane By Gas Chromatography / Mass Spectrometry in Selected Ion Mode (GC/MS-SIM) with Isotope Dilution Modification, 01/22, Revision 18.	Definitive	Water / 1-4 dioxane	GC/MS (Isotope Dilution)	Not Applicable	N

Notes:
[1] Methods not included in DoD QSM.
See Appendix A for copies of SOPs.

QAPP Worksheet #24: Analytical Instrument Calibration Table - Eurofins Eaton – South Bend, Alpha Analytical, Inc.

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference
GC/MSSVOCs (525.2)	ICAL - A minimum 5-point calibration is required for all SVOCs.	At instrument set-up, prior to sample analysis	Each analyte must meet one of the three options below: Option 1: RSD for each analyte ≤ 20% Option 2: linear least squares regression for each analyte: r2 ≥ 0.99; Option 3: non-linear least squares regression (quadratic) for each analyte: r2 ≥ 0.99.	Correct problem then repeat ICAL.	Analyst, Department Manager	Eurofins GCMS-SOP18109,
	Establish Retention Time Window Position	Once per ICAL and at the beginning of the analytical sequence.	Position shall be set using the midpoint standard of the ICAL curve when ICAL is performed. On days when ICAL is not performed, the initial CCV is used.	NA.	Analyst, Department Manager	
	Evaluation of RRT	With each sample.	RRT of each reported analyte within ± 0.06 RRT units.	Correct problem, then rerun ICAL.	Analyst, Department Manager	
	ICV	Once after each ICAL, analysis of a second source standard prior to sample analysis.	All reported analytes within ± 20% of true value.	Correct problem. Rerun ICV. If that fails, repeat ICAL.	Analyst, Department Manager	
	CCV	Daily before sample analysis; after every 12 hours of analysis time; and at the end of the analytical batch run.	All reported analytes and surrogates within ± 20% of true value. All reported analytes and surrogates within ± 50% for end of analytical batch CCV.	Recalibrate, and reanalyze all affected samples since the last acceptable CCV; or Immediately analyze two additional consecutive CCVs. If both pass, samples may be reported without reanalysis. If either fails, take corrective action(s) and re-calibrate; then reanalyze all affected samples since the last acceptable CCV.	Analyst, Department Manager	
	DFTPP Tune	Every 12 hours	Criteria listed in relevant lab SOP.	Retune and/or clean source.	Analyst, Department Manager	

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference
GC/ECD/MS Pentachlorophenol (515.3)	ICAL -Various, for linear curves at least a minimum of 5 points or 6 points for quadratic curves. One point must be at or below the MRL. Standards are prepared and extracted in the same manner as the samples.	At instrument set-up, prior to sample analysis	The %RE for the lowest standard must be ± 50% and the mid-range calibration standard must be ± 30%. Correlation Coefficient of 0.950 or higher. Surrogate calibration must have a Response Factor RSD of 20% or less.	Reinject standards. If this does not correct the problem, perform instrument maintenance.	Analyst, Department Manager	Eurofins LCGC-SOP29494, 2164
	Establish Retention Time Window Position	Once per ICAL and at the beginning of the analytical sequence.	Position shall be set to include only the apex of the analyte peak in the lowest initial calibration standard.	NA.	Analyst, Department Manager	
	Evaluation of RRT	With each sample.	RRT of each reported analyte within ± 0.06 RRT units.	Correct problem, then rerun ICAL.	Analyst, Department Manager	
	ICV, Standards are prepared and extracted in the same manner as the samples.	Once after each ICAL, analysis of a second source standard prior to sample analysis.	All reported analytes within ± 20% of true value. Peak Gaussian Factor (PGF): Pentachlorophenol between 0.8 and 1.15	Correct problem. Rerun ICV. If that fails, repeat ICAL.	Analyst, Department Manager	
	CCV, Standards are prepared and extracted in the same manner as the samples.	Daily before sample analysis; after every 10 filed samples; and at the end of the analytical batch run. Two mid-range levels are required. At least one must be from same extraction batch as samples.	All reported analytes and surrogates within ± 30% of true value.	CCV extract should be reinjected in order to verify the problem. If the acceptance criteria are still not met, a previously analyzed (and acceptable CCC) should be analyzed to determine if the problem is related to the initial extract.. If this fails, take corrective action(s) and re-calibrate; then reanalyze all affected samples since the last acceptable CCV.	Analyst, Department Manager	
	ICAL - A minimum 5-point calibration is required for all SVOCs.	At instrument set-up, prior to sample analysis	Each analyte must meet one of the three options below: Option 1: RSD for each analyte ≤ 20% Option 2: linear least squares regression for each analyte: r2 ≥ 0.99; Option 3: non-linear least squares regression (quadratic) for each analyte: r2 ≥ 0.99.	Correct problem then repeat ICAL.	Analyst, Department Manager	

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference
GC/MS 1,4-Dioxane (8270E SIM with isotope dilution)	Establish Retention Time Window Position	Once per ICAL and at the beginning of the analytical sequence.	Position shall be set using the midpoint standard of the ICAL curve when ICAL is performed. On days when ICAL is not performed, the initial CCV is used.	NA.	Analyst, Department Manager	Alpha Analytical, SOP 2164
	Evaluation of RRT	With each sample.	RRT of each reported analyte within ± 0.06 RRT units.	Correct problem, then rerun ICAL.	Analyst, Department Manager	
	ICV	Once after each ICAL, analysis of a second source standard prior to sample analysis.	All reported analytes within ± 30% of true value.	Correct problem. Rerun ICV. If that fails, repeat ICAL.	Analyst, Department Manager	
	CCV	Daily before sample analysis; after every 12 hours of analysis time; and at the end of the analytical batch run.	All reported analytes and surrogates within ± 20% of true value.	Recalibrate, and reanalyze all affected samples since the last acceptable CCV; or Immediately analyze two additional consecutive CCVs. If both pass, samples may be reported without reanalysis. If either fails, take corrective action(s) and re-calibrate; then reanalyze all affected samples since the last acceptable CCV.	Analyst, Department Manager	
	DFTPP Tune	Every 12 hours	Criteria listed in relevant lab SOP.	Retune and/or clean source.	Analyst, Department Manager	

Notes:

1. Refer to the Analytical SOP References table (Worksheet 23#).
2. LOD/LOQ verification procedures presented in the DoD QSM will be modified for this project in the following manner: Katahdin will make an effort to prioritize analysis of the LOD and LOQ verifications for the analyses in this project such that LODs and LOQs are verified prior to sample analysis. If LOD/LOQ verification cannot be analyzed for the quarter prior to sample receipt in that quarter, the required LOD/LOQ verification will be analyzed with the project samples. If LOD/LOQ verification is not successful but batch QC requirements are otherwise met, the data will be reported with and the failed LOD/LOQ verification will be identified in the case narrative. AECOM will then consider the verification failure as part of data validation (Refer to WS #36 of the parent QAPP).

ICS = Interference Check Solution
LOD – Limit of Detection
LOQ – Limit of Quantitation
QSM – Quality Systems Manual

QAPP Worksheet #28-16: Analytical Quality Control and Corrective Action – Semivolatile Organic Compounds, Full Scan

Matrix	Aqueous
Analytical Group	SVOCs
Analytical Method/ SOP Reference	E525.2 / GCMS-SOP18109

QC Sample:	Frequency/ Number	Method/SOP QC Acceptance Limits	Corrective Action	Person(s) Responsible for Corrective Action	Data Quality Indicator (DQI)	Measurement Performance Criteria (MPC)
Method Blank	One per preparation batch of twenty or fewer samples of similar matrix.	No analytes detected > ½ LOQ or > 1/10 the amount measured in any sample or 1/10 the regulatory limit, whichever is greater. Common contaminants must not be detected > LOQ.	Correct problem. If required, reprep and reanalyze MB and all samples processed with the contaminated blank.	Analyst, Laboratory Department Manager and Data Validator	Bias/contamination	Same as Method/SOP QC Acceptance Limits.
Surrogate	Full Scan - 3 per sample: 1,3-Dimethyl-2-Nitrobenzene Triphenylphosphate Perylene-d12	70-130%	Correct problem, then reprep and reanalyze all failed samples for all surrogates in the associated preparatory batch, if sufficient sample material is available. If obvious chromatographic interference with surrogate is present, reanalysis may not be necessary	Analyst, Laboratory Department Manager, and Data Validator	Accuracy/Bias	Same as Method/SOP QC Acceptance Limits.
LCS	One per preparation batch of twenty or fewer samples of similar matrix.	70-130%	Correct problem, then reprep and reanalyze the LCS and all samples in the associated preparatory batch for failed analytes, if sufficient sample material is available.	Analyst, Laboratory Department Manager, and Data Validator	Accuracy / Bias	Same as Method/SOP QC Acceptance Limits.
MS/MSD	One per sample delivery group (SDG) or every 20 samples.	70-130%	Examine the project- specific requirements. Contact the client as to additional measures to be taken.	Analyst, Laboratory Department Manager, and Data Validator	Precision/Accuracy/ Bias	Same as Method/SOP QC Acceptance Limits.

Matrix	Aqueous
Analytical Group	SVOCs
Analytical Method/ SOP Reference	E525.2 / GCMS-SOP18109

QC Sample:	Frequency/ Number	Method/SOP QC Acceptance Limits	Corrective Action	Person(s) Responsible for Corrective Action	Data Quality Indicator (DQI)	Measurement Performance Criteria (MPC)
IS	Four per sample: Terphenyl-d14 as tracking standard Acenaphthene-d10 Phenanthrene-d10 Chrysene-d12	Retention time within ± 10 seconds from retention time of the midpoint standard in the ICAL; EICP area within -50% to +100% of ICAL midpoint standard.	Inspect mass spectrometer or gas chromatograph for malfunctions. Mandatory reanalysis of samples analyzed while system was malfunctioning.	Analyst, Laboratory Department Manager, and Data Validator	Accuracy/ Bias	Same as Method/SOP QC Acceptance Limits.
Results between DL and LOQ	NA	Apply "J" qualifier to results between DL and LOQ.	NA	Analyst, Laboratory Department Manager, and Data Validator	Accuracy	Same as QC Acceptance Limits.

MB – method blank
Note laboratory limits are included in Appendix A with SOPs.

QAPP Worksheet #28-17: Analytical Quality Control and Corrective Action – Pentachlorophenol

Matrix	Aqueous
Analytical Group	Pentachlorophenol
Analytical Method/ SOP Reference	E515.3 / LCGC-SOP29494

QC Sample:	Frequency/ Number	Method/SOP QC Acceptance Limits	Corrective Action	Person(s) Responsible for Corrective Action	Data Quality Indicator (DQI)	Measurement Performance Criteria (MPC)
Method Blank	One per preparation batch of twenty or fewer samples of similar matrix.	No analytes detected > ½ LOQ or > 1/10 the amount measured in any sample or 1/10 the regulatory limit, whichever is greater. Common contaminants must not be detected > LOQ.	Correct problem. If required, reprep and reanalyze MB and all samples processed with the contaminated blank.	Analyst, Laboratory Department Manager and Data Validator	Bias/contamination	Same as Method/SOP QC Acceptance Limits.
Surrogate	2,4-Dichlorophenylacetic acid	70-130%	Correct problem, then reprep and reanalyze all failed samples for all surrogates in the associated preparatory batch, if sufficient sample material is available. If obvious chromatographic interference with surrogate is present, reanalysis may not be necessary	Analyst, Laboratory Department Manager, and Data Validator	Accuracy/Bias	Same as Method/SOP QC Acceptance Limits.
LCS	One per preparation batch of twenty or fewer samples of similar matrix.	80-120%	Correct problem, then reprep and reanalyze the LCS and all samples in the associated preparatory batch for failed analytes, if sufficient sample material is available.	Analyst, Laboratory Department Manager, and Data Validator	Accuracy / Bias	Same as Method/SOP QC Acceptance Limits.
MS/MSD	One per sample delivery group (SDG) or every 20 samples.	80-120%	Examine the project- specific requirements. Contact the client as to additional measures to be taken.	Analyst, Laboratory Department Manager, and Data Validator	Precision/Accuracy/ Bias	Same as Method/SOP QC Acceptance Limits.

Matrix	Aqueous					
Analytical Group	Pentachlorophenol					
Analytical Method/ SOP Reference	E515.3 / LCGC-SOP29494					
QC Sample:	**Frequency/ Number**	**Method/SOP QC Acceptance Limits**	**Corrective Action**	**Person(s) Responsible for Corrective Action**	**Data Quality Indicator (DQI)**	**Measurement Performance Criteria (MPC)**
IS	4,4'-Dibromooctafluorobiphenyl	Retention time within ± 10 seconds from retention time of the midpoint standard in the ICAL; EICP area within -50% to +100% of ICAL midpoint standard.	Inspect mass spectrometer or gas chromatograph for malfunctions. Mandatory reanalysis of samples analyzed while system was malfunctioning.	Analyst, Laboratory Department Manager, and Data Validator	Accuracy/ Bias	Same as Method/SOP QC Acceptance Limits.
Results between DL and LOQ	NA	Apply "J" qualifier to results between DL and LOQ.	NA	Analyst, Laboratory Department Manager, and Data Validator	Accuracy	Same as QC Acceptance Limits.

MB – method blank
QSM – Quality Systems Manual

QAPP Worksheet #28-18: Analytical Quality Control and Corrective Action – Semivolatile Organic Compounds, SIM

Matrix	Aqueous
Analytical Group	1,4-dioxane
Analytical Method/ SOP Reference	SW8270E-SIM / 2164

QC Sample:	Frequency/ Number	Method/SOP QC Acceptance Limits	Corrective Action	Person(s) Responsible for Corrective Action	Data Quality Indicator (DQI)	Measurement Performance Criteria (MPC)
Method Blank	One per preparation batch of twenty or fewer samples of similar matrix.	No analytes detected > ½ LOQ or > 1/10 the amount measured in any sample or 1/10 the regulatory limit, whichever is greater. Common contaminants must not be detected > LOQ.	Correct problem. If required, reprep and reanalyze MB and all samples processed with the contaminated blank.	Analyst, Laboratory Department Manager and Data Validator	Bias/contamination	Same as Method/SOP QC Acceptance Limits.
Surrogate	1,4-dioxane-d8	Laboratory limits	Correct problem, then reprep and reanalyze all failed samples for all surrogates in the associated preparatory batch, if sufficient sample material is available. If obvious chromatographic interference with surrogate is present, reanalysis may not be necessary	Analyst, Laboratory Department Manager, and Data Validator	Accuracy/Bias	Same as Method/SOP QC Acceptance Limits.
LCS	One per preparation batch of twenty or fewer samples of similar matrix.	Laboratory Limits	Correct problem, then reprep and reanalyze the LCS and all samples in the associated preparatory batch for failed analytes, if sufficient sample material is available.	Analyst, Laboratory Department Manager, and Data Validator	Accuracy / Bias	Same as Method/SOP QC Acceptance Limits.
MS/MSD	One per sample delivery group (SDG) or every 20 samples.	Laboratory Limits	Examine the project- specific requirements. Contact the client as to additional measures to be taken.	Analyst, Laboratory Department Manager, and Data Validator	Precision/Accuracy/ Bias	Same as Method/SOP QC Acceptance Limits.

Matrix	Aqueous
Analytical Group	1,4-dioxane
Analytical Method/ SOP Reference	SW8270E-SIM / 2164

QC Sample:	Frequency/ Number	Method/SOP QC Acceptance Limits	Corrective Action	Person(s) Responsible for Corrective Action	Data Quality Indicator (DQI)	Measurement Performance Criteria (MPC)
IS	1,4-dioxane-d8	Retention time within ± 10 seconds from retention time of the midpoint standard in the ICAL; EICP area within -50% to +100% of ICAL midpoint standard.	Inspect mass spectrometer or gas chromatograph for malfunctions. Mandatory reanalysis of samples analyzed while system was malfunctioning.	Analyst, Laboratory Department Manager, and Data Validator	Accuracy/ Bias	Same as Method/SOP QC Acceptance Limits.
Results between DL and LOQ	NA	Apply "J" qualifier to results between DL and LOQ.	NA	Analyst, Laboratory Department Manager, and Data Validator	Accuracy	Same as QC Acceptance Limits.

MB – method blank
QSM – Quality Systems Manual
Note laboratory limits are included in Appendix A with SOPs.

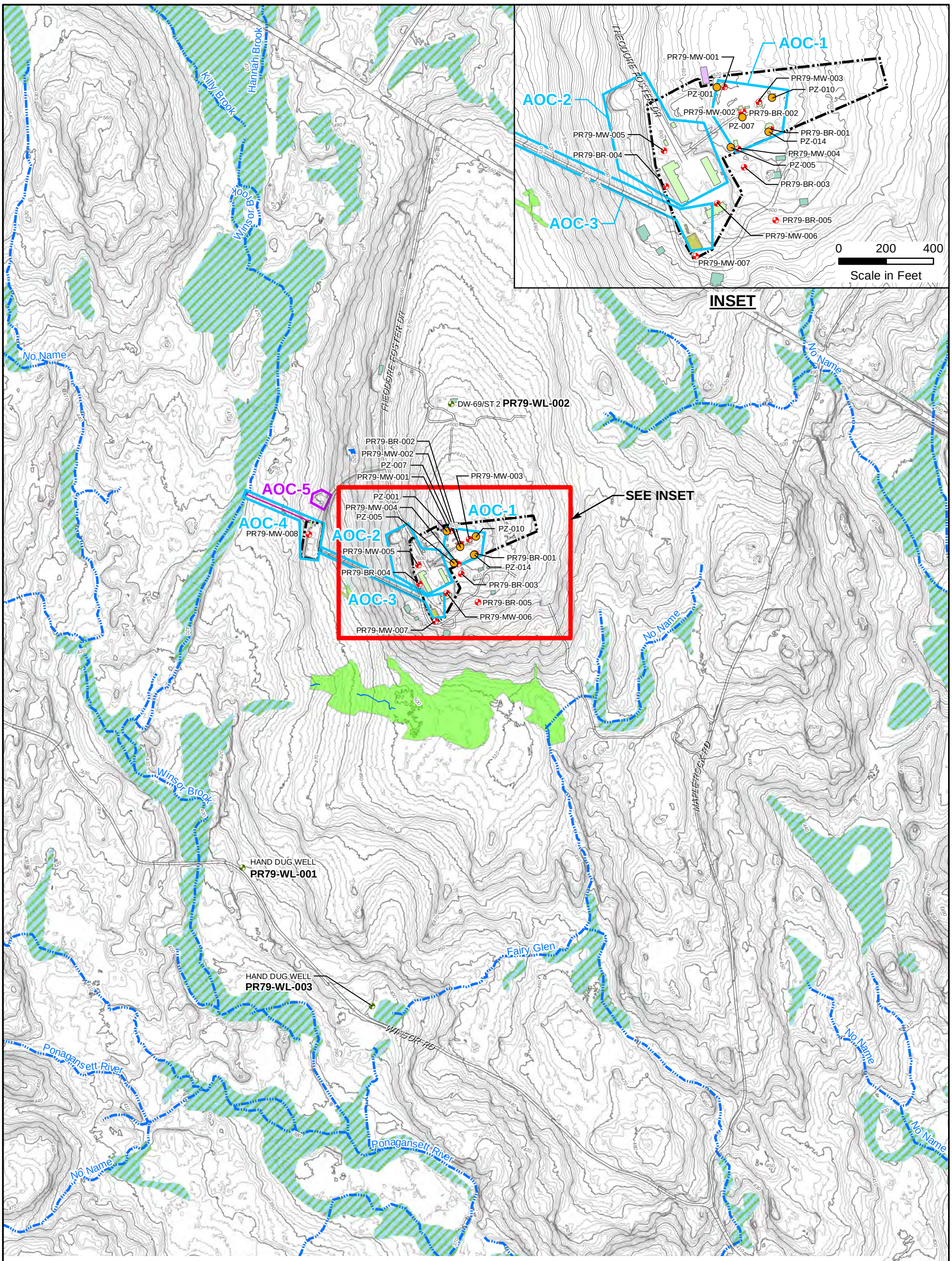
QAPP Worksheet #28-19: Analytical Quality Control and Corrective Action – Volatile Organic Compounds

Matrix	Water
Analytical Group	VOCs
Analytical Method/ SOP Reference	EPA 524.2 / CA-200

QC Sample:	Frequency/ Number	Method/SOP QC Acceptance Limits	Corrective Action	Person(s) Responsible for Corrective Action	Data Quality Indicator (DQI)	Measurement Performance Criteria (MPC)
Method Blank	One per preparation batch of twenty or fewer samples of similar matrix.	No target compounds > ½ LOQ (> LOQ for common laboratory contaminants) and > 1/10 the amount measured in any sample.	Correct the problem. Report sample results that are <LOD or >10x the blank concentration. Reprepare and reanalyze the method blank and all associated samples with results > LOD and < 10x the contaminated blank result.	Analyst, Laboratory Department Manager, and Data Validator	Bias/Contamination	Same as Method/SOP QC Acceptance Limits.
Surrogate	Two per sample: 4-Bromofluorobenzene (BFB): 60-121 1,2-Dichlorobenzene-d4: 51-133	%R must be within laboratory statistically derived limits.	For QC and field samples, correct problem then reprepare and reanalyze all failed samples for failed surrogates in the associated preparatory batch, if sufficient sample material is available. If obvious chromatographic interference with surrogate is pres	Analyst, Laboratory Department Manager, and Data Validator	Accuracy/Bias	Same as Method/SOP QC Acceptance Limits.
Laboratory Control Sample (LCS)	One per preparation batch of twenty or fewer samples of similar matrix.	%R must be within 524.2 method limits of 70-130% recovery.	Correct problem, then reprepare and reanalyze the LCS and all samples in the associated preparatory batch for failed analytes, if sufficient sample material is available. Contact Client if samples cannot be reanalyzed within hold time.	Analyst, Laboratory Department Manager, and Data Validator	Accuracy/ Bias	Same as Method/SOP QC Acceptance Limits.
Matrix Spike/ Matrix Spike Duplicate (MS/MSD)	One per sample delivery group (SDG) or every 20 samples.	%R must be within 524.2 method limits of 70-130% recovery. RPD should be ≤ 20%.	Corrective actions will not be taken for samples when recoveries are outside limits if likely due to matrix; otherwise contact client.	Analyst, Laboratory Department Manager, and Data Validator	Precision/Accuracy/ Bias	Same as Method/SOP QC Acceptance Limits.

Matrix	Water					
Analytical Group	VOCs					
Analytical Method/ SOP Reference	EPA 524.2 / CA-200					
QC Sample:	**Frequency/ Number**	**Method/SOP QC Acceptance Limits**	**Corrective Action**	**Person(s) Responsible for Corrective Action**	**Data Quality Indicator (DQI)**	**Measurement Performance Criteria (MPC)**
Internal Standard (IS)	One per sample: Fluorobenzene	Retention times for internal standards must be + 30 seconds and the responses within -70% to +130% of the ICAL midpoint standard or opening CCV standard.	Inspect mass spectrometer or gas chromatograph for malfunctions; mandatory reanalysis of samples analyzed while system was malfunctioning.	Analyst, Laboratory Department Manager, and Data Validator	Accuracy/ Bias	Same as Method/SOP QC Acceptance Limits.
Results between DL and LOQ	Not applicable (NA)	Apply "J" qualifier to results between DL and LOQ.	NA	Analyst, Laboratory Department Manager, and Data Validator	Accuracy	Same as QC Acceptance Limits.

Figures



AECOM

Drawn:	JB	04/13/2022
Approved:	GH	04/13/2022
Project #:	60608703	

Sources
Structures, Utilities, Contours (The Johnson Company, 2018)
Surface Water Bodies (The Johnson Company, 2018)
Wetlands (RIGIS 1993) (Woodard & Curran, 2019)
Historical Feature/Activity Locations (USAGC, 2015)

N

FIGURE 17-1
MONITORING WELLS RESAMPLED

FORMER NIKE PR-79 CONTROL AREA
FOSTER, RHODE ISLAND

Path: L:\Legacy\USCHL1FP001\Data\Projects\Govt\Projects\USACE New England HTRW 2019\Task Orders\TO W912WJ19F0110 NIKE PR79 RIFS\900_GIS\Projects\QAPP_Addendum\MXD\Fig_17_1_Monitoring_Wells_Resampling.mxd

PR79-WT-026
PR79-WT-027
PR79-WT-028
PR79-WT-029
PR79-WT-007
PR79-WT-013
AOC-1
AOC-2
AOC-3
AOC-4
AOC-5
Killy Brook
Hannah Brook
Winsor Brook
Ponagansett River
No Name
Fairy Glen
THEODORE FOSTER DR
GENERAL ELECTRIC RD
WINSOR RD
WARE FARM RD
101

Legend

- Surface Water/Porewater
- Parcel
- Stream
- Perimeter Fence
- Former Government Property
- Non-Government Property
- Area of Concern (AOC)
- Area of Concern (AOC) (Non-Government)
- Wetland (Woodard & Curran, 2019)
- Wetlands (RIGIS 1993)
- Extent of Former NIKE PR-79 Control Area (USAGC, 2015)
- Sewer Line
- Drainage

AECOM

Drawn:	JB	04/13/2022
Approved:	GH	04/13/2022
Project #:	60608703	

Sources
Orthoimagery (RIGIS, 03/2021)
Structures, Utilities, Contours (The Johnson Company, 2018)
Surface Water Bodies (The Johnson Company, 2018)
Wetlands (RIGIS 1993) (Woodard & Curran, 2019)
Historical Feature/Activity Locations (USAGC, 2015)
Bedrock Lineaments (The Johnson Company, 2018)

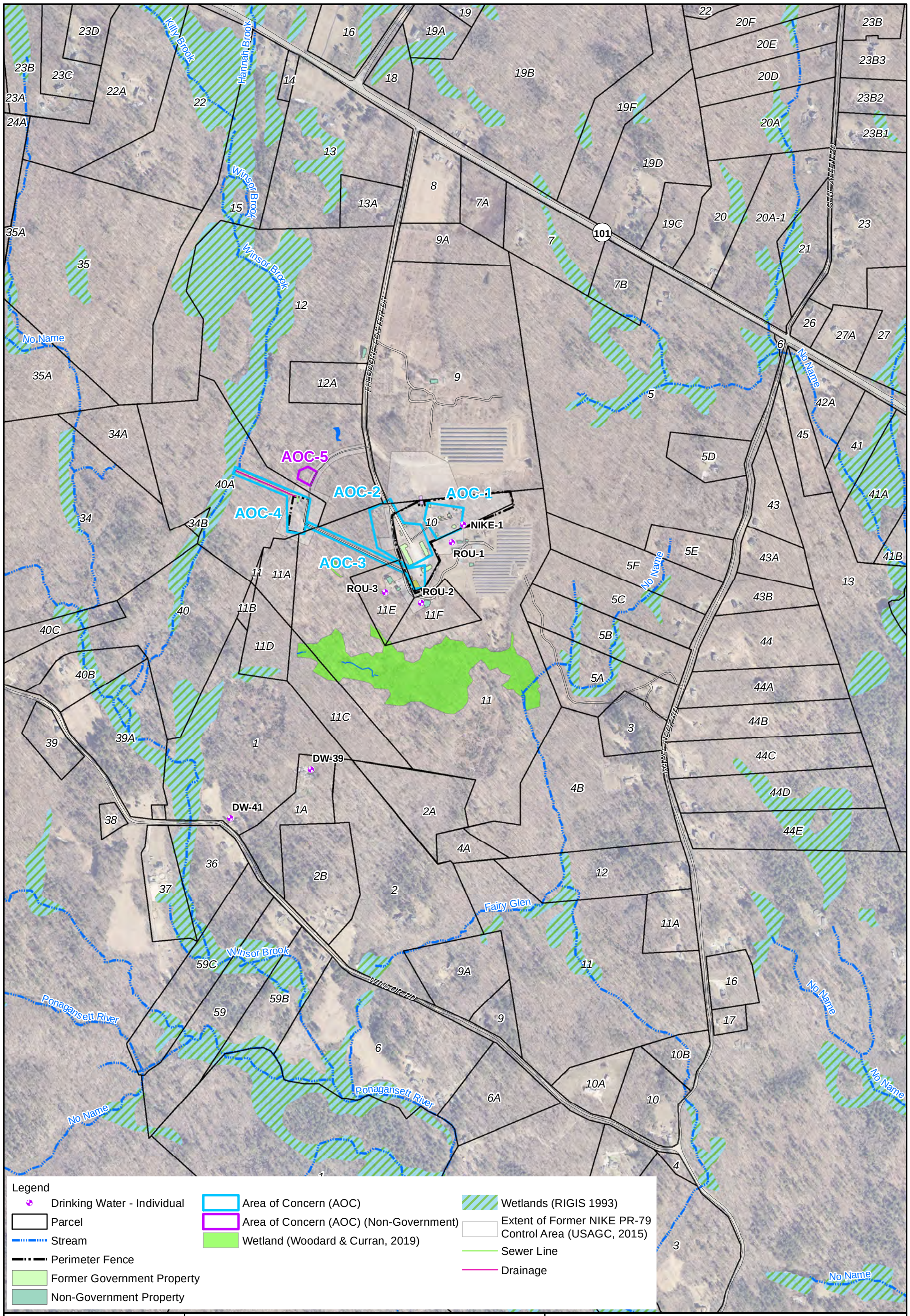
0 375 750
Scale in Feet

N

FIGURE 17-2
SURFACE WATER AND PORE WATER SAMPLING LOCATIONS

FORMER NIKE PR-79 CONTROL AREA
FOSTER, RHODE ISLAND

Path: L:\Legacy\USCHL1FP001\Data\Projects\Govt\Projects\USACE New England HTRW 2019\Task Orders\TO W912WJ19F0110 NIKE PR79 RIFS\900_GIS\Projects\QAPP_Addendum\MXD\Fig_17_2_Surface_Water_Porewater_Sampling_Loc.mxd



AECOM

Drawn:	JB	05/03/2022
Approved:	GH	05/03/2022
Project #:	60608703	

Sources
Orthoimagery (RIGIS, 03/2021)
Structures, Utilities, Contours (The Johnson Company, 2018)
Surface Water Bodies (The Johnson Company, 2018)
Wetlands (RIGIS 1993) (Woodard & Curran, 2019)
Historical Feature/Activity Locations (USAGC, 2015)
Bedrock Lineaments (The Johnson Company, 2018)

0 375 750
Scale in Feet

N

FIGURE 17-3
POET SAMPLE LOCATIONS

FORMER NIKE PR-79 CONTROL AREA
FOSTER, RHODE ISLAND

Path: L:\Legacy\USCHL1FP001\Data\Projects\Govt\Projects\USACE New England HTRW 2019\Task Orders\TO W912WJ19F0110 NIKE PR79 RIFS\900_GIS\Projects\QAPP_Addendum\MXD\Fig_17_3_POET_Sample_Loc.mxd

Appendix A: Laboratory Certifications & SOPs

Laboratory Certifications

CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

Alpha Analytical, Inc.
320 Forbes Blvd.
Mansfield, MA 02048

Fulfills the requirements of

ISO/IEC 17025:2017

and the

U.S. Department of Defense (DoD) Quality Systems Manual for Environmental Laboratories (DoD QSM V5.3)

In the field of

TESTING

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scope of accreditation can be verified at www.anab.org.

R. Douglas Leonard Jr., VP, PILR SBU

Expiry Date: 30 May 2023
Certificate Number: L2474

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017 AND U.S. DEPARTMENT OF DEFENSE (DOD) QUALITY SYSTEMS MANUAL FOR ENVIRONMENTAL LABORATORIES (DOD QSM V5.3)

Alpha Analytical, Inc.
320 Forbes Blvd.
Mansfield, MA 02048
James Todaro
508-898-9220

TESTING

Valid to: **May 30, 2023** Certificate Number: **L2474**

Environmental

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl1-BZ#1-Cal/RTW Chlorobiphenyl (2-) (PCB 1)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl1-BZ#2 Chlorobiphenyl (3-) (PCB 2)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl1-BZ#3-RTW Chlorobiphenyl (4-) (PCB 3)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#4/#10-RTW Dichlorobiphenyl (2,2'-) (PCB 4)/ Dichlorobiphenyl (2,6-) (PCB 10)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#9 Dichlorobiphenyl (2,5-) (PCB 9)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#7 Dichlorobiphenyl (2,4-) (PCB 7)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#6 Dichlorobiphenyl (2,3'-) (PCB 6)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#5 Dichlorobiphenyl (2,3-) (PCB 5)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#8 Dichlorobiphenyl (2,4'-) (PCB 8)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#19-RTW Trichlorobiphenyl (2,2',6-) (PCB 19)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#14 Dichlorobiphenyl (3,5-) (PCB 14)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#30 Trichlorobiphenyl (2,4,6-) (PCB 30)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#18 Trichlorobiphenyl (2,2',5-) (PCB 18)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#11 Dichlorobiphenyl (3,3'-) (PCB 11)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#17 Trichlorobiphenyl (2,2',4-) (PCB 17)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#12 Dichlorobiphenyl (3,4-) (PCB 12)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#27 Trichlorobiphenyl (2,3',6-) (PCB 27)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#13 Dichlorobiphenyl (3,4'-) (PCB 13)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#24 Trichlorobiphenyl (2,3,6-) (PCB 24)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#16 Trichlorobiphenyl (2,2',3-) (PCB 16)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#32 Trichlorobiphenyl (2,4',6-) (PCB 32)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#15-RTW Dichlorobiphenyl (4,4'-) (PCB 15)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#34 Trichlorobiphenyl (2,3',5'-) (PCB 34)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#23 Trichlorobiphenyl (2,3,5-) (PCB 23)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#54-RTW Tetrachlorobiphenyl (2,2',6,6'-) (PCB 54)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#29-Cal Trichlorobiphenyl (2,4,5-) (PCB 29)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#50-Cal Tetrachlorobiphenyl (2,2',4,6-) (PCB 50)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#26 Trichlorobiphenyl (2,3',5-) (PCB 26)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#25 Trichlorobiphenyl (2,3',4-) (PCB 25)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#53 Tetrachlorobiphenyl (2,2',5,6'-) (PCB 53)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#-31 Trichlorobiphenyl (2,4',5-) (PCB 31)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#28 Trichlorobiphenyl (2,4,4'-) (PCB 28)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#33 Trichlorobiphenyl (2,3',4'-) (PCB 33)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#21/#20 Trichlorobiphenyl (2,3,4-) (PCB 21)/ Trichlorobiphenyl (2,3,3'-) (PCB 20)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#51 Tetrachlorobiphenyl (2,2',4,6'-) (PCB 51)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#45 Tetrachlorobiphenyl (2,2',3,6-) (PCB 45)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#22 Trichlorobiphenyl (2,3,4'-) (PCB 22)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#73/#46 Tetrachlorobiphenyl (2,3',5',6-) (PCB 73)/ Tetrachlorobiphenyl (2,2',3,6'-) (PCB 46)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#69 Tetrachlorobiphenyl (2,3',4,6-) (PCB 69)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#43 Tetrachlorobiphenyl (2,2',3,5-) (PCB 43)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#36 Trichlorobiphenyl (3,3',5-) (PCB 36)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#52 Tetrachlorobiphenyl (2,2',5,5'-) (PCB 52)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#48 Tetrachlorobiphenyl (2,2',4,5-) (PCB 48)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#49 Tetrachlorobiphenyl (2,2',4,5'-) (PCB 49)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#104-RTW Pentachlorobiphenyl (2,2',4,6,6'-) (PCB 104)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#47 Tetrachlorobiphenyl (2,2',4,4'-) (PCB 47)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#65/#75/#62 Tetrachlorobiphenyl (2,3,5,6-) (PCB 65)/ Tetrachlorobiphenyl (2,4,4',6-) (PCB 75)/ Tetrachlorobiphenyl (2,3,4,6-) (PCB 62)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#39 Trichlorobiphenyl (3,4',5-) (PCB 39)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#38 Trichlorobiphenyl (3,4,5-) (PCB 38)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#44 Tetrachlorobiphenyl (2,2',3,5'-) (PCB 44)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#59 Tetrachlorobiphenyl (2,3,3',6-) (PCB 59)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#42 Tetrachlorobiphenyl (2,2',3,4'-) (PCB 42)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#71 Tetrachlorobiphenyl (2,3',4',6-) (PCB 71)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#35 Trichlorobiphenyl (3,3',4-) (PCB 35)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#41 Tetrachlorobiphenyl (2,2',3,4-) (PCB 41)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#72 Tetrachlorobiphenyl (2,3',5,5'-) (PCB 72)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#96 Pentachlorobiphenyl (2,2',3,6,6'-) (PCB 96)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#103 Pentachlorobiphenyl (2,2',4,5',6-) (PCB 103)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#68/#64 Tetrachlorobiphenyl (2,3',4,5'-) (PCB 68) / Tetrachlorobiphenyl (2,3,4',6-) (PCB 64)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#40 Tetrachlorobiphenyl (2,2',3,3'-) (PCB 40)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#37-RTW Trichlorobiphenyl (3,4,4'-) (PCB 37)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#100 Pentachlorobiphenyl (2,2',4,4',6-) (PCB 100)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#94 Pentachlorobiphenyl (2,2',3,5,6'-) (PCB 94)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#57 Tetrachlorobiphenyl (2,3,3',5-) (PCB 57)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#67/#58 Tetrachlorobiphenyl (2,3',4,5-) (PCB 67)/ Tetrachlorobiphenyl (2,3,3',5'-) (PCB 58)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#102 Pentachlorobiphenyl (2,2',4,5,6'-) (PCB 102)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#61 Tetrachlorobiphenyl (2,3,4,5-) (PCB 61)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#98 Pentachlorobiphenyl (2,2',3,4',6'-) (PCB 98)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#76 Tetrachlorobiphenyl (2,3',4',5'-) (PCB 76)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#93 Pentachlorobiphenyl (2,2',3,5,6-) (PCB 93)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#63 Tetrachlorobiphenyl (2,3,4',5-) (PCB 63)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#121 Pentachlorobiphenyl (2,3',4,5',6-) (PCB 121)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#95/#88 Pentachlorobiphenyl (2,2',3,5',6-) (PCB 95) / Pentachlorobiphenyl (2,2',3,4,6-) (PCB 88)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#74 Tetrachlorobiphenyl (2,4,4',5-) (PCB 74)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#155-RTW Hexachlorobiphenyl (2,2',4,4',6,6'-) (PCB 155)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#70 Tetrachlorobiphenyl (2,3',4',5-) (PCB 70)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#66 Tetrachlorobiphenyl (2,3',4,4'-) (PCB 66)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#91 Pentachlorobiphenyl (2,2',3,4',6-) (PCB 91)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#80 Tetrachlorobiphenyl (3,3',5,5'-) (PCB 80)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#55 Tetrachlorobiphenyl (2,3,3',4-) (PCB 55)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#92 Pentachlorobiphenyl (2,2',3,5,5'-) (PCB 92)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#89/#84 Pentachlorobiphenyl (2,2',3,4,6'-) (PCB 89)/ Pentachlorobiphenyl (2,2',3,3',6-) (PCB 84)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#101/#90 Pentachlorobiphenyl (2,2',4,5,5'-) (PCB 101)/ Pentachlorobiphenyl (2,2',3,4',5-) (PCB 90)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#56 Tetrachlorobiphenyl (2,3,3',4'-) (PCB 56)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#113 Pentachlorobiphenyl (2,3,3',5',6-) (PCB 113)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#99 Pentachlorobiphenyl (2,2',4,4',5-) (PCB 99)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#150 Hexachlorobiphenyl (2,2',3,4',6,6'-) (PCB 150)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#60 Tetrachlorobiphenyl (2,3,4,4'-) (PCB 60)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#152 Hexachlorobiphenyl (2,2',3,5,6,6'-) (PCB 152)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#119 Pentachlorobiphenyl (2,3',4,4',6-) (PCB 119)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#83/#125/#112 Pentachlorobiphenyl (2,3',4',5',6-) (PCB 125) / Pentachlorobiphenyl (2,3,3',5,6-) (PCB 112)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#86/#109 Pentachlorobiphenyl (2,2',3,4,5-) (PCB 86)/ Pentachlorobiphenyl (2,3,3',4,6-) (PCB 109)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#97 Pentachlorobiphenyl (2,2',3,4',5'-) (PCB 97)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#116 Pentachlorobiphenyl (2,3,4,5,6-) (PCB 116)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#87/#111 Pentachlorobiphenyl (2,2',3,4,5'-) (PCB 87) / Pentachlorobiphenyl (2,3,3',5,5'-) (PCB 111)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#145 Hexachlorobiphenyl (2,2',3,4,6,6'-) (PCB 145)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#148 Hexachlorobiphenyl (2,2',3,4',5,6'-) (PCB 148)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#79 Tetrachlorobiphenyl (3,3',4,5'-) (PCB 79)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#154-Cal Hexachlorobiphenyl (2,2',4,4',5,6'-) (PCB 154)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#78 Tetrachlorobiphenyl (3,3',4,5-) (PCB 78)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#136 Hexachlorobiphenyl (2,2',3,3',6,6'-) (PCB 136)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#117 Pentachlorobiphenyl (2,3,4',5,6-) (PCB 117)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#115 Pentachlorobiphenyl (2,3,4,4',6-) (PCB 115)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#85 Pentachlorobiphenyl (2,2',3,4,4'-) (PCB 85)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#120 Pentachlorobiphenyl (2,3',4,5,5'-) (PCB 120)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#110 Pentachlorobiphenyl (2,3,3',4',6-) (PCB 110)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#81 Tetrachlorobiphenyl (3,4,4',5-) (PCB 81)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#151 Hexachlorobiphenyl (2,2',3,5,5',6-) (PCB 151)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#135 Hexachlorobiphenyl (2,2',3,3',5,6'-) (PCB 135)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#82 Pentachlorobiphenyl (2,2',3,3',4-) (PCB 82)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#144 Hexachlorobiphenyl (2,2',3,4,5',6-) (PCB 144)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#147/#149 Hexachlorobiphenyl (2,2',3,4',5',6-) (PCB 149)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#77-RTW Tetrachlorobiphenyl (3,3',4,4'-) (PCB 77)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#143/#139 Hexachlorobiphenyl (2,2',3,4,5,6'-) (PCB 143) / Hexachlorobiphenyl (2,2',3,4,4',6-) (PCB 139)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#124 Pentachlorobiphenyl (2,3',4',5,5'-) (PCB 124)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#108 Pentachlorobiphenyl (2,3,3',4,5'-) (PCB 108)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#107/#123 Pentachlorobiphenyl (2,3,3',4',5-) (PCB 107) / Pentachlorobiphenyl (2,3',4,4',5'-) (PCB 123)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#140 Hexachlorobiphenyl (2,2',3,4,4',6'-) (PCB 140)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#188-Cal/RTW Heptachlorobiphenyl (2,2',3,4',5,6,6'-) (PCB 188)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#134 Hexachlorobiphenyl (2,2',3,3',5,6-) (PCB 134)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#106 Pentachlorobiphenyl (2,3,3',4,5-) (PCB 106)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#133 Hexachlorobiphenyl (2,2',3,3',5,5'-) (PCB 133)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#142 Hexachlorobiphenyl (2,2',3,4,5,6-) (PCB 142)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#118 Pentachlorobiphenyl (2,3',4,4',5-) (PCB 118)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#131 Hexachlorobiphenyl (2,2',3,3',4,6-) (PCB 131)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#184 Heptachlorobiphenyl (2,2',3,4,4',6,6'-) (PCB 184)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#165 Hexachlorobiphenyl (2,3,3',5,5',6-) (PCB 165)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#146 Hexachlorobiphenyl (2,2',3,4',5,5'-) (PCB 146)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#161 Hexachlorobiphenyl (2,3,3',4,5',6-) (PCB 161)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#122 Pentachlorobiphenyl (2,3,3',4',5'-) (PCB 122)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#168 Hexachlorobiphenyl (2,3',4,4',5',6-) (PCB 168)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#114 Pentachlorobiphenyl (2,3,4,4',5-) (PCB 114)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#153 Hexachlorobiphenyl (2,2',4,4',5,5'-) (PCB 153)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#132 Hexachlorobiphenyl (2,2',3,3',4,6'-) (PCB 132)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#179 Heptachlorobiphenyl (2,2',3,3',5,6,6'-) (PCB 179)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#141 Hexachlorobiphenyl (2,2',3,4,5,5'-) (PCB 141)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#176 Heptachlorobiphenyl (2,2',3,3',4,6,6'-) (PCB 176)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#105 Pentachlorobiphenyl (2,3,3',4,4'-) (PCB 105)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#137 Hexachlorobiphenyl (2,2',3,4,4',5-) (PCB 137)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#127 Pentachlorobiphenyl (3,3',4,5,5'-) (PCB 127)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#186 Heptachlorobiphenyl (2,2',3,4,5,6,6'-) (PCB 186)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#130/#164 Hexachlorobiphenyl (2,2',3,3',4,5'-) (PCB 130) / Hexachlorobiphenyl (2,3,3',4',5',6-) (PCB 164)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#178 Heptachlorobiphenyl (2,2',3,3',5,5',6-) (PCB 178)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#138 Hexachlorobiphenyl (2,2',3,4,4',5'-) (PCB 138)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#163/#160 Hexachlorobiphenyl (2,3,3',4,5,6-) (PCB 160)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#129/#158 Hexachlorobiphenyl (2,3,3',4,4',6-) (PCB 158)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#182/#175 Heptachlorobiphenyl (2,2',3,3',4,5',6-) (PCB 175)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#187 Heptachlorobiphenyl (2,2',3,4',5,5',6-) (PCB 187)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#183 Heptachlorobiphenyl (2,2',3,4,4',5',6-) (PCB 183)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#166 Hexachlorobiphenyl (2,3,4,4',5,6-) (PCB 166)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#159 Hexachlorobiphenyl (2,3,3',4,5,5'-) (PCB 159)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#126-RTW Pentachlorobiphenyl (3,3',4,4',5-) (PCB 126)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#185 Heptachlorobiphenyl (2,2',3,4,5,5',6-) (PCB 185)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#162 Hexachlorobiphenyl (2,3,3',4',5,5'-) (PCB 162)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#174 Heptachlorobiphenyl (2,2',3,3',4,5,6'-) (PCB 174)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#128 Hexachlorobiphenyl (2,2',3,3',4,4'-) (PCB 128)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#167 Hexachlorobiphenyl (2,3',4,4',5,5'-) (PCB 167)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#202-RTW Octachlorobiphenyl (2,2',3,3',5,5',6,6'-) (PCB 202)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#181 Heptachlorobiphenyl (2,2',3,4,4',5,6-) (PCB 181)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#177 Heptachlorobiphenyl (2,2',3,3',4,5',6'-) (PCB 177)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#204/#200-Cal Octachlorobiphenyl (2,2',3,4,4',5,6,6'-) (PCB 204) / Octachlorobiphenyl (2,2',3,3',4,5,6,6'-) (PCB 200)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#171 Heptachlorobiphenyl (2,2',3,3',4,4',6-) (PCB 171)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#173 Heptachlorobiphenyl (2,2',3,3',4,5,6-) (PCB 173)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#172 Heptachlorobiphenyl (2,2',3,3',4,5,5'-) (PCB 172)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#192 Heptachlorobiphenyl (2,3,3',4,5,5',6-) (PCB 192)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#156 Hexachlorobiphenyl (2,3,3',4,4',5-) (PCB 156)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#157 Hexachlorobiphenyl (2,3,3',4,4',5'-) (PCB 157)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#180 Heptachlorobiphenyl (2,2',3,4,4',5,5'-) (PCB 180)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#193 Heptachlorobiphenyl (2,3,3',4',5,5',6-) (PCB 193)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#197 Octachlorobiphenyl (2,2',3,3',4,4',6,6'-) (PCB 197)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#191 Heptachlorobiphenyl (2,3,3',4,4',5',6-) (PCB 191)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#199 Octachlorobiphenyl (2,2',3,3',4,5,5',6'-) (PCB 199)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#198 Octachlorobiphenyl (2,2',3,3',4,5,5',6-) (PCB 198)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#201 Octachlorobiphenyl (2,2',3,3',4,5',6,6'-) (PCB 201)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#170 Heptachlorobiphenyl (2,2',3,3',4,4',5-) (PCB 170)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#190 Heptachlorobiphenyl (2,3,3',4,4',5,6-) (PCB 190)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#196 Octachlorobiphenyl (2,2',3,3',4,4',5,6'-) (PCB 196)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#203 Octachlorobiphenyl (2,2',3,4,4',5,5',6-) (PCB 203)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#169-RTW Hexachlorobiphenyl (3,3',4,4',5,5'-) (PCB 169)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl9-BZ#208-RTW Nonachlorobiphenyl (2,2',3,3',4,5,5',6,6'-) (PCB 208)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl9-BZ#207 Nonachlorobiphenyl (2,2',3,3',4,4',5,6,6'-) (PCB 207)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#189-RTW Heptachlorobiphenyl (2,3,3',4,4',5,5'-) (PCB 189)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#195 Octachlorobiphenyl (2,2',3,3',4,4',5,6-) (PCB 195)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#194 Octachlorobiphenyl (2,2',3,3',4,4',5,5'-) (PCB 194)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#205-RTW Octachlorobiphenyl (2,3,3',4,4',5,5',6-) (PCB 205)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl9-BZ#206-Cal/RTW Nonachlorobiphenyl (2,2',3,3',4,4',5,5',6-) (PCB 206)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl10-BZ#209-Cal/RTW Decachlorobiphenyl (PCB 209)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Monochlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Dichlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Trichlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Tetrachlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Pentachlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Hexachlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Heptachlorobiphenyls

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Octachlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Nonachlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Decachlorobiphenyl
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) CAS# 1746-01-6
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) CAS# 40321-76-4
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) CAS#39227-28-6
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) CAS# 57653-85-7
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) CAS# 19408-74-3
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) CAS# 35822-46-9
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,4,6,7,8,9 -Octachlorodibenzo-p-dioxin (OCDD) CAS#3268-87-9
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	2,3,7,8-Tetrachlorodibenzofuran (TCDF) CAS# 51207-31-9
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) CAS#57117-41-6
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) CAS#57117-31-4
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) CAS# 70648-26-9
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) CAS#57117-44-9
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) CAS#72918-21-9
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) CAS# 60851-34-5
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) CAS# 67562-39-4
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) CAS# 55673-89-7
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,4,6,7,8,9 -Octachlorodibenzofuran (OCDF) CAS#39001-02-0
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	Total Tetrachlorodibenzo-p-dioxin (TCDD) CAS#41903-57-5

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	Total Pentachlorodibenzo-p-dioxin (PeCDD) CAS#36088-22-9
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	Total Hexachlorodibenzo-p-dioxin (HxCDD) CAS#34465-46-8
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	Total Heptachlorodibenzo-p-dioxin (HpCDD) CAS#37871-00-4
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	Total Tetrachlorodibenzofuran (TCDF) CAS#55722-27-5
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	Total Pentachlorodibenzofuran (PeCDF) CAS#30402-15-4
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	Total Hexachlorodibenzofuran (HxCDF) CAS#55684-94-1
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	Total Heptachlorodibenzofuran (HpCDF) CAS#38998-75-3
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	Total PCDF
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	Total PCDD
GC/MS-SIM	EPA 8270E-SIM Isotope Dilution	1,4-Dioxane
SPE/LC/MS/MS	Alpha SOP #29033[2]	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA) (cas# 2991-50-6)
SPE/LC/MS/MS	Alpha SOP #29033[2]	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA) (cas# 2355-31-9)
SPE/LC/MS/MS	Alpha SOP #29033[2]	Perfluorobutanesulfonic acid (PFBS) (cas# 375-73-5)
SPE/LC/MS/MS	Alpha SOP #29033[2]	Perfluorodecanoic acid (PFDA) (cas# 335-76-2)
SPE/LC/MS/MS	Alpha SOP #29033[2]	Perfluorododecanoic acid (PFDoA) (cas# 307-55-1)
SPE/LC/MS/MS	Alpha SOP #29033[2]	Perfluoroheptanoic acid (PFHpA) (cas# 375-85-9)
SPE/LC/MS/MS	Alpha SOP #29033[2]	Perfluorohexanesulfonic acid (PFHxS) (cas# 355-46-4)
SPE/LC/MS/MS	Alpha SOP #29033[2]	Perfluorohexanoic acid (PFHxA) (cas# 307-24-4)
SPE/LC/MS/MS	Alpha SOP #29033[2]	Perfluorononanoic acid (PFNA) (cas# 375-95-1)
SPE/LC/MS/MS	Alpha SOP #29033[2]	Perfluorooctanesulfonic acid (PFOS) (cas# 1763-23-1)
SPE/LC/MS/MS	Alpha SOP #29033[2]	Perfluorooctanoic acid (PFOA) (cas# 335-67-1)
SPE/LC/MS/MS	Alpha SOP #29033[2]	Perfluorotetradecanoic acid (PFTA) (cas# 376-06-7)

Non-Potable Water		
Technology	**Method**	**Analyte**
SPE/LC/MS/MS	Alpha SOP #29033[2]	Perfluorotridecanoic acid (PFTrDA) (cas# 72629-94-8)
SPE/LC/MS/MS	Alpha SOP #29033[2]	Perfluoroundecanoic acid (PFUnA) (cas# 2058-94-8)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	N-ethyl perfluorooctanesulfonamidoacetic acid N-EtFOSAA (cas# 2991-50-6)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	N-methyl perfluorooctanesulfonamidoacetic acid N-MeFOSAA (cas# 2355-31-9)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorobutanesulfonic acid (PFBS) (cas# 375-73-5)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorodecanoic acid PFDA (cas# 335-76-2)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorododecanoic acid PFDoA (cas# 307-55-1)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluoroheptanoic acid PFHpA (cas# 375-85-9)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorohexanesulfonic acid (PFHxS) (cas# 355-46-4)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorohexanoic acid PFHxA (cas# 307-24-4)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorononanoic acid PFNA (cas# 375-95-1)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorooctanesulfonic acid (PFOS) (cas# 1763-23-1)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorooctanoic acid PFOA (cas# 335-67-1)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorotridecanoic acid PFTrDA (cas# 72629-94-8)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluoroundecanoic acid PFUnA (cas# 2058-94-8)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorotetradecanoic acid PFTA (cas# 376-06-7)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluoropentanoic acid (PFPeA) (cas# 2706-90-3)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorobutanoic acid PFBA (cas# 375-22-4)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorodecanesulfonic acid (PFDS) (cas# 335-77-3)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorononanesulfonic acid (PFNS) (cas# 68259-12-1)

Non-Potable Water		
Technology	**Method**	**Analyte**
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluoroheptanesulfonic acid (PFHpS) (cas# 375-92-8)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluoropentanesulfonic acid (PFPeS) (cas# 2706-91-4)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorooctanesulfonamide PFOSA (cas# 754-91-6)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	1H,1H,2H,2H-perfluorodecane sulfonic acid (8:2) 8:2FTS (cas# 39108-34-4)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	1H,1H,2H,2H-perfluorooctane sulfonic acid (6:2) 6:2FTS (cas# 27619-97-2)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2) 4:2FTS (cas# 757124-72-4)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorododecanesulfonic acid (PFDoS) (cas# 79780-39-5)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) (cas# 763051-92-9)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS) (cas# 756426-58-1)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	N-methylperfluoro-1-octanesulfonamide (NMeFOSA) (cas# 31506-32-8)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	N-ethylperfluoro-1-octanesulfonamide (NEtFOSA) (cas# 4151-50-2)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2) (10:2FTS) (cas# 120226-60-0)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	2-(N-methylperfluoro-1-octanesulfonamido)-ethanol (NMeFOSE) (cas# 24448-09-7)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol (NEtFOSE) (cas# 1691-99-2)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorohexadecanoic acid PFHxDA (cas# 67905-19-5)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorooctadecanoic acid PFODA (cas# 16517-11-6)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Tetrafluoro-2(heptafluoropropoxy)propanoic acid HFPO-DA (cas# 13252-13-6)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	4,8-dioxa-3H-perfluorononanoic acid ADONA (cas# 919005-14-4)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluoro-3-methoxypropanoic acid (PFMPA) 377-73-1
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluoro-4-methoxybutanoic acid (PFMBA) 863090-89-5

Non-Potable Water		
Technology	**Method**	**Analyte**
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) 113507-82-7
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) 151772-58-6
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluoropropanesulfonic acid (PFPrS) 423-41-6
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) 763051-92-9
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) 756426-58-1
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	4,8-Dioxa-3H-perfluorononanoic acid (ADONA) 919005-14-4
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	Hexafluoropropylene oxide dimer acid (HFPO-DA) 13252-13-6
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) 151772-58-6
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	Perfluorobutanoic acid (PFBA) 375-22-4
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	Perfluorobutanesulfonic acid (PFBS) 375-73-5
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	1H,1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2FTS) 39108-34-4
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	Perfluorodecanoic acid (PFDA) 335-76-2
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	Perfluorododecanoic acid (PFDoA) 307-55-1
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) 113507-82-7
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	Perfluoroheptanesulfonic acid (PFHpS) 375-92-8
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	Perfluoroheptanoic acid (PFHpA) 375-85-9
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	1H,1H, 2H, 2H-Perfluorohexanesulfonic acid (4:2FTS) 757124-72-4
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	Perfluorohexanesulfonic acid (PFHxS) 355-46-4
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	Perfluorohexanoic acid (PFHxA) 307-24-4
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	Perfluoro-3-methoxypropanoic acid (PFMPA) 377-73-1
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	Perfluoro-4-methoxybutanoic acid (PFMBA) 863090-89-5
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	Perfluorononanoic acid (PFNA) 375-95-1
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) 27619-97-2
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	Perfluorooctanesulfonic acid (PFOS) 1763-23-1

Non-Potable Water		
Technology	**Method**	**Analyte**
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	Perfluorooctanoic acid (PFOA) 335-67-1
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	Perfluoropentanoic acid (PFPeA) 2706-90-3
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	Perfluoropentanesulfonic acid (PFPeS) 2706-91-4
SPE/LC/MS/MS Isotope Dilution	Alpha SOP #36216[2]	Perfluoroundecanoic acid (PFUnA) 2058-94-8
GC/Hi-Res MS	EPA 1668A	Cl1-BZ#1-Cal/RTW Chlorobiphenyl (2-) (PCB 1)
GC/Hi-Res MS	EPA 1668A	Cl1-BZ#2 Chlorobiphenyl (3-) (PCB 2)
GC/Hi-Res MS	EPA 1668A	Cl1-BZ#3-RTW Chlorobiphenyl (4-) (PCB 3)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#4/#10-RTW Dichlorobiphenyl (2,2'-) (PCB 4)/ Dichlorobiphenyl (2,6-) (PCB 10)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#9 Dichlorobiphenyl (2,5-) (PCB 9)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#7 Dichlorobiphenyl (2,4-) (PCB 7)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#6 Dichlorobiphenyl (2,3'-) (PCB 6)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#5 Dichlorobiphenyl (2,3-) (PCB 5)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#8 Dichlorobiphenyl (2,4'-) (PCB 8)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#19-RTW Trichlorobiphenyl (2,2',6-) (PCB 19)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#14 Dichlorobiphenyl (3,5-) (PCB 14)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#30 Trichlorobiphenyl (2,4,6-) (PCB 30)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#18 Trichlorobiphenyl (2,2',5-) (PCB 18)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#11 Dichlorobiphenyl (3,3'-) (PCB 11)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#17 Trichlorobiphenyl (2,2',4-) (PCB 17)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#12 Dichlorobiphenyl (3,4-) (PCB 12)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#27 Trichlorobiphenyl (2,3',6-) (PCB 27)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#13 Dichlorobiphenyl (3,4'-) (PCB 13)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#24 Trichlorobiphenyl (2,3,6-) (PCB 24)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#16 Trichlorobiphenyl (2,2',3-) (PCB 16)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#32 Trichlorobiphenyl (2,4',6-) (PCB 32)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#15-RTW Dichlorobiphenyl (4,4'-) (PCB 15)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#34 Trichlorobiphenyl (2,3',5'-) (PCB 34)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#23 Trichlorobiphenyl (2,3,5-) (PCB 23)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#54-RTW Tetrachlorobiphenyl (2,2',6,6'-) (PCB 54)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#29-Cal Trichlorobiphenyl (2,4,5-) (PCB 29)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#50-Cal Tetrachlorobiphenyl (2,2',4,6-) (PCB 50)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#26 Trichlorobiphenyl (2,3',5-) (PCB 26)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#25 Trichlorobiphenyl (2,3',4-) (PCB 25)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#53 Tetrachlorobiphenyl (2,2',5,6'-) (PCB 53)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#-31 Trichlorobiphenyl (2,4',5-) (PCB 31)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#28 Trichlorobiphenyl (2,4,4'-) (PCB 28)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#33 Trichlorobiphenyl (2,3',4'-) (PCB 33)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#21/#20 Trichlorobiphenyl (2,3,4-) (PCB 21)/ Trichlorobiphenyl (2,3,3'-) (PCB 20)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#51 Tetrachlorobiphenyl (2,2',4,6'-) (PCB 51)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#45 Tetrachlorobiphenyl (2,2',3,6-) (PCB 45)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#22 Trichlorobiphenyl (2,3,4'-) (PCB 22)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#73/#46 Tetrachlorobiphenyl (2,3',5',6-) (PCB 73)/ Tetrachlorobiphenyl (2,2',3,6'-) (PCB 46)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#69 Tetrachlorobiphenyl (2,3',4,6-) (PCB 69)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#43 Tetrachlorobiphenyl (2,2',3,5-) (PCB 43)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#36 Trichlorobiphenyl (3,3',5-) (PCB 36)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#52 Tetrachlorobiphenyl (2,2',5,5'-) (PCB 52)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#48 Tetrachlorobiphenyl (2,2',4,5-) (PCB 48)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#49 Tetrachlorobiphenyl (2,2',4,5'-) (PCB 49)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#104-RTW Pentachlorobiphenyl (2,2',4,6,6'-) (PCB 104)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#47 Tetrachlorobiphenyl (2,2',4,4'-) (PCB 47)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#65/#75/#62 Tetrachlorobiphenyl (2,3,5,6-) (PCB 65)/ Tetrachlorobiphenyl (2,4,4',6-) (PCB 75)/ Tetrachlorobiphenyl (2,3,4,6-) (PCB 62)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#39 Trichlorobiphenyl (3,4',5-) (PCB 39)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#38 Trichlorobiphenyl (3,4,5-) (PCB 38)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#44 Tetrachlorobiphenyl (2,2',3,5'-) (PCB 44)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#59 Tetrachlorobiphenyl (2,3,3',6-) (PCB 59)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#42 Tetrachlorobiphenyl (2,2',3,4'-) (PCB 42)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#71 Tetrachlorobiphenyl (2,3',4',6-) (PCB 71)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#35 Trichlorobiphenyl (3,3',4-) (PCB 35)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#41 Tetrachlorobiphenyl (2,2',3,4-) (PCB 41)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#72 Tetrachlorobiphenyl (2,3',5,5'-) (PCB 72)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#96 Pentachlorobiphenyl (2,2',3,6,6'-) (PCB 96)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#103 Pentachlorobiphenyl (2,2',4,5',6-) (PCB 103)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#68/#64 Tetrachlorobiphenyl (2,3',4,5'-) (PCB 68) / Tetrachlorobiphenyl (2,3,4',6-) (PCB 64)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#40 Tetrachlorobiphenyl (2,2',3,3'-) (PCB 40)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#37-RTW Trichlorobiphenyl (3,4,4'-) (PCB 37)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#100 Pentachlorobiphenyl (2,2',4,4',6-) (PCB 100)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#94 Pentachlorobiphenyl (2,2',3,5,6'-) (PCB 94)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#57 Tetrachlorobiphenyl (2,3,3',5-) (PCB 57)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#67/#58 Tetrachlorobiphenyl (2,3',4,5-) (PCB 67)/ Tetrachlorobiphenyl (2,3,3',5'-) (PCB 58)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#102 Pentachlorobiphenyl (2,2',4,5,6'-) (PCB 102)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#61 Tetrachlorobiphenyl (2,3,4,5-) (PCB 61)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#98 Pentachlorobiphenyl (2,2',3,4',6'-) (PCB 98)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#76 Tetrachlorobiphenyl (2,3',4',5'-) (PCB 76)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#93 Pentachlorobiphenyl (2,2',3,5,6-) (PCB 93)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#63 Tetrachlorobiphenyl (2,3,4',5-) (PCB 63)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#121 Pentachlorobiphenyl (2,3',4,5',6-) (PCB 121)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#95/#88 Pentachlorobiphenyl (2,2',3,5',6-) (PCB 95) / Pentachlorobiphenyl (2,2',3,4,6-) (PCB 88)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#74 Tetrachlorobiphenyl (2,4,4',5-) (PCB 74)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#155-RTW Hexachlorobiphenyl (2,2',4,4',6,6'-) (PCB 155)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#70 Tetrachlorobiphenyl (2,3',4',5-) (PCB 70)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#66 Tetrachlorobiphenyl (2,3',4,4'-) (PCB 66)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#91 Pentachlorobiphenyl (2,2',3,4',6-) (PCB 91)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#80 Tetrachlorobiphenyl (3,3',5,5'-) (PCB 80)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#55 Tetrachlorobiphenyl (2,3,3',4-) (PCB 55)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#92 Pentachlorobiphenyl (2,2',3,5,5'-) (PCB 92)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#89/#84 Pentachlorobiphenyl (2,2',3,4,6'-) (PCB 89)/ Pentachlorobiphenyl (2,2',3,3',6-) (PCB 84)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#101/#90 Pentachlorobiphenyl (2,2',4,5,5'-) (PCB 101)/ Pentachlorobiphenyl (2,2',3,4',5-) (PCB 90)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#56 Tetrachlorobiphenyl (2,3,3',4'-) (PCB 56)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#113 Pentachlorobiphenyl (2,3,3',5',6-) (PCB 113)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#99 Pentachlorobiphenyl (2,2',4,4',5-) (PCB 99)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#150 Hexachlorobiphenyl (2,2',3,4',6,6'-) (PCB 150)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#60 Tetrachlorobiphenyl (2,3,4,4'-) (PCB 60)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#152 Hexachlorobiphenyl (2,2',3,5,6,6'-) (PCB 152)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#119 Pentachlorobiphenyl (2,3',4,4',6-) (PCB 119)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#83/#125/#112 Pentachlorobiphenyl(2,2',3,3',5-)(PCB 83)/ Pentachlorobiphenyl (2,3',4',5',6-) (PCB 125) / Pentachlorobiphenyl (2,3,3',5,6-) (PCB 112)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#86/#109 Pentachlorobiphenyl (2,2',3,4,5-) (PCB 86)/ Pentachlorobiphenyl (2,3,3',4,6-) (PCB 109)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#97 Pentachlorobiphenyl (2,2',3,4',5'-) (PCB 97)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#116 Pentachlorobiphenyl (2,3,4,5,6-) (PCB 116)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#87/#111 Pentachlorobiphenyl (2,2',3,4,5'-) (PCB 87) / Pentachlorobiphenyl (2,3,3',5,5'-) (PCB 111)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#145 Hexachlorobiphenyl (2,2',3,4,6,6'-) (PCB 145)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#148 Hexachlorobiphenyl (2,2',3,4',5,6'-) (PCB 148)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#79 Tetrachlorobiphenyl (3,3',4,5'-) (PCB 79)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#154-Cal Hexachlorobiphenyl (2,2',4,4',5,6'-) (PCB 154)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#78 Tetrachlorobiphenyl (3,3',4,5-) (PCB 78)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#136 Hexachlorobiphenyl (2,2',3,3',6,6'-) (PCB 136)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#117 Pentachlorobiphenyl (2,3,4',5,6-) (PCB 117)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#115 Pentachlorobiphenyl (2,3,4,4',6-) (PCB 115)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#85 Pentachlorobiphenyl (2,2',3,4,4'-) (PCB 85)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#120 Pentachlorobiphenyl (2,3',4,5,5'-) (PCB 120)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#110 Pentachlorobiphenyl (2,3,3',4',6-) (PCB 110)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#81 Tetrachlorobiphenyl (3,4,4',5-) (PCB 81)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#151 Hexachlorobiphenyl (2,2',3,5,5',6-) (PCB 151)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#135 Hexachlorobiphenyl (2,2',3,3',5,6'-) (PCB 135)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#82 Pentachlorobiphenyl (2,2',3,3',4-) (PCB 82)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#144 Hexachlorobiphenyl (2,2',3,4,5',6-) (PCB 144)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#147/#149 Hexachlorobiphenyl (2,2',3,4',5,6-) (PCB 147)/ Hexachlorobiphenyl (2,2',3,4',5',6-) (PCB 149)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#77-RTW Tetrachlorobiphenyl (3,3',4,4'-) (PCB 77)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#143/#139 Hexachlorobiphenyl (2,2',3,4,5,6'-) (PCB 143) / Hexachlorobiphenyl (2,2',3,4,4',6-) (PCB 139)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#124 Pentachlorobiphenyl (2,3',4',5,5'-) (PCB 124)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#108 Pentachlorobiphenyl (2,3,3',4,5'-) (PCB 108)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#107/#123 Pentachlorobiphenyl (2,3,3',4',5-) (PCB 107) / Pentachlorobiphenyl (2,3',4,4',5'-) (PCB 123)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#140 Hexachlorobiphenyl (2,2',3,4,4',6'-) (PCB 140)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#188-Cal/RTW Heptachlorobiphenyl (2,2',3,4',5,6,6'-) (PCB 188)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#134 Hexachlorobiphenyl (2,2',3,3',5,6-) (PCB 134)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#106 Pentachlorobiphenyl (2,3,3',4,5-) (PCB 106)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#133 Hexachlorobiphenyl (2,2',3,3',5,5'-) (PCB 133)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#142 Hexachlorobiphenyl (2,2',3,4,5,6-) (PCB 142)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#118 Pentachlorobiphenyl (2,3',4,4',5-) (PCB 118)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#131 Hexachlorobiphenyl (2,2',3,3',4,6-) (PCB 131)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#184 Heptachlorobiphenyl (2,2',3,4,4',6,6'-) (PCB 184)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#165 Hexachlorobiphenyl (2,3,3',5,5',6-) (PCB 165)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#146 Hexachlorobiphenyl (2,2',3,4',5,5'-) (PCB 146)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#161 Hexachlorobiphenyl (2,3,3',4,5',6-) (PCB 161)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#122 Pentachlorobiphenyl (2,3,3',4',5'-) (PCB 122)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#168 Hexachlorobiphenyl (2,3',4,4',5',6-) (PCB 168)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#114 Pentachlorobiphenyl (2,3,4,4',5-) (PCB 114)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#153 Hexachlorobiphenyl (2,2',4,4',5,5'-) (PCB 153)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#132 Hexachlorobiphenyl (2,2',3,3',4,6'-) (PCB 132)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#179 Heptachlorobiphenyl (2,2',3,3',5,6,6'-) (PCB 179)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#141 Hexachlorobiphenyl (2,2',3,4,5,5'-) (PCB 141)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#176 Heptachlorobiphenyl (2,2',3,3',4,6,6'-) (PCB 176)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#105 Pentachlorobiphenyl (2,3,3',4,4'-) (PCB 105)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#137 Hexachlorobiphenyl (2,2',3,4,4',5-) (PCB 137)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#127 Pentachlorobiphenyl (3,3',4,5,5'-) (PCB 127)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#186 Heptachlorobiphenyl (2,2',3,4,5,6,6'-) (PCB 186)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#130/#164 Hexachlorobiphenyl (2,2',3,3',4,5'-) (PCB 130) / Hexachlorobiphenyl (2,3,3',4',5',6-) (PCB 164)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#178 Heptachlorobiphenyl (2,2',3,3',5,5',6-) (PCB 178)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#138 Hexachlorobiphenyl (2,2',3,4,4',5'-) (PCB 138)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#163/#160 Hexachlorobiphenyl (2,3,3',4',5,6-) (PCB 163) / Hexachlorobiphenyl (2,3,3',4,5,6-) (PCB 160)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#129/#158 Hexachlorobiphenyl (2,2',3,3',4,5-) (PCB 129)/ Hexachlorobiphenyl (2,3,3',4,4',6-) (PCB 158)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#182/#175 Heptachlorobiphenyl (2,2',3,4,4',5,6'-) (PCB 182)/ Heptachlorobiphenyl (2,2',3,3',4,5',6-) (PCB 175)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#187 Heptachlorobiphenyl (2,2',3,4',5,5',6-) (PCB 187)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#183 Heptachlorobiphenyl (2,2',3,4,4',5',6-) (PCB 183)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#166 Hexachlorobiphenyl (2,3,4,4',5,6-) (PCB 166)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#159 Hexachlorobiphenyl (2,3,3',4,5,5'-) (PCB 159)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#126-RTW Pentachlorobiphenyl (3,3',4,4',5-) (PCB 126)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#185 Heptachlorobiphenyl (2,2',3,4,5,5',6-) (PCB 185)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#162 Hexachlorobiphenyl (2,3,3',4',5,5'-) (PCB 162)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#174 Heptachlorobiphenyl (2,2',3,3',4,5,6'-) (PCB 174)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#128 Hexachlorobiphenyl (2,2',3,3',4,4'-) (PCB 128)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#167 Hexachlorobiphenyl (2,3',4,4',5,5'-) (PCB 167)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#202-RTW Octachlorobiphenyl (2,2',3,3',5,5',6,6'-) (PCB 202)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#181 Heptachlorobiphenyl (2,2',3,4,4',5,6-) (PCB 181)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#177 Heptachlorobiphenyl (2,2',3,3',4,5',6'-) (PCB 177)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#204/#200-Cal Octachlorobiphenyl (2,2',3,4,4',5,6,6'-) (PCB 204) / Octachlorobiphenyl (2,2',3,3',4,5,6,6'-) (PCB 200)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#171 Heptachlorobiphenyl (2,2',3,3',4,4',6-) (PCB 171)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#173 Heptachlorobiphenyl (2,2',3,3',4,5,6-) (PCB 173)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#172 Heptachlorobiphenyl (2,2',3,3',4,5,5'-) (PCB 172)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#192 Heptachlorobiphenyl (2,3,3',4,5,5',6-) (PCB 192)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#156 Hexachlorobiphenyl (2,3,3',4,4',5-) (PCB 156)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#157 Hexachlorobiphenyl (2,3,3',4,4',5'-) (PCB 157)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#180 Heptachlorobiphenyl (2,2',3,4,4',5,5'-) (PCB 180)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#193 Heptachlorobiphenyl (2,3,3',4',5,5',6-) (PCB 193)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#197 Octachlorobiphenyl (2,2',3,3',4,4',6,6'-) (PCB 197)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#191 Heptachlorobiphenyl (2,3,3',4,4',5',6-) (PCB 191)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#199 Octachlorobiphenyl (2,2',3,3',4,5,5',6'-) (PCB 199)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#198 Octachlorobiphenyl (2,2',3,3',4,5,5',6-) (PCB 198)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#201 Octachlorobiphenyl (2,2',3,3',4,5',6,6'-) (PCB 201)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#170 Heptachlorobiphenyl (2,2',3,3',4,4',5-) (PCB 170)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#190 Heptachlorobiphenyl (2,3,3',4,4',5,6-) (PCB 190)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#196 Octachlorobiphenyl (2,2',3,3',4,4',5,6'-) (PCB 196)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#203 Octachlorobiphenyl (2,2',3,4,4',5,5',6-) (PCB 203)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#169-RTW Hexachlorobiphenyl (3,3',4,4',5,5'-) (PCB 169)
GC/Hi-Res MS	EPA 1668A	Cl9-BZ#208-RTW Nonachlorobiphenyl (2,2',3,3',4,5,5',6,6'-) (PCB 208)
GC/Hi-Res MS	EPA 1668A	Cl9-BZ#207 Nonachlorobiphenyl (2,2',3,3',4,4',5,6,6'-) (PCB 207)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#189-RTW Heptachlorobiphenyl (2,3,3',4,4',5,5'-) (PCB 189)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#195 Octachlorobiphenyl (2,2',3,3',4,4',5,6-) (PCB 195
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#194 Octachlorobiphenyl (2,2',3,3',4,4',5,5'-) (PCB 194)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#205-RTW Octachlorobiphenyl (2,3,3',4,4',5,5',6-) (PCB 205)
GC/Hi-Res MS	EPA 1668A	Cl9-BZ#206-Cal/RTW Nonachlorobiphenyl (2,2',3,3',4,4',5,5',6-) (PCB 206)
GC/Hi-Res MS	EPA 1668A	Cl10-BZ#209-Cal/RTW Decachlorobiphenyl (PCB 209)
GC/Hi-Res MS	EPA 1668A	Monochlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Dichlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Trichlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Tetrachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Pentachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Hexachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Heptachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Octachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Nonachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Decachlorobiphenyl
GC/Hi-Res MS	EPA 1668C	Cl1-BZ#1-Cal/RTW Chlorobiphenyl (2-) (PCB 1)
GC/Hi-Res MS	EPA 1668C	Cl1-BZ#2 Chlorobiphenyl (3-) (PCB 2)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl1-BZ#3-RTW Chlorobiphenyl (4-) (PCB 3)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#4/#10-RTW Dichlorobiphenyl (2,2'-) (PCB 4)/ Dichlorobiphenyl (2,6-) (PCB 10)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#9 Dichlorobiphenyl (2,5-) (PCB 9)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#7 Dichlorobiphenyl (2,4-) (PCB 7)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#6 Dichlorobiphenyl (2,3'-) (PCB 6)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#5 Dichlorobiphenyl (2,3-) (PCB 5)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#8 Dichlorobiphenyl (2,4'-) (PCB 8)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#19-RTW Trichlorobiphenyl (2,2',6-) (PCB 19)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#14 Dichlorobiphenyl (3,5-) (PCB 14)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#30 Trichlorobiphenyl (2,4,6-) (PCB 30)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#18 Trichlorobiphenyl (2,2',5-) (PCB 18)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#11 Dichlorobiphenyl (3,3'-) (PCB 11)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#17 Trichlorobiphenyl (2,2',4-) (PCB 17)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#12 Dichlorobiphenyl (3,4-) (PCB 12)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#27 Trichlorobiphenyl (2,3',6-) (PCB 27)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#13 Dichlorobiphenyl (3,4'-) (PCB 13)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#24 Trichlorobiphenyl (2,3,6-) (PCB 24)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#16 Trichlorobiphenyl (2,2',3-) (PCB 16)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#32 Trichlorobiphenyl (2,4',6-) (PCB 32)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#15-RTW Dichlorobiphenyl (4,4'-) (PCB 15)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#34 Trichlorobiphenyl (2,3',5'-) (PCB 34)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#23 Trichlorobiphenyl (2,3,5-) (PCB 23)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#54-RTW Tetrachlorobiphenyl (2,2',6,6'-) (PCB 54)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#29-Cal Trichlorobiphenyl (2,4,5-) (PCB 29)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#50-Cal Tetrachlorobiphenyl (2,2',4,6-) (PCB 50)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#26 Trichlorobiphenyl (2,3',5-) (PCB 26)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#25 Trichlorobiphenyl (2,3',4-) (PCB 25)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#53 Tetrachlorobiphenyl (2,2',5,6'-) (PCB 53)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#-31 Trichlorobiphenyl (2,4',5-) (PCB 31)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#28 Trichlorobiphenyl (2,4,4'-) (PCB 28)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#33 Trichlorobiphenyl (2,3',4'-) (PCB 33)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#21/#20 Trichlorobiphenyl (2,3,4-) (PCB 21)/ Trichlorobiphenyl (2,3,3'-) (PCB 20)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#51 Tetrachlorobiphenyl (2,2',4,6'-) (PCB 51)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#45 Tetrachlorobiphenyl (2,2',3,6-) (PCB 45)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#22 Trichlorobiphenyl (2,3,4'-) (PCB 22)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#73/#46 Tetrachlorobiphenyl (2,3',5',6-) (PCB 73)/ Tetrachlorobiphenyl (2,2',3,6'-) (PCB 46)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#69 Tetrachlorobiphenyl (2,3',4,6-) (PCB 69)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#43 Tetrachlorobiphenyl (2,2',3,5-) (PCB 43)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#36 Trichlorobiphenyl (3,3',5-) (PCB 36)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#52 Tetrachlorobiphenyl (2,2',5,5'-) (PCB 52)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#48 Tetrachlorobiphenyl (2,2',4,5-) (PCB 48)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#49 Tetrachlorobiphenyl (2,2',4,5'-) (PCB 49)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#104-RTW Pentachlorobiphenyl (2,2',4,6,6'-) (PCB 104)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#47 Tetrachlorobiphenyl (2,2',4,4'-) (PCB 47)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#65/#75/#62 Tetrachlorobiphenyl (2,3,5,6-) (PCB 65)/ Tetrachlorobiphenyl (2,4,4',6-) (PCB 75)/ Tetrachlorobiphenyl (2,3,4,6-) (PCB 62)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#39 Trichlorobiphenyl (3,4',5-) (PCB 39)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#38 Trichlorobiphenyl (3,4,5-) (PCB 38)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#44 Tetrachlorobiphenyl (2,2',3,5'-) (PCB 44)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#59 Tetrachlorobiphenyl (2,3,3',6-) (PCB 59)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#42 Tetrachlorobiphenyl (2,2',3,4'-) (PCB 42)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#71 Tetrachlorobiphenyl (2,3',4',6-) (PCB 71)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#35 Trichlorobiphenyl (3,3',4-) (PCB 35)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#41 Tetrachlorobiphenyl (2,2',3,4-) (PCB 41)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#72 Tetrachlorobiphenyl (2,3',5,5'-) (PCB 72)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#96 Pentachlorobiphenyl (2,2',3,6,6'-) (PCB 96)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#103 Pentachlorobiphenyl (2,2',4,5',6-) (PCB 103)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#68/#64 Tetrachlorobiphenyl (2,3',4,5'-) (PCB 68) / Tetrachlorobiphenyl (2,3,4',6-) (PCB 64)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#40 Tetrachlorobiphenyl (2,2',3,3'-) (PCB 40)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#37-RTW Trichlorobiphenyl (3,4,4'-) (PCB 37)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#100 Pentachlorobiphenyl (2,2',4,4',6-) (PCB 100)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#94 Pentachlorobiphenyl (2,2',3,5,6'-) (PCB 94)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#57 Tetrachlorobiphenyl (2,3,3',5-) (PCB 57)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#67/#58 Tetrachlorobiphenyl (2,3',4,5-) (PCB 67)/ Tetrachlorobiphenyl (2,3,3',5'-) (PCB 58)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#102 Pentachlorobiphenyl (2,2',4,5,6'-) (PCB 102)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#61 Tetrachlorobiphenyl (2,3,4,5-) (PCB 61)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#98 Pentachlorobiphenyl (2,2',3,4',6'-) (PCB 98)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#76 Tetrachlorobiphenyl (2,3',4',5'-) (PCB 76)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#93 Pentachlorobiphenyl (2,2',3,5,6-) (PCB 93)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#63 Tetrachlorobiphenyl (2,3,4',5-) (PCB 63)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#121 Pentachlorobiphenyl (2,3',4,5',6-) (PCB 121)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#95/#88 Pentachlorobiphenyl (2,2',3,5',6-) (PCB 95) / Pentachlorobiphenyl (2,2',3,4,6-) (PCB 88)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#74 Tetrachlorobiphenyl (2,4,4',5-) (PCB 74)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#155-RTW Hexachlorobiphenyl (2,2',4,4',6,6'-) (PCB 155)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#70 Tetrachlorobiphenyl (2,3',4',5-) (PCB 70)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#66 Tetrachlorobiphenyl (2,3',4,4'-) (PCB 66)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#91 Pentachlorobiphenyl (2,2',3,4',6-) (PCB 91)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#80 Tetrachlorobiphenyl (3,3',5,5'-) (PCB 80)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#55 Tetrachlorobiphenyl (2,3,3',4-) (PCB 55)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#92 Pentachlorobiphenyl (2,2',3,5,5'-) (PCB 92)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#89/#84 Pentachlorobiphenyl (2,2',3,4,6'-) (PCB 89)/ Pentachlorobiphenyl (2,2',3,3',6-) (PCB 84)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#101/#90 Pentachlorobiphenyl (2,2',4,5,5'-) (PCB 101)/ Pentachlorobiphenyl (2,2',3,4',5-) (PCB 90)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#56 Tetrachlorobiphenyl (2,3,3',4'-) (PCB 56)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#113 Pentachlorobiphenyl (2,3,3',5',6-) (PCB 113)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#99 Pentachlorobiphenyl (2,2',4,4',5-) (PCB 99)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#150 Hexachlorobiphenyl (2,2',3,4',6,6'-) (PCB 150)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#60 Tetrachlorobiphenyl (2,3,4,4'-) (PCB 60)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#152 Hexachlorobiphenyl (2,2',3,5,6,6'-) (PCB 152)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#119 Pentachlorobiphenyl (2,3',4,4',6-) (PCB 119)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#83/#125/#112 Pentachlorobiphenyl(2,2',3,3',5-)(PCB 83)/ Pentachlorobiphenyl (2,3',4',5',6-) (PCB 125) / Pentachlorobiphenyl (2,3,3',5,6-) (PCB 112)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#86/#109 Pentachlorobiphenyl (2,2',3,4,5-) (PCB 86)/ Pentachlorobiphenyl (2,3,3',4,6-) (PCB 109)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#97 Pentachlorobiphenyl (2,2',3,4',5'-) (PCB 97)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#116 Pentachlorobiphenyl (2,3,4,5,6-) (PCB 116)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#87/#111 Pentachlorobiphenyl (2,2',3,4,5'-) (PCB 87) / Pentachlorobiphenyl (2,3,3',5,5'-) (PCB 111)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#145 Hexachlorobiphenyl (2,2',3,4,6,6'-) (PCB 145)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#148 Hexachlorobiphenyl (2,2',3,4',5,6'-) (PCB 148)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#79 Tetrachlorobiphenyl (3,3',4,5'-) (PCB 79)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#154-Cal Hexachlorobiphenyl (2,2',4,4',5,6'-) (PCB 154)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#78 Tetrachlorobiphenyl (3,3',4,5-) (PCB 78)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#136 Hexachlorobiphenyl (2,2',3,3',6,6'-) (PCB 136)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#117 Pentachlorobiphenyl (2,3,4',5,6-) (PCB 117)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#115 Pentachlorobiphenyl (2,3,4,4',6-) (PCB 115)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#85 Pentachlorobiphenyl (2,2',3,4,4'-) (PCB 85)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#120 Pentachlorobiphenyl (2,3',4,5,5'-) (PCB 120)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#110 Pentachlorobiphenyl (2,3,3',4',6-) (PCB 110)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#81 Tetrachlorobiphenyl (3,4,4',5-) (PCB 81)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#151 Hexachlorobiphenyl (2,2',3,5,5',6-) (PCB 151)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#135 Hexachlorobiphenyl (2,2',3,3',5,6'-) (PCB 135)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#82 Pentachlorobiphenyl (2,2',3,3',4-) (PCB 82)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#144 Hexachlorobiphenyl (2,2',3,4,5',6-) (PCB 144)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#147/#149 Hexachlorobiphenyl (2,2',3,4',5,6-) (PCB 147)/ Hexachlorobiphenyl (2,2',3,4',5',6-) (PCB 149)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#77-RTW Tetrachlorobiphenyl (3,3',4,4'-) (PCB 77)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#143/#139 Hexachlorobiphenyl (2,2',3,4,5,6'-) (PCB 143) / Hexachlorobiphenyl (2,2',3,4,4',6-) (PCB 139)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#124 Pentachlorobiphenyl (2,3',4',5,5'-) (PCB 124)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#108 Pentachlorobiphenyl (2,3,3',4,5'-) (PCB 108)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#107/#123 Pentachlorobiphenyl (2,3,3',4',5-) (PCB 107) / Pentachlorobiphenyl (2,3',4,4',5'-) (PCB 123)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#140 Hexachlorobiphenyl (2,2',3,4,4',6'-) (PCB 140)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#188-Cal/RTW Heptachlorobiphenyl (2,2',3,4',5,6,6'-) (PCB 188)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#134 Hexachlorobiphenyl (2,2',3,3',5,6-) (PCB 134)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#106 Pentachlorobiphenyl (2,3,3',4,5-) (PCB 106)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#133 Hexachlorobiphenyl (2,2',3,3',5,5'-) (PCB 133)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#142 Hexachlorobiphenyl (2,2',3,4,5,6-) (PCB 142)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#118 Pentachlorobiphenyl (2,3',4,4',5-) (PCB 118)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#131 Hexachlorobiphenyl (2,2',3,3',4,6-) (PCB 131)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#184 Heptachlorobiphenyl (2,2',3,4,4',6,6'-) (PCB 184)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#165 Hexachlorobiphenyl (2,3,3',5,5',6-) (PCB 165)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#146 Hexachlorobiphenyl (2,2',3,4',5,5'-) (PCB 146)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#161 Hexachlorobiphenyl (2,3,3',4,5',6-) (PCB 161)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#122 Pentachlorobiphenyl (2,3,3',4',5'-) (PCB 122)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#168 Hexachlorobiphenyl (2,3',4,4',5',6-) (PCB 168)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#114 Pentachlorobiphenyl (2,3,4,4',5-) (PCB 114)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#153 Hexachlorobiphenyl (2,2',4,4',5,5'-) (PCB 153)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#132 Hexachlorobiphenyl (2,2',3,3',4,6'-) (PCB 132)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#179 Heptachlorobiphenyl (2,2',3,3',5,6,6'-) (PCB 179)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#141 Hexachlorobiphenyl (2,2',3,4,5,5'-) (PCB 141)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#176 Heptachlorobiphenyl (2,2',3,3',4,6,6'-) (PCB 176)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#105 Pentachlorobiphenyl (2,3,3',4,4'-) (PCB 105)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#137 Hexachlorobiphenyl (2,2',3,4,4',5-) (PCB 137)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#127 Pentachlorobiphenyl (3,3',4,5,5'-) (PCB 127)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#186 Heptachlorobiphenyl (2,2',3,4,5,6,6'-) (PCB 186)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#130/#164 Hexachlorobiphenyl (2,2',3,3',4,5'-) (PCB 130) / Hexachlorobiphenyl (2,3,3',4',5',6-) (PCB 164)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#178 Heptachlorobiphenyl (2,2',3,3',5,5',6-) (PCB 178)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#138 Hexachlorobiphenyl (2,2',3,4,4',5'-) (PCB 138)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#163/#160 Hexachlorobiphenyl (2,3,3',4',5,6-) (PCB 163) / Hexachlorobiphenyl (2,3,3',4,5,6-) (PCB 160)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#129/#158 Hexachlorobiphenyl (2,2',3,3',4,5-) (PCB 129)/ Hexachlorobiphenyl (2,3,3',4,4',6-) (PCB 158)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#182/#175 Heptachlorobiphenyl (2,2',3,4,4',5,6'-) (PCB 182)/ Heptachlorobiphenyl (2,2',3,3',4,5',6-) (PCB 175)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#187 Heptachlorobiphenyl (2,2',3,4',5,5',6-) (PCB 187)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#183 Heptachlorobiphenyl (2,2',3,4,4',5',6-) (PCB 183)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#166 Hexachlorobiphenyl (2,3,4,4',5,6-) (PCB 166)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#159 Hexachlorobiphenyl (2,3,3',4,5,5'-) (PCB 159)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#126-RTW Pentachlorobiphenyl (3,3',4,4',5-) (PCB 126)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#185 Heptachlorobiphenyl (2,2',3,4,5,5',6-) (PCB 185)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#162 Hexachlorobiphenyl (2,3,3',4',5,5'-) (PCB 162)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#174 Heptachlorobiphenyl (2,2',3,3',4,5,6'-) (PCB 174)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#128 Hexachlorobiphenyl (2,2',3,3',4,4'-) (PCB 128)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#167 Hexachlorobiphenyl (2,3',4,4',5,5'-) (PCB 167)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#202-RTW Octachlorobiphenyl (2,2',3,3',5,5',6,6'-) (PCB 202)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#181 Heptachlorobiphenyl (2,2',3,4,4',5,6-) (PCB 181)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#177 Heptachlorobiphenyl (2,2',3,3',4,5',6'-) (PCB 177)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#204/#200-Cal Octachlorobiphenyl (2,2',3,4,4',5,6,6'-) (PCB 204) / Octachlorobiphenyl (2,2',3,3',4,5,6,6'-) (PCB 200)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#171 Heptachlorobiphenyl (2,2',3,3',4,4',6-) (PCB 171)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#173 Heptachlorobiphenyl (2,2',3,3',4,5,6-) (PCB 173)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#172 Heptachlorobiphenyl (2,2',3,3',4,5,5'-) (PCB 172)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#192 Heptachlorobiphenyl (2,3,3',4,5,5',6-) (PCB 192)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#156 Hexachlorobiphenyl (2,3,3',4,4',5-) (PCB 156)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#157 Hexachlorobiphenyl (2,3,3',4,4',5'-) (PCB 157)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#180 Heptachlorobiphenyl (2,2',3,4,4',5,5'-) (PCB 180)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#193 Heptachlorobiphenyl (2,3,3',4',5,5',6-) (PCB 193)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#197 Octachlorobiphenyl (2,2',3,3',4,4',6,6'-) (PCB 197)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#191 Heptachlorobiphenyl (2,3,3',4,4',5',6-) (PCB 191)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#199 Octachlorobiphenyl (2,2',3,3',4,5,5',6'-) (PCB 199)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#198 Octachlorobiphenyl (2,2',3,3',4,5,5',6-) (PCB 198)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#201 Octachlorobiphenyl (2,2',3,3',4,5',6,6'-) (PCB 201)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#170 Heptachlorobiphenyl (2,2',3,3',4,4',5-) (PCB 170)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#190 Heptachlorobiphenyl (2,3,3',4,4',5,6-) (PCB 190)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#196 Octachlorobiphenyl (2,2',3,3',4,4',5,6'-) (PCB 196)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#203 Octachlorobiphenyl (2,2',3,4,4',5,5',6-) (PCB 203)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#169-RTW Hexachlorobiphenyl (3,3',4,4',5,5'-) (PCB 169)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl9-BZ#208-RTW Nonachlorobiphenyl (2,2',3,3',4,5,5',6,6'-) (PCB 208)
GC/Hi-Res MS	EPA 1668C	Cl9-BZ#207 Nonachlorobiphenyl (2,2',3,3',4,4',5,6,6'-) (PCB 207)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#189-RTW Heptachlorobiphenyl (2,3,3',4,4',5,5'-) (PCB 189)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#195 Octachlorobiphenyl (2,2',3,3',4,4',5,6-) (PCB 195)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#194 Octachlorobiphenyl (2,2',3,3',4,4',5,5'-) (PCB 194)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#205-RTW Octachlorobiphenyl (2,3,3',4,4',5,5',6-) (PCB 205)
GC/Hi-Res MS	EPA 1668C	Cl9-BZ#206-Cal/RTW Nonachlorobiphenyl (2,2',3,3',4,4',5,5',6-) (PCB 206)
GC/Hi-Res MS	EPA 1668C	Cl10-BZ#209-Cal/RTW Decachlorobiphenyl (PCB 209)
GC/Hi-Res MS	EPA 1668C	Monochlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Dichlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Trichlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Tetrachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Pentachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Hexachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Heptachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Octachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Nonachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Decachlorobiphenyl
Preparation	**Method**	**Type**
Extraction	EPA 3510C	Separatory Funnel
Cleanup	EPA 3630C	Silica Gel Cleanup
Cleanup	EPA 3660B	Sulfur Removal Cleanup
Cleanup	EPA 3665A	Sulfuric Acid Cleanup

Drinking Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS, SIM	EPA 1613B	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) CAS# 1746-01-6

Drinking Water		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 522	1,4-Dioxane
SPE/LC/MS/MS Isotope Dilution	EPA 533	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) 763051-92-9
SPE/LC/MS/MS Isotope Dilution	EPA 533	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) 756426-58-1
SPE/LC/MS/MS Isotope Dilution	EPA 533	4,8-Dioxa-3H-perfluorononanoic acid (ADONA) 919005-14-4
SPE/LC/MS/MS Isotope Dilution	EPA 533	Hexafluoropropylene oxide dimer acid (HFPO-DA) 13252-13-6
SPE/LC/MS/MS Isotope Dilution	EPA 533	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) 151772-58-6
SPE/LC/MS/MS Isotope Dilution	EPA 533	Perfluorobutanoic acid (PFBA) 375-22-4
SPE/LC/MS/MS Isotope Dilution	EPA 533	Perfluorobutanesulfonic acid (PFBS) 375-73-5
SPE/LC/MS/MS Isotope Dilution	EPA 533	1H,1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2FTS) 39108-34-4
SPE/LC/MS/MS Isotope Dilution	EPA 533	Perfluorodecanoic acid (PFDA) 335-76-2
SPE/LC/MS/MS Isotope Dilution	EPA 533	Perfluorododecanoic acid (PFDoA) 307-55-1
SPE/LC/MS/MS Isotope Dilution	EPA 533	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) 113507-82-7
SPE/LC/MS/MS Isotope Dilution	EPA 533	Perfluoroheptanesulfonic acid (PFHpS) 375-92-8
SPE/LC/MS/MS Isotope Dilution	EPA 533	Perfluoroheptanoic acid (PFHpA) 375-85-9
SPE/LC/MS/MS Isotope Dilution	EPA 533	1H,1H, 2H, 2H-Perfluorohexanesulfonic acid (4:2FTS) 757124-72-4
SPE/LC/MS/MS Isotope Dilution	EPA 533	Perfluorohexanesulfonic acid (PFHxS) 355-46-4
SPE/LC/MS/MS Isotope Dilution	EPA 533	Perfluorohexanoic acid (PFHxA) 307-24-4
SPE/LC/MS/MS Isotope Dilution	EPA 533	Perfluoro-3-methoxypropanoic acid (PFMPA) 377-73-1
SPE/LC/MS/MS Isotope Dilution	EPA 533	Perfluoro-4-methoxybutanoic acid (PFMBA) 863090-89-5
SPE/LC/MS/MS Isotope Dilution	EPA 533	Perfluorononanoic acid (PFNA) 375-95-1
SPE/LC/MS/MS Isotope Dilution	EPA 533	1H,1H, 2H, 2H-Perfluorooctane sulfonic acid (6:2FTS) 27619-97-2
SPE/LC/MS/MS Isotope Dilution	EPA 533	Perfluorooctanesulfonic acid (PFOS) 1763-23-1
SPE/LC/MS/MS Isotope Dilution	EPA 533	Perfluorooctanoic acid (PFOA) 335-67-1
SPE/LC/MS/MS Isotope Dilution	EPA 533	Perfluoropentanoic acid (PFPeA) 2706-90-3
SPE/LC/MS/MS Isotope Dilution	EPA 533	Perfluoropentanesulfonic acid (PFPeS) 2706-91-4
SPE/LC/MS/MS Isotope Dilution	EPA 533	Perfluoroundecanoic acid (PFUnA) 2058-94-8

Drinking Water		
Technology	**Method**	**Analyte**
SPE/LC/MS/MS	EPA 537.1	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA) (cas# 2991-50-6)
SPE/LC/MS/MS	EPA 537.1	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA) (cas# 2355-31-9)
SPE/LC/MS/MS	EPA 537.1	Perfluorobutanesulfonic acid (PFBS) (cas# 375-73-5)
SPE/LC/MS/MS	EPA 537.1	Perfluorodecanoic acid (PFDA) (cas# 335-76-2)
SPE/LC/MS/MS	EPA 537.1	Perfluorododecanoic acid (PFDoA) (cas# 307-55-1)
SPE/LC/MS/MS	EPA 537.1	Perfluoroheptanoic acid (PFHpA) (cas# 375-85-9)
SPE/LC/MS/MS	EPA 537.1	Perfluorohexanesulfonic acid (PFHxS) (cas# 355-46-4)
SPE/LC/MS/MS	EPA 537.1	Perfluorohexanoic acid (PFHxA) (cas# 307-24-4)
SPE/LC/MS/MS	EPA 537.1	Perfluorononanoic acid (PFNA) (cas# 375-95-1)
SPE/LC/MS/MS	EPA 537.1	Perfluorooctanesulfonic acid (PFOS) (cas# 1763-23-1)
SPE/LC/MS/MS	EPA 537.1	Perfluorooctanoic acid (PFOA) (cas# 335-67-1)
SPE/LC/MS/MS	EPA 537.1	Perfluorotetradecanoic acid (PFTA) (cas# 376-06-7)
SPE/LC/MS/MS	EPA 537.1	Perfluorotridecanoic acid (PFTrDA) (cas# 72629-94-8)
SPE/LC/MS/MS	EPA 537.1	Perfluoroundecanoic acid (PFUnA) (cas# 2058-94-8)
SPE/LC/MS/MS	EPA 537.1	Hexafluoropropylene oxide dimer acid (HFPA-DA) (cas# 13252-13-6)
SPE/LC/MS/MS	EPA 537.1	11-chloroeicosafluoro-3- oxaundeacane -1-sulfonic acid (11Cl-PF3OUdS) (cas# 763051-92-9)
SPE/LC/MS/MS	EPA 537.1	9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS) (cas# 756426-58-1)
SPE/LC/MS/MS	EPA 537.1	4,8-dioxa-3H-perfluorononanoic acid (ADONA) (cas# 919005-14-4)
GC/Hi-Res MS	EPA 1668A	Cl1-BZ#1-Cal/RTW Chlorobiphenyl (2-) (PCB 1)
GC/Hi-Res MS	EPA 1668A	Cl1-BZ#2 Chlorobiphenyl (3-) (PCB 2)
GC/Hi-Res MS	EPA 1668A	Cl1-BZ#3-RTW Chlorobiphenyl (4-) (PCB 3)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#4/#10-RTW Dichlorobiphenyl (2,2'-) (PCB 4)/ Dichlorobiphenyl (2,6-) (PCB 10)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#9 Dichlorobiphenyl (2,5-) (PCB 9)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#7 Dichlorobiphenyl (2,4-) (PCB 7)

Drinking Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#6 Dichlorobiphenyl (2,3'-) (PCB 6)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#5 Dichlorobiphenyl (2,3-) (PCB 5)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#8 Dichlorobiphenyl (2,4'-) (PCB 8)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#19-RTW Trichlorobiphenyl (2,2',6-) (PCB 19)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#14 Dichlorobiphenyl (3,5-) (PCB 14)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#30 Trichlorobiphenyl (2,4,6-) (PCB 30)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#18 Trichlorobiphenyl (2,2',5-) (PCB 18)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#11 Dichlorobiphenyl (3,3'-) (PCB 11)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#17 Trichlorobiphenyl (2,2',4-) (PCB 17)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#12 Dichlorobiphenyl (3,4-) (PCB 12)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#27 Trichlorobiphenyl (2,3',6-) (PCB 27)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#13 Dichlorobiphenyl (3,4'-) (PCB 13)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#24 Trichlorobiphenyl (2,3,6-) (PCB 24)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#16 Trichlorobiphenyl (2,2',3-) (PCB 16)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#32 Trichlorobiphenyl (2,4',6-) (PCB 32)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#15-RTW Dichlorobiphenyl (4,4'-) (PCB 15)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#34 Trichlorobiphenyl (2,3',5'-) (PCB 34)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#23 Trichlorobiphenyl (2,3,5-) (PCB 23)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#54-RTW Tetrachlorobiphenyl (2,2',6,6'-) (PCB 54)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#29-Cal Trichlorobiphenyl (2,4,5-) (PCB 29)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#50-Cal Tetrachlorobiphenyl (2,2',4,6-) (PCB 50)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#26 Trichlorobiphenyl (2,3',5-) (PCB 26)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#25 Trichlorobiphenyl (2,3',4-) (PCB 25)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#53 Tetrachlorobiphenyl (2,2',5,6'-) (PCB 53)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#-31 Trichlorobiphenyl (2,4',5-) (PCB 31)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#28 Trichlorobiphenyl (2,4,4'-) (PCB 28)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#33 Trichlorobiphenyl (2,3',4'-) (PCB 33)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#21/#20 Trichlorobiphenyl (2,3,4-) (PCB 21)/ Trichlorobiphenyl (2,3,3'-) (PCB 20)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#51 Tetrachlorobiphenyl (2,2',4,6'-) (PCB 51)

Drinking Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#45 Tetrachlorobiphenyl (2,2',3,6-) (PCB 45)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#22 Trichlorobiphenyl (2,3,4'-) (PCB 22)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#73/#46 Tetrachlorobiphenyl (2,3',5',6-) (PCB 73)/ Tetrachlorobiphenyl (2,2',3,6'-) (PCB 46)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#69 Tetrachlorobiphenyl (2,3',4,6-) (PCB 69)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#43 Tetrachlorobiphenyl (2,2',3,5-) (PCB 43)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#36 Trichlorobiphenyl (3,3',5-) (PCB 36)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#52 Tetrachlorobiphenyl (2,2',5,5'-) (PCB 52)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#48 Tetrachlorobiphenyl (2,2',4,5-) (PCB 48)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#49 Tetrachlorobiphenyl (2,2',4,5'-) (PCB 49)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#104-RTW Pentachlorobiphenyl (2,2',4,6,6'-) (PCB 104)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#47 Tetrachlorobiphenyl (2,2',4,4'-) (PCB 47)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#65/#75/#62 Tetrachlorobiphenyl (2,3,5,6-) (PCB 65)/ Tetrachlorobiphenyl (2,4,4',6-) (PCB 75)/ Tetrachlorobiphenyl (2,3,4,6-) (PCB 62)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#39 Trichlorobiphenyl (3,4',5-) (PCB 39)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#38 Trichlorobiphenyl (3,4,5-) (PCB 38)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#44 Tetrachlorobiphenyl (2,2',3,5'-) (PCB 44)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#59 Tetrachlorobiphenyl (2,3,3',6-) (PCB 59)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#42 Tetrachlorobiphenyl (2,2',3,4'-) (PCB 42)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#71 Tetrachlorobiphenyl (2,3',4',6-) (PCB 71)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#35 Trichlorobiphenyl (3,3',4-) (PCB 35)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#41 Tetrachlorobiphenyl (2,2',3,4-) (PCB 41)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#72 Tetrachlorobiphenyl (2,3',5,5'-) (PCB 72)

Drinking Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#96 Pentachlorobiphenyl (2,2',3,6,6'-) (PCB 96)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#103 Pentachlorobiphenyl (2,2',4,5',6-) (PCB 103)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#68/#64 Tetrachlorobiphenyl (2,3',4,5'-) (PCB 68) / Tetrachlorobiphenyl (2,3,4',6-) (PCB 64)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#40 Tetrachlorobiphenyl (2,2',3,3'-) (PCB 40)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#37-RTW Trichlorobiphenyl (3,4,4'-) (PCB 37)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#100 Pentachlorobiphenyl (2,2',4,4',6-) (PCB 100)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#94 Pentachlorobiphenyl (2,2',3,5,6'-) (PCB 94)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#57 Tetrachlorobiphenyl (2,3,3',5-) (PCB 57)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#67/#58 Tetrachlorobiphenyl (2,3',4,5-) (PCB 67)/ Tetrachlorobiphenyl (2,3,3',5'-) (PCB 58)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#102 Pentachlorobiphenyl (2,2',4,5,6'-) (PCB 102)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#61 Tetrachlorobiphenyl (2,3,4,5-) (PCB 61)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#98 Pentachlorobiphenyl (2,2',3,4',6'-) (PCB 98)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#76 Tetrachlorobiphenyl (2,3',4',5'-) (PCB 76)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#93 Pentachlorobiphenyl (2,2',3,5,6-) (PCB 93)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#63 Tetrachlorobiphenyl (2,3,4',5-) (PCB 63)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#121 Pentachlorobiphenyl (2,3',4,5',6-) (PCB 121)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#95/#88 Pentachlorobiphenyl (2,2',3,5',6-) (PCB 95) / Pentachlorobiphenyl (2,2',3,4,6-) (PCB 88)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#74 Tetrachlorobiphenyl (2,4,4',5-) (PCB 74)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#155-RTW Hexachlorobiphenyl (2,2',4,4',6,6'-) (PCB 155)

Drinking Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#70 Tetrachlorobiphenyl (2,3',4',5-) (PCB 70)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#66 Tetrachlorobiphenyl (2,3',4,4'-) (PCB 66)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#91 Pentachlorobiphenyl (2,2',3,4',6-) (PCB 91)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#80 Tetrachlorobiphenyl (3,3',5,5'-) (PCB 80)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#55 Tetrachlorobiphenyl (2,3,3',4-) (PCB 55)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#92 Pentachlorobiphenyl (2,2',3,5,5'-) (PCB 92)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#89/#84 Pentachlorobiphenyl (2,2',3,4,6'-) (PCB 89)/ Pentachlorobiphenyl (2,2',3,3',6-) (PCB 84)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#101/#90 Pentachlorobiphenyl (2,2',4,5,5'-) (PCB 101)/ Pentachlorobiphenyl (2,2',3,4',5-) (PCB 90)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#56 Tetrachlorobiphenyl (2,3,3',4'-) (PCB 56)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#113 Pentachlorobiphenyl (2,3,3',5',6-) (PCB 113)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#99 Pentachlorobiphenyl (2,2',4,4',5-) (PCB 99)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#150 Hexachlorobiphenyl (2,2',3,4',6,6'-) (PCB 150)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#60 Tetrachlorobiphenyl (2,3,4,4'-) (PCB 60)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#152 Hexachlorobiphenyl (2,2',3,5,6,6'-) (PCB 152)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#119 Pentachlorobiphenyl (2,3',4,4',6-) (PCB 119)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#83/#125/#112 Pentachlorobiphenyl(2,2',3,3',5-)(PCB 83)/ Pentachlorobiphenyl (2,3',4',5',6-) (PCB 125) / Pentachlorobiphenyl (2,3,3',5,6-) (PCB 112)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#86/#109 Pentachlorobiphenyl (2,2',3,4,5-) (PCB 86)/ Pentachlorobiphenyl (2,3,3',4,6-) (PCB 109)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#97 Pentachlorobiphenyl (2,2',3,4',5'-) (PCB 97)

Drinking Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#116 Pentachlorobiphenyl (2,3,4,5,6-) (PCB 116)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#87/#111 Pentachlorobiphenyl (2,2',3,4,5'-) (PCB 87) / Pentachlorobiphenyl (2,3,3',5,5'-) (PCB 111)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#145 Hexachlorobiphenyl (2,2',3,4,6,6'-) (PCB 145)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#148 Hexachlorobiphenyl (2,2',3,4',5,6'-) (PCB 148)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#79 Tetrachlorobiphenyl (3,3',4,5'-) (PCB 79)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#154-Cal Hexachlorobiphenyl (2,2',4,4',5,6'-) (PCB 154)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#78 Tetrachlorobiphenyl (3,3',4,5-) (PCB 78)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#136 Hexachlorobiphenyl (2,2',3,3',6,6'-) (PCB 136)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#117 Pentachlorobiphenyl (2,3,4',5,6-) (PCB 117)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#115 Pentachlorobiphenyl (2,3,4,4',6-) (PCB 115)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#85 Pentachlorobiphenyl (2,2',3,4,4'-) (PCB 85)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#120 Pentachlorobiphenyl (2,3',4,5,5'-) (PCB 120)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#110 Pentachlorobiphenyl (2,3,3',4',6-) (PCB 110)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#81 Tetrachlorobiphenyl (3,4,4',5-) (PCB 81)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#151 Hexachlorobiphenyl (2,2',3,5,5',6-) (PCB 151)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#135 Hexachlorobiphenyl (2,2',3,3',5,6'-) (PCB 135)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#82 Pentachlorobiphenyl (2,2',3,3',4-) (PCB 82)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#144 Hexachlorobiphenyl (2,2',3,4,5',6-) (PCB 144)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#147/#149 Hexachlorobiphenyl (2,2',3,4',5,6-) (PCB 147)/ Hexachlorobiphenyl (2,2',3,4',5',6-) (PCB 149)

Drinking Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#77-RTW Tetrachlorobiphenyl (3,3',4,4'-) (PCB 77)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#143/#139 Hexachlorobiphenyl (2,2',3,4,5,6'-) (PCB 143) / Hexachlorobiphenyl (2,2',3,4,4',6-) (PCB 139)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#124 Pentachlorobiphenyl (2,3',4',5,5'-) (PCB 124)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#108 Pentachlorobiphenyl (2,3,3',4,5'-) (PCB 108)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#107/#123 Pentachlorobiphenyl (2,3,3',4',5-) (PCB 107) / Pentachlorobiphenyl (2,3',4,4',5'-) (PCB 123)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#140 Hexachlorobiphenyl (2,2',3,4,4',6'-) (PCB 140)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#188-Cal/RTW Heptachlorobiphenyl (2,2',3,4',5,6,6'-) (PCB 188)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#134 Hexachlorobiphenyl (2,2',3,3',5,6-) (PCB 134)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#106 Pentachlorobiphenyl (2,3,3',4,5-) (PCB 106)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#133 Hexachlorobiphenyl (2,2',3,3',5,5'-) (PCB 133)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#142 Hexachlorobiphenyl (2,2',3,4,5,6-) (PCB 142)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#118 Pentachlorobiphenyl (2,3',4,4',5-) (PCB 118)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#131 Hexachlorobiphenyl (2,2',3,3',4,6-) (PCB 131)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#184 Heptachlorobiphenyl (2,2',3,4,4',6,6'-) (PCB 184)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#165 Hexachlorobiphenyl (2,3,3',5,5',6-) (PCB 165)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#146 Hexachlorobiphenyl (2,2',3,4',5,5'-) (PCB 146)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#161 Hexachlorobiphenyl (2,3,3',4,5',6-) (PCB 161)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#122 Pentachlorobiphenyl (2,3,3',4',5'-) (PCB 122)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#168 Hexachlorobiphenyl (2,3',4,4',5',6-) (PCB 168)

Drinking Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#114 Pentachlorobiphenyl (2,3,4,4',5-) (PCB 114)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#153 Hexachlorobiphenyl (2,2',4,4',5,5'-) (PCB 153)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#132 Hexachlorobiphenyl (2,2',3,3',4,6'-) (PCB 132)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#179 Heptachlorobiphenyl (2,2',3,3',5,6,6'-) (PCB 179)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#141 Hexachlorobiphenyl (2,2',3,4,5,5'-) (PCB 141)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#176 Heptachlorobiphenyl (2,2',3,3',4,6,6'-) (PCB 176)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#105 Pentachlorobiphenyl (2,3,3',4,4'-) (PCB 105)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#137 Hexachlorobiphenyl (2,2',3,4,4',5-) (PCB 137)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#127 Pentachlorobiphenyl (3,3',4,5,5'-) (PCB 127)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#186 Heptachlorobiphenyl (2,2',3,4,5,6,6'-) (PCB 186)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#130/#164 Hexachlorobiphenyl (2,2',3,3',4,5'-) (PCB 130) / Hexachlorobiphenyl (2,3,3',4',5',6-) (PCB 164)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#178 Heptachlorobiphenyl (2,2',3,3',5,5',6-) (PCB 178)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#138 Hexachlorobiphenyl (2,2',3,4,4',5'-) (PCB 138)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#163/#160 Hexachlorobiphenyl (2,3,3',4',5,6-) (PCB 163) / Hexachlorobiphenyl (2,3,3',4,5,6-) (PCB 160)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#129/#158 Hexachlorobiphenyl (2,2',3,3',4,5-) (PCB 129)/ Hexachlorobiphenyl (2,3,3',4,4',6-) (PCB 158)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#182/#175 Heptachlorobiphenyl (2,2',3,4,4',5,6'-) (PCB 182)/ Heptachlorobiphenyl (2,2',3,3',4,5',6-) (PCB 175)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#187 Heptachlorobiphenyl (2,2',3,4',5,5',6-) (PCB 187)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#183 Heptachlorobiphenyl (2,2',3,4,4',5',6-) (PCB 183)

Drinking Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#166 Hexachlorobiphenyl (2,3,4,4',5,6-) (PCB 166)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#159 Hexachlorobiphenyl (2,3,3',4,5,5'-) (PCB 159)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#126-RTW Pentachlorobiphenyl (3,3',4,4',5-) (PCB 126)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#185 Heptachlorobiphenyl (2,2',3,4,5,5',6-) (PCB 185)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#162 Hexachlorobiphenyl (2,3,3',4',5,5'-) (PCB 162)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#174 Heptachlorobiphenyl (2,2',3,3',4,5,6'-) (PCB 174)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#128 Hexachlorobiphenyl (2,2',3,3',4,4'-) (PCB 128)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#167 Hexachlorobiphenyl (2,3',4,4',5,5'-) (PCB 167)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#202-RTW Octachlorobiphenyl (2,2',3,3',5,5',6,6'-) (PCB 202)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#181 Heptachlorobiphenyl (2,2',3,4,4',5,6-) (PCB 181)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#177 Heptachlorobiphenyl (2,2',3,3',4,5',6'-) (PCB 177)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#204/#200-Cal Octachlorobiphenyl (2,2',3,4,4',5,6,6'-) (PCB 204) / Octachlorobiphenyl (2,2',3,3',4,5,6,6'-) (PCB 200)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#171 Heptachlorobiphenyl (2,2',3,3',4,4',6-) (PCB 171)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#173 Heptachlorobiphenyl (2,2',3,3',4,5,6-) (PCB 173)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#172 Heptachlorobiphenyl (2,2',3,3',4,5,5'-) (PCB 172)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#192 Heptachlorobiphenyl (2,3,3',4,5,5',6-) (PCB 192)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#156 Hexachlorobiphenyl (2,3,3',4,4',5-) (PCB 156)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#157 Hexachlorobiphenyl (2,3,3',4,4',5'-) (PCB 157)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#180 Heptachlorobiphenyl (2,2',3,4,4',5,5'-) (PCB 180)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#193 Heptachlorobiphenyl (2,3,3',4',5,5',6-) (PCB 193)

Drinking Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#197 Octachlorobiphenyl (2,2',3,3',4,4',6,6'-) (PCB 197)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#191 Heptachlorobiphenyl (2,3,3',4,4',5',6-) (PCB 191)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#199 Octachlorobiphenyl (2,2',3,3',4,5,5',6'-) (PCB 199)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#198 Octachlorobiphenyl (2,2',3,3',4,5,5',6-) (PCB 198)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#201 Octachlorobiphenyl (2,2',3,3',4,5',6,6'-) (PCB 201)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#170 Heptachlorobiphenyl (2,2',3,3',4,4',5-) (PCB 170)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#190 Heptachlorobiphenyl (2,3,3',4,4',5,6-) (PCB 190)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#196 Octachlorobiphenyl (2,2',3,3',4,4',5,6'-) (PCB 196)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#203 Octachlorobiphenyl (2,2',3,4,4',5,5',6-) (PCB 203)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#169-RTW Hexachlorobiphenyl (3,3',4,4',5,5'-) (PCB 169)
GC/Hi-Res MS	EPA 1668A	Cl9-BZ#208-RTW Nonachlorobiphenyl (2,2',3,3',4,5,5',6,6'-) (PCB 208)
GC/Hi-Res MS	EPA 1668A	Cl9-BZ#207 Nonachlorobiphenyl (2,2',3,3',4,4',5,6,6'-) (PCB 207)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#189-RTW Heptachlorobiphenyl (2,3,3',4,4',5,5'-) (PCB 189)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#195 Octachlorobiphenyl (2,2',3,3',4,4',5,6-) (PCB 195)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#194 Octachlorobiphenyl (2,2',3,3',4,4',5,5'-) (PCB 194)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#205-RTW Octachlorobiphenyl (2,3,3',4,4',5,5',6-) (PCB 205)
GC/Hi-Res MS	EPA 1668A	Cl9-BZ#206-Cal/RTW Nonachlorobiphenyl (2,2',3,3',4,4',5,5',6-) (PCB 206)
GC/Hi-Res MS	EPA 1668A	Cl10-BZ#209-Cal/RTW Decachlorobiphenyl (PCB 209)
GC/Hi-Res MS	EPA 1668A	Monochlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Dichlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Trichlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Tetrachlorobiphenyls

Drinking Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Pentachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Hexachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Heptachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Octachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Nonachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Decachlorobiphenyl
GC/Hi-Res MS	EPA 1668C	Cl1-BZ#1-Cal/RTW Chlorobiphenyl (2-) (PCB 1)
GC/Hi-Res MS	EPA 1668C	Cl1-BZ#2 Chlorobiphenyl (3-) (PCB 2)
GC/Hi-Res MS	EPA 1668C	Cl1-BZ#3-RTW Chlorobiphenyl (4-) (PCB 3)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#4/#10-RTW Dichlorobiphenyl (2,2'-) (PCB 4)/ Dichlorobiphenyl (2,6-) (PCB 10)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#9 Dichlorobiphenyl (2,5-) (PCB 9)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#7 Dichlorobiphenyl (2,4-) (PCB 7)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#6 Dichlorobiphenyl (2,3'-) (PCB 6)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#5 Dichlorobiphenyl (2,3-) (PCB 5)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#8 Dichlorobiphenyl (2,4'-) (PCB 8)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#19-RTW Trichlorobiphenyl (2,2',6-) (PCB 19)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#14 Dichlorobiphenyl (3,5-) (PCB 14)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#30 Trichlorobiphenyl (2,4,6-) (PCB 30)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#18 Trichlorobiphenyl (2,2',5-) (PCB 18)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#11 Dichlorobiphenyl (3,3'-) (PCB 11)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#17 Trichlorobiphenyl (2,2',4-) (PCB 17)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#12 Dichlorobiphenyl (3,4-) (PCB 12)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#27 Trichlorobiphenyl (2,3',6-) (PCB 27)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#13 Dichlorobiphenyl (3,4'-) (PCB 13)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#24 Trichlorobiphenyl (2,3,6-) (PCB 24)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#16 Trichlorobiphenyl (2,2',3-) (PCB 16)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#32 Trichlorobiphenyl (2,4',6-) (PCB 32)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#15-RTW Dichlorobiphenyl (4,4'-) (PCB 15)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#34 Trichlorobiphenyl (2,3',5'-) (PCB 34)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#23 Trichlorobiphenyl (2,3,5-) (PCB 23)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#54-RTW Tetrachlorobiphenyl (2,2',6,6'-) (PCB 54)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#29-Cal Trichlorobiphenyl (2,4,5-) (PCB 29)

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Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#50-Cal Tetrachlorobiphenyl (2,2',4,6-) (PCB 50)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#26 Trichlorobiphenyl (2,3',5-) (PCB 26)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#25 Trichlorobiphenyl (2,3',4-) (PCB 25)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#53 Tetrachlorobiphenyl (2,2',5,6'-) (PCB 53)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#-31 Trichlorobiphenyl (2,4',5-) (PCB 31)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#28 Trichlorobiphenyl (2,4,4'-) (PCB 28)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#33 Trichlorobiphenyl (2,3',4'-) (PCB 33)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#21/#20 Trichlorobiphenyl (2,3,4-) (PCB 21)/ Trichlorobiphenyl (2,3,3'-) (PCB 20)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#51 Tetrachlorobiphenyl (2,2',4,6'-) (PCB 51)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#45 Tetrachlorobiphenyl (2,2',3,6-) (PCB 45)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#22 Trichlorobiphenyl (2,3,4'-) (PCB 22)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#73/#46 Tetrachlorobiphenyl (2,3',5',6-) (PCB 73)/ Tetrachlorobiphenyl (2,2',3,6'-) (PCB 46)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#69 Tetrachlorobiphenyl (2,3',4,6-) (PCB 69)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#43 Tetrachlorobiphenyl (2,2',3,5-) (PCB 43)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#36 Trichlorobiphenyl (3,3',5-) (PCB 36)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#52 Tetrachlorobiphenyl (2,2',5,5'-) (PCB 52)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#48 Tetrachlorobiphenyl (2,2',4,5-) (PCB 48)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#49 Tetrachlorobiphenyl (2,2',4,5'-) (PCB 49)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#104-RTW Pentachlorobiphenyl (2,2',4,6,6'-) (PCB 104)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#47 Tetrachlorobiphenyl (2,2',4,4'-) (PCB 47)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#65/#75/#62 Tetrachlorobiphenyl (2,3,5,6-) (PCB 65)/ Tetrachlorobiphenyl (2,4,4',6-) (PCB 75)/ Tetrachlorobiphenyl (2,3,4,6-) (PCB 62)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#39 Trichlorobiphenyl (3,4',5-) (PCB 39)

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Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#38 Trichlorobiphenyl (3,4,5-) (PCB 38)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#44 Tetrachlorobiphenyl (2,2',3,5'-) (PCB 44)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#59 Tetrachlorobiphenyl (2,3,3',6-) (PCB 59)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#42 Tetrachlorobiphenyl (2,2',3,4'-) (PCB 42)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#71 Tetrachlorobiphenyl (2,3',4',6-) (PCB 71)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#35 Trichlorobiphenyl (3,3',4-) (PCB 35)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#41 Tetrachlorobiphenyl (2,2',3,4-) (PCB 41)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#72 Tetrachlorobiphenyl (2,3',5,5'-) (PCB 72)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#96 Pentachlorobiphenyl (2,2',3,6,6'-) (PCB 96)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#103 Pentachlorobiphenyl (2,2',4,5',6-) (PCB 103)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#68/#64 Tetrachlorobiphenyl (2,3',4,5'-) (PCB 68) / Tetrachlorobiphenyl (2,3,4',6-) (PCB 64)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#40 Tetrachlorobiphenyl (2,2',3,3'-) (PCB 40)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#37-RTW Trichlorobiphenyl (3,4,4'-) (PCB 37)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#100 Pentachlorobiphenyl (2,2',4,4',6-) (PCB 100)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#94 Pentachlorobiphenyl (2,2',3,5,6'-) (PCB 94)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#57 Tetrachlorobiphenyl (2,3,3',5-) (PCB 57)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#67/#58 Tetrachlorobiphenyl (2,3',4,5-) (PCB 67)/ Tetrachlorobiphenyl (2,3,3',5'-) (PCB 58)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#102 Pentachlorobiphenyl (2,2',4,5,6'-) (PCB 102)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#61 Tetrachlorobiphenyl (2,3,4,5-) (PCB 61)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#98 Pentachlorobiphenyl (2,2',3,4',6'-) (PCB 98)

Drinking Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#76 Tetrachlorobiphenyl (2,3',4',5'-) (PCB 76)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#93 Pentachlorobiphenyl (2,2',3,5,6-) (PCB 93)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#63 Tetrachlorobiphenyl (2,3,4',5-) (PCB 63)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#121 Pentachlorobiphenyl (2,3',4,5',6-) (PCB 121)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#95/#88 Pentachlorobiphenyl (2,2',3,5',6-) (PCB 95) / Pentachlorobiphenyl (2,2',3,4,6-) (PCB 88)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#74 Tetrachlorobiphenyl (2,4,4',5-) (PCB 74)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#155-RTW Hexachlorobiphenyl (2,2',4,4',6,6'-) (PCB 155)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#70 Tetrachlorobiphenyl (2,3',4',5-) (PCB 70)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#66 Tetrachlorobiphenyl (2,3',4,4'-) (PCB 66)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#91 Pentachlorobiphenyl (2,2',3,4',6-) (PCB 91)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#80 Tetrachlorobiphenyl (3,3',5,5'-) (PCB 80)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#55 Tetrachlorobiphenyl (2,3,3',4-) (PCB 55)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#92 Pentachlorobiphenyl (2,2',3,5,5'-) (PCB 92)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#89/#84 Pentachlorobiphenyl (2,2',3,4,6'-) (PCB 89)/ Pentachlorobiphenyl (2,2',3,3',6-) (PCB 84)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#101/#90 Pentachlorobiphenyl (2,2',4,5,5'-) (PCB 101)/ Pentachlorobiphenyl (2,2',3,4',5-) (PCB 90)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#56 Tetrachlorobiphenyl (2,3,3',4'-) (PCB 56)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#113 Pentachlorobiphenyl (2,3,3',5',6-) (PCB 113)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#99 Pentachlorobiphenyl (2,2',4,4',5-) (PCB 99)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#150 Hexachlorobiphenyl (2,2',3,4',6,6'-) (PCB 150)

Drinking Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#60 Tetrachlorobiphenyl (2,3,4,4'-) (PCB 60)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#152 Hexachlorobiphenyl (2,2',3,5,6,6'-) (PCB 152)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#119 Pentachlorobiphenyl (2,3',4,4',6-) (PCB 119)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#83/#125/#112 Pentachlorobiphenyl(2,2',3,3',5-)(PCB 83)/ Pentachlorobiphenyl (2,3',4',5',6-) (PCB 125) / Pentachlorobiphenyl (2,3,3',5,6-) (PCB 112)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#86/#109 Pentachlorobiphenyl (2,2',3,4,5-) (PCB 86)/ Pentachlorobiphenyl (2,3,3',4,6-) (PCB 109)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#97 Pentachlorobiphenyl (2,2',3,4',5'-) (PCB 97)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#116 Pentachlorobiphenyl (2,3,4,5,6-) (PCB 116)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#87/#111 Pentachlorobiphenyl (2,2',3,4,5'-) (PCB 87) / Pentachlorobiphenyl (2,3,3',5,5'-) (PCB 111)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#145 Hexachlorobiphenyl (2,2',3,4,6,6'-) (PCB 145)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#148 Hexachlorobiphenyl (2,2',3,4',5,6'-) (PCB 148)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#79 Tetrachlorobiphenyl (3,3',4,5'-) (PCB 79)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#154-Cal Hexachlorobiphenyl (2,2',4,4',5,6'-) (PCB 154)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#78 Tetrachlorobiphenyl (3,3',4,5-) (PCB 78)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#136 Hexachlorobiphenyl (2,2',3,3',6,6'-) (PCB 136)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#117 Pentachlorobiphenyl (2,3,4',5,6-) (PCB 117)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#115 Pentachlorobiphenyl (2,3,4,4',6-) (PCB 115)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#85 Pentachlorobiphenyl (2,2',3,4,4'-) (PCB 85)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#120 Pentachlorobiphenyl (2,3',4,5,5'-) (PCB 120)

Drinking Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#110 Pentachlorobiphenyl (2,3,3',4',6-) (PCB 110)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#81 Tetrachlorobiphenyl (3,4,4',5-) (PCB 81)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#151 Hexachlorobiphenyl (2,2',3,5,5',6-) (PCB 151)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#135 Hexachlorobiphenyl (2,2',3,3',5,6'-) (PCB 135)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#82 Pentachlorobiphenyl (2,2',3,3',4-) (PCB 82)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#144 Hexachlorobiphenyl (2,2',3,4,5',6-) (PCB 144)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#147/#149 Hexachlorobiphenyl (2,2',3,4',5,6-) (PCB 147)/ Hexachlorobiphenyl (2,2',3,4',5',6-) (PCB 149)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#77-RTW Tetrachlorobiphenyl (3,3',4,4'-) (PCB 77)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#143/#139 Hexachlorobiphenyl (2,2',3,4,5,6'-) (PCB 143) / Hexachlorobiphenyl (2,2',3,4,4',6-) (PCB 139)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#124 Pentachlorobiphenyl (2,3',4',5,5'-) (PCB 124)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#108 Pentachlorobiphenyl (2,3,3',4,5'-) (PCB 108)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#107/#123 Pentachlorobiphenyl (2,3,3',4',5-) (PCB 107) / Pentachlorobiphenyl (2,3',4,4',5'-) (PCB 123)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#140 Hexachlorobiphenyl (2,2',3,4,4',6'-) (PCB 140)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#188-Cal/RTW Heptachlorobiphenyl (2,2',3,4',5,6,6'-) (PCB 188)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#134 Hexachlorobiphenyl (2,2',3,3',5,6-) (PCB 134)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#106 Pentachlorobiphenyl (2,3,3',4,5-) (PCB 106)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#133 Hexachlorobiphenyl (2,2',3,3',5,5'-) (PCB 133)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#142 Hexachlorobiphenyl (2,2',3,4,5,6-) (PCB 142)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#118 Pentachlorobiphenyl (2,3',4,4',5-) (PCB 118)

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Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#131 Hexachlorobiphenyl (2,2',3,3',4,6-) (PCB 131)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#184 Heptachlorobiphenyl (2,2',3,4,4',6,6'-) (PCB 184)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#165 Hexachlorobiphenyl (2,3,3',5,5',6-) (PCB 165)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#146 Hexachlorobiphenyl (2,2',3,4',5,5'-) (PCB 146)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#161 Hexachlorobiphenyl (2,3,3',4,5',6-) (PCB 161)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#122 Pentachlorobiphenyl (2,3,3',4',5'-) (PCB 122)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#168 Hexachlorobiphenyl (2,3',4,4',5',6-) (PCB 168)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#114 Pentachlorobiphenyl (2,3,4,4',5-) (PCB 114)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#153 Hexachlorobiphenyl (2,2',4,4',5,5'-) (PCB 153)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#132 Hexachlorobiphenyl (2,2',3,3',4,6'-) (PCB 132)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#179 Heptachlorobiphenyl (2,2',3,3',5,6,6'-) (PCB 179)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#141 Hexachlorobiphenyl (2,2',3,4,5,5'-) (PCB 141)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#176 Heptachlorobiphenyl (2,2',3,3',4,6,6'-) (PCB 176)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#105 Pentachlorobiphenyl (2,3,3',4,4'-) (PCB 105)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#137 Hexachlorobiphenyl (2,2',3,4,4',5-) (PCB 137)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#127 Pentachlorobiphenyl (3,3',4,5,5'-) (PCB 127)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#186 Heptachlorobiphenyl (2,2',3,4,5,6,6'-) (PCB 186)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#130/#164 Hexachlorobiphenyl (2,2',3,3',4,5'-) (PCB 130) / Hexachlorobiphenyl (2,3,3',4',5',6-) (PCB 164)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#178 Heptachlorobiphenyl (2,2',3,3',5,5',6-) (PCB 178)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#138 Hexachlorobiphenyl (2,2',3,4,4',5'-) (PCB 138)

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Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#163/#160 Hexachlorobiphenyl (2,3,3',4',5,6-) (PCB 163) / Hexachlorobiphenyl (2,3,3',4,5,6-) (PCB 160)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#129/#158 Hexachlorobiphenyl (2,2',3,3',4,5-) (PCB 129)/ Hexachlorobiphenyl (2,3,3',4,4',6-) (PCB 158)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#182/#175 Heptachlorobiphenyl (2,2',3,4,4',5,6'-) (PCB 182)/ Heptachlorobiphenyl (2,2',3,3',4,5',6-) (PCB 175)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#187 Heptachlorobiphenyl (2,2',3,4',5,5',6-) (PCB 187)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#183 Heptachlorobiphenyl (2,2',3,4,4',5',6-) (PCB 183)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#166 Hexachlorobiphenyl (2,3,4,4',5,6-) (PCB 166)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#159 Hexachlorobiphenyl (2,3,3',4,5,5'-) (PCB 159)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#126-RTW Pentachlorobiphenyl (3,3',4,4',5-) (PCB 126)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#185 Heptachlorobiphenyl (2,2',3,4,5,5',6-) (PCB 185)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#162 Hexachlorobiphenyl (2,3,3',4',5,5'-) (PCB 162)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#174 Heptachlorobiphenyl (2,2',3,3',4,5,6'-) (PCB 174)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#128 Hexachlorobiphenyl (2,2',3,3',4,4'-) (PCB 128)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#167 Hexachlorobiphenyl (2,3',4,4',5,5'-) (PCB 167)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#202-RTW Octachlorobiphenyl (2,2',3,3',5,5',6,6'-) (PCB 202)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#181 Heptachlorobiphenyl (2,2',3,4,4',5,6-) (PCB 181)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#177 Heptachlorobiphenyl (2,2',3,3',4,5',6'-) (PCB 177)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#204/#200-Cal Octachlorobiphenyl (2,2',3,4,4',5,6,6'-) (PCB 204) / Octachlorobiphenyl (2,2',3,3',4,5,6,6'-) (PCB 200)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#171 Heptachlorobiphenyl (2,2',3,3',4,4',6-) (PCB 171)

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Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#173 Heptachlorobiphenyl (2,2',3,3',4,5,6-) (PCB 173)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#172 Heptachlorobiphenyl (2,2',3,3',4,5,5'-) (PCB 172)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#192 Heptachlorobiphenyl (2,3,3',4,5,5',6-) (PCB 192)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#156 Hexachlorobiphenyl (2,3,3',4,4',5-) (PCB 156)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#157 Hexachlorobiphenyl (2,3,3',4,4',5'-) (PCB 157)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#180 Heptachlorobiphenyl (2,2',3,4,4',5,5'-) (PCB 180)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#193 Heptachlorobiphenyl (2,3,3',4',5,5',6-) (PCB 193)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#197 Octachlorobiphenyl (2,2',3,3',4,4',6,6'-) (PCB 197)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#191 Heptachlorobiphenyl (2,3,3',4,4',5',6-) (PCB 191)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#199 Octachlorobiphenyl (2,2',3,3',4,5,5',6'-) (PCB 199)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#198 Octachlorobiphenyl (2,2',3,3',4,5,5',6-) (PCB 198)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#201 Octachlorobiphenyl (2,2',3,3',4,5',6,6'-) (PCB 201)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#170 Heptachlorobiphenyl (2,2',3,3',4,4',5-) (PCB 170)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#190 Heptachlorobiphenyl (2,3,3',4,4',5,6-) (PCB 190)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#196 Octachlorobiphenyl (2,2',3,3',4,4',5,6'-) (PCB 196)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#203 Octachlorobiphenyl (2,2',3,4,4',5,5',6-) (PCB 203)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#169-RTW Hexachlorobiphenyl (3,3',4,4',5,5'-) (PCB 169)
GC/Hi-Res MS	EPA 1668C	Cl9-BZ#208-RTW Nonachlorobiphenyl (2,2',3,3',4,5,5',6,6'-) (PCB 208)
GC/Hi-Res MS	EPA 1668C	Cl9-BZ#207 Nonachlorobiphenyl (2,2',3,3',4,4',5,6,6'-) (PCB 207)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#189-RTW Heptachlorobiphenyl (2,3,3',4,4',5,5'-) (PCB 189)

Drinking Water		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#195 Octachlorobiphenyl (2,2',3,3',4,4',5,6-) (PCB 195)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#194 Octachlorobiphenyl (2,2',3,3',4,4',5,5'-) (PCB 194)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#205-RTW Octachlorobiphenyl (2,3,3',4,4',5,5',6-) (PCB 205)
GC/Hi-Res MS	EPA 1668C	Cl9-BZ#206-Cal/RTW Nonachlorobiphenyl (2,2',3,3',4,4',5,5',6-) (PCB 206)
GC/Hi-Res MS	EPA 1668C	Cl10-BZ#209-Cal/RTW Decachlorobiphenyl (PCB 209)
GC/Hi-Res MS	EPA 1668C	Monochlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Dichlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Trichlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Tetrachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Pentachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Hexachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Heptachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Octachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Nonachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Decachlorobiphenyl

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl1-BZ#1-Cal/RTW Chlorobiphenyl (2-) (PCB 1)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl1-BZ#2 Chlorobiphenyl (3-) (PCB 2)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl1-BZ#3-RTW Chlorobiphenyl (4-) (PCB 3)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#4/#10-RTW Dichlorobiphenyl (2,2'-) (PCB 4)/ Dichlorobiphenyl (2,6-) (PCB 10)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#9 Dichlorobiphenyl (2,5-) (PCB 9)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#7 Dichlorobiphenyl (2,4-) (PCB 7)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#6 Dichlorobiphenyl (2,3'-) (PCB 6)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#5 Dichlorobiphenyl (2,3-) (PCB 5)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#8 Dichlorobiphenyl (2,4'-) (PCB 8)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#19-RTW Trichlorobiphenyl (2,2',6-) (PCB 19)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#14 Dichlorobiphenyl (3,5-) (PCB 14)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#30 Trichlorobiphenyl (2,4,6-) (PCB 30)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#18 Trichlorobiphenyl (2,2',5-) (PCB 18)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#11 Dichlorobiphenyl (3,3'-) (PCB 11)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#17 Trichlorobiphenyl (2,2',4-) (PCB 17)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#12 Dichlorobiphenyl (3,4-) (PCB 12)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#27 Trichlorobiphenyl (2,3',6-) (PCB 27)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#13 Dichlorobiphenyl (3,4'-) (PCB 13)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#24 Trichlorobiphenyl (2,3,6-) (PCB 24)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#16 Trichlorobiphenyl (2,2',3-) (PCB 16)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#32 Trichlorobiphenyl (2,4',6-) (PCB 32)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#15-RTW Dichlorobiphenyl (4,4'-) (PCB 15)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#34 Trichlorobiphenyl (2,3',5'-) (PCB 34)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#23 Trichlorobiphenyl (2,3,5-) (PCB 23)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#54-RTW Tetrachlorobiphenyl (2,2',6,6'-) (PCB 54)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#29-Cal Trichlorobiphenyl (2,4,5-) (PCB 29)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#50-Cal Tetrachlorobiphenyl (2,2',4,6-) (PCB 50)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#26 Trichlorobiphenyl (2,3',5-) (PCB 26)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#25 Trichlorobiphenyl (2,3',4-) (PCB 25)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#53 Tetrachlorobiphenyl (2,2',5,6'-) (PCB 53)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#-31 Trichlorobiphenyl (2,4',5-) (PCB 31)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#28 Trichlorobiphenyl (2,4,4'-) (PCB 28)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#33 Trichlorobiphenyl (2,3',4'-) (PCB 33)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#21/#20 Trichlorobiphenyl (2,3,4-) (PCB 21)/ Trichlorobiphenyl (2,3,3'-) (PCB 20)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#51 Tetrachlorobiphenyl (2,2',4,6'-) (PCB 51)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#45 Tetrachlorobiphenyl (2,2',3,6-) (PCB 45)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#22 Trichlorobiphenyl (2,3,4'-) (PCB 22)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#73/#46 Tetrachlorobiphenyl (2,3',5',6-) (PCB 73)/ Tetrachlorobiphenyl (2,2',3,6'-) (PCB 46)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#69 Tetrachlorobiphenyl (2,3',4,6-) (PCB 69)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#43 Tetrachlorobiphenyl (2,2',3,5-) (PCB 43)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#36 Trichlorobiphenyl (3,3',5-) (PCB 36)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#52 Tetrachlorobiphenyl (2,2',5,5'-) (PCB 52)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#48 Tetrachlorobiphenyl (2,2',4,5-) (PCB 48)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#49 Tetrachlorobiphenyl (2,2',4,5'-) (PCB 49)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#104-RTW Pentachlorobiphenyl (2,2',4,6,6'-) (PCB 104)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#47 Tetrachlorobiphenyl (2,2',4,4'-) (PCB 47)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#65/#75/#62 Tetrachlorobiphenyl (2,3,5,6-) (PCB 65)/ Tetrachlorobiphenyl (2,4,4',6-) (PCB 75)/ Tetrachlorobiphenyl (2,3,4,6-) (PCB 62)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#39 Trichlorobiphenyl (3,4',5-) (PCB 39)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#38 Trichlorobiphenyl (3,4,5-) (PCB 38)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#44 Tetrachlorobiphenyl (2,2',3,5'-) (PCB 44)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#59 Tetrachlorobiphenyl (2,3,3',6-) (PCB 59)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#42 Tetrachlorobiphenyl (2,2',3,4'-) (PCB 42)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#71 Tetrachlorobiphenyl (2,3',4',6-) (PCB 71)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#35 Trichlorobiphenyl (3,3',4-) (PCB 35)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#41 Tetrachlorobiphenyl (2,2',3,4-) (PCB 41)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#72 Tetrachlorobiphenyl (2,3',5,5'-) (PCB 72)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#96 Pentachlorobiphenyl (2,2',3,6,6'-) (PCB 96)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#103 Pentachlorobiphenyl (2,2',4,5',6-) (PCB 103)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#68/#64 Tetrachlorobiphenyl (2,3',4,5'-) (PCB 68) / Tetrachlorobiphenyl (2,3,4',6-) (PCB 64)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#40 Tetrachlorobiphenyl (2,2',3,3'-) (PCB 40)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#37-RTW Trichlorobiphenyl (3,4,4'-) (PCB 37)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#100 Pentachlorobiphenyl (2,2',4,4',6-) (PCB 100)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#94 Pentachlorobiphenyl (2,2',3,5,6'-) (PCB 94)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#57 Tetrachlorobiphenyl (2,3,3',5-) (PCB 57)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#67/#58 Tetrachlorobiphenyl (2,3',4,5-) (PCB 67)/ Tetrachlorobiphenyl (2,3,3',5'-) (PCB 58)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#102 Pentachlorobiphenyl (2,2',4,5,6'-) (PCB 102)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#61 Tetrachlorobiphenyl (2,3,4,5-) (PCB 61)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#98 Pentachlorobiphenyl (2,2',3,4',6'-) (PCB 98)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#76 Tetrachlorobiphenyl (2,3',4',5'-) (PCB 76)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#93 Pentachlorobiphenyl (2,2',3,5,6-) (PCB 93)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#63 Tetrachlorobiphenyl (2,3,4',5-) (PCB 63)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#121 Pentachlorobiphenyl (2,3',4,5',6-) (PCB 121)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#95/#88 Pentachlorobiphenyl (2,2',3,5',6-) (PCB 95) / Pentachlorobiphenyl (2,2',3,4,6-) (PCB 88)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#74 Tetrachlorobiphenyl (2,4,4',5-) (PCB 74)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#155-RTW Hexachlorobiphenyl (2,2',4,4',6,6'-) (PCB 155)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#70 Tetrachlorobiphenyl (2,3',4',5-) (PCB 70)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#66 Tetrachlorobiphenyl (2,3',4,4'-) (PCB 66)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#91 Pentachlorobiphenyl (2,2',3,4',6-) (PCB 91)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#80 Tetrachlorobiphenyl (3,3',5,5'-) (PCB 80)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#55 Tetrachlorobiphenyl (2,3,3',4-) (PCB 55)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#92 Pentachlorobiphenyl (2,2',3,5,5'-) (PCB 92)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#89/#84 Pentachlorobiphenyl (2,2',3,4,6'-) (PCB 89)/ Pentachlorobiphenyl (2,2',3,3',6-) (PCB 84)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#101/#90 Pentachlorobiphenyl (2,2',4,5,5'-) (PCB 101)/ Pentachlorobiphenyl (2,2',3,4',5-) (PCB 90)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#56 Tetrachlorobiphenyl (2,3,3',4'-) (PCB 56)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#113 Pentachlorobiphenyl (2,3,3',5',6-) (PCB 113)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#99 Pentachlorobiphenyl (2,2',4,4',5-) (PCB 99)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#150 Hexachlorobiphenyl (2,2',3,4',6,6'-) (PCB 150)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#60 Tetrachlorobiphenyl (2,3,4,4'-) (PCB 60)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#152 Hexachlorobiphenyl (2,2',3,5,6,6'-) (PCB 152)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#119 Pentachlorobiphenyl (2,3',4,4',6-) (PCB 119)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#83/#125/#112 Pentachlorobiphenyl (2,3',4',5',6-) (PCB 125) / Pentachlorobiphenyl (2,3,3',5,6-) (PCB 112)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#86/#109 Pentachlorobiphenyl (2,2',3,4,5-) (PCB 86)/ Pentachlorobiphenyl (2,3,3',4,6-) (PCB 109)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#97 Pentachlorobiphenyl (2,2',3,4',5'-) (PCB 97)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#116 Pentachlorobiphenyl (2,3,4,5,6-) (PCB 116)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#87/#111 Pentachlorobiphenyl (2,2',3,4,5'-) (PCB 87) / Pentachlorobiphenyl (2,3,3',5,5'-) (PCB 111)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#145 Hexachlorobiphenyl (2,2',3,4,6,6'-) (PCB 145)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#148 Hexachlorobiphenyl (2,2',3,4',5,6'-) (PCB 148)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#79 Tetrachlorobiphenyl (3,3',4,5'-) (PCB 79)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#154-Cal Hexachlorobiphenyl (2,2',4,4',5,6'-) (PCB 154)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#78 Tetrachlorobiphenyl (3,3',4,5-) (PCB 78)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#136 Hexachlorobiphenyl (2,2',3,3',6,6'-) (PCB 136)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#117 Pentachlorobiphenyl (2,3,4',5,6-) (PCB 117)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#115 Pentachlorobiphenyl (2,3,4,4',6-) (PCB 115)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#85 Pentachlorobiphenyl (2,2',3,4,4'-) (PCB 85)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#120 Pentachlorobiphenyl (2,3',4,5,5'-) (PCB 120)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#110 Pentachlorobiphenyl (2,3,3',4',6-) (PCB 110)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#81 Tetrachlorobiphenyl (3,4,4',5-) (PCB 81)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#151 Hexachlorobiphenyl (2,2',3,5,5',6-) (PCB 151)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#135 Hexachlorobiphenyl (2,2',3,3',5,6'-) (PCB 135)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#82 Pentachlorobiphenyl (2,2',3,3',4-) (PCB 82)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#144 Hexachlorobiphenyl (2,2',3,4,5',6-) (PCB 144)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#147/#149 Hexachlorobiphenyl (2,2',3,4',5',6-) (PCB 149)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#77-RTW Tetrachlorobiphenyl (3,3',4,4'-) (PCB 77)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#143/#139 Hexachlorobiphenyl (2,2',3,4,5,6'-) (PCB 143) / Hexachlorobiphenyl (2,2',3,4,4',6-) (PCB 139)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#124 Pentachlorobiphenyl (2,3',4',5,5'-) (PCB 124)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#108 Pentachlorobiphenyl (2,3,3',4,5'-) (PCB 108)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#107/#123 Pentachlorobiphenyl (2,3,3',4',5-) (PCB 107) / Pentachlorobiphenyl (2,3',4,4',5'-) (PCB 123)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#140 Hexachlorobiphenyl (2,2',3,4,4',6'-) (PCB 140)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#188-Cal/RTW Heptachlorobiphenyl (2,2',3,4',5,6,6'-) (PCB 188)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#134 Hexachlorobiphenyl (2,2',3,3',5,6-) (PCB 134)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#106 Pentachlorobiphenyl (2,3,3',4,5-) (PCB 106)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#133 Hexachlorobiphenyl (2,2',3,3',5,5'-) (PCB 133)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#142 Hexachlorobiphenyl (2,2',3,4,5,6-) (PCB 142)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#118 Pentachlorobiphenyl (2,3',4,4',5-) (PCB 118)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#131 Hexachlorobiphenyl (2,2',3,3',4,6-) (PCB 131)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#184 Heptachlorobiphenyl (2,2',3,4,4',6,6'-) (PCB 184)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#165 Hexachlorobiphenyl (2,3,3',5,5',6-) (PCB 165)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#146 Hexachlorobiphenyl (2,2',3,4',5,5'-) (PCB 146)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#161 Hexachlorobiphenyl (2,3,3',4,5',6-) (PCB 161)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#122 Pentachlorobiphenyl (2,3,3',4',5'-) (PCB 122)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#168 Hexachlorobiphenyl (2,3',4,4',5',6-) (PCB 168)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#114 Pentachlorobiphenyl (2,3,4,4',5-) (PCB 114)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#153 Hexachlorobiphenyl (2,2',4,4',5,5'-) (PCB 153)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#132 Hexachlorobiphenyl (2,2',3,3',4,6'-) (PCB 132)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#179 Heptachlorobiphenyl (2,2',3,3',5,6,6'-) (PCB 179)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#141 Hexachlorobiphenyl (2,2',3,4,5,5'-) (PCB 141)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#176 Heptachlorobiphenyl (2,2',3,3',4,6,6'-) (PCB 176)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#105 Pentachlorobiphenyl (2,3,3',4,4'-) (PCB 105)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#137 Hexachlorobiphenyl (2,2',3,4,4',5-) (PCB 137)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#127 Pentachlorobiphenyl (3,3',4,5,5'-) (PCB 127)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#186 Heptachlorobiphenyl (2,2',3,4,5,6,6'-) (PCB 186)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#130/#164 Hexachlorobiphenyl (2,2',3,3',4,5'-) (PCB 130) / Hexachlorobiphenyl (2,3,3',4',5',6-) (PCB 164)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#178 Heptachlorobiphenyl (2,2',3,3',5,5',6-) (PCB 178)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#138 Hexachlorobiphenyl (2,2',3,4,4',5'-) (PCB 138)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#163/#160 Hexachlorobiphenyl (2,3,3',4,5,6-) (PCB 160)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#129/#158 Hexachlorobiphenyl (2,3,3',4,4',6-) (PCB 158)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#182/#175 Heptachlorobiphenyl (2,2',3,3',4,5',6-) (PCB 175)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#187 Heptachlorobiphenyl (2,2',3,4',5,5',6-) (PCB 187)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#183 Heptachlorobiphenyl (2,2',3,4,4',5',6-) (PCB 183)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#166 Hexachlorobiphenyl (2,3,4,4',5,6-) (PCB 166)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#159 Hexachlorobiphenyl (2,3,3',4,5,5'-) (PCB 159)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#126-RTW Pentachlorobiphenyl (3,3',4,4',5-) (PCB 126)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#185 Heptachlorobiphenyl (2,2',3,4,5,5',6-) (PCB 185)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#162 Hexachlorobiphenyl (2,3,3',4',5,5'-) (PCB 162)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#174 Heptachlorobiphenyl (2,2',3,3',4,5,6'-) (PCB 174)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#128 Hexachlorobiphenyl (2,2',3,3',4,4'-) (PCB 128)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#167 Hexachlorobiphenyl (2,3',4,4',5,5'-) (PCB 167)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#202-RTW Octachlorobiphenyl (2,2',3,3',5,5',6,6'-) (PCB 202)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#181 Heptachlorobiphenyl (2,2',3,4,4',5,6-) (PCB 181)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#177 Heptachlorobiphenyl (2,2',3,3',4,5',6'-) (PCB 177)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#204/#200-Cal Octachlorobiphenyl (2,2',3,4,4',5,6,6'-) (PCB 204) / Octachlorobiphenyl (2,2',3,3',4,5,6,6'-) (PCB 200)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#171 Heptachlorobiphenyl (2,2',3,3',4,4',6-) (PCB 171)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#173 Heptachlorobiphenyl (2,2',3,3',4,5,6-) (PCB 173)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#172 Heptachlorobiphenyl (2,2',3,3',4,5,5'-) (PCB 172)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#192 Heptachlorobiphenyl (2,3,3',4,5,5',6-) (PCB 192)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#156 Hexachlorobiphenyl (2,3,3',4,4',5-) (PCB 156)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#157 Hexachlorobiphenyl (2,3,3',4,4',5'-) (PCB 157)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#180 Heptachlorobiphenyl (2,2',3,4,4',5,5'-) (PCB 180)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#193 Heptachlorobiphenyl (2,3,3',4',5,5',6-) (PCB 193)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#197 Octachlorobiphenyl (2,2',3,3',4,4',6,6'-) (PCB 197)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#191 Heptachlorobiphenyl (2,3,3',4,4',5',6-) (PCB 191)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#199 Octachlorobiphenyl (2,2',3,3',4,5,5',6'-) (PCB 199)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#198 Octachlorobiphenyl (2,2',3,3',4,5,5',6-) (PCB 198)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#201 Octachlorobiphenyl (2,2',3,3',4,5',6,6'-) (PCB 201)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#170 Heptachlorobiphenyl (2,2',3,3',4,4',5-) (PCB 170)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#190 Heptachlorobiphenyl (2,3,3',4,4',5,6-) (PCB 190)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#196 Octachlorobiphenyl (2,2',3,3',4,4',5,6'-) (PCB 196)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#203 Octachlorobiphenyl (2,2',3,4,4',5,5',6-) (PCB 203)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#169-RTW Hexachlorobiphenyl (3,3',4,4',5,5'-) (PCB 169)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl9-BZ#208-RTW Nonachlorobiphenyl (2,2',3,3',4,5,5',6,6'-) (PCB 208)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl9-BZ#207 Nonachlorobiphenyl (2,2',3,3',4,4',5,6,6'-) (PCB 207)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#189-RTW Heptachlorobiphenyl (2,3,3',4,4',5,5'-) (PCB 189)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#195 Octachlorobiphenyl (2,2',3,3',4,4',5,6-) (PCB 195
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#194 Octachlorobiphenyl (2,2',3,3',4,4',5,5'-) (PCB 194)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#205-RTW Octachlorobiphenyl (2,3,3',4,4',5,5',6-) (PCB 205)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl9-BZ#206-Cal/RTW Nonachlorobiphenyl (2,2',3,3',4,4',5,5',6-) (PCB 206)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl10-BZ#209-Cal/RTW Decachlorobiphenyl (PCB 209)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Monochlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Dichlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Trichlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Tetrachlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Pentachlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Hexachlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Heptachlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Octachlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Nonachlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Decachlorobiphenyl
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) CAS# 1746-01-6
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) CAS# 40321-76-4

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) CAS#39227-28-6
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) CAS# 57653-85-7
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) CAS# 19408-74-3
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) CAS# 35822-46-9
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,4,6,7,8,9 -Octachlorodibenzo-p-dioxin (OCDD) CAS#3268-87-9
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	2,3,7,8-Tetrachlorodibenzofuran (TCDF) CAS# 51207-31-9
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) CAS#57117-41-6
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) CAS#57117-31-4
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) CAS# 70648-26-9
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) CAS#57117-44-9
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) CAS#72918-21-9
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) CAS# 60851-34-5
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) CAS# 67562-39-4
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) CAS# 55673-89-7
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	1,2,3,4,6,7,8,9 -Octachlorodibenzofuran (OCDF) CAS#39001-02-0
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	Total Tetrachlorodibenzo-p-dioxin (TCDD) CAS#41903-57-5
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	Total Pentachlorodibenzo-p-dioxin (PeCDD) CAS#36088-22-9
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	Total Hexachlorodibenzo-p-dioxin (HxCDD) CAS#34465-46-8
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	Total Heptachlorodibenzo-p-dioxin (HpCDD) CAS#37871-00-4
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	Total Tetrachlorodibenzofuran (TCDF) CAS#55722-27-5

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	Total Pentachlorodibenzofuran (PeCDF) CAS#30402-15-4
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	Total Hexachlorodibenzofuran (HxCDF) CAS#55684-94-1
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	Total Heptachlorodibenzofuran (HpCDF) CAS#38998-75-3
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	Total PCDF
GC/Hi-Res MS, SIM	EPA 8290A / EPA 1613B	Total PCDD
Gravimetric	SM 2540G	Percent Total Solids
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	N-ethyl perfluorooctanesulfonamidoacetic acid N-EtFOSAA (cas# 2991-50-6)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	N-methyl perfluorooctanesulfonamidoacetic acid N-MeFOSAA (cas# 2355-31-9)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorobutanesulfonic acid (PFBS) (cas# 375-73-5)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorodecanoic acid PFDA (cas# 335-76-2)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorododecanoic acid PFDoA (cas# 307-55-1)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluoroheptanoic acid PFHpA (cas# 375-85-9)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorohexanesulfonic acid (PFHxS) (cas# 355-46-4)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorohexanoic acid PFHxA (cas# 307-24-4)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorononanoic acid PFNA (cas# 375-95-1)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorooctanesulfonic acid (PFOS) (cas# 1763-23-1)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorooctanoic acid PFOA (cas# 335-67-1)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorotridecanoic acid PFTrDA (cas# 72629-94-8)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluoroundecanoic acid PFUnA (cas# 2058-94-8)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorotetradecanoic acid PFTA (cas# 376-06-7)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluoropentatonic acid (PFPeA) (cas# 2706-90-3)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorobutanoic acid PFBA (cas# 375-22-4)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluordecanesulfonic acid (PFDS) (cas# 335-77-3)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorononanesulfonic acid (PFNS) (cas# 68259-12-1)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluoroheptanesulfonic acid (PFHpS) (cas# 375-92-8)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluoropentanesulfonic acid (PFPeS) (cas# 2706-91-4)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorooctanesulfonamide PFOSA (cas# 754-91-6)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	1H,1H,2H,2H-perfluorodecane sulfonic acid (8:2) 8:2FTS (cas# 39108-34-4)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	1H,1H,2H,2H-perfluorooctane sulfonic acid (6:2) 6:2FTS (cas# 27619-97-2)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2) 4:2FTS (cas#757124-72-4)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorododecanesulfonic acid (PFDoS) (cas# 79780-39-5)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) (cas# 763051-92-9)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS) (cas# 756426-58-1)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	N-methylperfluoro-1-octanesulfonamide (NMeFOSA) (cas# 31506-32-8)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	N-ethylperfluoro-1-octanesulfonamide (NEtFOSA) (cas# 4151-50-2)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2) (10:2FTS) (cas# 120226-60-0)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	2-(N-methylperfluoro-1-octanesulfonamido)-ethanol (NMeFOSE) (cas# 24448-09-7)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol (NEtFOSE) (cas# 1691-99-2)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluorohexadecanoic acid PFHxDA (cas# 67905-19-5)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluoroocatdecanoic acid PFODA (cas# 16517-11-6)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Tetrafluoro-2-(heptafluoropropoxy)propanoic acid HFPO-DA (cas# 13252-13-6)
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	4,8-dioxa-3H-perfluorononanoic acid ADONA (cas# 919005-14-4)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluoro-3-methoxypropanoic acid (PFMPA) 377-73-1
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluoro-4-methoxybutanoic acid (PFMBA) 863090-89-5
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) 113507-82-7
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) 151772-58-6
SPE/LC/MS/MS	PFAS by LCMSMS Compliant with QSM 5.3 Table B-15	Perfluoropropanesulfonic acid (PFPrS) 423-41-6
GC/Hi-Res MS	EPA 1668A	Cl1-BZ#1-Cal/RTW Chlorobiphenyl (2-) (PCB 1)
GC/Hi-Res MS	EPA 1668A	Cl1-BZ#2 Chlorobiphenyl (3-) (PCB 2)
GC/Hi-Res MS	EPA 1668A	Cl1-BZ#3-RTW Chlorobiphenyl (4-) (PCB 3)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#4/#10-RTW Dichlorobiphenyl (2,2'-) (PCB 4)/ Dichlorobiphenyl (2,6-) (PCB 10)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#9 Dichlorobiphenyl (2,5-) (PCB 9)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#7 Dichlorobiphenyl (2,4-) (PCB 7)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#6 Dichlorobiphenyl (2,3'-) (PCB 6)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#5 Dichlorobiphenyl (2,3-) (PCB 5)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#8 Dichlorobiphenyl (2,4'-) (PCB 8)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#19-RTW Trichlorobiphenyl (2,2',6-) (PCB 19)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#14 Dichlorobiphenyl (3,5-) (PCB 14)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#30 Trichlorobiphenyl (2,4,6-) (PCB 30)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#18 Trichlorobiphenyl (2,2',5-) (PCB 18)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#11 Dichlorobiphenyl (3,3'-) (PCB 11)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#17 Trichlorobiphenyl (2,2',4-) (PCB 17)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#12 Dichlorobiphenyl (3,4-) (PCB 12)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#27 Trichlorobiphenyl (2,3',6-) (PCB 27)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#13 Dichlorobiphenyl (3,4'-) (PCB 13)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#24 Trichlorobiphenyl (2,3,6-) (PCB 24)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#16 Trichlorobiphenyl (2,2',3-) (PCB 16)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#32 Trichlorobiphenyl (2,4',6-) (PCB 32)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#15-RTW Dichlorobiphenyl (4,4'-) (PCB 15)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#34 Trichlorobiphenyl (2,3',5'-) (PCB 34)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#23 Trichlorobiphenyl (2,3,5-) (PCB 23)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#54-RTW Tetrachlorobiphenyl (2,2',6,6'-) (PCB 54)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#29-Cal Trichlorobiphenyl (2,4,5-) (PCB 29)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#50-Cal Tetrachlorobiphenyl (2,2',4,6-) (PCB 50)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#26 Trichlorobiphenyl (2,3',5-) (PCB 26)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#25 Trichlorobiphenyl (2,3',4-) (PCB 25)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#53 Tetrachlorobiphenyl (2,2',5,6'-) (PCB 53)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#-31 Trichlorobiphenyl (2,4',5-) (PCB 31)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#28 Trichlorobiphenyl (2,4,4'-) (PCB 28)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#33 Trichlorobiphenyl (2,3',4'-) (PCB 33)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#21/#20 Trichlorobiphenyl (2,3,4-) (PCB 21)/ Trichlorobiphenyl (2,3,3'-) (PCB 20)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#51 Tetrachlorobiphenyl (2,2',4,6'-) (PCB 51)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#45 Tetrachlorobiphenyl (2,2',3,6-) (PCB 45)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#22 Trichlorobiphenyl (2,3,4'-) (PCB 22)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#73/#46 Tetrachlorobiphenyl (2,3',5',6-) (PCB 73)/ Tetrachlorobiphenyl (2,2',3,6'-) (PCB 46)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#69 Tetrachlorobiphenyl (2,3',4,6-) (PCB 69)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#43 Tetrachlorobiphenyl (2,2',3,5-) (PCB 43)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#36 Trichlorobiphenyl (3,3',5-) (PCB 36)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#52 Tetrachlorobiphenyl (2,2',5,5'-) (PCB 52)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#48 Tetrachlorobiphenyl (2,2',4,5-) (PCB 48)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#49 Tetrachlorobiphenyl (2,2',4,5'-) (PCB 49)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#104-RTW Pentachlorobiphenyl (2,2',4,6,6'-) (PCB 104)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#47 Tetrachlorobiphenyl (2,2',4,4'-) (PCB 47)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#65/#75/#62 Tetrachlorobiphenyl (2,3,5,6-) (PCB 65)/ Tetrachlorobiphenyl (2,4,4',6-) (PCB 75)/ Tetrachlorobiphenyl (2,3,4,6-) (PCB 62)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#39 Trichlorobiphenyl (3,4',5-) (PCB 39)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#38 Trichlorobiphenyl (3,4,5-) (PCB 38)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#44 Tetrachlorobiphenyl (2,2',3,5'-) (PCB 44)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#59 Tetrachlorobiphenyl (2,3,3',6-) (PCB 59)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#42 Tetrachlorobiphenyl (2,2',3,4'-) (PCB 42)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#71 Tetrachlorobiphenyl (2,3',4',6-) (PCB 71)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#35 Trichlorobiphenyl (3,3',4-) (PCB 35)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#41 Tetrachlorobiphenyl (2,2',3,4-) (PCB 41)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#72 Tetrachlorobiphenyl (2,3',5,5'-) (PCB 72)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#96 Pentachlorobiphenyl (2,2',3,6,6'-) (PCB 96)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#103 Pentachlorobiphenyl (2,2',4,5',6-) (PCB 103)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#68/#64 Tetrachlorobiphenyl (2,3',4,5'-) (PCB 68) / Tetrachlorobiphenyl (2,3,4',6-) (PCB 64)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#40 Tetrachlorobiphenyl (2,2',3,3'-) (PCB 40)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#37-RTW Trichlorobiphenyl (3,4,4'-) (PCB 37)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#100 Pentachlorobiphenyl (2,2',4,4',6-) (PCB 100)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#94 Pentachlorobiphenyl (2,2',3,5,6'-) (PCB 94)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#57 Tetrachlorobiphenyl (2,3,3',5-) (PCB 57)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#67/#58 Tetrachlorobiphenyl (2,3',4,5-) (PCB 67)/ Tetrachlorobiphenyl (2,3,3',5'-) (PCB 58)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#102 Pentachlorobiphenyl (2,2',4,5,6'-) (PCB 102)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#61 Tetrachlorobiphenyl (2,3,4,5-) (PCB 61)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#98 Pentachlorobiphenyl (2,2',3,4',6'-) (PCB 98)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#76 Tetrachlorobiphenyl (2,3',4',5'-) (PCB 76)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#93 Pentachlorobiphenyl (2,2',3,5,6-) (PCB 93)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#63 Tetrachlorobiphenyl (2,3,4',5-) (PCB 63)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#121 Pentachlorobiphenyl (2,3',4,5',6-) (PCB 121)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#95/#88 Pentachlorobiphenyl (2,2',3,5',6-) (PCB 95) / Pentachlorobiphenyl (2,2',3,4,6-) (PCB 88)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#74 Tetrachlorobiphenyl (2,4,4',5-) (PCB 74)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#155-RTW Hexachlorobiphenyl (2,2',4,4',6,6'-) (PCB 155)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#70 Tetrachlorobiphenyl (2,3',4',5-) (PCB 70)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#66 Tetrachlorobiphenyl (2,3',4,4'-) (PCB 66)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#91 Pentachlorobiphenyl (2,2',3,4',6-) (PCB 91)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#80 Tetrachlorobiphenyl (3,3',5,5'-) (PCB 80)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#55 Tetrachlorobiphenyl (2,3,3',4-) (PCB 55)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#92 Pentachlorobiphenyl (2,2',3,5,5'-) (PCB 92)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#89/#84 Pentachlorobiphenyl (2,2',3,4,6'-) (PCB 89)/ Pentachlorobiphenyl (2,2',3,3',6-) (PCB 84)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#101/#90 Pentachlorobiphenyl (2,2',4,5,5'-) (PCB 101)/ Pentachlorobiphenyl (2,2',3,4',5-) (PCB 90)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#56 Tetrachlorobiphenyl (2,3,3',4'-) (PCB 56)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#113 Pentachlorobiphenyl (2,3,3',5',6-) (PCB 113)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#99 Pentachlorobiphenyl (2,2',4,4',5-) (PCB 99)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#150 Hexachlorobiphenyl (2,2',3,4',6,6'-) (PCB 150)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#60 Tetrachlorobiphenyl (2,3,4,4'-) (PCB 60)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#152 Hexachlorobiphenyl (2,2',3,5,6,6'-) (PCB 152)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#119 Pentachlorobiphenyl (2,3',4,4',6-) (PCB 119)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#83/#125/#112 Pentachlorobiphenyl (2,2',3,3',5-) (PCB 83)/ Pentachlorobiphenyl (2,3',4',5',6-) (PCB 125) / Pentachlorobiphenyl (2,3,3',5,6-) (PCB 112)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#86/#109 Pentachlorobiphenyl (2,2',3,4,5-) (PCB 86)/ Pentachlorobiphenyl (2,3,3',4,6-) (PCB 109)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#97 Pentachlorobiphenyl (2,2',3,4',5'-) (PCB 97)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#116 Pentachlorobiphenyl (2,3,4,5,6-) (PCB 116)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#87/#111 Pentachlorobiphenyl (2,2',3,4,5'-) (PCB 87) / Pentachlorobiphenyl (2,3,3',5,5'-) (PCB 111)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#145 Hexachlorobiphenyl (2,2',3,4,6,6'-) (PCB 145)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#148 Hexachlorobiphenyl (2,2',3,4',5,6'-) (PCB 148)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#79 Tetrachlorobiphenyl (3,3',4,5'-) (PCB 79)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#154-Cal Hexachlorobiphenyl (2,2',4,4',5,6'-) (PCB 154)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#78 Tetrachlorobiphenyl (3,3',4,5-) (PCB 78)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#136 Hexachlorobiphenyl (2,2',3,3',6,6'-) (PCB 136)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#117 Pentachlorobiphenyl (2,3,4',5,6-) (PCB 117)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#115 Pentachlorobiphenyl (2,3,4,4',6-) (PCB 115)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#85 Pentachlorobiphenyl (2,2',3,4,4'-) (PCB 85)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#120 Pentachlorobiphenyl (2,3',4,5,5'-) (PCB 120)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#110 Pentachlorobiphenyl (2,3,3',4',6-) (PCB 110)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#81 Tetrachlorobiphenyl (3,4,4',5-) (PCB 81)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#151 Hexachlorobiphenyl (2,2',3,5,5',6-) (PCB 151)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#135 Hexachlorobiphenyl (2,2',3,3',5,6'-) (PCB 135)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#82 Pentachlorobiphenyl (2,2',3,3',4-) (PCB 82)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#144 Hexachlorobiphenyl (2,2',3,4,5',6-) (PCB 144)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#147/#149 Hexachlorobiphenyl (2,2',3,4',5,6-) (PCB 147)/ Hexachlorobiphenyl (2,2',3,4',5',6-) (PCB 149)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#77-RTW Tetrachlorobiphenyl (3,3',4,4'-) (PCB 77)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#143/#139 Hexachlorobiphenyl (2,2',3,4,5,6'-) (PCB 143) / Hexachlorobiphenyl (2,2',3,4,4',6-) (PCB 139)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#124 Pentachlorobiphenyl (2,3',4',5,5'-) (PCB 124)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#108 Pentachlorobiphenyl (2,3,3',4,5'-) (PCB 108)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#107/#123 Pentachlorobiphenyl (2,3,3',4',5-) (PCB 107) / Pentachlorobiphenyl (2,3',4,4',5'-) (PCB 123)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#140 Hexachlorobiphenyl (2,2',3,4,4',6'-) (PCB 140)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#188-Cal/RTW Heptachlorobiphenyl (2,2',3,4',5,6,6'-) (PCB 188)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#134 Hexachlorobiphenyl (2,2',3,3',5,6-) (PCB 134)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#106 Pentachlorobiphenyl (2,3,3',4,5-) (PCB 106)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#133 Hexachlorobiphenyl (2,2',3,3',5,5'-) (PCB 133)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#142 Hexachlorobiphenyl (2,2',3,4,5,6-) (PCB 142)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#118 Pentachlorobiphenyl (2,3',4,4',5-) (PCB 118)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#131 Hexachlorobiphenyl (2,2',3,3',4,6-) (PCB 131)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#184 Heptachlorobiphenyl (2,2',3,4,4',6,6'-) (PCB 184)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#165 Hexachlorobiphenyl (2,3,3',5,5',6-) (PCB 165)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#146 Hexachlorobiphenyl (2,2',3,4',5,5'-) (PCB 146)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#161 Hexachlorobiphenyl (2,3,3',4,5',6-) (PCB 161)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#122 Pentachlorobiphenyl (2,3,3',4',5'-) (PCB 122)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#168 Hexachlorobiphenyl (2,3',4,4',5',6-) (PCB 168)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#114 Pentachlorobiphenyl (2,3,4,4',5-) (PCB 114)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#153 Hexachlorobiphenyl (2,2',4,4',5,5'-) (PCB 153)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#132 Hexachlorobiphenyl (2,2',3,3',4,6'-) (PCB 132)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#179 Heptachlorobiphenyl (2,2',3,3',5,6,6'-) (PCB 179)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#141 Hexachlorobiphenyl (2,2',3,4,5,5'-) (PCB 141)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#176 Heptachlorobiphenyl (2,2',3,3',4,6,6'-) (PCB 176)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#105 Pentachlorobiphenyl (2,3,3',4,4'-) (PCB 105)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#137 Hexachlorobiphenyl (2,2',3,4,4',5-) (PCB 137)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#127 Pentachlorobiphenyl (3,3',4,5,5'-) (PCB 127)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#186 Heptachlorobiphenyl (2,2',3,4,5,6,6'-) (PCB 186)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#130/#164 Hexachlorobiphenyl (2,2',3,3',4,5'-) (PCB 130) / Hexachlorobiphenyl (2,3,3',4',5',6-) (PCB 164)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#178 Heptachlorobiphenyl (2,2',3,3',5,5',6-) (PCB 178)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#138 Hexachlorobiphenyl (2,2',3,4,4',5'-) (PCB 138)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#163/#160 Hexachlorobiphenyl (2,3,3',4',5,6-) (PCB 163) / Hexachlorobiphenyl (2,3,3',4,5,6-) (PCB 160)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#129/#158 Hexachlorobiphenyl (2,2',3,3',4,5-) (PCB 129)/ Hexachlorobiphenyl (2,3,3',4,4',6-) (PCB 158)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#182/#175 Heptachlorobiphenyl (2,2',3,4,4',5,6'-) (PCB 182)/ Heptachlorobiphenyl (2,2',3,3',4,5',6-) (PCB 175)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#187 Heptachlorobiphenyl (2,2',3,4',5,5',6-) (PCB 187)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#183 Heptachlorobiphenyl (2,2',3,4,4',5',6-) (PCB 183)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#166 Hexachlorobiphenyl (2,3,4,4',5,6-) (PCB 166)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#159 Hexachlorobiphenyl (2,3,3',4,5,5'-) (PCB 159)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#126-RTW Pentachlorobiphenyl (3,3',4,4',5-) (PCB 126)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#185 Heptachlorobiphenyl (2,2',3,4,5,5',6-) (PCB 185)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#162 Hexachlorobiphenyl (2,3,3',4',5,5'-) (PCB 162)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#174 Heptachlorobiphenyl (2,2',3,3',4,5,6'-) (PCB 174)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#128 Hexachlorobiphenyl (2,2',3,3',4,4'-) (PCB 128)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#167 Hexachlorobiphenyl (2,3',4,4',5,5'-) (PCB 167)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#202-RTW Octachlorobiphenyl (2,2',3,3',5,5',6,6'-) (PCB 202)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#181 Heptachlorobiphenyl (2,2',3,4,4',5,6-) (PCB 181)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#177 Heptachlorobiphenyl (2,2',3,3',4,5',6'-) (PCB 177)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#204/#200-Cal Octachlorobiphenyl (2,2',3,4,4',5,6,6'-) (PCB 204) / Octachlorobiphenyl (2,2',3,3',4,5,6,6'-) (PCB 200)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#171 Heptachlorobiphenyl (2,2',3,3',4,4',6-) (PCB 171)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#173 Heptachlorobiphenyl (2,2',3,3',4,5,6-) (PCB 173)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#172 Heptachlorobiphenyl (2,2',3,3',4,5,5'-) (PCB 172)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#192 Heptachlorobiphenyl (2,3,3',4,5,5',6-) (PCB 192)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#156 Hexachlorobiphenyl (2,3,3',4,4',5-) (PCB 156)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#157 Hexachlorobiphenyl (2,3,3',4,4',5'-) (PCB 157)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#180 Heptachlorobiphenyl (2,2',3,4,4',5,5'-) (PCB 180)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#193 Heptachlorobiphenyl (2,3,3',4',5,5',6-) (PCB 193)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#197 Octachlorobiphenyl (2,2',3,3',4,4',6,6'-) (PCB 197)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#191 Heptachlorobiphenyl (2,3,3',4,4',5',6-) (PCB 191)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#199 Octachlorobiphenyl (2,2',3,3',4,5,5',6'-) (PCB 199)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#198 Octachlorobiphenyl (2,2',3,3',4,5,5',6-) (PCB 198)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#201 Octachlorobiphenyl (2,2',3,3',4,5',6,6'-) (PCB 201)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#170 Heptachlorobiphenyl (2,2',3,3',4,4',5-) (PCB 170)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#190 Heptachlorobiphenyl (2,3,3',4,4',5,6-) (PCB 190)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#196 Octachlorobiphenyl (2,2',3,3',4,4',5,6'-) (PCB 196)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#203 Octachlorobiphenyl (2,2',3,4,4',5,5',6-) (PCB 203)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#169-RTW Hexachlorobiphenyl (3,3',4,4',5,5'-) (PCB 169)
GC/Hi-Res MS	EPA 1668A	Cl9-BZ#208-RTW Nonachlorobiphenyl (2,2',3,3',4,5,5',6,6'-) (PCB 208)
GC/Hi-Res MS	EPA 1668A	Cl9-BZ#207 Nonachlorobiphenyl (2,2',3,3',4,4',5,6,6'-) (PCB 207)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#189-RTW Heptachlorobiphenyl (2,3,3',4,4',5,5'-) (PCB 189)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#195 Octachlorobiphenyl (2,2',3,3',4,4',5,6-) (PCB 195)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#194 Octachlorobiphenyl (2,2',3,3',4,4',5,5'-) (PCB 194)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#205-RTW Octachlorobiphenyl (2,3,3',4,4',5,5',6-) (PCB 205)
GC/Hi-Res MS	EPA 1668A	Cl9-BZ#206-Cal/RTW Nonachlorobiphenyl (2,2',3,3',4,4',5,5',6-) (PCB 206)
GC/Hi-Res MS	EPA 1668A	Cl10-BZ#209-Cal/RTW Decachlorobiphenyl (PCB 209)
GC/Hi-Res MS	EPA 1668A	Monochlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Dichlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Trichlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Tetrachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Pentachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Hexachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Heptachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Octachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Nonachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Decachlorobiphenyl
GC/Hi-Res MS	EPA 1668C	Cl1-BZ#1-Cal/RTW Chlorobiphenyl (2-) (PCB 1)
GC/Hi-Res MS	EPA 1668C	Cl1-BZ#2 Chlorobiphenyl (3-) (PCB 2)
GC/Hi-Res MS	EPA 1668C	Cl1-BZ#3-RTW Chlorobiphenyl (4-) (PCB 3)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#4/#10-RTW Dichlorobiphenyl (2,2'-) (PCB 4)/ Dichlorobiphenyl (2,6-) (PCB 10)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#9 Dichlorobiphenyl (2,5-) (PCB 9)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#7 Dichlorobiphenyl (2,4-) (PCB 7)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#6 Dichlorobiphenyl (2,3'-) (PCB 6)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#5 Dichlorobiphenyl (2,3-) (PCB 5)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#8 Dichlorobiphenyl (2,4'-) (PCB 8)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#19-RTW Trichlorobiphenyl (2,2',6-) (PCB 19)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#14 Dichlorobiphenyl (3,5-) (PCB 14)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#30 Trichlorobiphenyl (2,4,6-) (PCB 30)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#18 Trichlorobiphenyl (2,2',5-) (PCB 18)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#11 Dichlorobiphenyl (3,3'-) (PCB 11)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#17 Trichlorobiphenyl (2,2',4-) (PCB 17)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#12 Dichlorobiphenyl (3,4-) (PCB 12)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#27 Trichlorobiphenyl (2,3',6-) (PCB 27)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#13 Dichlorobiphenyl (3,4'-) (PCB 13)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#24 Trichlorobiphenyl (2,3,6-) (PCB 24)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#16 Trichlorobiphenyl (2,2',3-) (PCB 16)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#32 Trichlorobiphenyl (2,4',6-) (PCB 32)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#15-RTW Dichlorobiphenyl (4,4'-) (PCB 15)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#34 Trichlorobiphenyl (2,3',5'-) (PCB 34)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#23 Trichlorobiphenyl (2,3,5-) (PCB 23)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#54-RTW Tetrachlorobiphenyl (2,2',6,6'-) (PCB 54)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#29-Cal Trichlorobiphenyl (2,4,5-) (PCB 29)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#50-Cal Tetrachlorobiphenyl (2,2',4,6-) (PCB 50)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#26 Trichlorobiphenyl (2,3',5-) (PCB 26)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#25 Trichlorobiphenyl (2,3',4-) (PCB 25)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#53 Tetrachlorobiphenyl (2,2',5,6'-) (PCB 53)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#-31 Trichlorobiphenyl (2,4',5-) (PCB 31)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#28 Trichlorobiphenyl (2,4,4'-) (PCB 28)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#33 Trichlorobiphenyl (2,3',4'-) (PCB 33)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#21/#20 Trichlorobiphenyl (2,3,4-) (PCB 21)/ Trichlorobiphenyl (2,3,3'-) (PCB 20)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#51 Tetrachlorobiphenyl (2,2',4,6'-) (PCB 51)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#45 Tetrachlorobiphenyl (2,2',3,6-) (PCB 45)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#22 Trichlorobiphenyl (2,3,4'-) (PCB 22)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#73/#46 Tetrachlorobiphenyl (2,3',5',6-) (PCB 73)/ Tetrachlorobiphenyl (2,2',3,6'-) (PCB 46)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#69 Tetrachlorobiphenyl (2,3',4,6-) (PCB 69)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#43 Tetrachlorobiphenyl (2,2',3,5-) (PCB 43)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#36 Trichlorobiphenyl (3,3',5-) (PCB 36)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#52 Tetrachlorobiphenyl (2,2',5,5'-) (PCB 52)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#48 Tetrachlorobiphenyl (2,2',4,5-) (PCB 48)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#49 Tetrachlorobiphenyl (2,2',4,5'-) (PCB 49)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#104-RTW Pentachlorobiphenyl (2,2',4,6,6'-) (PCB 104)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#47 Tetrachlorobiphenyl (2,2',4,4'-) (PCB 47)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#65/#75/#62 Tetrachlorobiphenyl (2,3,5,6-) (PCB 65)/ Tetrachlorobiphenyl (2,4,4',6-) (PCB 75)/ Tetrachlorobiphenyl (2,3,4,6-) (PCB 62)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#39 Trichlorobiphenyl (3,4',5-) (PCB 39)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#38 Trichlorobiphenyl (3,4,5-) (PCB 38)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#44 Tetrachlorobiphenyl (2,2',3,5'-) (PCB 44)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#59 Tetrachlorobiphenyl (2,3,3',6-) (PCB 59)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#42 Tetrachlorobiphenyl (2,2',3,4'-) (PCB 42)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#71 Tetrachlorobiphenyl (2,3',4',6-) (PCB 71)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#35 Trichlorobiphenyl (3,3',4-) (PCB 35)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#41 Tetrachlorobiphenyl (2,2',3,4-) (PCB 41)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#72 Tetrachlorobiphenyl (2,3',5,5'-) (PCB 72)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#96 Pentachlorobiphenyl (2,2',3,6,6'-) (PCB 96)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#103 Pentachlorobiphenyl (2,2',4,5',6-) (PCB 103)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#68/#64 Tetrachlorobiphenyl (2,3',4,5'-) (PCB 68) / Tetrachlorobiphenyl (2,3,4',6-) (PCB 64)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#40 Tetrachlorobiphenyl (2,2',3,3'-) (PCB 40)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#37-RTW Trichlorobiphenyl (3,4,4'-) (PCB 37)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#100 Pentachlorobiphenyl (2,2',4,4',6-) (PCB 100)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#94 Pentachlorobiphenyl (2,2',3,5,6'-) (PCB 94)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#57 Tetrachlorobiphenyl (2,3,3',5-) (PCB 57)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#67/#58 Tetrachlorobiphenyl (2,3',4,5-) (PCB 67)/ Tetrachlorobiphenyl (2,3,3',5'-) (PCB 58)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#102 Pentachlorobiphenyl (2,2',4,5,6'-) (PCB 102)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#61 Tetrachlorobiphenyl (2,3,4,5-) (PCB 61)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#98 Pentachlorobiphenyl (2,2',3,4',6'-) (PCB 98)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#76 Tetrachlorobiphenyl (2,3',4',5'-) (PCB 76)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#93 Pentachlorobiphenyl (2,2',3,5,6-) (PCB 93)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#63 Tetrachlorobiphenyl (2,3,4',5-) (PCB 63)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#121 Pentachlorobiphenyl (2,3',4,5',6-) (PCB 121)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#95/#88 Pentachlorobiphenyl (2,2',3,5',6-) (PCB 95) / Pentachlorobiphenyl (2,2',3,4,6-) (PCB 88)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#74 Tetrachlorobiphenyl (2,4,4',5-) (PCB 74)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#155-RTW Hexachlorobiphenyl (2,2',4,4',6,6'-) (PCB 155)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#70 Tetrachlorobiphenyl (2,3',4',5-) (PCB 70)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#66 Tetrachlorobiphenyl (2,3',4,4'-) (PCB 66)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#91 Pentachlorobiphenyl (2,2',3,4',6-) (PCB 91)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#80 Tetrachlorobiphenyl (3,3',5,5'-) (PCB 80)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#55 Tetrachlorobiphenyl (2,3,3',4-) (PCB 55)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#92 Pentachlorobiphenyl (2,2',3,5,5'-) (PCB 92)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#89/#84 Pentachlorobiphenyl (2,2',3,4,6'-) (PCB 89)/ Pentachlorobiphenyl (2,2',3,3',6-) (PCB 84)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#101/#90 Pentachlorobiphenyl (2,2',4,5,5'-) (PCB 101)/ Pentachlorobiphenyl (2,2',3,4',5-) (PCB 90)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#56 Tetrachlorobiphenyl (2,3,3',4'-) (PCB 56)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#113 Pentachlorobiphenyl (2,3,3',5',6-) (PCB 113)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#99 Pentachlorobiphenyl (2,2',4,4',5-) (PCB 99)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#150 Hexachlorobiphenyl (2,2',3,4',6,6'-) (PCB 150)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#60 Tetrachlorobiphenyl (2,3,4,4'-) (PCB 60)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#152 Hexachlorobiphenyl (2,2',3,5,6,6'-) (PCB 152)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#119 Pentachlorobiphenyl (2,3',4,4',6-) (PCB 119)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#83/#125/#112 Pentachlorobiphenyl (2,2',3,3',5-) (PCB 83)/ Pentachlorobiphenyl (2,3',4',5',6-) (PCB 125) / Pentachlorobiphenyl (2,3,3',5,6-) (PCB 112)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#86/#109 Pentachlorobiphenyl (2,2',3,4,5-) (PCB 86)/ Pentachlorobiphenyl (2,3,3',4,6-) (PCB 109)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#97 Pentachlorobiphenyl (2,2',3,4',5'-) (PCB 97)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#116 Pentachlorobiphenyl (2,3,4,5,6-) (PCB 116)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#87/#111 Pentachlorobiphenyl (2,2',3,4,5'-) (PCB 87) / Pentachlorobiphenyl (2,3,3',5,5'-) (PCB 111)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#145 Hexachlorobiphenyl (2,2',3,4,6,6'-) (PCB 145)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#148 Hexachlorobiphenyl (2,2',3,4',5,6'-) (PCB 148)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#79 Tetrachlorobiphenyl (3,3',4,5'-) (PCB 79)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#154-Cal Hexachlorobiphenyl (2,2',4,4',5,6'-) (PCB 154)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#78 Tetrachlorobiphenyl (3,3',4,5-) (PCB 78)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#136 Hexachlorobiphenyl (2,2',3,3',6,6'-) (PCB 136)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#117 Pentachlorobiphenyl (2,3,4',5,6-) (PCB 117)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#115 Pentachlorobiphenyl (2,3,4,4',6-) (PCB 115)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#85 Pentachlorobiphenyl (2,2',3,4,4'-) (PCB 85)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#120 Pentachlorobiphenyl (2,3',4,5,5'-) (PCB 120)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#110 Pentachlorobiphenyl (2,3,3',4',6-) (PCB 110)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#81 Tetrachlorobiphenyl (3,4,4',5-) (PCB 81)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#151 Hexachlorobiphenyl (2,2',3,5,5',6-) (PCB 151)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#135 Hexachlorobiphenyl (2,2',3,3',5,6'-) (PCB 135)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#82 Pentachlorobiphenyl (2,2',3,3',4-) (PCB 82)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#144 Hexachlorobiphenyl (2,2',3,4,5',6-) (PCB 144)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#147/#149 Hexachlorobiphenyl (2,2',3,4',5,6-) (PCB 147)/ Hexachlorobiphenyl (2,2',3,4',5',6-) (PCB 149)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#77-RTW Tetrachlorobiphenyl (3,3',4,4'-) (PCB 77)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#143/#139 Hexachlorobiphenyl (2,2',3,4,5,6'-) (PCB 143) / Hexachlorobiphenyl (2,2',3,4,4',6-) (PCB 139)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#124 Pentachlorobiphenyl (2,3',4',5,5'-) (PCB 124)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#108 Pentachlorobiphenyl (2,3,3',4,5'-) (PCB 108)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#107/#123 Pentachlorobiphenyl (2,3,3',4',5-) (PCB 107) / Pentachlorobiphenyl (2,3',4,4',5'-) (PCB 123)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#140 Hexachlorobiphenyl (2,2',3,4,4',6'-) (PCB 140)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#188-Cal/RTW Heptachlorobiphenyl (2,2',3,4',5,6,6'-) (PCB 188)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#134 Hexachlorobiphenyl (2,2',3,3',5,6-) (PCB 134)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#106 Pentachlorobiphenyl (2,3,3',4,5-) (PCB 106)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#133 Hexachlorobiphenyl (2,2',3,3',5,5'-) (PCB 133)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#142 Hexachlorobiphenyl (2,2',3,4,5,6-) (PCB 142)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#118 Pentachlorobiphenyl (2,3',4,4',5-) (PCB 118)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#131 Hexachlorobiphenyl (2,2',3,3',4,6-) (PCB 131)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#184 Heptachlorobiphenyl (2,2',3,4,4',6,6'-) (PCB 184)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#165 Hexachlorobiphenyl (2,3,3',5,5',6-) (PCB 165)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#146 Hexachlorobiphenyl (2,2',3,4',5,5'-) (PCB 146)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#161 Hexachlorobiphenyl (2,3,3',4,5',6-) (PCB 161)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#122 Pentachlorobiphenyl (2,3,3',4',5'-) (PCB 122)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#168 Hexachlorobiphenyl (2,3',4,4',5',6-) (PCB 168)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#114 Pentachlorobiphenyl (2,3,4,4',5-) (PCB 114)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#153 Hexachlorobiphenyl (2,2',4,4',5,5'-) (PCB 153)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#132 Hexachlorobiphenyl (2,2',3,3',4,6'-) (PCB 132)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#179 Heptachlorobiphenyl (2,2',3,3',5,6,6'-) (PCB 179)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#141 Hexachlorobiphenyl (2,2',3,4,5,5'-) (PCB 141)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#176 Heptachlorobiphenyl (2,2',3,3',4,6,6'-) (PCB 176)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#105 Pentachlorobiphenyl (2,3,3',4,4'-) (PCB 105)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#137 Hexachlorobiphenyl (2,2',3,4,4',5-) (PCB 137)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#127 Pentachlorobiphenyl (3,3',4,5,5'-) (PCB 127)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#186 Heptachlorobiphenyl (2,2',3,4,5,6,6'-) (PCB 186)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#130/#164 Hexachlorobiphenyl (2,2',3,3',4,5'-) (PCB 130) / Hexachlorobiphenyl (2,3,3',4',5',6-) (PCB 164)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#178 Heptachlorobiphenyl (2,2',3,3',5,5',6-) (PCB 178)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#138 Hexachlorobiphenyl (2,2',3,4,4',5'-) (PCB 138)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#163/#160 Hexachlorobiphenyl (2,3,3',4',5,6-) (PCB 163) / Hexachlorobiphenyl (2,3,3',4,5,6-) (PCB 160)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#129/#158 Hexachlorobiphenyl (2,2',3,3',4,5-) (PCB 129)/ Hexachlorobiphenyl (2,3,3',4,4',6-) (PCB 158)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#182/#175 Heptachlorobiphenyl (2,2',3,4,4',5,6'-) (PCB 182)/ Heptachlorobiphenyl (2,2',3,3',4,5',6-) (PCB 175)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#187 Heptachlorobiphenyl (2,2',3,4',5,5',6-) (PCB 187)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#183 Heptachlorobiphenyl (2,2',3,4,4',5',6-) (PCB 183)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#166 Hexachlorobiphenyl (2,3,4,4',5,6-) (PCB 166)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#159 Hexachlorobiphenyl (2,3,3',4,5,5'-) (PCB 159)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#126-RTW Pentachlorobiphenyl (3,3',4,4',5-) (PCB 126)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#185 Heptachlorobiphenyl (2,2',3,4,5,5',6-) (PCB 185)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#162 Hexachlorobiphenyl (2,3,3',4',5,5'-) (PCB 162)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#174 Heptachlorobiphenyl (2,2',3,3',4,5,6'-) (PCB 174)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#128 Hexachlorobiphenyl (2,2',3,3',4,4'-) (PCB 128)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#167 Hexachlorobiphenyl (2,3',4,4',5,5'-) (PCB 167)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#202-RTW Octachlorobiphenyl (2,2',3,3',5,5',6,6'-) (PCB 202)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#181 Heptachlorobiphenyl (2,2',3,4,4',5,6-) (PCB 181)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#177 Heptachlorobiphenyl (2,2',3,3',4,5',6'-) (PCB 177)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#204/#200-Cal Octachlorobiphenyl (2,2',3,4,4',5,6,6'-) (PCB 204) / Octachlorobiphenyl (2,2',3,3',4,5,6,6'-) (PCB 200)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#171 Heptachlorobiphenyl (2,2',3,3',4,4',6-) (PCB 171)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#173 Heptachlorobiphenyl (2,2',3,3',4,5,6-) (PCB 173)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#172 Heptachlorobiphenyl (2,2',3,3',4,5,5'-) (PCB 172)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#192 Heptachlorobiphenyl (2,3,3',4,5,5',6-) (PCB 192)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#156 Hexachlorobiphenyl (2,3,3',4,4',5-) (PCB 156)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#157 Hexachlorobiphenyl (2,3,3',4,4',5'-) (PCB 157)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#180 Heptachlorobiphenyl (2,2',3,4,4',5,5'-) (PCB 180)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#193 Heptachlorobiphenyl (2,3,3',4',5,5',6-) (PCB 193)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#197 Octachlorobiphenyl (2,2',3,3',4,4',6,6'-) (PCB 197)

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#191 Heptachlorobiphenyl (2,3,3',4,4',5',6-) (PCB 191)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#199 Octachlorobiphenyl (2,2',3,3',4,5,5',6'-) (PCB 199)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#198 Octachlorobiphenyl (2,2',3,3',4,5,5',6-) (PCB 198)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#201 Octachlorobiphenyl (2,2',3,3',4,5',6,6'-) (PCB 201)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#170 Heptachlorobiphenyl (2,2',3,3',4,4',5-) (PCB 170)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#190 Heptachlorobiphenyl (2,3,3',4,4',5,6-) (PCB 190)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#196 Octachlorobiphenyl (2,2',3,3',4,4',5,6'-) (PCB 196)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#203 Octachlorobiphenyl (2,2',3,4,4',5,5',6-) (PCB 203)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#169-RTW Hexachlorobiphenyl (3,3',4,4',5,5'-) (PCB 169)
GC/Hi-Res MS	EPA 1668C	Cl9-BZ#208-RTW Nonachlorobiphenyl (2,2',3,3',4,5,5',6,6'-) (PCB 208)
GC/Hi-Res MS	EPA 1668C	Cl9-BZ#207 Nonachlorobiphenyl (2,2',3,3',4,4',5,6,6'-) (PCB 207)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#189-RTW Heptachlorobiphenyl (2,3,3',4,4',5,5'-) (PCB 189)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#195 Octachlorobiphenyl (2,2',3,3',4,4',5,6-) (PCB 195)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#194 Octachlorobiphenyl (2,2',3,3',4,4',5,5'-) (PCB 194)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#205-RTW Octachlorobiphenyl (2,3,3',4,4',5,5',6-) (PCB 205)
GC/Hi-Res MS	EPA 1668C	Cl9-BZ#206-Cal/RTW Nonachlorobiphenyl (2,2',3,3',4,4',5,5',6-) (PCB 206)
GC/Hi-Res MS	EPA 1668C	Cl10-BZ#209-Cal/RTW Decachlorobiphenyl (PCB 209)
GC/Hi-Res MS	EPA 1668C	Monochlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Dichlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Trichlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Tetrachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Pentachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Hexachlorobiphenyls

Solid and Chemical Materials		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Heptachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Octachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Nonachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Decachlorobiphenyl
Preparation	**Method**	**Type**
Extraction	EPA 3570	Microscale Extraction (MSE)
Waste Dilution	EPA 3580A	Waste Dilution
Cleanup	EPA 3630C	Silica Gel Cleanup
Cleanup	EPA 3660B	Sulfur Removal Cleanup
Cleanup	EPA 3665A	Sulfuric Acid Cleanup

Biological Tissue		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl1-BZ#1-Cal/RTW Chlorobiphenyl (2-) (PCB 1)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl1-BZ#2 Chlorobiphenyl (3-) (PCB 2)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl1-BZ#3-RTW Chlorobiphenyl (4-) (PCB 3)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#4/#10-RTW Dichlorobiphenyl (2,2'-) (PCB 4)/ Dichlorobiphenyl (2,6-) (PCB 10)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#9 Dichlorobiphenyl (2,5-) (PCB 9)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#7 Dichlorobiphenyl (2,4-) (PCB 7)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#6 Dichlorobiphenyl (2,3'-) (PCB 6)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#5 Dichlorobiphenyl (2,3-) (PCB 5)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#8 Dichlorobiphenyl (2,4'-) (PCB 8)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#19-RTW Trichlorobiphenyl (2,2',6-) (PCB 19)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#14 Dichlorobiphenyl (3,5-) (PCB 14)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#30 Trichlorobiphenyl (2,4,6-) (PCB 30)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#18 Trichlorobiphenyl (2,2',5-) (PCB 18)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#11 Dichlorobiphenyl (3,3'-) (PCB 11)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#17 Trichlorobiphenyl (2,2',4-) (PCB 17)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#12 Dichlorobiphenyl (3,4-) (PCB 12)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#27 Trichlorobiphenyl (2,3',6-) (PCB 27)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#13 Dichlorobiphenyl (3,4'-) (PCB 13)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#24 Trichlorobiphenyl (2,3,6-) (PCB 24)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#16 Trichlorobiphenyl (2,2',3-) (PCB 16)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#32 Trichlorobiphenyl (2,4',6-) (PCB 32)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl2-BZ#15-RTW Dichlorobiphenyl (4,4'-) (PCB 15)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#34 Trichlorobiphenyl (2,3',5'-) (PCB 34)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#23 Trichlorobiphenyl (2,3,5-) (PCB 23)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#54-RTW Tetrachlorobiphenyl (2,2',6,6'-) (PCB 54)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#29-Cal Trichlorobiphenyl (2,4,5-) (PCB 29)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#50-Cal Tetrachlorobiphenyl (2,2',4,6-) (PCB 50)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#26 Trichlorobiphenyl (2,3',5-) (PCB 26)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#25 Trichlorobiphenyl (2,3',4-) (PCB 25)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#53 Tetrachlorobiphenyl (2,2',5,6'-) (PCB 53)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#-31 Trichlorobiphenyl (2,4',5-) (PCB 31)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#28 Trichlorobiphenyl (2,4,4'-) (PCB 28)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#33 Trichlorobiphenyl (2,3',4'-) (PCB 33)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#21/#20 Trichlorobiphenyl (2,3,4-) (PCB 21)/ Trichlorobiphenyl (2,3,3'-) (PCB 20)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#51 Tetrachlorobiphenyl (2,2',4,6'-) (PCB 51)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#45 Tetrachlorobiphenyl (2,2',3,6-) (PCB 45)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#22 Trichlorobiphenyl (2,3,4'-) (PCB 22)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#73/#46 Tetrachlorobiphenyl (2,3',5',6-) (PCB 73)/ Tetrachlorobiphenyl (2,2',3,6'-) (PCB 46)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#69 Tetrachlorobiphenyl (2,3',4,6-) (PCB 69)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#43 Tetrachlorobiphenyl (2,2',3,5-) (PCB 43)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#36 Trichlorobiphenyl (3,3',5-) (PCB 36)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#52 Tetrachlorobiphenyl (2,2',5,5'-) (PCB 52)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#48 Tetrachlorobiphenyl (2,2',4,5-) (PCB 48)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#49 Tetrachlorobiphenyl (2,2',4,5'-) (PCB 49)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#104-RTW Pentachlorobiphenyl (2,2',4,6,6'-) (PCB 104)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#47 Tetrachlorobiphenyl (2,2',4,4'-) (PCB 47)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#65/#75/#62 Tetrachlorobiphenyl (2,3,5,6-) (PCB 65)/ Tetrachlorobiphenyl (2,4,4',6-) (PCB 75)/ Tetrachlorobiphenyl (2,3,4,6-) (PCB 62)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#39 Trichlorobiphenyl (3,4',5-) (PCB 39)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#38 Trichlorobiphenyl (3,4,5-) (PCB 38)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#44 Tetrachlorobiphenyl (2,2',3,5'-) (PCB 44)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#59 Tetrachlorobiphenyl (2,3,3',6-) (PCB 59)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#42 Tetrachlorobiphenyl (2,2',3,4'-) (PCB 42)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#71 Tetrachlorobiphenyl (2,3',4',6-) (PCB 71)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#35 Trichlorobiphenyl (3,3',4-) (PCB 35)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#41 Tetrachlorobiphenyl (2,2',3,4-) (PCB 41)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#72 Tetrachlorobiphenyl (2,3',5,5'-) (PCB 72)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#96 Pentachlorobiphenyl (2,2',3,6,6'-) (PCB 96)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#103 Pentachlorobiphenyl (2,2',4,5',6-) (PCB 103)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#68/#64 Tetrachlorobiphenyl (2,3',4,5'-) (PCB 68) / Tetrachlorobiphenyl (2,3,4',6-) (PCB 64)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#40 Tetrachlorobiphenyl (2,2',3,3'-) (PCB 40)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl3-BZ#37-RTW Trichlorobiphenyl (3,4,4'-) (PCB 37)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#100 Pentachlorobiphenyl (2,2',4,4',6-) (PCB 100)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#94 Pentachlorobiphenyl (2,2',3,5,6'-) (PCB 94)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#57 Tetrachlorobiphenyl (2,3,3',5-) (PCB 57)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#67/#58 Tetrachlorobiphenyl (2,3',4,5-) (PCB 67)/ Tetrachlorobiphenyl (2,3,3',5'-) (PCB 58)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#102 Pentachlorobiphenyl (2,2',4,5,6'-) (PCB 102)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#61 Tetrachlorobiphenyl (2,3,4,5-) (PCB 61)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#98 Pentachlorobiphenyl (2,2',3,4',6'-) (PCB 98)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#76 Tetrachlorobiphenyl (2,3',4',5'-) (PCB 76)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#93 Pentachlorobiphenyl (2,2',3,5,6-) (PCB 93)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#63 Tetrachlorobiphenyl (2,3,4',5-) (PCB 63)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#121 Pentachlorobiphenyl (2,3',4,5',6-) (PCB 121)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#95/#88 Pentachlorobiphenyl (2,2',3,5',6-) (PCB 95) / Pentachlorobiphenyl (2,2',3,4,6-) (PCB 88)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#74 Tetrachlorobiphenyl (2,4,4',5-) (PCB 74)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#155-RTW Hexachlorobiphenyl (2,2',4,4',6,6'-) (PCB 155)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#70 Tetrachlorobiphenyl (2,3',4',5-) (PCB 70)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#66 Tetrachlorobiphenyl (2,3',4,4'-) (PCB 66)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#91 Pentachlorobiphenyl (2,2',3,4',6-) (PCB 91)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#80 Tetrachlorobiphenyl (3,3',5,5'-) (PCB 80)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#55 Tetrachlorobiphenyl (2,3,3',4-) (PCB 55)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#92 Pentachlorobiphenyl (2,2',3,5,5'-) (PCB 92)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#89/#84 Pentachlorobiphenyl (2,2',3,4,6'-) (PCB 89)/ Pentachlorobiphenyl (2,2',3,3',6-) (PCB 84)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#101/#90 Pentachlorobiphenyl (2,2',4,5,5'-) (PCB 101)/ Pentachlorobiphenyl (2,2',3,4',5-) (PCB 90)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#56 Tetrachlorobiphenyl (2,3,3',4'-) (PCB 56)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#113 Pentachlorobiphenyl (2,3,3',5',6-) (PCB 113)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#99 Pentachlorobiphenyl (2,2',4,4',5-) (PCB 99)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#150 Hexachlorobiphenyl (2,2',3,4',6,6'-) (PCB 150)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#60 Tetrachlorobiphenyl (2,3,4,4'-) (PCB 60)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#152 Hexachlorobiphenyl (2,2',3,5,6,6'-) (PCB 152)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#119 Pentachlorobiphenyl (2,3',4,4',6-) (PCB 119)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#83/#125/#112 Pentachlorobiphenyl (2,3',4',5',6-) (PCB 125) / Pentachlorobiphenyl (2,3,3',5,6-) (PCB 112)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#86/#109 Pentachlorobiphenyl (2,2',3,4,5-) (PCB 86)/ Pentachlorobiphenyl (2,3,3',4,6-) (PCB 109)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#97 Pentachlorobiphenyl (2,2',3,4',5'-) (PCB 97)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#116 Pentachlorobiphenyl (2,3,4,5,6-) (PCB 116)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#87/#111 Pentachlorobiphenyl (2,2',3,4,5'-) (PCB 87) / Pentachlorobiphenyl (2,3,3',5,5'-) (PCB 111)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#145 Hexachlorobiphenyl (2,2',3,4,6,6'-) (PCB 145)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#148 Hexachlorobiphenyl (2,2',3,4',5,6'-) (PCB 148)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#79 Tetrachlorobiphenyl (3,3',4,5'-) (PCB 79)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#154-Cal Hexachlorobiphenyl (2,2',4,4',5,6'-) (PCB 154)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#78 Tetrachlorobiphenyl (3,3',4,5-) (PCB 78)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#136 Hexachlorobiphenyl (2,2',3,3',6,6'-) (PCB 136)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#117 Pentachlorobiphenyl (2,3,4',5,6-) (PCB 117)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#115 Pentachlorobiphenyl (2,3,4,4',6-) (PCB 115)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#85 Pentachlorobiphenyl (2,2',3,4,4'-) (PCB 85)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#120 Pentachlorobiphenyl (2,3',4,5,5'-) (PCB 120)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#110 Pentachlorobiphenyl (2,3,3',4',6-) (PCB 110)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#81 Tetrachlorobiphenyl (3,4,4',5-) (PCB 81)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#151 Hexachlorobiphenyl (2,2',3,5,5',6-) (PCB 151)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#135 Hexachlorobiphenyl (2,2',3,3',5,6'-) (PCB 135)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#82 Pentachlorobiphenyl (2,2',3,3',4-) (PCB 82)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#144 Hexachlorobiphenyl (2,2',3,4,5',6-) (PCB 144)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#147/#149 Hexachlorobiphenyl (2,2',3,4',5',6-) (PCB 149)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl4-BZ#77-RTW Tetrachlorobiphenyl (3,3',4,4'-) (PCB 77)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#143/#139 Hexachlorobiphenyl (2,2',3,4,5,6'-) (PCB 143) / Hexachlorobiphenyl (2,2',3,4,4',6-) (PCB 139)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#124 Pentachlorobiphenyl (2,3',4',5,5'-) (PCB 124)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#108 Pentachlorobiphenyl (2,3,3',4,5'-) (PCB 108)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#107/#123 Pentachlorobiphenyl (2,3,3',4',5-) (PCB 107) / Pentachlorobiphenyl (2,3',4,4',5'-) (PCB 123)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#140 Hexachlorobiphenyl (2,2',3,4,4',6'-) (PCB 140)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#188-Cal/RTW Heptachlorobiphenyl (2,2',3,4',5,6,6'-) (PCB 188)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#134 Hexachlorobiphenyl (2,2',3,3',5,6-) (PCB 134)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#106 Pentachlorobiphenyl (2,3,3',4,5-) (PCB 106)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#133 Hexachlorobiphenyl (2,2',3,3',5,5'-) (PCB 133)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#142 Hexachlorobiphenyl (2,2',3,4,5,6-) (PCB 142)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#118 Pentachlorobiphenyl (2,3',4,4',5-) (PCB 118)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#131 Hexachlorobiphenyl (2,2',3,3',4,6-) (PCB 131)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#184 Heptachlorobiphenyl (2,2',3,4,4',6,6'-) (PCB 184)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#165 Hexachlorobiphenyl (2,3,3',5,5',6-) (PCB 165)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#146 Hexachlorobiphenyl (2,2',3,4',5,5'-) (PCB 146)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#161 Hexachlorobiphenyl (2,3,3',4,5',6-) (PCB 161)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#122 Pentachlorobiphenyl (2,3,3',4',5'-) (PCB 122)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#168 Hexachlorobiphenyl (2,3',4,4',5',6-) (PCB 168)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#114 Pentachlorobiphenyl (2,3,4,4',5-) (PCB 114)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#153 Hexachlorobiphenyl (2,2',4,4',5,5'-) (PCB 153)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#132 Hexachlorobiphenyl (2,2',3,3',4,6'-) (PCB 132)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#179 Heptachlorobiphenyl (2,2',3,3',5,6,6'-) (PCB 179)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#141 Hexachlorobiphenyl (2,2',3,4,5,5'-) (PCB 141)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#176 Heptachlorobiphenyl (2,2',3,3',4,6,6'-) (PCB 176)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#105 Pentachlorobiphenyl (2,3,3',4,4'-) (PCB 105)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#137 Hexachlorobiphenyl (2,2',3,4,4',5-) (PCB 137)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#127 Pentachlorobiphenyl (3,3',4,5,5'-) (PCB 127)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#186 Heptachlorobiphenyl (2,2',3,4,5,6,6'-) (PCB 186)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#130/#164 Hexachlorobiphenyl (2,2',3,3',4,5'-) (PCB 130) / Hexachlorobiphenyl (2,3,3',4',5',6-) (PCB 164)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#178 Heptachlorobiphenyl (2,2',3,3',5,5',6-) (PCB 178)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#138 Hexachlorobiphenyl (2,2',3,4,4',5'-) (PCB 138)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#163/#160 Hexachlorobiphenyl (2,3,3',4,5,6-) (PCB 160)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#129/#158 Hexachlorobiphenyl (2,3,3',4,4',6-) (PCB 158)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#182/#175 Heptachlorobiphenyl (2,2',3,3',4,5',6-) (PCB 175)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#187 Heptachlorobiphenyl (2,2',3,4',5,5',6-) (PCB 187)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#183 Heptachlorobiphenyl (2,2',3,4,4',5',6-) (PCB 183)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#166 Hexachlorobiphenyl (2,3,4,4',5,6-) (PCB 166)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#159 Hexachlorobiphenyl (2,3,3',4,5,5'-) (PCB 159)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl5-BZ#126-RTW Pentachlorobiphenyl (3,3',4,4',5-) (PCB 126)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#185 Heptachlorobiphenyl (2,2',3,4,5,5',6-) (PCB 185)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#162 Hexachlorobiphenyl (2,3,3',4',5,5'-) (PCB 162)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#174 Heptachlorobiphenyl (2,2',3,3',4,5,6'-) (PCB 174)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#128 Hexachlorobiphenyl (2,2',3,3',4,4'-) (PCB 128)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#167 Hexachlorobiphenyl (2,3',4,4',5,5'-) (PCB 167)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#202-RTW Octachlorobiphenyl (2,2',3,3',5,5',6,6'-) (PCB 202)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#181 Heptachlorobiphenyl (2,2',3,4,4',5,6-) (PCB 181)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#177 Heptachlorobiphenyl (2,2',3,3',4,5',6'-) (PCB 177)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#204/#200-Cal Octachlorobiphenyl (2,2',3,4,4',5,6,6'-) (PCB 204) / Octachlorobiphenyl (2,2',3,3',4,5,6,6'-) (PCB 200)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#171 Heptachlorobiphenyl (2,2',3,3',4,4',6-) (PCB 171)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#173 Heptachlorobiphenyl (2,2',3,3',4,5,6-) (PCB 173)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#172 Heptachlorobiphenyl (2,2',3,3',4,5,5'-) (PCB 172)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#192 Heptachlorobiphenyl (2,3,3',4,5,5',6-) (PCB 192)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#156 Hexachlorobiphenyl (2,3,3',4,4',5-) (PCB 156)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#157 Hexachlorobiphenyl (2,3,3',4,4',5'-) (PCB 157)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#180 Heptachlorobiphenyl (2,2',3,4,4',5,5'-) (PCB 180)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#193 Heptachlorobiphenyl (2,3,3',4',5,5',6-) (PCB 193)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#197 Octachlorobiphenyl (2,2',3,3',4,4',6,6'-) (PCB 197)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#191 Heptachlorobiphenyl (2,3,3',4,4',5',6-) (PCB 191)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#199 Octachlorobiphenyl (2,2',3,3',4,5,5',6'-) (PCB 199)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#198 Octachlorobiphenyl (2,2',3,3',4,5,5',6-) (PCB 198)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#201 Octachlorobiphenyl (2,2',3,3',4,5',6,6'-) (PCB 201)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#170 Heptachlorobiphenyl (2,2',3,3',4,4',5-) (PCB 170)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#190 Heptachlorobiphenyl (2,3,3',4,4',5,6-) (PCB 190)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#196 Octachlorobiphenyl (2,2',3,3',4,4',5,6'-) (PCB 196)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#203 Octachlorobiphenyl (2,2',3,4,4',5,5',6-) (PCB 203)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl6-BZ#169-RTW Hexachlorobiphenyl (3,3',4,4',5,5'-) (PCB 169)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl9-BZ#208-RTW Nonachlorobiphenyl (2,2',3,3',4,5,5',6,6'-) (PCB 208)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl9-BZ#207 Nonachlorobiphenyl (2,2',3,3',4,4',5,6,6'-) (PCB 207)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl7-BZ#189-RTW Heptachlorobiphenyl (2,3,3',4,4',5,5'-) (PCB 189)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#195 Octachlorobiphenyl (2,2',3,3',4,4',5,6-) (PCB 195)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#194 Octachlorobiphenyl (2,2',3,3',4,4',5,5'-) (PCB 194)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl8-BZ#205-RTW Octachlorobiphenyl (2,3,3',4,4',5,5',6-) (PCB 205)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl9-BZ#206-Cal/RTW Nonachlorobiphenyl (2,2',3,3',4,4',5,5',6-) (PCB 206)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Cl10-BZ#209-Cal/RTW Decachlorobiphenyl (PCB 209)
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Monochlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Dichlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Trichlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Tetrachlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Pentachlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Hexachlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Heptachlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Octachlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Nonachlorobiphenyls
GC/MS-SIM	EPA 8270E-SIM / EPA 680	Decachlorobiphenyl
GC/Hi-Res MS, SIM	EPA 8290A	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) CAS# 1746-01-6
GC/Hi-Res MS, SIM	EPA 8290A	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) CAS# 40321-76-4
GC/Hi-Res MS, SIM	EPA 8290A	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) CAS#39227-28-6
GC/Hi-Res MS, SIM	EPA 8290A	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) CAS# 57653-85-7
GC/Hi-Res MS, SIM	EPA 8290A	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) CAS# 19408-74-3
GC/Hi-Res MS, SIM	EPA 8290A	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) CAS# 35822-46-9

Biological Tissue		
Technology	**Method**	**Analyte**
GC/Hi-Res MS, SIM	EPA 8290A	1,2,3,4,6,7,8,9 -Octachlorodibenzo-p-dioxin (OCDD) CAS#3268-87-9
GC/Hi-Res MS, SIM	EPA 8290A	2,3,7,8-Tetrachlorodibenzofuran (TCDF) CAS# 51207-31-9
GC/Hi-Res MS, SIM	EPA 8290A	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) CAS#57117-41-6
GC/Hi-Res MS, SIM	EPA 8290A	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) CAS#57117-31-4
GC/Hi-Res MS, SIM	EPA 8290A	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) CAS# 70648-26-9
GC/Hi-Res MS, SIM	EPA 8290A	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) CAS#57117-44-9
GC/Hi-Res MS, SIM	EPA 8290A	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) CAS#72918-21-9
GC/Hi-Res MS, SIM	EPA 8290A	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) CAS# 60851-34-5
GC/Hi-Res MS, SIM	EPA 8290A	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) CAS# 67562-39-4
GC/Hi-Res MS, SIM	EPA 8290A	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) CAS# 55673-89-7
GC/Hi-Res MS, SIM	EPA 8290A	1,2,3,4,6,7,8,9 -Octachlorodibenzofuran (OCDF) CAS#39001-02-0
GC/Hi-Res MS, SIM	EPA 8290A	Total Tetrachlorodibenzo-p-dioxin (TCDD) CAS#41903-57-5
GC/Hi-Res MS, SIM	EPA 8290A	Total Pentachlorodibenzo-p-dioxin (PeCDD) CAS#36088-22-9
GC/Hi-Res MS, SIM	EPA 8290A	Total Hexachlorodibenzo-p-dioxin (HxCDD) CAS#34465-46-8
GC/Hi-Res MS, SIM	EPA 8290A	Total Heptachlorodibenzo-p-dioxin (HpCDD) CAS#37871-00-4
GC/Hi-Res MS, SIM	EPA 8290A	Total Tetrachlorodibenzofuran (TCDF) CAS#55722-27-5
GC/Hi-Res MS, SIM	EPA 8290A	Total Pentachlorodibenzofuran (PeCDF) CAS#30402-15-4
GC/Hi-Res MS, SIM	EPA 8290A	Total Hexachlorodibenzofuran (HxCDF) CAS#55684-94-1
GC/Hi-Res MS, SIM	EPA 8290A	Total Heptachlorodibenzofuran (HpCDF) CAS#38998-75-3
GC/Hi-Res MS, SIM	EPA 8290A	Total PCDF
GC/Hi-Res MS, SIM	EPA 8290A	Total PCDD

Biological Tissue		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl1-BZ#1-Cal/RTW Chlorobiphenyl (2-) (PCB 1)
GC/Hi-Res MS	EPA 1668A	Cl1-BZ#2 Chlorobiphenyl (3-) (PCB 2)
GC/Hi-Res MS	EPA 1668A	Cl1-BZ#3-RTW Chlorobiphenyl (4-) (PCB 3)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#4/#10-RTW Dichlorobiphenyl (2,2'-) (PCB 4)/ Dichlorobiphenyl (2,6-) (PCB 10)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#9 Dichlorobiphenyl (2,5-) (PCB 9)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#7 Dichlorobiphenyl (2,4-) (PCB 7)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#6 Dichlorobiphenyl (2,3'-) (PCB 6)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#5 Dichlorobiphenyl (2,3-) (PCB 5)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#8 Dichlorobiphenyl (2,4'-) (PCB 8)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#19-RTW Trichlorobiphenyl (2,2',6-) (PCB 19)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#14 Dichlorobiphenyl (3,5-) (PCB 14)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#30 Trichlorobiphenyl (2,4,6-) (PCB 30)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#18 Trichlorobiphenyl (2,2',5-) (PCB 18)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#11 Dichlorobiphenyl (3,3'-) (PCB 11)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#17 Trichlorobiphenyl (2,2',4-) (PCB 17)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#12 Dichlorobiphenyl (3,4-) (PCB 12)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#27 Trichlorobiphenyl (2,3',6-) (PCB 27)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#13 Dichlorobiphenyl (3,4'-) (PCB 13)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#24 Trichlorobiphenyl (2,3,6-) (PCB 24)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#16 Trichlorobiphenyl (2,2',3-) (PCB 16)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#32 Trichlorobiphenyl (2,4',6-) (PCB 32)
GC/Hi-Res MS	EPA 1668A	Cl2-BZ#15-RTW Dichlorobiphenyl (4,4'-) (PCB 15)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#34 Trichlorobiphenyl (2,3',5'-) (PCB 34)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#23 Trichlorobiphenyl (2,3,5-) (PCB 23)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#54-RTW Tetrachlorobiphenyl (2,2',6,6'-) (PCB 54)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#29-Cal Trichlorobiphenyl (2,4,5-) (PCB 29)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#50-Cal Tetrachlorobiphenyl (2,2',4,6-) (PCB 50)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#26 Trichlorobiphenyl (2,3',5-) (PCB 26)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#25 Trichlorobiphenyl (2,3',4-) (PCB 25)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#53 Tetrachlorobiphenyl (2,2',5,6'-) (PCB 53)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#-31 Trichlorobiphenyl (2,4',5-) (PCB 31)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#28 Trichlorobiphenyl (2,4,4'-) (PCB 28)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#33 Trichlorobiphenyl (2,3',4'-) (PCB 33)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#21/#20 Trichlorobiphenyl (2,3,4-) (PCB 21)/ Trichlorobiphenyl (2,3,3'-) (PCB 20)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#51 Tetrachlorobiphenyl (2,2',4,6'-) (PCB 51)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#45 Tetrachlorobiphenyl (2,2',3,6-) (PCB 45)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#22 Trichlorobiphenyl (2,3,4'-) (PCB 22)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#73/#46 Tetrachlorobiphenyl (2,3',5',6-) (PCB 73)/ Tetrachlorobiphenyl (2,2',3,6'-) (PCB 46)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#69 Tetrachlorobiphenyl (2,3',4,6-) (PCB 69)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#43 Tetrachlorobiphenyl (2,2',3,5-) (PCB 43)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#36 Trichlorobiphenyl (3,3',5-) (PCB 36)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#52 Tetrachlorobiphenyl (2,2',5,5'-) (PCB 52)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#48 Tetrachlorobiphenyl (2,2',4,5-) (PCB 48)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#49 Tetrachlorobiphenyl (2,2',4,5'-) (PCB 49)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#104-RTW Pentachlorobiphenyl (2,2',4,6,6'-) (PCB 104)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#47 Tetrachlorobiphenyl (2,2',4,4'-) (PCB 47)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#65/#75/#62 Tetrachlorobiphenyl (2,3,5,6-) (PCB 65)/ Tetrachlorobiphenyl (2,4,4',6-) (PCB 75)/ Tetrachlorobiphenyl (2,3,4,6-) (PCB 62)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#39 Trichlorobiphenyl (3,4',5-) (PCB 39)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#38 Trichlorobiphenyl (3,4,5-) (PCB 38)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#44 Tetrachlorobiphenyl (2,2',3,5'-) (PCB 44)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#59 Tetrachlorobiphenyl (2,3,3',6-) (PCB 59)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#42 Tetrachlorobiphenyl (2,2',3,4'-) (PCB 42)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#71 Tetrachlorobiphenyl (2,3',4',6-) (PCB 71)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#35 Trichlorobiphenyl (3,3',4-) (PCB 35)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#41 Tetrachlorobiphenyl (2,2',3,4-) (PCB 41)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#72 Tetrachlorobiphenyl (2,3',5,5'-) (PCB 72)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#96 Pentachlorobiphenyl (2,2',3,6,6'-) (PCB 96)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#103 Pentachlorobiphenyl (2,2',4,5',6-) (PCB 103)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#68/#64 Tetrachlorobiphenyl (2,3',4,5'-) (PCB 68) / Tetrachlorobiphenyl (2,3,4',6-) (PCB 64)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#40 Tetrachlorobiphenyl (2,2',3,3'-) (PCB 40)
GC/Hi-Res MS	EPA 1668A	Cl3-BZ#37-RTW Trichlorobiphenyl (3,4,4'-) (PCB 37)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#100 Pentachlorobiphenyl (2,2',4,4',6-) (PCB 100)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#94 Pentachlorobiphenyl (2,2',3,5,6'-) (PCB 94)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#57 Tetrachlorobiphenyl (2,3,3',5-) (PCB 57)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#67/#58 Tetrachlorobiphenyl (2,3',4,5-) (PCB 67)/ Tetrachlorobiphenyl (2,3,3',5'-) (PCB 58)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#102 Pentachlorobiphenyl (2,2',4,5,6'-) (PCB 102)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#61 Tetrachlorobiphenyl (2,3,4,5-) (PCB 61)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#98 Pentachlorobiphenyl (2,2',3,4',6'-) (PCB 98)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#76 Tetrachlorobiphenyl (2,3',4',5'-) (PCB 76)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#93 Pentachlorobiphenyl (2,2',3,5,6-) (PCB 93)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#63 Tetrachlorobiphenyl (2,3,4',5-) (PCB 63)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#121 Pentachlorobiphenyl (2,3',4,5',6-) (PCB 121)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#95/#88 Pentachlorobiphenyl (2,2',3,5',6-) (PCB 95) / Pentachlorobiphenyl (2,2',3,4,6-) (PCB 88)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#74 Tetrachlorobiphenyl (2,4,4',5-) (PCB 74)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#155-RTW Hexachlorobiphenyl (2,2',4,4',6,6'-) (PCB 155)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#70 Tetrachlorobiphenyl (2,3',4',5-) (PCB 70)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#66 Tetrachlorobiphenyl (2,3',4,4'-) (PCB 66)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#91 Pentachlorobiphenyl (2,2',3,4',6-) (PCB 91)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#80 Tetrachlorobiphenyl (3,3',5,5'-) (PCB 80)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#55 Tetrachlorobiphenyl (2,3,3',4-) (PCB 55)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#92 Pentachlorobiphenyl (2,2',3,5,5'-) (PCB 92)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#89/#84 Pentachlorobiphenyl (2,2',3,4,6'-) (PCB 89)/ Pentachlorobiphenyl (2,2',3,3',6-) (PCB 84)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#101/#90 Pentachlorobiphenyl (2,2',4,5,5'-) (PCB 101)/ Pentachlorobiphenyl (2,2',3,4',5-) (PCB 90)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#56 Tetrachlorobiphenyl (2,3,3',4'-) (PCB 56)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#113 Pentachlorobiphenyl (2,3,3',5',6-) (PCB 113)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#99 Pentachlorobiphenyl (2,2',4,4',5-) (PCB 99)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#150 Hexachlorobiphenyl (2,2',3,4',6,6'-) (PCB 150)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#60 Tetrachlorobiphenyl (2,3,4,4'-) (PCB 60)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#152 Hexachlorobiphenyl (2,2',3,5,6,6'-) (PCB 152)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#119 Pentachlorobiphenyl (2,3',4,4',6-) (PCB 119)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#83/#125/#112 Pentachlorobiphenyl (2,2',3,3',5-) (PCB 83)/ Pentachlorobiphenyl (2,3',4',5',6-) (PCB 125) / Pentachlorobiphenyl (2,3,3',5,6-) (PCB 112)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#86/#109 Pentachlorobiphenyl (2,2',3,4,5-) (PCB 86)/ Pentachlorobiphenyl (2,3,3',4,6-) (PCB 109)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#97 Pentachlorobiphenyl (2,2',3,4',5'-) (PCB 97)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#116 Pentachlorobiphenyl (2,3,4,5,6-) (PCB 116)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#87/#111 Pentachlorobiphenyl (2,2',3,4,5'-) (PCB 87) / Pentachlorobiphenyl (2,3,3',5,5'-) (PCB 111)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#145 Hexachlorobiphenyl (2,2',3,4,6,6'-) (PCB 145)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#148 Hexachlorobiphenyl (2,2',3,4',5,6'-) (PCB 148)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#79 Tetrachlorobiphenyl (3,3',4,5'-) (PCB 79)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#154-Cal Hexachlorobiphenyl (2,2',4,4',5,6'-) (PCB 154)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#78 Tetrachlorobiphenyl (3,3',4,5-) (PCB 78)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#136 Hexachlorobiphenyl (2,2',3,3',6,6'-) (PCB 136)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#117 Pentachlorobiphenyl (2,3,4',5,6-) (PCB 117)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#115 Pentachlorobiphenyl (2,3,4,4',6-) (PCB 115)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#85 Pentachlorobiphenyl (2,2',3,4,4'-) (PCB 85)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#120 Pentachlorobiphenyl (2,3',4,5,5'-) (PCB 120)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#110 Pentachlorobiphenyl (2,3,3',4',6-) (PCB 110)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#81 Tetrachlorobiphenyl (3,4,4',5-) (PCB 81)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#151 Hexachlorobiphenyl (2,2',3,5,5',6-) (PCB 151)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#135 Hexachlorobiphenyl (2,2',3,3',5,6'-) (PCB 135)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#82 Pentachlorobiphenyl (2,2',3,3',4-) (PCB 82)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#144 Hexachlorobiphenyl (2,2',3,4,5',6-) (PCB 144)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#147/#149 Hexachlorobiphenyl (2,2',3,4',5,6-) (PCB 147)/ Hexachlorobiphenyl (2,2',3,4',5',6-) (PCB 149)
GC/Hi-Res MS	EPA 1668A	Cl4-BZ#77-RTW Tetrachlorobiphenyl (3,3',4,4'-) (PCB 77)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#143/#139 Hexachlorobiphenyl (2,2',3,4,5,6'-) (PCB 143) / Hexachlorobiphenyl (2,2',3,4,4',6-) (PCB 139)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#124 Pentachlorobiphenyl (2,3',4',5,5'-) (PCB 124)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#108 Pentachlorobiphenyl (2,3,3',4,5'-) (PCB 108)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#107/#123 Pentachlorobiphenyl (2,3,3',4',5-) (PCB 107) / Pentachlorobiphenyl (2,3',4,4',5'-) (PCB 123)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#140 Hexachlorobiphenyl (2,2',3,4,4',6'-) (PCB 140)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#188-Cal/RTW Heptachlorobiphenyl (2,2',3,4',5,6,6'-) (PCB 188)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#134 Hexachlorobiphenyl (2,2',3,3',5,6-) (PCB 134)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#106 Pentachlorobiphenyl (2,3,3',4,5-) (PCB 106)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#133 Hexachlorobiphenyl (2,2',3,3',5,5'-) (PCB 133)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#142 Hexachlorobiphenyl (2,2',3,4,5,6-) (PCB 142)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#118 Pentachlorobiphenyl (2,3',4,4',5-) (PCB 118)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#131 Hexachlorobiphenyl (2,2',3,3',4,6-) (PCB 131)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#184 Heptachlorobiphenyl (2,2',3,4,4',6,6'-) (PCB 184)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#165 Hexachlorobiphenyl (2,3,3',5,5',6-) (PCB 165)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#146 Hexachlorobiphenyl (2,2',3,4',5,5'-) (PCB 146)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#161 Hexachlorobiphenyl (2,3,3',4,5',6-) (PCB 161)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#122 Pentachlorobiphenyl (2,3,3',4',5'-) (PCB 122)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#168 Hexachlorobiphenyl (2,3',4,4',5',6-) (PCB 168)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#114 Pentachlorobiphenyl (2,3,4,4',5-) (PCB 114)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#153 Hexachlorobiphenyl (2,2',4,4',5,5'-) (PCB 153)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#132 Hexachlorobiphenyl (2,2',3,3',4,6'-) (PCB 132)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#179 Heptachlorobiphenyl (2,2',3,3',5,6,6'-) (PCB 179)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#141 Hexachlorobiphenyl (2,2',3,4,5,5'-) (PCB 141)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#176 Heptachlorobiphenyl (2,2',3,3',4,6,6'-) (PCB 176)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#105 Pentachlorobiphenyl (2,3,3',4,4'-) (PCB 105)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#137 Hexachlorobiphenyl (2,2',3,4,4',5-) (PCB 137)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#127 Pentachlorobiphenyl (3,3',4,5,5'-) (PCB 127)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#186 Heptachlorobiphenyl (2,2',3,4,5,6,6'-) (PCB 186)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#130/#164 Hexachlorobiphenyl (2,2',3,3',4,5'-) (PCB 130) / Hexachlorobiphenyl (2,3,3',4',5',6-) (PCB 164)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#178 Heptachlorobiphenyl (2,2',3,3',5,5',6-) (PCB 178)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#138 Hexachlorobiphenyl (2,2',3,4,4',5'-) (PCB 138)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#163/#160 Hexachlorobiphenyl (2,3,3',4',5,6-) (PCB 163) / Hexachlorobiphenyl (2,3,3',4,5,6-) (PCB 160)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#129/#158 Hexachlorobiphenyl (2,2',3,3',4,5-) (PCB 129)/ Hexachlorobiphenyl (2,3,3',4,4',6-) (PCB 158)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#182/#175 Heptachlorobiphenyl (2,2',3,4,4',5,6'-) (PCB 182)/ Heptachlorobiphenyl (2,2',3,3',4,5',6-) (PCB 175)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#187 Heptachlorobiphenyl (2,2',3,4',5,5',6-) (PCB 187)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#183 Heptachlorobiphenyl (2,2',3,4,4',5',6-) (PCB 183)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#166 Hexachlorobiphenyl (2,3,4,4',5,6-) (PCB 166)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#159 Hexachlorobiphenyl (2,3,3',4,5,5'-) (PCB 159)
GC/Hi-Res MS	EPA 1668A	Cl5-BZ#126-RTW Pentachlorobiphenyl (3,3',4,4',5-) (PCB 126)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#185 Heptachlorobiphenyl (2,2',3,4,5,5',6-) (PCB 185)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#162 Hexachlorobiphenyl (2,3,3',4',5,5'-) (PCB 162)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#174 Heptachlorobiphenyl (2,2',3,3',4,5,6'-) (PCB 174)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#128 Hexachlorobiphenyl (2,2',3,3',4,4'-) (PCB 128)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#167 Hexachlorobiphenyl (2,3',4,4',5,5'-) (PCB 167)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#202-RTW Octachlorobiphenyl (2,2',3,3',5,5',6,6'-) (PCB 202)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#181 Heptachlorobiphenyl (2,2',3,4,4',5,6-) (PCB 181)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#177 Heptachlorobiphenyl (2,2',3,3',4,5',6'-) (PCB 177)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#204/#200-Cal Octachlorobiphenyl (2,2',3,4,4',5,6,6'-) (PCB 204) / Octachlorobiphenyl (2,2',3,3',4,5,6,6'-) (PCB 200)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#171 Heptachlorobiphenyl (2,2',3,3',4,4',6-) (PCB 171)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#173 Heptachlorobiphenyl (2,2',3,3',4,5,6-) (PCB 173)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#172 Heptachlorobiphenyl (2,2',3,3',4,5,5'-) (PCB 172)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#192 Heptachlorobiphenyl (2,3,3',4,5,5',6-) (PCB 192)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#156 Hexachlorobiphenyl (2,3,3',4,4',5-) (PCB 156)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#157 Hexachlorobiphenyl (2,3,3',4,4',5'-) (PCB 157)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#180 Heptachlorobiphenyl (2,2',3,4,4',5,5'-) (PCB 180)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#193 Heptachlorobiphenyl (2,3,3',4',5,5',6-) (PCB 193)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#197 Octachlorobiphenyl (2,2',3,3',4,4',6,6'-) (PCB 197)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#191 Heptachlorobiphenyl (2,3,3',4,4',5',6-) (PCB 191)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#199 Octachlorobiphenyl (2,2',3,3',4,5,5',6'-) (PCB 199)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#198 Octachlorobiphenyl (2,2',3,3',4,5,5',6-) (PCB 198)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#201 Octachlorobiphenyl (2,2',3,3',4,5',6,6'-) (PCB 201)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#170 Heptachlorobiphenyl (2,2',3,3',4,4',5-) (PCB 170)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#190 Heptachlorobiphenyl (2,3,3',4,4',5,6-) (PCB 190)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#196 Octachlorobiphenyl (2,2',3,3',4,4',5,6'-) (PCB 196)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#203 Octachlorobiphenyl (2,2',3,4,4',5,5',6-) (PCB 203)
GC/Hi-Res MS	EPA 1668A	Cl6-BZ#169-RTW Hexachlorobiphenyl (3,3',4,4',5,5'-) (PCB 169)
GC/Hi-Res MS	EPA 1668A	Cl9-BZ#208-RTW Nonachlorobiphenyl (2,2',3,3',4,5,5',6,6'-) (PCB 208)
GC/Hi-Res MS	EPA 1668A	Cl9-BZ#207 Nonachlorobiphenyl (2,2',3,3',4,4',5,6,6'-) (PCB 207)
GC/Hi-Res MS	EPA 1668A	Cl7-BZ#189-RTW Heptachlorobiphenyl (2,3,3',4,4',5,5'-) (PCB 189)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#195 Octachlorobiphenyl (2,2',3,3',4,4',5,6-) (PCB 195)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#194 Octachlorobiphenyl (2,2',3,3',4,4',5,5'-) (PCB 194)
GC/Hi-Res MS	EPA 1668A	Cl8-BZ#205-RTW Octachlorobiphenyl (2,3,3',4,4',5,5',6-) (PCB 205)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668A	Cl9-BZ#206-Cal/RTW Nonachlorobiphenyl (2,2',3,3',4,4',5,5',6-) (PCB 206)
GC/Hi-Res MS	EPA 1668A	Cl10-BZ#209-Cal/RTW Decachlorobiphenyl (PCB 209)
GC/Hi-Res MS	EPA 1668A	Monochlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Dichlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Trichlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Tetrachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Pentachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Hexachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Heptachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Octachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Nonachlorobiphenyls
GC/Hi-Res MS	EPA 1668A	Decachlorobiphenyl
GC/Hi-Res MS	EPA 1668C	Cl1-BZ#1-Cal/RTW Chlorobiphenyl (2-) (PCB 1)
GC/Hi-Res MS	EPA 1668C	Cl1-BZ#2 Chlorobiphenyl (3-) (PCB 2)
GC/Hi-Res MS	EPA 1668C	Cl1-BZ#3-RTW Chlorobiphenyl (4-) (PCB 3)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#4/#10-RTW Dichlorobiphenyl (2,2'-) (PCB 4)/ Dichlorobiphenyl (2,6-) (PCB 10)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#9 Dichlorobiphenyl (2,5-) (PCB 9)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#7 Dichlorobiphenyl (2,4-) (PCB 7)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#6 Dichlorobiphenyl (2,3'-) (PCB 6)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#5 Dichlorobiphenyl (2,3-) (PCB 5)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#8 Dichlorobiphenyl (2,4'-) (PCB 8)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#19-RTW Trichlorobiphenyl (2,2',6-) (PCB 19)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#14 Dichlorobiphenyl (3,5-) (PCB 14)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#30 Trichlorobiphenyl (2,4,6-) (PCB 30)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#18 Trichlorobiphenyl (2,2',5-) (PCB 18)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#11 Dichlorobiphenyl (3,3'-) (PCB 11)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#17 Trichlorobiphenyl (2,2',4-) (PCB 17)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#12 Dichlorobiphenyl (3,4-) (PCB 12)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#27 Trichlorobiphenyl (2,3',6-) (PCB 27)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#13 Dichlorobiphenyl (3,4'-) (PCB 13)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#24 Trichlorobiphenyl (2,3,6-) (PCB 24)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#16 Trichlorobiphenyl (2,2',3-) (PCB 16)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#32 Trichlorobiphenyl (2,4',6-) (PCB 32)
GC/Hi-Res MS	EPA 1668C	Cl2-BZ#15-RTW Dichlorobiphenyl (4,4'-) (PCB 15)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#34 Trichlorobiphenyl (2,3',5'-) (PCB 34)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#23 Trichlorobiphenyl (2,3,5-) (PCB 23)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#54-RTW Tetrachlorobiphenyl (2,2',6,6'-) (PCB 54)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#29-Cal Trichlorobiphenyl (2,4,5-) (PCB 29)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#50-Cal Tetrachlorobiphenyl (2,2',4,6-) (PCB 50)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#26 Trichlorobiphenyl (2,3',5-) (PCB 26)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#25 Trichlorobiphenyl (2,3',4-) (PCB 25)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#53 Tetrachlorobiphenyl (2,2',5,6'-) (PCB 53)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#-31 Trichlorobiphenyl (2,4',5-) (PCB 31)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#28 Trichlorobiphenyl (2,4,4'-) (PCB 28)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#33 Trichlorobiphenyl (2,3',4'-) (PCB 33)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#21/#20 Trichlorobiphenyl (2,3,4-) (PCB 21)/ Trichlorobiphenyl (2,3,3'-) (PCB 20)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#51 Tetrachlorobiphenyl (2,2',4,6'-) (PCB 51)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#45 Tetrachlorobiphenyl (2,2',3,6-) (PCB 45)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#22 Trichlorobiphenyl (2,3,4'-) (PCB 22)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#73/#46 Tetrachlorobiphenyl (2,3',5',6-) (PCB 73)/ Tetrachlorobiphenyl (2,2',3,6'-) (PCB 46)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#69 Tetrachlorobiphenyl (2,3',4,6-) (PCB 69)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#43 Tetrachlorobiphenyl (2,2',3,5-) (PCB 43)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#36 Trichlorobiphenyl (3,3',5-) (PCB 36)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#52 Tetrachlorobiphenyl (2,2',5,5'-) (PCB 52)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#48 Tetrachlorobiphenyl (2,2',4,5-) (PCB 48)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#49 Tetrachlorobiphenyl (2,2',4,5'-) (PCB 49)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#104-RTW Pentachlorobiphenyl (2,2',4,6,6'-) (PCB 104)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#47 Tetrachlorobiphenyl (2,2',4,4'-) (PCB 47)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#65/#75/#62 Tetrachlorobiphenyl (2,3,5,6-) (PCB 65)/ Tetrachlorobiphenyl (2,4,4',6-) (PCB 75)/ Tetrachlorobiphenyl (2,3,4,6-) (PCB 62)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#39 Trichlorobiphenyl (3,4',5-) (PCB 39)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#38 Trichlorobiphenyl (3,4,5-) (PCB 38)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#44 Tetrachlorobiphenyl (2,2',3,5'-) (PCB 44)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#59 Tetrachlorobiphenyl (2,3,3',6-) (PCB 59)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#42 Tetrachlorobiphenyl (2,2',3,4'-) (PCB 42)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#71 Tetrachlorobiphenyl (2,3',4',6-) (PCB 71)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#35 Trichlorobiphenyl (3,3',4-) (PCB 35)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#41 Tetrachlorobiphenyl (2,2',3,4-) (PCB 41)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#72 Tetrachlorobiphenyl (2,3',5,5'-) (PCB 72)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#96 Pentachlorobiphenyl (2,2',3,6,6'-) (PCB 96)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#103 Pentachlorobiphenyl (2,2',4,5',6-) (PCB 103)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#68/#64 Tetrachlorobiphenyl (2,3',4,5'-) (PCB 68) / Tetrachlorobiphenyl (2,3,4',6-) (PCB 64)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#40 Tetrachlorobiphenyl (2,2',3,3'-) (PCB 40)
GC/Hi-Res MS	EPA 1668C	Cl3-BZ#37-RTW Trichlorobiphenyl (3,4,4'-) (PCB 37)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#100 Pentachlorobiphenyl (2,2',4,4',6-) (PCB 100)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#94 Pentachlorobiphenyl (2,2',3,5,6'-) (PCB 94)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#57 Tetrachlorobiphenyl (2,3,3',5-) (PCB 57)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#67/#58 Tetrachlorobiphenyl (2,3',4,5-) (PCB 67)/ Tetrachlorobiphenyl (2,3,3',5'-) (PCB 58)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#102 Pentachlorobiphenyl (2,2',4,5,6'-) (PCB 102)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#61 Tetrachlorobiphenyl (2,3,4,5-) (PCB 61)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#98 Pentachlorobiphenyl (2,2',3,4',6'-) (PCB 98)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#76 Tetrachlorobiphenyl (2,3',4',5'-) (PCB 76)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#93 Pentachlorobiphenyl (2,2',3,5,6-) (PCB 93)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#63 Tetrachlorobiphenyl (2,3,4',5-) (PCB 63)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#121 Pentachlorobiphenyl (2,3',4,5',6-) (PCB 121)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#95/#88 Pentachlorobiphenyl (2,2',3,5',6-) (PCB 95) / Pentachlorobiphenyl (2,2',3,4,6-) (PCB 88)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#74 Tetrachlorobiphenyl (2,4,4',5-) (PCB 74)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#155-RTW Hexachlorobiphenyl (2,2',4,4',6,6'-) (PCB 155)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#70 Tetrachlorobiphenyl (2,3',4',5-) (PCB 70)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#66 Tetrachlorobiphenyl (2,3',4,4'-) (PCB 66)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#91 Pentachlorobiphenyl (2,2',3,4',6-) (PCB 91)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#80 Tetrachlorobiphenyl (3,3',5,5'-) (PCB 80)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#55 Tetrachlorobiphenyl (2,3,3',4-) (PCB 55)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#92 Pentachlorobiphenyl (2,2',3,5,5'-) (PCB 92)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#89/#84 Pentachlorobiphenyl (2,2',3,4,6'-) (PCB 89)/ Pentachlorobiphenyl (2,2',3,3',6-) (PCB 84)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#101/#90 Pentachlorobiphenyl (2,2',4,5,5'-) (PCB 101)/ Pentachlorobiphenyl (2,2',3,4',5-) (PCB 90)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#56 Tetrachlorobiphenyl (2,3,3',4'-) (PCB 56)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#113 Pentachlorobiphenyl (2,3,3',5',6-) (PCB 113)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#99 Pentachlorobiphenyl (2,2',4,4',5-) (PCB 99)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#150 Hexachlorobiphenyl (2,2',3,4',6,6'-) (PCB 150)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#60 Tetrachlorobiphenyl (2,3,4,4'-) (PCB 60)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#152 Hexachlorobiphenyl (2,2',3,5,6,6'-) (PCB 152)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#119 Pentachlorobiphenyl (2,3',4,4',6-) (PCB 119)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#83/#125/#112 Pentachlorobiphenyl (2,2',3,3',5-) (PCB 83)/ Pentachlorobiphenyl (2,3',4',5',6-) (PCB 125) / Pentachlorobiphenyl (2,3,3',5,6-) (PCB 112)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#86/#109 Pentachlorobiphenyl (2,2',3,4,5-) (PCB 86)/ Pentachlorobiphenyl (2,3,3',4,6-) (PCB 109)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#97 Pentachlorobiphenyl (2,2',3,4',5'-) (PCB 97)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#116 Pentachlorobiphenyl (2,3,4,5,6-) (PCB 116)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#87/#111 Pentachlorobiphenyl (2,2',3,4,5'-) (PCB 87) / Pentachlorobiphenyl (2,3,3',5,5'-) (PCB 111)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#145 Hexachlorobiphenyl (2,2',3,4,6,6'-) (PCB 145)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#148 Hexachlorobiphenyl (2,2',3,4',5,6'-) (PCB 148)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#79 Tetrachlorobiphenyl (3,3',4,5'-) (PCB 79)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#154-Cal Hexachlorobiphenyl (2,2',4,4',5,6'-) (PCB 154)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#78 Tetrachlorobiphenyl (3,3',4,5-) (PCB 78)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#136 Hexachlorobiphenyl (2,2',3,3',6,6'-) (PCB 136)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#117 Pentachlorobiphenyl (2,3,4',5,6-) (PCB 117)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#115 Pentachlorobiphenyl (2,3,4,4',6-) (PCB 115)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#85 Pentachlorobiphenyl (2,2',3,4,4'-) (PCB 85)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#120 Pentachlorobiphenyl (2,3',4,5,5'-) (PCB 120)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#110 Pentachlorobiphenyl (2,3,3',4',6-) (PCB 110)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#81 Tetrachlorobiphenyl (3,4,4',5-) (PCB 81)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#151 Hexachlorobiphenyl (2,2',3,5,5',6-) (PCB 151)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#135 Hexachlorobiphenyl (2,2',3,3',5,6'-) (PCB 135)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#82 Pentachlorobiphenyl (2,2',3,3',4-) (PCB 82)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#144 Hexachlorobiphenyl (2,2',3,4,5',6-) (PCB 144)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#147/#149 Hexachlorobiphenyl (2,2',3,4',5,6-) (PCB 147)/ Hexachlorobiphenyl (2,2',3,4',5',6-) (PCB 149)
GC/Hi-Res MS	EPA 1668C	Cl4-BZ#77-RTW Tetrachlorobiphenyl (3,3',4,4'-) (PCB 77)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#143/#139 Hexachlorobiphenyl (2,2',3,4,5,6'-) (PCB 143) / Hexachlorobiphenyl (2,2',3,4,4',6-) (PCB 139)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#124 Pentachlorobiphenyl (2,3',4',5,5'-) (PCB 124)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#108 Pentachlorobiphenyl (2,3,3',4,5'-) (PCB 108)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#107/#123 Pentachlorobiphenyl (2,3,3',4',5-) (PCB 107) / Pentachlorobiphenyl (2,3',4,4',5'-) (PCB 123)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#140 Hexachlorobiphenyl (2,2',3,4,4',6'-) (PCB 140)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#188-Cal/RTW Heptachlorobiphenyl (2,2',3,4',5,6,6'-) (PCB 188)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#134 Hexachlorobiphenyl (2,2',3,3',5,6-) (PCB 134)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#106 Pentachlorobiphenyl (2,3,3',4,5-) (PCB 106)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#133 Hexachlorobiphenyl (2,2',3,3',5,5'-) (PCB 133)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#142 Hexachlorobiphenyl (2,2',3,4,5,6-) (PCB 142)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#118 Pentachlorobiphenyl (2,3',4,4',5-) (PCB 118)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#131 Hexachlorobiphenyl (2,2',3,3',4,6-) (PCB 131)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#184 Heptachlorobiphenyl (2,2',3,4,4',6,6'-) (PCB 184)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#165 Hexachlorobiphenyl (2,3,3',5,5',6-) (PCB 165)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#146 Hexachlorobiphenyl (2,2',3,4',5,5'-) (PCB 146)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#161 Hexachlorobiphenyl (2,3,3',4,5',6-) (PCB 161)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#122 Pentachlorobiphenyl (2,3,3',4',5'-) (PCB 122)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#168 Hexachlorobiphenyl (2,3',4,4',5',6-) (PCB 168)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#114 Pentachlorobiphenyl (2,3,4,4',5-) (PCB 114)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#153 Hexachlorobiphenyl (2,2',4,4',5,5'-) (PCB 153)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#132 Hexachlorobiphenyl (2,2',3,3',4,6'-) (PCB 132)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#179 Heptachlorobiphenyl (2,2',3,3',5,6,6'-) (PCB 179)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#141 Hexachlorobiphenyl (2,2',3,4,5,5'-) (PCB 141)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#176 Heptachlorobiphenyl (2,2',3,3',4,6,6'-) (PCB 176)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#105 Pentachlorobiphenyl (2,3,3',4,4'-) (PCB 105)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#137 Hexachlorobiphenyl (2,2',3,4,4',5-) (PCB 137)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#127 Pentachlorobiphenyl (3,3',4,5,5'-) (PCB 127)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#186 Heptachlorobiphenyl (2,2',3,4,5,6,6'-) (PCB 186)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#130/#164 Hexachlorobiphenyl (2,2',3,3',4,5'-) (PCB 130) / Hexachlorobiphenyl (2,3,3',4',5',6-) (PCB 164)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#178 Heptachlorobiphenyl (2,2',3,3',5,5',6-) (PCB 178)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#138 Hexachlorobiphenyl (2,2',3,4,4',5'-) (PCB 138)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#163/#160 Hexachlorobiphenyl (2,3,3',4',5,6-) (PCB 163) / Hexachlorobiphenyl (2,3,3',4,5,6-) (PCB 160)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#129/#158 Hexachlorobiphenyl (2,2',3,3',4,5-) (PCB 129)/ Hexachlorobiphenyl (2,3,3',4,4',6-) (PCB 158)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#182/#175 Heptachlorobiphenyl (2,2',3,4,4',5,6'-) (PCB 182)/ Heptachlorobiphenyl (2,2',3,3',4,5',6-) (PCB 175)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#187 Heptachlorobiphenyl (2,2',3,4',5,5',6-) (PCB 187)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#183 Heptachlorobiphenyl (2,2',3,4,4',5',6-) (PCB 183)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#166 Hexachlorobiphenyl (2,3,4,4',5,6-) (PCB 166)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#159 Hexachlorobiphenyl (2,3,3',4,5,5'-) (PCB 159)
GC/Hi-Res MS	EPA 1668C	Cl5-BZ#126-RTW Pentachlorobiphenyl (3,3',4,4',5-) (PCB 126)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#185 Heptachlorobiphenyl (2,2',3,4,5,5',6-) (PCB 185)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#162 Hexachlorobiphenyl (2,3,3',4',5,5'-) (PCB 162)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#174 Heptachlorobiphenyl (2,2',3,3',4,5,6'-) (PCB 174)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#128 Hexachlorobiphenyl (2,2',3,3',4,4'-) (PCB 128)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#167 Hexachlorobiphenyl (2,3',4,4',5,5'-) (PCB 167)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#202-RTW Octachlorobiphenyl (2,2',3,3',5,5',6,6'-) (PCB 202)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#181 Heptachlorobiphenyl (2,2',3,4,4',5,6-) (PCB 181)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#177 Heptachlorobiphenyl (2,2',3,3',4,5',6'-) (PCB 177)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#204/#200-Cal Octachlorobiphenyl (2,2',3,4,4',5,6,6'-) (PCB 204) / Octachlorobiphenyl (2,2',3,3',4,5,6,6'-) (PCB 200)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#171 Heptachlorobiphenyl (2,2',3,3',4,4',6-) (PCB 171)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#173 Heptachlorobiphenyl (2,2',3,3',4,5,6-) (PCB 173)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#172 Heptachlorobiphenyl (2,2',3,3',4,5,5'-) (PCB 172)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#192 Heptachlorobiphenyl (2,3,3',4,5,5',6-) (PCB 192)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#156 Hexachlorobiphenyl (2,3,3',4,4',5-) (PCB 156)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#157 Hexachlorobiphenyl (2,3,3',4,4',5'-) (PCB 157)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#180 Heptachlorobiphenyl (2,2',3,4,4',5,5'-) (PCB 180)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#193 Heptachlorobiphenyl (2,3,3',4',5,5',6-) (PCB 193)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#197 Octachlorobiphenyl (2,2',3,3',4,4',6,6'-) (PCB 197)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#191 Heptachlorobiphenyl (2,3,3',4,4',5',6-) (PCB 191)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#199 Octachlorobiphenyl (2,2',3,3',4,5,5',6'-) (PCB 199)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#198 Octachlorobiphenyl (2,2',3,3',4,5,5',6-) (PCB 198)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#201 Octachlorobiphenyl (2,2',3,3',4,5',6,6'-) (PCB 201)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#170 Heptachlorobiphenyl (2,2',3,3',4,4',5-) (PCB 170)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#190 Heptachlorobiphenyl (2,3,3',4,4',5,6-) (PCB 190)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#196 Octachlorobiphenyl (2,2',3,3',4,4',5,6'-) (PCB 196)

Biological Tissue		
Technology	**Method**	**Analyte**
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#203 Octachlorobiphenyl (2,2',3,4,4',5,5',6-) (PCB 203)
GC/Hi-Res MS	EPA 1668C	Cl6-BZ#169-RTW Hexachlorobiphenyl (3,3',4,4',5,5'-) (PCB 169)
GC/Hi-Res MS	EPA 1668C	Cl9-BZ#208-RTW Nonachlorobiphenyl (2,2',3,3',4,5,5',6,6'-) (PCB 208)
GC/Hi-Res MS	EPA 1668C	Cl9-BZ#207 Nonachlorobiphenyl (2,2',3,3',4,4',5,6,6'-) (PCB 207)
GC/Hi-Res MS	EPA 1668C	Cl7-BZ#189-RTW Heptachlorobiphenyl (2,3,3',4,4',5,5'-) (PCB 189)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#195 Octachlorobiphenyl (2,2',3,3',4,4',5,6-) (PCB 195)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#194 Octachlorobiphenyl (2,2',3,3',4,4',5,5'-) (PCB 194)
GC/Hi-Res MS	EPA 1668C	Cl8-BZ#205-RTW Octachlorobiphenyl (2,3,3',4,4',5,5',6-) (PCB 205)
GC/Hi-Res MS	EPA 1668C	Cl9-BZ#206-Cal/RTW Nonachlorobiphenyl (2,2',3,3',4,4',5,5',6-) (PCB 206)
GC/Hi-Res MS	EPA 1668C	Cl10-BZ#209-Cal/RTW Decachlorobiphenyl (PCB 209)
GC/Hi-Res MS	EPA 1668C	Monochlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Dichlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Trichlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Tetrachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Pentachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Hexachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Heptachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Octachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Nonachlorobiphenyls
GC/Hi-Res MS	EPA 1668C	Decachlorobiphenyl
Preparation	**Method**	**Type**
Extraction	EPA 3570	Microscale Extraction (MSE)
Extraction	Alpha SOP ID 2264	Tissue Extraction
Cleanup	EPA 3630C	Silica Gel Cleanup
Cleanup	EPA 3660B	Sulfur Removal Cleanup
Cleanup	EPA 3665A	Sulfuric Acid Cleanup

Air and Emissions		
Technology	**Method**	**Analyte**
GC/TCD/FID	EPA Method 3C	Carbon Dioxide
GC/TCD/FID	EPA Method 3C	Nitrogen
GC/TCD/FID	EPA Method 3C	Oxygen
GC/TCD/FID	EPA Method 3C	Methane
GC/FID	EPA TO-12	Non-Methane Organic Compounds
GC/MS	EPA TO-15	1,1,1,2-tetrachloroethane
GC/MS	EPA TO-15	1,1,1-trichloroethane
GC/MS	EPA TO-15	1,1,2,2-tetrachloroethane
GC/MS	EPA TO-15	1,1,2-trichloroethane
GC/MS	EPA TO-15	1,1-dichloroethane
GC/MS	EPA TO-15	1,1-dichloroethene
GC/MS	EPA TO-15	1,1-dichloropropene
GC/MS	EPA TO-15	1,2,3-trichlorobenzene
GC/MS	EPA TO-15	1,2,3-trichloropropane
GC/MS	EPA TO-15	1,2,4-trichlorobenzene
GC/MS	EPA TO-15	1,2,4-trimethylbenzene
GC/MS	EPA TO-15	1,2-dibromo-3-chloropropane
GC/MS	EPA TO-15	1,2-dibromoethane
GC/MS	EPA TO-15	1,2-dichlorobenzene
GC/MS	EPA TO-15	1,2-dichloroethane
GC/MS	EPA TO-15	1,2-dichloropropane
GC/MS	EPA TO-15	1,3,5-trimethylbenzene
GC/MS	EPA TO-15	1,3-butadiene
GC/MS	EPA TO-15	1,3-dichlorobenzene
GC/MS	EPA TO-15	1,3-dichloropropane
GC/MS	EPA TO-15	1,4-dichlorobenzene
GC/MS	EPA TO-15	1,4-dioxane
GC/MS	EPA TO-15	2,2,4-trimethylpentane
GC/MS	EPA TO-15	2,2-dichloropropane
GC/MS	EPA TO-15	2-butanone
GC/MS	EPA TO-15	2-chlorotoluene
GC/MS	EPA TO-15	2-hexanone
GC/MS	EPA TO-15	3-chloropropene

Air and Emissions		
Technology	**Method**	**Analyte**
GC/MS	EPA TO-15	4-chlorotoluene
GC/MS	EPA TO-15	4-ethyl toluene
GC/MS	EPA TO-15	4-methyl-2-pentanone (MIBK)
GC/MS	EPA TO-15	acetone
GC/MS	EPA TO-15	acetonitrile
GC/MS	EPA TO-15	acrolein
GC/MS	EPA TO-15	acrylonitrile
GC/MS	EPA TO-15	benzene
GC/MS	EPA TO-15	benzyl chloride
GC/MS	EPA TO-15	bromobenzene
GC/MS	EPA TO-15	bromodichloromethane
GC/MS	EPA TO-15	bromoform
GC/MS	EPA TO-15	bromomethane
GC/MS	EPA TO-15	carbon disulfide
GC/MS	EPA TO-15	carbon tetrachloride
GC/MS	EPA TO-15	chlorobenzene
GC/MS	EPA TO-15	chlorodifluoromethane
GC/MS	EPA TO-15	chloroethane
GC/MS	EPA TO-15	chloroform
GC/MS	EPA TO-15	chloromethane
GC/MS	EPA TO-15	cis-1,2-dichloroethene
GC/MS	EPA TO-15	cis-1,3-dichloropropene
GC/MS	EPA TO-15	cyclohexane
GC/MS	EPA TO-15	dibromochloromethane
GC/MS	EPA TO-15	dibromomethane
GC/MS	EPA TO-15	dichlorodifluoromethane
GC/MS	EPA TO-15	dichlorofluoromethane
GC/MS	EPA TO-15	diisopropyl ether
GC/MS	EPA TO-15	ethanol
GC/MS	EPA TO-15	ethyl acetate
GC/MS	EPA TO-15	ethyl ether
GC/MS	EPA TO-15	ethylbenzene
GC/MS	EPA TO-15	Freon 113
GC/MS	EPA TO-15	Freon-114
GC/MS	EPA TO-15	n-heptane

Air and Emissions		
Technology	**Method**	**Analyte**
GC/MS	EPA TO-15	hexachlorobutadiene
GC/MS	EPA TO-15	hexane
GC/MS	EPA TO-15	isopropyl alcohol
GC/MS	EPA TO-15	isopropylbenzene
GC/MS	EPA TO-15	m+p-xylene
GC/MS	EPA TO-15	methanol
GC/MS	EPA TO-15	methylene chloride
GC/MS	EPA TO-15	methyl methacrylate
GC/MS	EPA TO-15	MTBE
GC/MS	EPA TO-15	naphthalene
GC/MS	EPA TO-15	n-butylbenzene
GC/MS	EPA TO-15	n-propylbenzene
GC/MS	EPA TO-15	octane
GC/MS	EPA TO-15	o-xylene
GC/MS	EPA TO-15	n-pentane
GC/MS	EPA TO-15	p-isopropyltoluene
GC/MS	EPA TO-15	propane
GC/MS	EPA TO-15	propylene
GC/MS	EPA TO-15	sec-butylbenzene
GC/MS	EPA TO-15	styrene
GC/MS	EPA TO-15	tert-amyl methyl ether
GC/MS	EPA TO-15	tert-butlybenzene
GC/MS	EPA TO-15	tert-butyl ethyl ether
GC/MS	EPA TO-15	tetrachloroethene
GC/MS	EPA TO-15	tetrahydrofuran
GC/MS	EPA TO-15	toluene
GC/MS	EPA TO-15	trans-1,2-dichloroethene
GC/MS	EPA TO-15	trans-1,3-dichloropropene
GC/MS	EPA TO-15	trichloroethene
GC/MS	EPA TO-15	trichlorofluoromethane
GC/MS	EPA TO-15	vinyl acetate
GC/MS	EPA TO-15	vinyl bromide
GC/MS	EPA TO-15	vinyl chloride
GC/MS	EPA TO-15	decane
GC/MS	EPA TO-15	undecane

Air and Emissions		
Technology	**Method**	**Analyte**
GC/MS	EPA TO-15	butane
GC/MS	EPA TO-15	nonane
GC/MS	EPA TO-15	tert butyl alcohol
GC/MS	EPA TO-15	dodecane
GC/MS	EPA TO-15	butyl acetate
GC/MS	EPA TO-15	3-methylthiophene
GC/MS	EPA TO-15	2-ethylthiophene
GC/MS	EPA TO-15	2-methylthiophene
GC/MS	EPA TO-15	thiophene
GC/MS	EPA TO-15	benzothiophene
GC/MS	EPA TO-15	1,2,3-trimethylbenzene
GC/MS	EPA TO-15	indene
GC/MS	EPA TO-15	1,2,4,5-tetramethylbenzene
GC/MS	EPA TO-15	indan
GC/MS	EPA TO-15	1-methylnaphthalene
GC/MS	EPA TO-15	2-methylnaphthalene
GC/MS	EPA TO-15	acetaldehyde
GC/MS	EPA TO-15	Total Xylenes
GC/MS-SIM	EPA TO-15 SIM	1,1,1-Trichloroethane
GC/MS-SIM	EPA TO-15 SIM	1,1,2,2-Tetrachloroethane
GC/MS-SIM	EPA TO-15 SIM	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)
GC/MS-SIM	EPA TO-15 SIM	1,1,2-Trichloroethane
GC/MS-SIM	EPA TO-15 SIM	1,1-Dichloroethane
GC/MS-SIM	EPA TO-15 SIM	1,1-Dichloroethylene
GC/MS-SIM	EPA TO-15 SIM	1,2,4-Trichlorobenzene
GC/MS-SIM	EPA TO-15 SIM	1,2,4-Trimethylbenzene
GC/MS-SIM	EPA TO-15 SIM	1,2-Dibromoethane (EDB, Ethylene dibromide)
GC/MS-SIM	EPA TO-15 SIM	1,2-Dichlorobenzene (o-Dichlorobenzene)
GC/MS-SIM	EPA TO-15 SIM	1,2-Dichloroethane (Ethylene dichloride)
GC/MS-SIM	EPA TO-15 SIM	1,2-Dichloropropane
GC/MS-SIM	EPA TO-15 SIM	1,3,5-Trimethylbenzene
GC/MS-SIM	EPA TO-15 SIM	1,3-Butadiene
GC/MS-SIM	EPA TO-15 SIM	1,4-Dichlorobenzene (p-Dichlorobenzene)
GC/MS-SIM	EPA TO-15 SIM	1,4-Dioxane (1,4- Diethyleneoxide)
GC/MS-SIM	EPA TO-15 SIM	2-Butanone (Methyl ethyl ketone, MEK)

Air and Emissions		
Technology	**Method**	**Analyte**
GC/MS-SIM	EPA TO-15 SIM	4-Methyl-2-pentanone (MIBK)
GC/MS-SIM	EPA TO-15 SIM	Acetone
GC/MS-SIM	EPA TO-15 SIM	Acrylonitrile
GC/MS-SIM	EPA TO-15 SIM	Benzene
GC/MS-SIM	EPA TO-15 SIM	Bromodichloromethane
GC/MS-SIM	EPA TO-15 SIM	Bromoform
GC/MS-SIM	EPA TO-15 SIM	Carbon tetrachloride
GC/MS-SIM	EPA TO-15 SIM	Chlorobenzene
GC/MS-SIM	EPA TO-15 SIM	Chlorodibromomethane
GC/MS-SIM	EPA TO-15 SIM	Chloroethane (Ethyl chloride)
GC/MS-SIM	EPA TO-15 SIM	Chloroform
GC/MS-SIM	EPA TO-15 SIM	cis-1,2-Dichloroethylene
GC/MS-SIM	EPA TO-15 SIM	cis-1,3-Dichloropropene
GC/MS-SIM	EPA TO-15 SIM	Dichlorodifluoromethane (Freon-12)
GC/MS-SIM	EPA TO-15 SIM	Dichlorotetrafluoroethane
GC/MS-SIM	EPA TO-15 SIM	Ethylbenzene
GC/MS-SIM	EPA TO-15 SIM	Hexachlorobutadiene
GC/MS-SIM	EPA TO-15 SIM	Isopropylbenzene
GC/MS-SIM	EPA TO-15 SIM	Methyl bromide (Bromomethane)
GC/MS-SIM	EPA TO-15 SIM	Methyl chloride (Chloromethane)
GC/MS-SIM	EPA TO-15 SIM	Methyl tert-butyl ether (MTBE)
GC/MS-SIM	EPA TO-15 SIM	Methylene chloride (Dichloromethane)
GC/MS-SIM	EPA TO-15 SIM	Naphthalene
GC/MS-SIM	EPA TO-15 SIM	n-Butylbenzene
GC/MS-SIM	EPA TO-15 SIM	o-Xylene
GC/MS-SIM	EPA TO-15 SIM	p-Xylene
GC/MS-SIM	EPA TO-15 SIM	sec-Butylbenzene
GC/MS-SIM	EPA TO-15 SIM	Styrene
GC/MS-SIM	EPA TO-15 SIM	Tetrachloroethylene (Perchloroethylene)
GC/MS-SIM	EPA TO-15 SIM	Toluene
GC/MS-SIM	EPA TO-15 SIM	trans-1,2-Dichloroethylene
GC/MS-SIM	EPA TO-15 SIM	trans-1,3-Dichloropropylene
GC/MS-SIM	EPA TO-15 SIM	Trichloroethene (Trichloroethylene)
GC/MS-SIM	EPA TO-15 SIM	Vinyl chloride (Chloroethane)
GC/MS-SIM	EPA TO-15 SIM	Total Xylenes

Note:

1. This scope is formatted as part of a single document including Certificate of Accreditation No. L2474
2. Not compliant with QSM 5.3 Table B-15

R. Douglas Leonard Jr., VP, PILR SBU

State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E87775

EUROFINS EATON ANALYTICAL, LLC - SOUTH BEND
110 SOUTH HILL STREET
SOUTH BEND, IN 46617

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - GROUP I UNREGULATED CONTAMINANTS, DRINKING WATER - SYNTHETIC ORGANIC CONTAMINANTS, DRINKING WATER - GROUP II UNREGULATED CONTAMINANTS, DRINKING WATER - GROUP III UNREGULATED CONTAMINANTS, DRINKING WATER - MICROBIOLOGY, DRINKING WATER - OTHER REGULATED CONTAMINANTS, DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS, DRINKING WATER - SECONDARY INORGANIC CONTAMINANTS, DRINKING WATER - RADIOCHEMISTRY, NON-POTABLE WATER - MICROBIOLOGY

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: July 01, 2021 Expiration Date: June 30, 2022

Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E87775-43-07/01/2021
Supersedes all previously issued certificates

Laboratory Scope of Accreditation

Attachment to Certificate #: E87775-43, expiration date June 30, 2022. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E87775** EPA Lab Code: **IN00035** **(574) 233-4777**

E87775
Eurofins Eaton Analytical, LLC - South Bend
110 South Hill Street
South Bend, IN 46617

Matrix: **Drinking Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
1,1,1-Trichloro-2-propanone	EPA 551.1	Group II Unregulated Contaminants	NELAP	7/25/2020
1,1,1-Trichloroethane	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
1,1,2,2-Tetrachloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
1,1,2-Trichloroethane	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
1,1-Dichloro-2-propanone	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
1,1-Dichloro-2-propanone	EPA 551.1	Group II Unregulated Contaminants	NELAP	7/25/2020
1,1-Dichloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
1,1-Dichloroethylene	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
1,1-Dichloropropene	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
1,2,3-Trichlorobenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
1,2,3-Trichloropropane	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
1,2,3-Trichloropropane	EPA 524.3	Group II Unregulated Contaminants	NELAP	7/25/2020
1,2,3-Trichloropropane	SRL 524M-TCP	Group II Unregulated Contaminants	NELAP	7/25/2020
1,2,4-Trichlorobenzene	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
1,2,4-Trimethylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
1,2-Dibromo-3-chloropropane (DBCP)	EPA 504.1	Synthetic Organic Contaminants	NELAP	7/25/2020
1,2-Dibromo-3-chloropropane (DBCP)	EPA 524.3	Synthetic Organic Contaminants	NELAP	7/25/2020
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 504.1	Synthetic Organic Contaminants	NELAP	7/25/2020
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 524.3	Synthetic Organic Contaminants	NELAP	7/25/2020
1,2-Dichlorobenzene	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
1,2-Dichloroethane	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
1,2-Dichloropropane	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
1,3,5-Trimethylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
1,3-Dichlorobenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
1,3-Dichloropropane	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
1,4-Dichlorobenzene	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 522	Group III Unregulated Contaminants	NELAP	7/25/2020
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic Acid (11-ClPF3OUdS)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic Acid (11-ClPF3OUdS)	EPA 537.1	Group III Unregulated Contaminants	NELAP	7/25/2020
1-Chlorobutane	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2 Fluorotelomersulfonate, 8:2 FTS)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
1H,1H,2H,2H-Perfluorohexanesulfonic acid (4:2 Fluorotelomersulfonate, 4:2 FTS)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
1H,1H,2H,2H-Perfluoro-octanesulfonic Acid (6:2 Fluorotelomersulfonate, 6:2 FTS)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020

Laboratory Scope of Accreditation

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E87775
Eurofins Eaton Analytical, LLC - South Bend
110 South Hill Street
South Bend, IN 46617

Matrix: **Drinking Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
2-(N-Ethyl-perfluorooctane sulfonamido) acetic acid	EPA 537.1	Group III Unregulated Contaminants	NELAP	7/25/2020
2-(N-Methyl-perfluorooctane sulfonamido) acetic acid	EPA 537.1	Group III Unregulated Contaminants	NELAP	7/25/2020
2,2-Dichloropropane	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
2,4,5-T	EPA 515.3	Group I Unregulated Contaminants	NELAP	7/25/2020
2,4-D	EPA 515.3	Synthetic Organic Contaminants	NELAP	7/25/2020
2,4-DB	EPA 515.3	Group I Unregulated Contaminants	NELAP	7/25/2020
2-Butanone (Methyl ethyl ketone, MEK)	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
2-Chlorotoluene	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
2-Hexanone	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
2-Nitropropane	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
3,5-Dichlorobenzoic acid	EPA 515.3	Group I Unregulated Contaminants	NELAP	7/25/2020
3-Hydroxycarbofuran	EPA 531.2	Group I Unregulated Contaminants	NELAP	7/25/2020
4,4'-DDD	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/25/2020
4,4'-DDE	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/25/2020
4,4'-DDT	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/25/2020
4,8-Dioxa-3H-perfluorononanoic Acid (ADONA)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
4,8-Dioxa-3H-perfluorononanoic Acid (ADONA)	EPA 537.1	Group III Unregulated Contaminants	NELAP	7/25/2020
4-Chlorotoluene	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
4-Methyl-2-pentanone (MIBK)	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic Acid (9-ClPF3ONS)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic Acid (9-ClPF3ONS)	EPA 537.1	Group III Unregulated Contaminants	NELAP	7/25/2020
Acenaphthylene	EPA 525.2	Group III Unregulated Contaminants	NELAP	7/25/2020
Acetaldehyde	EPA 556	Group III Unregulated Contaminants	NELAP	7/25/2020
Acetone	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Acifluorfen	EPA 515.3	Group I Unregulated Contaminants	NELAP	7/25/2020
Acrylonitrile	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Alachlor	EPA 525.2	Synthetic Organic Contaminants	NELAP	7/25/2020
Aldicarb (Temik)	EPA 531.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Aldicarb sulfone	EPA 531.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Aldicarb sulfoxide	EPA 531.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Aldrin	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Alkalinity as CaCO3	SM 2320 B	Primary Inorganic Contaminants	NELAP	7/25/2020
Allyl chloride (3-Chloropropene)	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Aluminum	EPA 200.8	Secondary Inorganic Contaminants	NELAP	7/25/2020

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Matrix: **Drinking Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Anthracene	EPA 525.2	Group III Unregulated Contaminants	NELAP	7/25/2020
Antimony	EPA 200.8	Primary Inorganic Contaminants	NELAP	7/25/2020
Aroclor-1016 (PCB-1016)	EPA 505	Synthetic Organic Contaminants	NELAP	7/25/2020
Aroclor-1221 (PCB-1221)	EPA 505	Synthetic Organic Contaminants	NELAP	7/25/2020
Aroclor-1232 (PCB-1232)	EPA 505	Synthetic Organic Contaminants	NELAP	7/25/2020
Aroclor-1242 (PCB-1242)	EPA 505	Synthetic Organic Contaminants	NELAP	7/25/2020
Aroclor-1248 (PCB-1248)	EPA 505	Synthetic Organic Contaminants	NELAP	7/25/2020
Aroclor-1254 (PCB-1254)	EPA 505	Synthetic Organic Contaminants	NELAP	7/25/2020
Aroclor-1260 (PCB-1260)	EPA 505	Synthetic Organic Contaminants	NELAP	7/25/2020
Arsenic	EPA 200.8	Primary Inorganic Contaminants	NELAP	7/25/2020
Atrazine	EPA 525.2	Synthetic Organic Contaminants	NELAP	7/25/2020
Barium	EPA 200.8	Primary Inorganic Contaminants	NELAP	7/25/2020
Bentazon	EPA 515.3	Group I Unregulated Contaminants	NELAP	7/25/2020
Benzaldehyde	EPA 556	Group III Unregulated Contaminants	NELAP	7/25/2020
Benzene	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
Benzo(a)anthracene	EPA 525.2	Group III Unregulated Contaminants	NELAP	7/25/2020
Benzo(a)pyrene	EPA 525.2	Synthetic Organic Contaminants	NELAP	7/25/2020
Benzo(b)fluoranthene	EPA 525.2	Group III Unregulated Contaminants	NELAP	7/25/2020
Benzo(g,h,i)perylene	EPA 525.2	Group III Unregulated Contaminants	NELAP	7/25/2020
Benzo(k)fluoranthene	EPA 525.2	Group III Unregulated Contaminants	NELAP	7/25/2020
Beryllium	EPA 200.8	Primary Inorganic Contaminants	NELAP	7/25/2020
Bromacil	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Bromate	EPA 300.1	Primary Inorganic Contaminants	NELAP	7/25/2020
Bromate	EPA 317.0	Primary Inorganic Contaminants	NELAP	7/25/2020
Bromide	EPA 300.0	Primary Inorganic Contaminants	NELAP	7/25/2020
Bromoacetic acid	EPA 552.2	Group I Unregulated Contaminants,Synthetic Organic Contaminants	NELAP	7/25/2020
Bromoacetic acid	EPA 552.3	Group I Unregulated Contaminants	NELAP	7/25/2020
Bromobenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Bromochloroacetic acid	EPA 552.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Bromochloroacetic acid	EPA 552.3	Group I Unregulated Contaminants	NELAP	7/25/2020
Bromochloroacetonitrile	EPA 551.1	Group II Unregulated Contaminants	NELAP	7/25/2020
Bromochloromethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Bromodichloroacetic acid(BDCAA)	EPA 552.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Bromodichloroacetic acid(BDCAA)	EPA 552.3	Group I Unregulated Contaminants	NELAP	7/25/2020

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E87775
Eurofins Eaton Analytical, LLC - South Bend
110 South Hill Street
South Bend, IN 46617

Matrix: **Drinking Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Bromodichloromethane	EPA 524.2	Other Regulated Contaminants,Group II Unregulated Contaminants	NELAP	7/25/2020
Bromodichloromethane	EPA 524.3	Group II Unregulated Contaminants	NELAP	7/25/2020
Bromodichloromethane	EPA 551.1	Group II Unregulated Contaminants	NELAP	7/25/2020
Bromoform	EPA 524.2	Other Regulated Contaminants,Group II Unregulated Contaminants	NELAP	7/25/2020
Bromoform	EPA 524.3	Group II Unregulated Contaminants	NELAP	7/25/2020
Bromoform	EPA 551.1	Group II Unregulated Contaminants	NELAP	7/25/2020
Butachlor	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Butyl benzyl phthalate	EPA 525.2	Group III Unregulated Contaminants	NELAP	7/25/2020
Butylaldehyde	EPA 556	Group III Unregulated Contaminants	NELAP	7/25/2020
Cadmium	EPA 200.8	Primary Inorganic Contaminants	NELAP	7/25/2020
Calcium	EPA 200.7	Primary Inorganic Contaminants	NELAP	7/25/2020
Carbaryl (Sevin)	EPA 531.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Carbofuran (Furadan)	EPA 531.2	Synthetic Organic Contaminants	NELAP	7/25/2020
Carbon disulfide	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Carbon tetrachloride	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
Chloral hydrate	EPA 551.1	Group II Unregulated Contaminants	NELAP	7/25/2020
Chloramben	EPA 515.3	Group I Unregulated Contaminants	NELAP	7/25/2020
Chlorate	EPA 300.0	Secondary Inorganic Contaminants	NELAP	7/25/2020
Chlordane (tech.)	EPA 505	Synthetic Organic Contaminants	NELAP	7/25/2020
Chloride	EPA 300.0	Secondary Inorganic Contaminants	NELAP	7/25/2020
Chlorite	EPA 300.0	Primary Inorganic Contaminants	NELAP	7/25/2020
Chloroacetic acid	EPA 552.2	Synthetic Organic Contaminants,Group I Unregulated Contaminants	NELAP	7/25/2020
Chloroacetic acid	EPA 552.3	Group I Unregulated Contaminants	NELAP	7/25/2020
Chloroacetonitrile	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Chlorobenzene	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
Chlorodibromoacetic acid(CDBAA)	EPA 552.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Chlorodibromoacetic acid(CDBAA)	EPA 552.3	Group I Unregulated Contaminants	NELAP	7/25/2020
Chloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Chloroform	EPA 524.2	Other Regulated Contaminants,Group II Unregulated Contaminants	NELAP	7/25/2020
Chloroform	EPA 524.3	Group II Unregulated Contaminants	NELAP	7/25/2020
Chloroform	EPA 551.1	Group II Unregulated Contaminants	NELAP	7/25/2020
Chloropicrin	EPA 551.1	Group II Unregulated Contaminants	NELAP	7/25/2020

Laboratory Scope of Accreditation

Attachment to Certificate #: E87775-43, expiration date June 30, 2022. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E87775** EPA Lab Code: **IN00035** **(574) 233-4777**

E87775
Eurofins Eaton Analytical, LLC - South Bend
110 South Hill Street
South Bend, IN 46617

Matrix: **Drinking Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Chlorthalonil (Daconil)	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Chromium	EPA 200.8	Primary Inorganic Contaminants	NELAP	7/25/2020
Chromium VI	EPA 218.6	Primary Inorganic Contaminants	NELAP	7/25/2020
Chromium VI	EPA 218.7	Primary Inorganic Contaminants	NELAP	7/25/2020
Chrysene	EPA 525.2	Group III Unregulated Contaminants	NELAP	7/25/2020
cis-1,2-Dichloroethylene	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
cis-1,3-Dichloropropene	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Color	SM 2120 B	Secondary Inorganic Contaminants	NELAP	7/25/2020
Conductivity	SM 2510 B	Primary Inorganic Contaminants	NELAP	7/25/2020
Copper	EPA 200.8	Secondary Inorganic Contaminants,Primary Inorganic Contaminants	NELAP	7/25/2020
Corrosivity (langlier index)	SM 2330 B	Secondary Inorganic Contaminants	NELAP	7/25/2020
Crotonaldehyde	EPA 556	Group III Unregulated Contaminants	NELAP	7/25/2020
Cryptosporidium	EPA 1623	Microbiology	NELAP	7/25/2020
Cyclohexanone	EPA 556	Group III Unregulated Contaminants	NELAP	7/25/2020
Dacthal (DCPA)	EPA 515.3	Group I Unregulated Contaminants	NELAP	7/25/2020
Dalapon	EPA 515.3	Synthetic Organic Contaminants	NELAP	7/25/2020
Decanal	EPA 556	Group III Unregulated Contaminants	NELAP	7/25/2020
Di(2-ethylhexyl) phthalate (DEHP)	EPA 525.2	Synthetic Organic Contaminants	NELAP	7/25/2020
Di(2-ethylhexyl)adipate	EPA 525.2	Synthetic Organic Contaminants	NELAP	7/25/2020
Dibenz(a,h)anthracene	EPA 525.2	Group III Unregulated Contaminants	NELAP	7/25/2020
Dibromoacetic acid	EPA 552.2	Synthetic Organic Contaminants,Group I Unregulated Contaminants	NELAP	7/25/2020
Dibromoacetic acid	EPA 552.3	Group I Unregulated Contaminants	NELAP	7/25/2020
Dibromoacetonitrile	EPA 551.1	Group II Unregulated Contaminants	NELAP	7/25/2020
Dibromochloromethane	EPA 524.2	Other Regulated Contaminants,Group II Unregulated Contaminants	NELAP	7/25/2020
Dibromochloromethane	EPA 524.3	Group II Unregulated Contaminants	NELAP	7/25/2020
Dibromochloromethane	EPA 551.1	Group II Unregulated Contaminants	NELAP	7/25/2020
Dibromomethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Dicamba	EPA 515.3	Group I Unregulated Contaminants	NELAP	7/25/2020
Dichloroacetic acid	EPA 552.2	Group I Unregulated Contaminants,Synthetic Organic Contaminants	NELAP	7/25/2020
Dichloroacetic acid	EPA 552.3	Group I Unregulated Contaminants	NELAP	7/25/2020
Dichloroacetonitrile	EPA 551.1	Group II Unregulated Contaminants	NELAP	7/25/2020
Dichlorodifluoromethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Dichloroprop (Dichlorprop)	EPA 515.3	Group I Unregulated Contaminants	NELAP	7/25/2020
Dieldrin	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Diethyl ether	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Diethyl phthalate	EPA 525.2	Group III Unregulated Contaminants	NELAP	7/25/2020
Dimethyl phthalate	EPA 525.2	Group III Unregulated Contaminants	NELAP	7/25/2020
Di-n-butyl phthalate	EPA 525.2	Group III Unregulated Contaminants	NELAP	7/25/2020
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 515.3	Synthetic Organic Contaminants	NELAP	7/25/2020
Diquat	EPA 549.2	Synthetic Organic Contaminants	NELAP	7/25/2020
Dissolved organic carbon (DOC)	SM 5310 C	Primary Inorganic Contaminants	NELAP	7/25/2020
Endothall	EPA 548.1	Synthetic Organic Contaminants	NELAP	7/25/2020
Endrin	EPA 525.2	Synthetic Organic Contaminants	NELAP	7/25/2020
EPTC (Eptam, s-ethyl-dipropyl thio carbamate)	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Escherichia coli	COLISURE	Microbiology	NELAP	7/25/2020
Escherichia coli	SM 9223 B (Colilert Quanti-Tray)-2004	Microbiology	NELAP	7/25/2020
Escherichia coli	SM 9223 B (Colilert)-2004	Microbiology	NELAP	7/25/2020
Escherichia coli	SM 9223 B (Colilert-18) (P/A) 20th ed.	Microbiology	NELAP	7/25/2020
Ethyl methacrylate	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Ethylbenzene	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
Ethyl-t-butylether (ETBE)	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
Fluorene	EPA 525.2	Group III Unregulated Contaminants	NELAP	7/25/2020
Fluoride	EPA 300.0	Primary Inorganic Contaminants,Secondary Inorganic Contaminants	NELAP	7/25/2020
Fluoride	SM 4500 F-C	Primary Inorganic Contaminants	NELAP	7/25/2020
Formaldehyde	EPA 556	Group III Unregulated Contaminants	NELAP	7/25/2020
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 525.2	Synthetic Organic Contaminants	NELAP	7/25/2020
Giardia	EPA 1623	Microbiology	NELAP	7/25/2020
Glyoxal	EPA 556	Group III Unregulated Contaminants	NELAP	7/25/2020
Glyphosate	EPA 547	Synthetic Organic Contaminants	NELAP	7/25/2020
Gross Alpha	NJ ECLS-R-GA Rev.8	Radiochemistry	NELAP	7/25/2020
Gross Alpha	SM 7110 B	Radiochemistry	NELAP	7/25/2020
Gross Alpha	SM 7110 C	Radiochemistry	NELAP	7/25/2020
Gross Beta	SM 7110 B	Radiochemistry	NELAP	7/25/2020
Hardness	SM 2340 B	Secondary Inorganic Contaminants	NELAP	7/25/2020
Heptachlor	EPA 525.2	Synthetic Organic Contaminants	NELAP	7/25/2020
Heptachlor epoxide	EPA 525.2	Synthetic Organic Contaminants	NELAP	7/25/2020

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Heptanal	EPA 556	Group III Unregulated Contaminants	NELAP	7/25/2020
Heterotrophic plate count	SIMPLATE	Microbiology	NELAP	7/25/2020
Hexachlorobenzene	EPA 525.2	Synthetic Organic Contaminants	NELAP	7/25/2020
Hexachlorobutadiene	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Hexachlorocyclopentadiene	EPA 525.2	Synthetic Organic Contaminants	NELAP	7/25/2020
Hexachloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA, GenX)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA, GenX)	EPA 537.1	Group III Unregulated Contaminants	NELAP	7/25/2020
Hexanaldehyde	EPA 556	Group III Unregulated Contaminants	NELAP	7/25/2020
Indeno(1,2,3-cd)pyrene	EPA 525.2	Group III Unregulated Contaminants	NELAP	7/25/2020
Iodomethane (Methyl iodide)	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Iron	EPA 200.7	Secondary Inorganic Contaminants	NELAP	7/25/2020
Isopropylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Lead	EPA 200.8	Primary Inorganic Contaminants	NELAP	7/25/2020
m+p-Xylenes	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Magnesium	EPA 200.7	Primary Inorganic Contaminants	NELAP	7/25/2020
Manganese	EPA 200.8	Secondary Inorganic Contaminants	NELAP	7/25/2020
Mercury	EPA 245.1	Primary Inorganic Contaminants	NELAP	7/25/2020
Methacrylonitrile	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Methiocarb (Mesurol)	EPA 531.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Methomyl (Lannate)	EPA 531.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Methoxychlor	EPA 525.2	Synthetic Organic Contaminants	NELAP	7/25/2020
Methyl acrylate	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Methyl bromide (Bromomethane)	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Methyl chloride (Chloromethane)	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Methyl Glyoxal	EPA 556	Group III Unregulated Contaminants	NELAP	7/25/2020
Methyl methacrylate	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Methyl tert-butyl ether (MTBE)	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Methylene chloride	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
Metolachlor	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Metribuzin	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Molinate	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Molybdenum	EPA 200.8	Secondary Inorganic Contaminants	NELAP	7/25/2020
Naphthalene	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
n-Butylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Nickel	EPA 200.8	Primary Inorganic Contaminants	NELAP	7/25/2020
Nitrate	EPA 300.0	Primary Inorganic Contaminants	NELAP	7/25/2020
Nitrate	EPA 353.2	Primary Inorganic Contaminants	NELAP	7/25/2020
Nitrite	EPA 353.2	Primary Inorganic Contaminants	NELAP	7/25/2020
Nitrobenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Nonafluoro-3,6-dioxaheptanoic Acid (NFDHA)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
Nonanal	EPA 556	Group III Unregulated Contaminants	NELAP	7/25/2020
n-Propylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Octanal	EPA 556	Group III Unregulated Contaminants	NELAP	7/25/2020
Orthophosphate as P	SM 4500-P E	Primary Inorganic Contaminants	NELAP	7/25/2020
Oxamyl	EPA 531.2	Synthetic Organic Contaminants	NELAP	7/25/2020
o-Xylene	EPA 524.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Paraquat	EPA 549.2	Group I Unregulated Contaminants	NELAP	7/25/2020
PCBs	EPA 505	Synthetic Organic Contaminants	NELAP	7/25/2020
Pentachloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Pentachlorophenol	EPA 515.3	Synthetic Organic Contaminants	NELAP	7/25/2020
Perchlorate	EPA 331.0	Secondary Inorganic Contaminants	NELAP	7/25/2020
Perfluoro(2-ethoxyethane) Sulfonic Acid (PFEESA)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluoro-3-methoxypropanoic Acid (PFMPA)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluoro-4-methoxybutanoic Acid (PFMBA)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluorobutane Sulfonate (PFBS, Perfluorobutane Sulfonic Acid)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluorobutane Sulfonate (PFBS, Perfluorobutane Sulfonic Acid)	EPA 537.1	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluorobutanoate (PFBA, Perfluorobutanoic Acid)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluorodecanoate (PFDA, Perfluorodecanoic Acid)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluorodecanoate (PFDA, Perfluorodecanoic Acid)	EPA 537.1	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluorododecanoate (PFDoA, Pefluorododecanoic Acid)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluorododecanoate (PFDoA, Pefluorododecanoic Acid)	EPA 537.1	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluoroheptane Sulfonate (PFHpS, Perfluoroheptane Sulfonic Acid)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluoroheptanoate (PFHpA, Perfluoroheptanoic Acid)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluoroheptanoate (PFHpA, Perfluoroheptanoic Acid)	EPA 537.1	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluorohexane Sulfonic Acid (PFHxS, Perfluorohexane Sulfonate)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Perfluorohexane Sulfonic Acid (PFHxS, Perfluorohexane Sulfonate)	EPA 537.1	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluorohexanoate (PFHxA, Perfluorohexanoic Acid)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluorohexanoate (PFHxA, Perfluorohexanoic Acid)	EPA 537.1	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluorononanoate (PFNA, Perfluorononanoic Acid)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluorononanoate (PFNA, Perfluorononanoic Acid)	EPA 537.1	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluorooctane Sulfonic Acid (PFOS, Perfluoro-octane Sulfonate)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluorooctane Sulfonic Acid (PFOS, Perfluoro-octane Sulfonate)	EPA 537.1	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluoro-octanoate (PFOA, Perfluoro-octanoic Acid)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluoro-octanoate (PFOA, Perfluoro-octanoic Acid)	EPA 537.1	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluoropentane Sulfonic Acid (PFPeS, Perfluoropentane Sulfonate)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluoropentanoate (PFPeA, Perfluoropentanoic Acid)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluorotetradecanoate (PFTeDA, perfluorotetradecanoic acid)	EPA 537.1	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluorotridecanoate (PFTriA, perfluorotridecanoic acid)	EPA 537.1	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluoroundecanoate (PFUnA, Perfluoroundecanoic Acid)	EPA 533	Group III Unregulated Contaminants	NELAP	7/25/2020
Perfluoroundecanoate (PFUnA, Perfluoroundecanoic Acid)	EPA 537.1	Group III Unregulated Contaminants	NELAP	7/25/2020
pH	EPA 150.1	Primary Inorganic Contaminants,Secondary Inorganic Contaminants	NELAP	7/25/2020
Phenanthrene	EPA 525.2	Group III Unregulated Contaminants	NELAP	7/25/2020
Picloram	EPA 515.3	Synthetic Organic Contaminants	NELAP	7/25/2020
p-Isopropyltoluene	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Potassium	EPA 200.7	Secondary Inorganic Contaminants	NELAP	7/25/2020
Prometryn	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Propachlor (Ramrod)	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Propionaldehyde (Propanal)	EPA 556	Group III Unregulated Contaminants	NELAP	7/25/2020
Propionitrile (Ethyl cyanide)	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Propoxur (Baygon)	EPA 531.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Pyrene	EPA 525.2	Group III Unregulated Contaminants	NELAP	7/25/2020
Radium-226	SM 7500-Ra B	Radiochemistry	NELAP	7/25/2020
Radium-228	SM 7500-Ra D	Radiochemistry	NELAP	7/25/2020

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Radon	SM 7500 Rn B	Radiochemistry	NELAP	7/25/2020
Residual free chlorine	SM 4500-Cl G	Primary Inorganic Contaminants	NELAP	7/25/2020
Residue-filterable (TDS)	SM 2540 C	Secondary Inorganic Contaminants	NELAP	7/25/2020
sec-Butylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Selenium	EPA 200.8	Primary Inorganic Contaminants	NELAP	7/25/2020
Silica as SiO2	EPA 200.7	Primary Inorganic Contaminants	NELAP	7/25/2020
Silver	EPA 200.8	Secondary Inorganic Contaminants	NELAP	7/25/2020
Silvex (2,4,5-TP)	EPA 515.3	Synthetic Organic Contaminants	NELAP	7/25/2020
Simazine	EPA 525.2	Synthetic Organic Contaminants	NELAP	7/25/2020
Sodium	EPA 200.7	Primary Inorganic Contaminants	NELAP	7/25/2020
Styrene	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
Sulfate	EPA 300.0	Secondary Inorganic Contaminants,Primary Inorganic Contaminants	NELAP	7/25/2020
T-amylmethylether (TAME)	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
Terbacil	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/25/2020
tert-Butyl alcohol (2-Methyl-2-propanol)	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
tert-Butylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Tetrachloroethylene (Perchloroethylene)	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
Tetrahydrofuran (THF)	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Thallium	EPA 200.8	Primary Inorganic Contaminants	NELAP	7/25/2020
Toluene	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
Total coliforms	COLISURE	Microbiology	NELAP	7/25/2020
Total coliforms	SM 9223 B (Colilert Quanti-Tray)-2004	Microbiology	NELAP	7/25/2020
Total coliforms	SM 9223 B (Colilert)-2004	Microbiology	NELAP	7/25/2020
Total coliforms	SM 9223 B (Colilert-18) (P/A) 20th ed.	Microbiology	NELAP	7/25/2020
Total cyanide	EPA 335.4	Primary Inorganic Contaminants	NELAP	7/25/2020
Total haloacetic acids (HAA5)	EPA 552.2	Synthetic Organic Contaminants	NELAP	7/25/2020
Total haloacetic acids (HAA5)	EPA 552.3	Synthetic Organic Contaminants	NELAP	7/25/2020
Total nitrate-nitrite	EPA 353.2	Primary Inorganic Contaminants	NELAP	7/25/2020
Total organic carbon	SM 5310 C	Primary Inorganic Contaminants	NELAP	7/25/2020
Total residual chlorine	SM 4500-Cl G	Primary Inorganic Contaminants	NELAP	7/25/2020
Total trihalomethanes	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
Total trihalomethanes	EPA 524.3	Other Regulated Contaminants	NELAP	7/25/2020
Total trihalomethanes	EPA 551.1	Other Regulated Contaminants	NELAP	7/25/2020
Toxaphene (Chlorinated camphene)	EPA 505	Synthetic Organic Contaminants	NELAP	7/25/2020

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trans-1,2-Dichloroethylene	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
trans-1,3-Dichloropropene	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
trans-1,4-Dichloro-2-butene	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Tribromoacetic acid (TBAA)	EPA 552.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Tribromoacetic acid (TBAA)	EPA 552.3	Group I Unregulated Contaminants	NELAP	7/25/2020
Trichloroacetic acid	EPA 552.2	Group I Unregulated Contaminants,Synthetic Organic Contaminants	NELAP	7/25/2020
Trichloroacetic acid	EPA 552.3	Group I Unregulated Contaminants	NELAP	7/25/2020
Trichloroacetonitrile	EPA 551.1	Group II Unregulated Contaminants	NELAP	7/25/2020
Trichloroethene (Trichloroethylene)	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
Trichlorofluoromethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	7/25/2020
Trifluralin (Treflan)	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/25/2020
Tritium	EPA 906.0	Radiochemistry	NELAP	7/25/2020
Turbidity	EPA 180.1	Secondary Inorganic Contaminants	NELAP	7/25/2020
Uranium (mass)	EPA 200.8	Radiochemistry	NELAP	7/25/2020
UV 254	SM 5910 B	Primary Inorganic Contaminants	NELAP	7/25/2020
Valeraldehyde (Pentanal)	EPA 556	Group III Unregulated Contaminants	NELAP	7/25/2020
Vanadium	EPA 200.8	Secondary Inorganic Contaminants	NELAP	7/25/2020
Vinyl chloride	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
Xylene (total)	EPA 524.2	Other Regulated Contaminants	NELAP	7/25/2020
Zinc	EPA 200.8	Secondary Inorganic Contaminants	NELAP	7/25/2020

Laboratory Scope of Accreditation

Attachment to Certificate #: E87775-43, expiration date June 30, 2022. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E87775** EPA Lab Code: **IN00035** **(574) 233-4777**

E87775
Eurofins Eaton Analytical, LLC - South Bend
110 South Hill Street
South Bend, IN 46617

Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Cryptosporidium	EPA 1623	Microbiology	NELAP	7/25/2020
Giardia	EPA 1623	Microbiology	NELAP	7/25/2020

State of Rhode Island and Providence Plantations
DEPARTMENT OF HEALTH
Certifies

LAO00343

EUROFINS EATON ANALYTICAL LLC
110 SOUTH HILL STREET
SOUTH BEND IN 46617
Laboratory Director: MATTHEW HARTZ

for the analysis of: **Potable Water Organic Chemistry - Potable Water Inorganic Chemistry - Radiochemistry -**

This certificate is issued, pursuant to Rhode Island General Laws 23-16.2 and supersedes all previous Rhode Island certificates issued to this laboratory. Certification is no guarantee of the validity of the laboratory results.

This certificate is valid only when accompanied by the certificate and list of analytes and methods for which certification has been granted based upon the following out of state certification(s):

Certifying Authority	*Certification Number*	*Expiration Date*
FLORIDA	*E87775*	*06/30/2022*
INDIANA	*C-71-01*	*12/31/2022*

EUROFINS EATON ANALYTICAL LLC is responsible for maintaining each of the certifications listed above. Failure to notify the Laboratory Certification Officer of any change in the status of these certifications may result in the suspension or revocation of certification. Contact the Laboratory Certification Officer to verify the current certification status of this laboratory.

Nicole Alexander-Scott, MD, MPH
Director of Health

Expires: 12/30/2022

THIS CERTIFICATE IS TO BE CONSPICUOUSLY DISPLAYED AT THE LABORATORY IN A LOCATION VISABLE TO THE PUBLIC

CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

Katahdin Analytical Services, LLC
600 Technology Way
Scarborough, ME 04074

Fulfills the requirements of

ISO/IEC 17025:2017

and

U.S. Department of Defense (DoD) Quality Systems Manual for Environmental Laboratories (DoD QSM V5.4)

In the field of

TESTING

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scope of accreditation can be verified at www.anab.org.

R. Douglas Leonard Jr., VP, PILR SBU

Expiry Date: 01 February 2025
Certificate Number: L2223

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

and

U.S. Department of Defense (DoD) Quality Systems Manual for Environmental Laboratories (DoD QSM V 5.4)

Katahdin Analytical Services, LLC

600 Technology Way
Scarborough, ME 04074
Leslie Dimond
207-874-2400

TESTING

Valid to: **February 1, 2025** Certificate Number: **L2223**

Environmental

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/ECD	EPA 8081B	2, 4`-DDD
GC/ECD	EPA 8081B	2, 4`-DDE
GC/ECD	EPA 8081B	2, 4`-DDT
GC/ECD	EPA 8081B	4, 4`-DDD
GC/ECD	EPA 8081B	4, 4`-DDE
GC/ECD	EPA 8081B	4, 4`-DDT
GC/ECD	EPA 8081B	Aldrin
GC/ECD	EPA 8081B	alpha-BHC (alpha-Hexachlorocyclohexane)
GC/ECD	EPA 8081B	Alpha-Chlordane/cis-chlordane
GC/ECD	EPA 8081B	beta-BHC (beta-Hexachlorocyclohexane)
GC/ECD	EPA 8081B	Cis-Nonaclor
GC/ECD	EPA 8081B	Chlordane (tech.)
GC/ECD	EPA 8081B	delta-BHC
GC/ECD	EPA 8081B	Dieldrin

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/ECD	EPA 8081B	Endosulfan I
GC/ECD	EPA 8081B	Endosulfan II
GC/ECD	EPA 8081B	Endosulfan sulfate
GC/ECD	EPA 8081B	Endrin
GC/ECD	EPA 8081B	Endrin aldehyde
GC/ECD	EPA 8081B	Endrin Ketone
GC/ECD	EPA 8081B	gamma-BHC (Lindane gamma-Hexachlorocyclohexane)
GC/ECD	EPA 8081B	gamma-Chlordane/trans-Chlordane
GC/ECD	EPA 8081B	Heptachlor
GC/ECD	EPA 8081B	Heptachlor epoxide
GC/ECD	EPA 8081B	Hexachlorobenzene
GC/ECD	EPA 8081B	Methoxychlor
GC/ECD	EPA 8081B	Mirex
GC/ECD	EPA 8081B	Oxychlordane
GC/ECD	EPA 8081B	Toxaphene (Chlorinated camphene)
GC/ECD	EPA 8081B	trans-Nonachlor
GC/ECD	EPA 8082A	Aroclor-1016 (PCB-1016)
GC/ECD	EPA 8082A	Aroclor-1221 (PCB-1221)
GC/ECD	EPA 8082A	Aroclor-1232 (PCB-1232)
GC/ECD	EPA 8082A	Aroclor-1242 (PCB-1242)
GC/ECD	EPA 8082A	Aroclor-1248 (PCB-1248)
GC/ECD	EPA 8082A	Aroclor-1254 (PCB-1254)
GC/ECD	EPA 8082A	Aroclor-1260 (PCB-1260)
GC/ECD	EPA 8082A MOD	Aroclor-1262 (PCB-1262)
GC/ECD	EPA 8082A MOD	Aroclor-1268 (PCB-1268)
GC/ECD	EPA 8082A	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl (BZ 206)
GC/ECD	EPA 8082A	2,2',3,3',4,4',5,6-Octachlorobiphenyl (BZ 195)
GC/ECD	EPA 8082A	2,2',3,3',4,4',5-Heptachlorobiphenyl (BZ 170)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/ECD	EPA 8082A	2,2',3,3',4,4'-Hexachlorobiphenyl (BZ 128)
GC/ECD	EPA 8082A	2, 2', 3, 4, 4', 5, 5'-Heptachlorobiphenyl (BZ 180)
GC/ECD	EPA 8082A	2, 2', 3, 4, 4', 5', 6-Heptachlorobiphenyl (BZ 183)
GC/ECD	EPA 8082A	2, 2', 3, 4, 4', 5-Hexachlorobiphenyl (BZ 138)
GC/ECD	EPA 8082A	2, 2', 3, 4, 4', 6, 6'-Heptachlorobiphenyl (BZ 184)
GC/ECD	EPA 8082A	2, 2', 3, 4', 5, 5', 6-Heptachlorobiphenyl (BZ 187)
GC/ECD	EPA 8082A	2, 2', 3, 4, 5'-Pentachlorobiphenyl (BZ 87)
GC/ECD	EPA 8082A	2, 2', 3, 5'-Tetrachlorobiphenyl (BZ 44)
GC/ECD	EPA 8082A	2, 2', 4, 4', 5, 5'-Hexachlorobiphenyl (BZ 153)
GC/ECD	EPA 8082A	2, 2', 4, 5, 5'-Pentachlorobiphenyl (BZ 101)
GC/ECD	EPA 8082A	2, 2', 4, 5-Tetrachlorobiphenyl (BZ 48)
GC/ECD	EPA 8082A	2, 2', 4, 5'-Tetrachlorobiphenyl (BZ 49)
GC/ECD	EPA 8082A	2, 2', 5, 5'-Tetrachlorobiphenyl (BZ 52)
GC/ECD	EPA 8082A	2, 2', 5-Trichlorobiphenyl (BZ 18)
GC/ECD	EPA 8082A	2, 3, 3', 4, 4', 5-Hexachlorobiphenyl (BZ 156)
GC/ECD	EPA 8082A	2, 3, 3', 4, 4', 5'-Hexachlorobiphenyl (BZ 157)
GC/ECD	EPA 8082A	2, 3, 3', 4, 4'-Pentachlorobiphenyl (BZ 105)
GC/ECD	EPA 8082A	2, 3, 3', 4, 4', 5, 5'-Heptachlorobiphenyl (BZ 189)
GC/ECD	EPA 8082A	2, 3', 4, 4', 5, 5'-Hexachlorobiphenyl (BZ 167)
GC/ECD	EPA 8082A	2, 3', 4, 4', 5-Pentachlorobiphenyl (BZ 118)
GC/ECD	EPA 8082A	2, 3', 4, 4',5'-Pentachlorobiphenyl (BZ 123)
GC/ECD	EPA 8082A	2, 3', 4, 4'-Tetrachlorobiphenyl (BZ 66)
GC/ECD	EPA 8082A	2, 3, 4, 4', 5-Pentachlorobiphenyl (BZ 114)
GC/ECD	EPA 8082A	2, 4, 4'-Trichlorobiphenyl (BZ 28)
GC/ECD	EPA 8082A	2, 4'-Dichlorobiphenyl (BZ 8)
GC/ECD	EPA 8082A	3, 3', 4, 4', 5, 5'-Hexachlorobiphenyl (BZ 169)
GC/ECD	EPA 8082A	3, 3', 4, 4', 5-Pentachlorobiphenyl (BZ 126)
GC/ECD	EPA 8082A	3, 3', 4, 4'-Tetrachlorobiphenyl (BZ 77)

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/ECD	EPA 8082A	3, 4, 4', 5-Tetrachlorobiphenyl (BZ 81)
GC/ECD	EPA 8082A	Decachlorobiphenyl (BZ 209)
GC/ECD	EPA 8151A	2, 4, 5-T
GC/ECD	EPA 8151A	2, 4-D
GC/ECD	EPA 8151A	2, 4-DB
GC/ECD	EPA 8151A	Dalapon
GC/ECD	EPA 8151A	Dicamba
GC/ECD	EPA 8151A	Dichloroprop
GC/ECD	EPA 8151A	Dinoseb
GC/ECD	EPA 8151A	MCPA
GC/ECD	EPA 8151A	MCPP
GC/ECD	EPA 8151A	Pentachlorophenol
GC/ECD	EPA 8151A	Silvex (2, 4, 5-TP)
GC/FID	EPA 8015C/D MOD	Diesel range organics (DRO)
GC/FID	EPA 8015C/D MOD	Total Petroleum Hydrocarbon (TPH)
GC/FID	EPA 8015C/D MOD	Gasoline range organics (GRO)
GC/FID/PID	MA DEP VPH	Volatile Organic Hydrocarbons
GC/FID	MA DEP EPH	Extractable Petroleum Hydrocarbons
GC/FID	CT ETPH	Total Petroleum Hydrocarbons
GC/FID	FL-PRO	Petroleum Range Organics
GC/ECD	EPA 8011; EPA 504	1, 2-Dibromoethane (EDB)
GC/ECD	EPA 8011; EPA 504	1, 2-Dibromo-3-chloropropane
GC/FID	RSK-175	Methane Ethane Ethene
GC/MS	EPA 8260B/C; EPA 524.2	1, 1, 1, 2-Tetrachloroethane
GC/MS	EPA 8260B/C; EPA 524.2	1, 1, 1-Trichloroethane
GC/MS	EPA 8260B/C; EPA 524.2	1, 1, 2, 2-Tetrachloroethane
GC/MS	EPA 8260B/C	1,1,2-Trichloro-1,2,2-trifluoroethane
GC/MS	EPA 8260B/C; EPA 524.2	1, 1, 2-Trichloroethane

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS	EPA 8260B/C; EPA 524.2	1, 1-Dichloroethane
GC/MS	EPA 8260B/C; EPA 524.2	1, 1-Dichloroethene
GC/MS	EPA 8260B/C; EPA 524.2	1, 1-Dichloropropene
GC/MS	EPA 8260B/C; EPA 524.2	1, 2, 3-Trichlorobenzene
GC/MS	EPA 8260B/C; EPA 524.2	1, 2, 3-Trichloropropane
GC/MS	EPA 8260B/C	1,2,3-Trimethylbenzene
GC/MS	EPA 8260B/C; EPA 524.2	1, 2, 4-Trichlorobenzene
GC/MS	EPA 8260B/C; EPA 524.2	1, 2, 4-Trimethylbenzene
GC/MS	EPA 8260B/C; EPA 524.2	1, 2-Dibromo-3-chloropropane
GC/MS	EPA 8260B/C; EPA 524.2	1, 2-Dibromoethane (EDB)
GC/MS	EPA 8260B/C; EPA 524.2	1, 2-Dichlorobenzene
GC/MS	EPA 8260B/C; EPA 524.2	1, 2-Dichloroethane
GC/MS	EPA 8260B/C; EPA 524.2	1, 2-Dichloropropane
GC/MS	EPA 8260B/C	1,3,5-Trichlorobenzene
GC/MS	EPA 8260B/C; EPA 524.2	1, 3, 5-Trimethylbenzene
GC/MS	EPA 8260B/C; EPA 524.2	1, 3-Dichlorobenzene
GC/MS	EPA 8260B/C; EPA 524.2	1, 3-Dichloropropane
GC/MS	EPA 8260B/C; EPA 524.2	1, 4-Dichlorobenzene
GC/MS	EPA 8260B/C	1, 4-Dioxane
GC/MS	EPA 8260B/C; EPA 524.2	2, 2-Dichloropropane
GC/MS	EPA 8260B/C; EPA 524.2	2-Butanone
GC/MS	EPA 8260B/C	2-Chloroethyl vinyl ether
GC/MS	EPA 8260B/C; EPA 524.2	2-Chlorotoluene
GC/MS	EPA 8260B/C; EPA 524.2	2-Hexanone
GC/MS	EPA 8260B/C; EPA 524.2	4-Chlorotoluene
GC/MS	EPA 8260B/C; EPA 524.2	4-Methyl-2-pentanone
GC/MS	EPA 8260B/C; EPA 524.2	Acetone
GC/MS	EPA 8260B/C	Acetonitrile

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS	EPA 8260B/C	Acrolein
GC/MS	EPA 8260B/C; EPA 524.2	Acrylonitrile
GC/MS	EPA 8260B/C; EPA 524.2	Allyl chloride
GC/MS	EPA 8260B/C; EPA 524.2	Benzene
GC/MS	EPA 8260B/C	Benzyl chloride
GC/MS	EPA 8260B/C; EPA 524.2	Bromobenzene
GC/MS	EPA 8260B/C; EPA 524.2	Bromochloromethane
GC/MS	EPA 8260B/C; EPA 524.2	Bromodichloromethane
GC/MS	EPA 8260B/C; EPA 524.2	Bromoform
GC/MS	EPA 8260B/C; EPA 524.2	Carbon disulfide
GC/MS	EPA 8260B/C; EPA 524.2	Carbon tetrachloride
GC/MS	EPA 8260B/C; EPA 524.2	Chlorobenzene
GC/MS	EPA 8260B/C; EPA 524.2	Chloroethane
GC/MS	EPA 8260B/C; EPA 524.2	Chloroform
GC/MS	EPA 8260B/C	Chloroprene
GC/MS	EPA 8260B/C; EPA 524.2	cis-1, 2-Dichloroethene
GC/MS	EPA 8260B/C; EPA 524.2	cis-1, 3-Dichloropropene
GC/MS	EPA 8260B/C	Cis-1,4-Dichloro-2-butene
GC/MS	EPA 8260B/C	Cyclohexane
GC/MS	EPA 8260B/C; EPA 524.2	Dibromochloromethane
GC/MS	EPA 8260B/C; EPA 524.2	Dibromomethane
GC/MS	EPA 8260B/C; EPA 524.2	Dichlorodifluoromethane
GC/MS	EPA 8260B/C; EPA 524.2	Diethyl ether
GC/MS	EPA 8260B/C	Di-isopropylether
GC/MS	EPA 8260B/C; EPA 524.2	Ethyl methacrylate
GC/MS	EPA 8260B/C; EPA 524.2	Ethylbenzene
GC/MS	EPA 8260B/C	Ethyl-t-butylether
GC/MS	EPA 8260B/C; EPA 524.2	Hexachlorobutadiene

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS	EPA 8260B/C	Iodomethane
GC/MS	EPA 8260B/C	Isobutyl alcohol
GC/MS	EPA 8260B/C	Isopropyl alcohol
GC/MS	EPA 8260B/C; EPA 524.2	Isopropyl benzene
GC/MS	EPA 8260B/C; EPA 524.2	m p-xylenes
GC/MS	EPA 8260B/C	Methyl acetate
GC/MS	EPA 8260B/C	Methacrylonitrile
GC/MS	EPA 8260B/C	Methyl bromide (Bromomethane)
GC/MS	EPA 8260B/C; EPA 524.2	Methyl chloride (Chloromethane)
GC/MS	EPA 8260B/C	Methyl methacrylate
GC/MS	EPA 8260B/C; EPA 524.2	Methyl tert-butyl ether
GC/MS	EPA 8260B/C	Methylcyclohexane
GC/MS	EPA 8260B/C; EPA 524.2	Methylene chloride
GC/MS	EPA 8260B/C; EPA 524.2	Naphthalene
GC/MS	EPA 8260B/C; EPA 524.2	n-Butylbenzene
GC/MS	EPA 8260B/C; EPA 524.2	n-Propylbenzene
GC/MS	EPA 8260B/C; EPA 524.2	o-Xylene
GC/MS	EPA 8260B/C	Pentachloroethane
GC/MS	EPA 8260B/C; EPA 524.2	p-Isopropyltoluene
GC/MS	EPA 8260B/C; EPA 524.2	Propionitrile
GC/MS	EPA 8260B/C; EPA 524.2	sec-butylbenzene
GC/MS	EPA 8260B/C; EPA 524.2	Styrene
GC/MS	EPA 8260B/C	t-Amylmethylether
GC/MS	EPA 8260B/C; EPA 524.2	tert-Butyl alcohol
GC/MS	EPA 8260B/C	tert-Butylbenzene
GC/MS	EPA 8260B/C; EPA 524.2	Tetrachloroethene (Perchloroethylene)
GC/MS	EPA 8260B/C; EPA 524.2	Tetrahydrofuran
GC/MS	EPA 8260B/C; EPA 524.2	Toluene

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS	EPA 8260B/C; EPA 524.2	trans-1, 2-Dichloroethylene
GC/MS	EPA 8260B/C; EPA 524.2	trans-1, 3-Dichloropropylene
GC/MS	EPA 8260B/C; EPA 524.2	trans-1, 4-Dichloro-2-butuene
GC/MS	EPA 8260B/C; EPA 524.2	Trichloroethene (Trichloroethylene)
GC/MS	EPA 8260B/C; EPA 524.2	Trichlorofluoromethane
GC/MS	EPA 8260B/C	Vinyl acetate
GC/MS	EPA 8260B/C; EPA 524.2	Vinyl chloride
GC/MS	EPA 8260B/C	Xylene
GC/MS	EPA 8260B/C SIM	1,1,1,2-Tetrachloroethane
GC/MS	EPA 8260B/C SIM	1,1,1-Trichloroethane
GC/MS	EPA 8260B/C SIM	1,1,2,2-Tetrachloroethane
GC/MS	EPA 8260B/C SIM	1, 1, 2-Trichloroethane
GC/MS	EPA 8260B/C SIM	1,2,3-Trichlorobenzene
GC/MS	EPA 8260B/C SIM	1,2,3-Trichloropropane
GC/MS	EPA 8260B/C SIM	1,1-Dichloroethane
GC/MS	EPA 8260B/C SIM	1,1-Dichloroethene
GC/MS	EPA 8260B/C SIM	1,2,4-Trichlorobenzene
GC/MS	EPA 8260B/C SIM	1,2,4-Trimethylbenzene
GC/MS	EPA 8260B/C SIM	1,2-Dibromo-3-chloropropane
GC/MS	EPA 8260B/C SIM	1,2-Dibromoethane
GC/MS	EPA 8260B/C SIM	1,2-Dichlorobenzene
GC/MS	EPA 8260B/C SIM	1,2-Dichloroethane
GC/MS	EPA 8260B/C SIM	1,2-Dichloropropane
GC/MS	EPA 8260B/C SIM	1,3-Dichlorobenzene
GC/MS	EPA 8260B/C SIM	1,3-Dichloropropane
GC/MS	EPA 8260B/C SIM	1,4-Dichlorobenzene
GC/MS	EPA 8260B/C SIM	2-Hexanone
GC/MS	EPA 8260B/C SIM	4-Methyl-2-pentanone

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS	EPA 8260B/C SIM	Benzene
GC/MS	EPA 8260B/C SIM	Bromodichloromethane
GC/MS	EPA 8260B/C SIM	Carbon Disulfide
GC/MS	EPA 8260B/C SIM	Carbon Tetrachloride
GC/MS	EPA 8260B/C SIM	Chloroform
GC/MS	EPA 8260B/C SIM	Chloromethane
GC/MS	EPA 8260B/C SIM	cis-1,2-Dichloroethene
GC/MS	EPA 8260B/C SIM	cis-1,3-Dichloropropene
GC/MS	EPA 8260B/C SIM	Dibromochloromethane
GC/MS	EPA 8260B/C SIM	Ethylbenzene
GC/MS	EPA 8260B/C SIM	Isopropylbenzene
GC/MS	EPA 8260B/C SIM	Hexachlorobutadiene
GC/MS	EPA 8260B/C SIM	Methylene chloride
GC/MS	EPA 8260B/C SIM	m,p-Xylene
GC/MS	EPA 8260B/C SIM	o-Xylene
GC/MS	EPA 8260B/C SIM	Tetrachloroethene
GC/MS	EPA 8260B/C SIM	Toluene
GC/MS	EPA 8260B/C SIM	trans-1,2-Dichloroethene
GC/MS	EPA 8260B/C SIM	Trans-1,3-Dichloropropene
GC/MS	EPA 8260B/C SIM	Trichloroethene
GC/MS	EPA 8260B/C SIM	Trichlorofluoromethane
GC/MS	EPA 8260B/C SIM	Vinyl Chloride
GC/MS	EPA 8260B/C SIM	Xylenes (total)
GC/MS	EPA 8270C/D	1, 2, 4, 5-Tetrachlorobenzene
GC/MS	EPA 8270C/D	1, 2, 4-Trichlorobenzene
GC/MS	EPA 8270C/D	1, 2-Dichlorobenzene
GC/MS	EPA 8270C/D	1, 2-Diphenylhydrazine
GC/MS	EPA 8270C/D	1, 3, 5-Trinitrobenzene

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS	EPA 8270C/D	1, 3-Dichlorobenzene
GC/MS	EPA 8270C/D	1, 3-Dinitrobenzene
GC/MS	EPA 8270C/D	1, 4-Dichlorobenzene
GC/MS	EPA 8270C/D	1, 4-Dioxane
GC/MS	EPA 8270C/D	1, 4-Naphthoquinone
GC/MS	EPA 8270C/D	1, 4-Phenylenediamine
GC/MS	EPA 8270C/D	1-Chloronaphthalene
GC/MS	EPA 8270C/D	1-Methylnaphthalene
GC/MS	EPA 8270C/D	1-Naphthylamine
GC/MS	EPA 8270C/D	2, 3, 4, 6-Tetrachlorophenol
GC/MS	EPA 8270C/D	2, 4, 5-Trochlorophenol
GC/MS	EPA 8270C/D	2, 4, 6-Trichlorophenol
GC/MS	EPA 8270C/D	2, 4-Dichlorophenol
GC/MS	EPA 8270C/D	2, 4-Dimethylphenol
GC/MS	EPA 8270C/D	2, 4-Dinitrophenol
GC/MS	EPA 8270C/D	2, 4-Dinitrotoluene (2, 4-DNT)
GC/MS	EPA 8270C/D	2, 6-Dichlorophenol
GC/MS	EPA 8270C/D	2, 6-Dinitrotoluene (2, 6-DNT)
GC/MS	EPA 8270C/D	2-Acetylaminofluorene
GC/MS	EPA 8270C/D	2-Chloronaphthalene
GC/MS	EPA 8270C/D	2-Chlorophenol
GC/MS	EPA 8270C/D	2-Methyl-4 6-dinitrophenol
GC/MS	EPA 8270C/D	2-Methylnaphthalene
GC/MS	EPA 8270C/D	2-Methylphenol
GC/MS	EPA 8270C/D	2-Naphthylamine
GC/MS	EPA 8270C/D	2-Nitroaniline
GC/MS	EPA 8270C/D	2-Nitrophenol
GC/MS	EPA 8270C/D	2-Picoline

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS	EPA 8270C/D	3-Methylcholanthrene
GC/MS	EPA 8270C/D	3-Nitroaniline
GC/MS	EPA 8270C/D	3,4-Dimethylphenol
GC/MS	EPA 8270C/D	4-Aminobiphenyl
GC/MS	EPA 8270C/D	4-Bromophenyl phenyl ether
GC/MS	EPA 8270C/D	4-Chloro-3-methylphenol
GC/MS	EPA 8270C/D	4-Chloroaniline
GC/MS	EPA 8270C/D	4-Chlorophenyl phenylether
GC/MS	EPA 8270C/D	4-Dimethyl aminoazobenzene
GC/MS	EPA 8270C/D	3&4-Methylphenol
GC/MS	EPA 8270C/D	4-Nitroaniline
GC/MS	EPA 8270C/D	4-Nitrophenol
GC/MS	EPA 8270C/D	4-Nitroquinoline-1-oxide
GC/MS	EPA 8270C/D	5-Nitro-o-toluidine
GC/MS	EPA 8270C/D	7, 12-Dimethylbenz(a)anthracene
GC/MS	EPA 8270C/D	a a-Dimethylphenethylamine
GC/MS	EPA 8270C/D	Acenaphthene
GC/MS	EPA 8270C/D	Acenaphthylene
GC/MS	EPA 8270C/D	Acetophenone
GC/MS	EPA 8270C/D	Aniline
GC/MS	EPA 8270C/D	Anthracene
GC/MS	EPA 8270C/D	Aramite
GC/MS	EPA 8270C/D	Atrazine
GC/MS	EPA 8270C/D	Azobenzene
GC/MS	EPA 8270C/D	Benzaldehyde
GC/MS	EPA 8270C/D	Benzidine
GC/MS	EPA 8270C/D	Benzo(a)anthracene
GC/MS	EPA 8270C/D	Benzo(a)pyrene

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS	EPA 8270C/D	Benzo(b)fluoranthene
GC/MS	EPA 8270C/D	Benzo(g h i)perylene
GC/MS	EPA 8270C/D	Benzo(k)fluoranthene
GC/MS	EPA 8270C/D	Benzoic Acid
GC/MS	EPA 8270C/D	Benzyl alcohol
GC/MS	EPA 8270C/D	1,1-Biphenyl
GC/MS	EPA 8270C/D	bis(2-Chloroethoxy)methane
GC/MS	EPA 8270C/D	bis(2-Chloroethyl) ether
GC/MS	EPA 8270C/D	bis(2-Chloroisopropyl) ether (2, 2`-Oxybis(1-chloropropane)
GC/MS	EPA 8270C/D	bis(2-Ethylhexyl)adipate
GC/MS	EPA 8270C/D	bis(2-Ethylhexyl) phthalate (DEHP)
GC/MS	EPA 8270C/D	Butyl benzyl phthalate
GC/MS	EPA 8270C/D	Caprolactam
GC/MS	EPA 8270C/D	Carbazole
GC/MS	EPA 8270C/D	Chlorobenzilate
GC/MS	EPA 8270C/D	Chrysene
GC/MS	EPA 8270C/D	Diallate
GC/MS	EPA 8270C/D	Dibenzo(a,j)acridine
GC/MS	EPA 8270C/D	Dibenzo(a,h)anthracene
GC/MS	EPA 8270C/D	Dibenzofuran
GC/MS	EPA 8270C/D	Diethyladipate
GC/MS	EPA 8270C/D	Diethyl phthalate
GC/MS	EPA 8270C/D	Dimethoate
GC/MS	EPA 8270C/D	Dimethyl phthalate
GC/MS	EPA 8270C/D	Di-n-butyl phthalate
GC/MS	EPA 8270C/D	Di-n-octyl phthalate
GC/MS	EPA 8270C/D	Dinoseb
GC/MS	EPA 8270C/D	Disulfoton

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS	EPA 8270C/D	Ethyl methanesulfonate
GC/MS	EPA 8270C/D	Ethyl parathion
GC/MS	EPA 8270C/D	Ethyl methacrylate
GC/MS	EPA 8270C/D	Famfur
GC/MS	EPA 8270C/D	Fluoranthene
GC/MS	EPA 8270C/D	Fluorene
GC/MS	EPA 8270C/D	Hexachlorobenzene
GC/MS	EPA 8270C/D	Hexachlorobutadiene
GC/MS	EPA 8270C/D	Hexachlorocyclopentadiene
GC/MS	EPA 8270C/D	Hexachloroethane
GC/MS	EPA 8270C/D	Hexachlorophene
GC/MS	EPA 8270C/D	Hexachloropropene
GC/MS	EPA 8270C/D	Indeno(1, 2, 3-cd)pyrene
GC/MS	EPA 8270C/D	Isodrin
GC/MS	EPA 8270C/D	Isophorone
GC/MS	EPA 8270C/D	Isosafrole
GC/MS	EPA 8270C/D	Kepone
GC/MS	EPA 8270C/D	Methapyriline
GC/MS	EPA 8270C/D	Methy methanesulfonate
GC/MS	EPA 8270C/D	Methyl parathion
GC/MS	EPA 8270C/D	Naphthalene
GC/MS	EPA 8270C/D	Nitrobenzene
GC/MS	EPA 8270C/D	Nitroquinoline-1-oxide
GC/MS	EPA 8270C/D	n-Nitrosodiethylamine
GC/MS	EPA 8270C/D	n-Nitrosodimethylamine
GC/MS	EPA 8270C/D	n-Nitroso-di-n-butylamine
GC/MS	EPA 8270C/D	n-Nitrosodi-n-propylamine
GC/MS	EPA 8270C/D	n-Nitrosodiphenylamine

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS	EPA 8270C/D	n-Nitrosomethylethylamine
GC/MS	EPA 8270C/D	n-Nitrosomorpholine
GC/MS	EPA 8270C/D	n-Nitrosopiperidine
GC/MS	EPA 8270C/D	n-Nitrosopyrrolidine
GC/MS	EPA 8270C/D	O,O,O-Triethyl phosphorothioate
GC/MS	EPA 8270C/D	O,O-Diethyl O-2pyrazinyl phosphorothioate
GC/MS	EPA 8270C/D	o-Toluidine
GC/MS	EPA 8270C/D	Pentachlorobenzene
GC/MS	EPA 8270C/D	Pentachloronitrobenzene
GC/MS	EPA 8270C/D	Pentachlorophenol
GC/MS	EPA 8270C/D	Phenacetin
GC/MS	EPA 8270C/D	Phenanthrene
GC/MS	EPA 8270C/D	Phenol
GC/MS	EPA 8270C/D	Phorate
GC/MS	EPA 8270C/D	Pronamide
GC/MS	EPA 8270C/D	Pyrene
GC/MS	EPA 8270C/D	Pyridine
GC/MS	EPA 8270C/D	Safrole
GC/MS	EPA 8270C/D	Sulfotepp
GC/MS	EPA 8270C/D	Thionazin
GC/MS	EPA 8270C/D	3, 3’-Dichlorobenzidine
GC/MS	EPA 8270C/D	3, 3’-Dimethylbenzidine
GC/MS	EPA 8270C/D SIM	1,1'-Biphenyl
GC/MS	EPA 8270C/D SIM	1,2,4,5-Tetrachlorobenzene
GC/MS	EPA 8270C/D SIM	1,4-Dioxane
GC/MS	EPA 8270C/D SIM	1-Methylnaphthalene
GC/MS	EPA 8270C/D SIM	2,2'-Oxybis(1-chloropropane
GC/MS	EPA 8270C/D SIM	2,3,4,6-Tetrachlorophenol

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS	EPA 8270C/D SIM	2,4,5-Trichlorophenol
GC/MS	EPA 8270C/D SIM	2,4,6-Trichlorophenol
GC/MS	EPA 8270C/D SIM	2,4-Dichlorophenol
GC/MS	EPA 8270C/D SIM	2,4-Dimethylphenol
GC/MS	EPA 8270C/D SIM	2,4-Dinitrophenol
GC/MS	EPA 8270C/D SIM	2,4-Dinitrotoluene
GC/MS	EPA 8270C/D SIM	2,6-Dinitrotoluene
GC/MS	EPA 8270C/D SIM	2-Chloronaphthalene
GC/MS	EPA 8270C/D SIM	2-Chlorophenol
GC/MS	EPA 8270C/D SIM	2-Methylnaphthalene
GC/MS	EPA 8270C/D SIM	2-Methylphenol
GC/MS	EPA 8270C/D SIM	2-Nitroaniline
GC/MS	EPA 8270C/D SIM	2-Nitrophenol
GC/MS	EPA 8270C/D SIM	3&4-Methylphenol
GC/MS	EPA 8270C/D SIM	3,3'-Dichlorobenzidine
GC/MS	EPA 8270C/D SIM	3-Nitroaniline
GC/MS	EPA 8270C/D SIM	4,6-Dinitro-2-methylphenol
GC/MS	EPA 8270C/D SIM	4-Bromophenyl-phenylether
GC/MS	EPA 8270C/D SIM	4-Chloro-3-methylphenol
GC/MS	EPA 8270C/D SIM	4-Chloroaniline
GC/MS	EPA 8270C/D SIM	4-Chlorophenyl-phenylether
GC/MS	EPA 8270C/D SIM	4-Nitroaniline
GC/MS	EPA 8270C/D SIM	4-Nitrophenol
GC/MS	EPA 8270C/D SIM	Acenaphthene
GC/MS	EPA 8270C/D SIM	Acenaphthylene
GC/MS	EPA 8270C/D SIM	Acetophenone
GC/MS	EPA 8270C/D SIM	Anthracene
GC/MS	EPA 8270C/D SIM	Atrazine

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS	EPA 8270C/D SIM	Benzaldehyde
GC/MS	EPA 8270C/D SIM	Benzo(a)anthracene
GC/MS	EPA 8270C/D SIM	Benzo(a)pyrene
GC/MS	EPA 8270C/D SIM	Benzo(b)fluoranthene
GC/MS	EPA 8270C/D SIM	Benzo(g,h,i)perylene
GC/MS	EPA 8270C/D SIM	Benzo(k)fluoranthene
GC/MS	EPA 8270C/D SIM	Bis(2-chloroethoxy)methane
GC/MS	EPA 8270C/D SIM	Bis(2-chloroethyl)ether
GC/MS	EPA 8270C/D SIM	Bis(2-ethylhexyl)phthalate
GC/MS	EPA 8270C/D SIM	Butylbenzylphthalate
GC/MS	EPA 8270C/D SIM	Caprolactam
GC/MS	EPA 8270C/D SIM	Carbazole
GC/MS	EPA 8270C/D SIM	Chrysene
GC/MS	EPA 8270C/D SIM	Dibenzo(a,h)anthracene
GC/MS	EPA 8270C/D SIM	Dibenzofuran
GC/MS	EPA 8270C/D SIM	Diethylphthalate
GC/MS	EPA 8270C/D SIM	Dimethyl phthalate
GC/MS	EPA 8270C/D SIM	Di-n-butylphthalate
GC/MS	EPA 8270C/D SIM	Di-n-octylphthalate
GC/MS	EPA 8270C/D SIM	Fluoranthene
GC/MS	EPA 8270C/D SIM	Fluorene
GC/MS	EPA 8270C/D SIM	Hexachlorobenzene
GC/MS	EPA 8270C/D SIM	Hexachlorobutadiene
GC/MS	EPA 8270C/D SIM	Hexachlorocyclopentadiene
GC/MS	EPA 8270C/D SIM	Hexachloroethane
GC/MS	EPA 8270C/D SIM	Indeno(1,2,3-cd)pyrene
GC/MS	EPA 8270C/D SIM	Isophorone
GC/MS	EPA 8270C/D SIM	Naphthalene

Non-Potable Water		
Technology	**Method**	**Analyte**
GC/MS	EPA 8270C/D SIM	Nitrobenzene
GC/MS	EPA 8270C/D SIM	n-Nitroso-di-n-propylamine
GC/MS	EPA 8270C/D SIM	n-Nitrosodiphenylamine
GC/MS	EPA 8270C/D SIM	Pentachlorophenol
GC/MS	EPA 8270C/D SIM	Phenanthrene
GC/MS	EPA 8270C/D SIM	Phenol
GC/MS	EPA 8270C/D SIM	Pyrene
HPLC/UV	EPA 8330A/B	1, 3, 5-Trinitrobenzene
HPLC/UV	EPA 8330A/B	1, 3-Dinitrobenzene
HPLC/UV	EPA 8330A/B	2, 4, 6-Trinitrotoluene
HPLC/UV	EPA 8330A/B	2, 4-Dinitrotoluene
HPLC/UV	EPA 8330A/B	2, 6-Dinitrotoluene
HPLC/UV	EPA 8330A/B	2-Amino-4, 6 -Dinitrotoluene
HPLC/UV	EPA 8330A/B	2-Nitrotoluene
HPLC/UV	EPA 8330A/B	3-Nitrotoluene
HPLC/UV	EPA 8330A/B	3,5-Dinitroaniline
HPLC/UV	EPA 8330A/B	4-Amino-2, 6-Dinitrotoluene
HPLC/UV	EPA 8330A/B	4-Nitrotoluene
HPLC/UV	EPA 8330A/B	Ethylene glycol dinitrate (EGDN)
HPLC/UV	EPA 8330A/B	Hexahydro-1, 3, 5-trinitro-1, 3, 5-triazine (RDX)
HPLC/UV	EPA 8330A/B	Nitroguanidine
HPLC/UV	EPA 8330A/B	Nitrobenzene
HPLC/UV	EPA 8330A MOD	Nitroglycerin
HPLC/UV	EPA 8330B	Nitroglycerin
HPLC/UV	EPA 8330A/B	Octahydro-1, 3, 5, 7-tetrazocine (HMX)
HPLC/UV	EPA 8330A/B	Pentaerythritol Tetranitrate (PETN)
HPLC/UV	EPA 8330A/B	Tetryl
CVAA	EPA 245.1; EPA 7470A	Mercury

Non-Potable Water		
Technology	**Method**	**Analyte**
CVAF	EPA 1631E	Low Level Mercury
ICP/AES	EPA 200.7; EPA 6010C/D	Aluminum
ICP/AES	EPA 200.7; EPA 6010C/D	Antimony
ICP/AES	EPA 200.7; EPA 6010C/D	Arsenic
ICP/AES	EPA 200.7; EPA 6010C/D	Barium
ICP/AES	EPA 200.7; EPA 6010C/D	Beryllium
ICP/AES	EPA 200.7; EPA 6010C/D	Boron
ICP/AES	EPA 200.7; EPA 6010C/D	Cadmium
ICP/AES	EPA 200.7; EPA 6010C/D	Calcium
ICP/AES	EPA 200.7; EPA 6010C/D	Chromium
ICP/AES	EPA 200.7; EPA 6010C/D	Cobalt
ICP/AES	EPA 200.7; EPA 6010C/D	Copper
ICP/AES	EPA 200.7; EPA 6010C/D	Iron
ICP/AES	EPA 200.7; EPA 6010C/D	Lead
ICP/AES	EPA 200.7; EPA 6010C/D	Magnesium
ICP/AES	EPA 200.7; EPA 6010C/D	Manganese
ICP/AES	EPA 200.7; EPA 6010C/D	Molybdenum
ICP/AES	EPA 200.7; EPA 6010C/D	Nickel
ICP/AES	EPA 200.7; EPA 6010C/D	Potassium
ICP/AES	EPA 200.7; EPA 6010C/D	Selenium
ICP/AES	EPA 200.7; EPA 6010C/D	Silicon
ICP/AES	EPA 200.7; EPA 6010C/D	Silver
ICP/AES	EPA 200.7; EPA 6010C/D	Sodium
ICP/AES	EPA 6010C/D	Strontium
ICP/AES	EPA 200.7; EPA 6010C/D	Thallium
ICP/AES	EPA 200.7; EPA 6010C/D	Tin
ICP/AES	EPA 200.7; EPA 6010C/D	Titanium
ICP/AES	EPA 200.7; EPA 6010C/D	Vanadium

Non-Potable Water		
Technology	**Method**	**Analyte**
ICP/AES	EPA 200.7; EPA 6010C/D	Zinc
ICP/MS	EPA 200.8; EPA 6020A/B	Aluminum
ICP/MS	EPA 200.8; EPA 6020A/B	Antimony
ICP/MS	EPA 200.8; EPA 6020A/B	Arsenic
ICP/MS	EPA 200.8; EPA 6020A/B	Barium
ICP/MS	EPA 200.8; EPA 6020A/B	Beryllium
ICP/MS	EPA 200.8; EPA 6020A/B	Boron
ICP/MS	EPA 200.8; EPA 6020A/B	Cadmium
ICP/MS	EPA 200.8; EPA 6020A/B	Calcium
ICP/MS	EPA 200.8; EPA 6020A/B	Chromium
ICP/MS	EPA 200.8; EPA 6020A/B	Cobalt
ICP/MS	EPA 200.8; EPA 6020A/B	Copper
ICP/MS	EPA 200.8; EPA 6020A/B	Iron
ICP/MS	EPA 200.8; EPA 6020A/B	Lead
ICP/MS	EPA 200.8; EPA 6020A/B	Magnesium
ICP/MS	EPA 200.8; EPA 6020A/B	Manganese
ICP/MS	EPA 200.8; EPA 6020A/B	Molybdenum
ICP/MS	EPA 200.8; EPA 6020A/B	Nickel
ICP/MS	EPA 200.8; EPA 6020A/B	Potassium
ICP/MS	EPA 200.8; EPA 6020A/B	Selenium
ICP/MS	EPA 200.8; EPA 6020A/B	Silver
ICP/MS	EPA 200.8; EPA 6020A/B	Sodium
ICP/MS	EPA 6020A/B	Strontium
ICP/MS	EPA 200.8; EPA 6020A/B	Thallium
ICP/MS	EPA 200.8; EPA 6020A/B	Tin
ICP/MS	EPA 200.8; EPA 6020A/B	Tungsten
ICP/MS	EPA 200.8	Uranium
ICP/MS	EPA 200.8; EPA 6020A/B	Vanadium

Non-Potable Water		
Technology	**Method**	**Analyte**
ICP/MS	EPA 200.8; EPA 6020A/B	Zinc
IC	EPA 9056A	Bromide
IC	EPA 300.0; EPA 9056A	Chloride
IC	EPA 300.0; EPA 9056A	Fluoride
IC	EPA 300.0; EPA 9056A	Nitrate as N
IC	EPA 300.0; EPA 9056A	Nitrite as N
IC	EPA 300.0; EPA 9056A	Nitrate + Nitrite
IC	EPA 300.0; EPA 9056A	Sulfate
Titration	EPA 310.1; SM 2320B	Alkalinity
Caculation	SM 2340B	Hardness
Gravimetric	EPA 1664A; EPA 9070A	Oil and Grease, Oil and Grease with SGT
Gravimetric	SM 2540B/C/D	Solids
ISE	EPA 120.1; SM 2510B	Conductivity
ISE	SM 2520B	Practical Salinity
ISE	SM 4500F- C	Fluoride
ISE	SM 4500H+ B	pH
ISE	SM 5210B	TBOD / CBOD
Physical	EPA 1010A	Ignitability
Physical	EPA 9040C	pH
Titration	SM 2340C	Hardness
Titration	SM 4500SO_3 B	Sulfite
Titration	EPA 9034; SM 4500-S^{2-} F	Sulfide
Titration	EPA SW-846 Chapter 7.3.4	Reactive Sulfide
IR	EPA 9060A; SM 5310B	Total organic carbon
Turbidimetric	EPA 180.1; SM 2130B	Turbidity
Turbidimetric	EPA 9038; ASTM 516-02	Sulfate
UV/VIS	EPA 335.4; EPA 9012B; SM 4500-CN G	Amenable cyanide
UV/VIS	EPA 350.1; SM 4500-NH3 H	Ammonia as N

Non-Potable Water		
Technology	**Method**	**Analyte**
UV/VIS	SM 3500Fe D	Ferrous Iron
UV/VIS	EPA 351.2	Kjeldahl nitrogen - total
UV/VIS	EPA 353.2; SM 4500-NO3 F	Nitrate + Nitrite
UV/VIS	EPA 353.2; SM 4500-NO3 F	Nitrate as N
UV/VIS	EPA 353.2; SM 4500-NO3 F	Nitrite as N
UV/VIS	EPA 365.2; SM 4500-P E	Orthophosphate as P
UV/VIS	EPA 365.4	Phosphorus total
UV/VIS	EPA 821/R-91-100	AVS-SEM
UV/VIS	EPA 410.4	COD
UV/VIS	EPA 420.1; EPA 9065	Total Phenolics
UV/VIS	SM 4500-Cl G	Total Residual Chlorine
UV/VIS	SM 5540C	MBAS
UV/VIS	EPA 7196A; SM 3500-Cr D	Chromium VI
UV/VIS	EPA 9012B; EPA 335.4	Total Cyanide
UV/VIS	EPA 9251; SM 4500-Cl E	Chloride
UV/VIS	EPA SW-846 Chapter 7.3.4	Reactive Cyanide
Preparation	**Method**	**Type**
Cleanup Methods	EPA 3640A	Gel Permeation Clean-up
Cleanup Methods	EPA 3630C	Silica Gel
Cleanup Methods	EPA 3660B	Sulfur Clean-Up
Cleanup Methods	EPA 3665A	Sulfuric Acid Clean-Up
Organic Preparation	EPA 3510C	Separatory Funnel Extraction
Organic Preparation	EPA 3520C	Continuous Liquid-Liquid Extraction
Inorganic Preparation	EPA 3010A	Hotblock
Volatile Organic Preparation	EPA 5030C	Purge and Trap

Solid and Chemical Waste		
Technology	**Method**	**Analyte**
GC/ECD	EPA 8081B	2,4`-DDD
GC/ECD	EPA 8081B	2,4`-DDE
GC/ECD	EPA 8081B	2,4`-DDT
GC/ECD	EPA 8081B	4, 4`-DDD
GC/ECD	EPA 8081B	4, 4`-DDE
GC/ECD	EPA 8081B	4, 4`-DDT
GC/ECD	EPA 8081B	Aldrin
GC/ECD	EPA 8081B	alpha-BHC (alpha-Hexachlorocyclohexane)
GC/ECD	EPA 8081B	Alpha-Chlordane/cis-chlordane
GC/ECD	EPA 8081B	beta-BHC (beta-Hexachlorocyclohexane)
GC/ECD	EPA 8081B	Chlordane (tech.)
GC/ECD	EPA 8081B	Cis-Nonachlor
GC/ECD	EPA 8081B	delta-BHC
GC/ECD	EPA 8081B	Dieldrin
GC/ECD	EPA 8081B	Endosulfan I
GC/ECD	EPA 8081B	Endosulfan II
GC/ECD	EPA 8081B	Endosulfan sulfate
GC/ECD	EPA 8081B	Endrin
GC/ECD	EPA 8081B	Endrin aldehyde
GC/ECD	EPA 8081B	Endrin Ketone
GC/ECD	EPA 8081B	gamma-BHC (Lindane gamma-Hexachlorocyclohexane)
GC/ECD	EPA 8081B	gamma-Chlordane/trans-Chlordane
GC/ECD	EPA 8081B	Heptachlor
GC/ECD	EPA 8081B	Heptachlor epoxide
GC/ECD	EPA 8081B	Hexachlorobenzene
GC/ECD	EPA 8081B	Methoxychlor
GC/ECD	EPA 8081B	Mirex
GC/ECD	EPA 8081B	Oxychlordane

Solid and Chemical Waste		
Technology	**Method**	**Analyte**
GC/ECD	EPA 8081B	Toxaphene (Chlorinated camphene)
GC/ECD	EPA 8081B	Trans-Nonachlor
GC/ECD	EPA 8082A	Aroclor-1016 (PCB-1016)
GC/ECD	EPA 8082A	Aroclor-1221 (PCB-1221)
GC/ECD	EPA 8082A	Aroclor-1232 (PCB-1232)
GC/ECD	EPA 8082A	Aroclor-1242 (PCB-1242)
GC/ECD	EPA 8082A	Aroclor-1248 (PCB-1248)
GC/ECD	EPA 8082A	Aroclor-1254 (PCB-1254)
GC/ECD	EPA 8082A	Aroclor-1260 (PCB-1260)
GC/ECD	EPA 8082A MOD	Aroclor-1262 (PCB-1262)
GC/ECD	EPA 8082A MOD	Aroclor-1268 (PCB-1268)
GC/ECD	EPA 8082A	2, 2', 3, 3', 4, 4', 5, 5', 6-Nonachlorobiphenyl (BZ 206)
GC/ECD	EPA 8082A	2, 2', 3, 3', 4, 4', 5, 6-Octachlorobiphenyl (BZ 195)
GC/ECD	EPA 8082A	2, 2', 3, 3', 4, 4', 5-Heptachlorobiphenyl (BZ 170)
GC/ECD	EPA 8082A	2, 2', 3, 3', 4, 4'-Hexachlorobiphenyl (BZ 128)
GC/ECD	EPA 8082A	2, 2', 3, 4, 4', 5, 5'-Heptachlorobiphenyl (BZ 180)
GC/ECD	EPA 8082A	2, 2', 3, 4, 4', 5', 6-Heptachlorobiphenyl (BZ 183)
GC/ECD	EPA 8082A	2, 2', 3, 4, 4', 5-Hexachlorobiphenyl (BZ 138)
GC/ECD	EPA 8082A	2, 2', 3, 4, 4', 6, 6'-Heptachlorobiphenyl (BZ 184)
GC/ECD	EPA 8082A	2, 2', 3, 4', 5, 5', 6-Heptachlorobiphenyl (BZ 187)
GC/ECD	EPA 8082A	2, 2', 3, 4, 5'-Pentachlorobiphenyl (BZ 87)
GC/ECD	EPA 8082A	2, 2', 3, 5'-Tetrachlorobiphenyl (BZ 44)
GC/ECD	EPA 8082A	2, 2', 4, 4', 5, 5'-Hexachlorobiphenyl (BZ 153)
GC/ECD	EPA 8082A	2, 2', 4, 5, 5'-Pentachlorobiphenyl (BZ 101)
GC/ECD	EPA 8082A	2, 2', 4, 5-Tetrachlorobiphenyl (BZ 48)
GC/ECD	EPA 8082A	2, 2', 4, 5'-Tetrachlorobiphenyl (BZ 49)
GC/ECD	EPA 8082A	2, 2', 5, 5'-Tetrachlorobiphenyl (BZ 52)

Solid and Chemical Waste		
Technology	**Method**	**Analyte**
GC/ECD	EPA 8082A	2, 2', 5-Trichlorobiphenyl (BZ 18)
GC/ECD	EPA 8082A	2, 3, 3', 4, 4', 5-Hexachlorobiphenyl (BZ 156)
GC/ECD	EPA 8082A	2, 3, 3', 4, 4', 5'-Hexachlorobiphenyl (BZ 157)
GC/ECD	EPA 8082A	2, 3, 3', 4, 4'-Pentachlorobiphenyl (BZ 105)
GC/ECD	EPA 8082A	2, 3, 3', 4, 4', 5, 5'-Heptachlorobiphenyl (BZ 189)
GC/ECD	EPA 8082A	2, 3', 4, 4', 5, 5'-Hexachlorobiphenyl (BZ 167)
GC/ECD	EPA 8082A	2, 3', 4, 4', 5-Pentachlorobiphenyl (BZ 118)
GC/ECD	EPA 8082A	2, 3', 4, 4',5'-Pentachlorobiphenyl (BZ 123)
GC/ECD	EPA 8082A	2, 3', 4, 4'-Tetrachlorobiphenyl (BZ 66)
GC/ECD	EPA 8082A	2, 3, 4, 4', 5-Pentachlorobiphenyl (BZ 114)
GC/ECD	EPA 8082A	2, 4, 4'-Trichlorobiphenyl (BZ 28)
GC/ECD	EPA 8082A	2, 4'-Dichlorobiphenyl (BZ 8)
GC/ECD	EPA 8082A	3, 3', 4, 4', 5, 5'-Hexachlorobiphenyl (BZ 169)
GC/ECD	EPA 8082A	3, 3', 4, 4', 5-Pentachlorobiphenyl (BZ 126)
GC/ECD	EPA 8082A	3, 3', 4, 4'-Tetrachlorobiphenyl (BZ 77)
GC/ECD	EPA 8082A	3, 4, 4', 5-Tetrachlorobiphenyl (BZ 81)
GC/ECD	EPA 8082A	Decachlorobiphenyl (BZ 209)
GC/ECD	EPA 8151A	2, 4, 5-T
GC/ECD	EPA 8151A	2, 4-D
GC/ECD	EPA 8151A	2, 4-DB
GC/ECD	EPA 8151A	Dalapon
GC/ECD	EPA 8151A	Dicamba
GC/ECD	EPA 8151A	Dichloroprop
GC/ECD	EPA 8151A	Dinoseb
GC/ECD	EPA 8151A	MCPA
GC/ECD	EPA 8151A	MCPP
GC/ECD	EPA 8151A	Pentachlorophenol
GC/ECD	EPA 8151A	Silvex (2, 4, 5-TP)

Solid and Chemical Waste		
Technology	**Method**	**Analyte**
GC/FID	EPA 8015C/D MOD	Diesel range organics (DRO)
GC/FID	EPA 8015C/D MOD	Total Petroleum Hydrocarbons (TPH)
GC/FID	EPA 8015C/D MOD	Gasoline range organics (GRO)
GC/FID/PID	MA DEP VPH	Volatile Organic Hydrocarbons
GC/FID	MA DEP EPH	Extractable Petroleum Hydrocarbons
GC/FID	MA DEP EPH EPA 3546	Extractable Petroleum Hydrocarbons Microwave Extraction Preparation
GC/FID	CT-ETPH	Total Petroleum Hydrocarbons
GC/FID	FL-PRO	Petroleum Range Organics
GC/ECD	EPA 8011	1, 2-Dibromoethane (EDB)
GC/ECD	EPA 8011	1, 2-Dibromo-3-chloropropane
GC/MS	EPA 8260B/C	1, 1, 1, 2-Tetrachloroethane
GC/MS	EPA 8260B/C	1,1,2-Trichloro-1,2,2-trifluoroethane
GC/MS	EPA 8260B/C	1, 1, 1-Trichloroethane
GC/MS	EPA 8260B/C	1, 1, 2, 2-Tetrachloroethane
GC/MS	EPA 8260B/C	1, 1, 2-Trichloroethane
GC/MS	EPA 8260B/C	1, 1-Dichloroethane
GC/MS	EPA 8260B/C	1, 1-Dichloroethylene
GC/MS	EPA 8260B/C	1, 1-Dichloropropene
GC/MS	EPA 8260B/C	1, 2, 3-Trichlorobenzene
GC/MS	EPA 8260B/C	1, 2, 3-Trichloropropane
GC/MS	EPA 8260B/C	1,2,3-Trimethylbenzene
GC/MS	EPA 8260B/C	1, 2, 4-Trichlorobenzene
GC/MS	EPA 8260B/C	1, 2, 4-Trimethylbenzene
GC/MS	EPA 8260B/C	1, 2-Dibromo-3-chloropropane
GC/MS	EPA 8260B/C	1, 2-Dibromoethane
GC/MS	EPA 8260B/C	1, 2-Dichlorobenzene
GC/MS	EPA 8260B/C	1, 2-Dichloroethane
GC/MS	EPA 8260B/C	1, 2-Dichloropropane

Solid and Chemical Waste		
Technology	**Method**	**Analyte**
GC/MS	EPA 8260B/C	1,3,5-Trichlorobenzene
GC/MS	EPA 8260B/C	1, 3, 5-Trimethylbenzene
GC/MS	EPA 8260B/C	1, 3-Dichlorobenzene
GC/MS	EPA 8260B/C	1, 3-Dichloropropane
GC/MS	EPA 8260B/C	1, 4-Dichlorobenzene
GC/MS	EPA 8260B/C	1, 4-Dioxane
GC/MS	EPA 8260B/C	2, 2-Dichloropropane
GC/MS	EPA 8260B/C	2-Butanone
GC/MS	EPA 8260B/C	2-Chloroethyl vinyl ether
GC/MS	EPA 8260B/C	2-Chlorotoluene
GC/MS	EPA 8260B/C	2-Hexanone
GC/MS	EPA 8260B/C	4-Chlorotoluene
GC/MS	EPA 8260B/C	4-Methyl-2-pentanone
GC/MS	EPA 8260B/C	Acetone
GC/MS	EPA 8260B/C	Acetonitrile
GC/MS	EPA 8260B/C	Acrolein
GC/MS	EPA 8260B/C	Acrylonitrile
GC/MS	EPA 8260B/C	Allyl chloride
GC/MS	EPA 8260B/C	Benzene
GC/MS	EPA 8260B/C	Benzyl chloride
GC/MS	EPA 8260B/C	Bromobenzene
GC/MS	EPA 8260B/C	Bromochloromethane
GC/MS	EPA 8260B/C	Bromodichloromethane
GC/MS	EPA 8260B/C	Bromoform
GC/MS	EPA 8260B/C	Carbon disulfide
GC/MS	EPA 8260B/C	Carbon tetrachloride
GC/MS	EPA 8260B/C	Chlorobenzene
GC/MS	EPA 8260B/C	Chloroethane

Solid and Chemical Waste		
Technology	**Method**	**Analyte**
GC/MS	EPA 8260B/C	Chloroform
GC/MS	EPA 8260B/C	Chloroprene
GC/MS	EPA 8260B/C	cis-1, 2-Dichloroethene
GC/MS	EPA 8260B/C	cis-1, 3-Dichloropropene
GC/MS	EPA 8260B/C	cis-1,3-Dichloro-2-butene
GC/MS	EPA 8260B/C	Cyclohexane
GC/MS	EPA 8260B/C	Dibromochloromethane
GC/MS	EPA 8260B/C	Dibromomethane
GC/MS	EPA 8260B/C	Dichlorodifluoromethane
GC/MS	EPA 8260B/C	Diethyl ether
GC/MS	EPA 8260B/C	Di-isopropylether
GC/MS	EPA 8260B/C	1,2-Dibromoethane (EDB)
GC/MS	EPA 8260B/C	Ethyl methacrylate
GC/MS	EPA 8260B/C	Ethylbenzene
GC/MS	EPA 8260B/C	Ethyl-t-butylether
GC/MS	EPA 8260B/C	Hexachlorobutadiene
GC/MS	EPA 8260B/C	Iodomethane
GC/MS	EPA 8260B/C	Isobutyl alcohol
GC/MS	EPA 8260B/C	Isopropyl alcohol
GC/MS	EPA 8260B/C	Isopropyl benzene
GC/MS	EPA 8260B/C	m p-xylenes
GC/MS	EPA 8260B/C	Methyl acetate
GC/MS	EPA 8260B/C	Methacrylonitrile
GC/MS	EPA 8260B/C	Methyl bromide (Bromomethane)
GC/MS	EPA 8260B/C	Methyl chloride (Chloromethane)
GC/MS	EPA 8260B/C	Methyl methacrylate
GC/MS	EPA 8260B/C	Methyl tert-butyl ether
GC/MS	EPA 8260B/C	Methylcyclohexane

Solid and Chemical Waste		
Technology	**Method**	**Analyte**
GC/MS	EPA 8260B/C	Methylene chloride
GC/MS	EPA 8260B/C	Naphthalene
GC/MS	EPA 8260B/C	n-Butylbenzene
GC/MS	EPA 8260B/C	n-proplybenzene
GC/MS	EPA 8260B/C	o-Xylene
GC/MS	EPA 8260B/C	pentachloroethane
GC/MS	EPA 8260B/C	p-Isopropyltoluene
GC/MS	EPA 8260B/C	Propionitrile
GC/MS	EPA 8260B/C	sec-butylbenzene
GC/MS	EPA 8260B/C	Styrene
GC/MS	EPA 8260B/C	t-Amylmethylether
GC/MS	EPA 8260B/C	tert-Butyl alcohol
GC/MS	EPA 8260B/C	tert-Butylbenzene
GC/MS	EPA 8260B/C	Tetrachloroethylene (Perchloroethylene)
GC/MS	EPA 8260B/C	Tetrahydrofuran
GC/MS	EPA 8260B/C	Toluene
GC/MS	EPA 8260B/C	trans-1, 2-Dichloroethylene
GC/MS	EPA 8260B/C	trans-1, 3-Dichloropropylene
GC/MS	EPA 8260B/C	Trans-1, 4-Dichloro-2-butuene
GC/MS	EPA 8260B/C	Trichloroethene (Trichloroethylene)
GC/MS	EPA 8260B/C	Trichlorofluoromethane
GC/MS	EPA 8260B/C	Vinyl acetate
GC/MS	EPA 8260B/C	Vinyl chloride
GC/MS	EPA 8260B/C	Xylene
GC/MS	EPA 8270C/D	1, 2, 4, 5-Tetrachlorobenzene
GC/MS	EPA 8270C/D	1, 2, 4-Trichlorobenzene
GC/MS	EPA 8270C/D	1, 2-Dichlorobenzene
GC/MS	EPA 8270C/D	1, 2-Diphenylhydrazine

Solid and Chemical Waste		
Technology	**Method**	**Analyte**
GC/MS	EPA 8270C/D	1, 3, 5-Trinitrobenzene
GC/MS	EPA 8270C/D	1, 3-Dichlorobenzene
GC/MS	EPA 8270C/D	1, 3-Dinitrobenzene
GC/MS	EPA 8270C/D	1, 4-Dichlorobenzene
GC/MS	EPA 8270C/D	1, 4-Dioxane
GC/MS	EPA 8270C/D	1, 4-Naphthoquinone
GC/MS	EPA 8270C/D	1, 4-Phenylenediamine
GC/MS	EPA 8270C/D	1,1-Biphenyl
GC/MS	EPA 8270C/D	1-Chloronaphthalene
GC/MS	EPA 8270C/D	1-Methylnaphthalene
GC/MS	EPA 8270C/D	1-Naphthylamine
GC/MS	EPA 8270C/D	2, 3, 4, 6-Tetrachlorophenol
GC/MS	EPA 8270C/D	2, 4, 5-Trichlorophenol
GC/MS	EPA 8270C/D	2, 4, 6-Trichlorophenol
GC/MS	EPA 8270C/D	2, 4-Dichlorophenol
GC/MS	EPA 8270C/D	2, 4-Dimethylphenol
GC/MS	EPA 8270C/D	2, 4-Dinitrophenol
GC/MS	EPA 8270C/D	2, 4-Dinitrotoluene (2 4-DNT)
GC/MS	EPA 8270C/D	2, 6-Dichlorophenol
GC/MS	EPA 8270C/D	2, 6-Dinitrotoluene (2 6-DNT)
GC/MS	EPA 8270C/D	2-Acetylaminofluorene
GC/MS	EPA 8270C/D	2-Chloronaphthalene
GC/MS	EPA 8270C/D	2-Chlorophenol
GC/MS	EPA 8270C/D	2-Methyl-4, 6-dinitrophenol
GC/MS	EPA 8270C/D	2-Methylnaphthalene
GC/MS	EPA 8270C/D	2-Methylphenol
GC/MS	EPA 8270C/D	2-Naphthylamine
GC/MS	EPA 8270C/D	2-Nitroaniline

Solid and Chemical Waste		
Technology	**Method**	**Analyte**
GC/MS	EPA 8270C/D	2-Nitrophenol
GC/MS	EPA 8270C/D	2-Picoline
GC/MS	EPA 8270C/D	3, 3`-Dichlorobenzidine
GC/MS	EPA 8270C/D	3, 3'-Dimethylbenzidine
GC/MS	EPA 8270C/D	3, 4-Dimethylphenol
GC/MS	EPA 8270C/D	3&4-Methylphenol
GC/MS	EPA 8270C/D	3-Methylcholanthrene
GC/MS	EPA 8270C/D	3-Nitroaniline
GC/MS	EPA 8270C/D	4-Aminobiphenyl
GC/MS	EPA 8270C/D	4-Bromophenyl phenyl ether
GC/MS	EPA 8270C/D	4-Chloro-3-methylphenol
GC/MS	EPA 8270C/D	4-Chloroaniline
GC/MS	EPA 8270C/D	4-Chlorophenyl phenylether
GC/MS	EPA 8270C/D	4-Dimethyl aminoazobenzene
GC/MS	EPA 8270C/D	4-Nitroaniline
GC/MS	EPA 8270C/D	4-Nitrophenol
GC/MS	EPA 8270C/D	4-Nitroquinoline-1-oxide
GC/MS	EPA 8270C/D	5-Nitro-o-toluidine
GC/MS	EPA 8270C/D	7,12-Dimethylbenz(a)anthracene
GC/MS	EPA 8270C/D	a a-Dimethylphenethylamine
GC/MS	EPA 8270C/D	Acenaphthene
GC/MS	EPA 8270C/D	Acenaphthylene
GC/MS	EPA 8270C/D	Acetophenone
GC/MS	EPA 8270C/D	Aniline
GC/MS	EPA 8270C/D	Anthracene
GC/MS	EPA 8270C/D	Aramite
GC/MS	EPA 8270C/D	Atrazine
GC/MS	EPA 8270C/D	Azobenzene

Solid and Chemical Waste		
Technology	**Method**	**Analyte**
GC/MS	EPA 8270C/D	Benzaldehyde
GC/MS	EPA 8270C/D	Benzidine
GC/MS	EPA 8270C/D	Benzo(a)anthracene
GC/MS	EPA 8270C/D	Benzo(a)pyrene
GC/MS	EPA 8270C/D	Benzo(b)fluoranthene
GC/MS	EPA 8270C/D	Benzo(g h i)perylene
GC/MS	EPA 8270C/D	Benzo(k)fluoranthene
GC/MS	EPA 8270C/D	Benzoic Acid
GC/MS	EPA 8270C/D	Benzyl alcohol
GC/MS	EPA 8270C/D	bis(2-Chloroethoxy)methane
GC/MS	EPA 8270C/D	bis(2-Chloroethyl) ether
GC/MS	EPA 8270C/D	bis(2-Chloroisopropyl) ether (2, 2`-Oxybis(1-chloropropane))
GC/MS	EPA 8270C/D	bis(2-Ethylhexyl) phthalate (DEHP)
GC/MS	EPA 8270C/D	Bis(2-Ethylhexyl)adipate
GC/MS	EPA 8270C/D	Butyl benzyl phthalate
GC/MS	EPA 8270C/D	Caprolactam
GC/MS	EPA 8270C/D	Carbazole
GC/MS	EPA 8270C/D	Chlorobenzilate
GC/MS	EPA 8270C/D	Chrysene
GC/MS	EPA 8270C/D	Diallate
GC/MS	EPA 8270C/D	Dibenzo(a,h)anthracene
GC/MS	EPA 8270C/D	Dibenzo(a,j)acridine
GC/MS	EPA 8270C/D	Dibenzofuran
GC/MS	EPA 8270C/D	Diethyl phthalate
GC/MS	EPA 8270C/D	Diethyladipate
GC/MS	EPA 8270C/D	Dimethoate
GC/MS	EPA 8270C/D	Dimethyl phthalate
GC/MS	EPA 8270C/D	Di-n-butyl phthalate

Solid and Chemical Waste		
Technology	**Method**	**Analyte**
GC/MS	EPA 8270C/D	Di-n-octyl phthalate
GC/MS	EPA 8270C/D	Dinoseb
GC/MS	EPA 8270C/D	Disulfoton
GC/MS	EPA 8270C/D	Ethyl methacrylate
GC/MS	EPA 8270C/D	Ethyl methanesulfonate
GC/MS	EPA 8270C/D	Ethyl parathion
GC/MS	EPA 8270C/D	Famfur
GC/MS	EPA 8270C/D	Fluoranthene
GC/MS	EPA 8270C/D	Fluorene
GC/MS	EPA 8270C/D	Hexachlorobenzene
GC/MS	EPA 8270C/D	Hexachlorobutadiene
GC/MS	EPA 8270C/D	Hexachlorocyclopentadiene
GC/MS	EPA 8270C/D	Hexachloroethane
GC/MS	EPA 8270C/D	Hexachlorophene
GC/MS	EPA 8270C/D	Hexachloropropene
GC/MS	EPA 8270C/D	Indeno(1, 2, 3-cd)pyrene
GC/MS	EPA 8270C/D	Isodrin
GC/MS	EPA 8270C/D	Isophorone
GC/MS	EPA 8270C/D	Isosafrole
GC/MS	EPA 8270C/D	Kepone
GC/MS	EPA 8270C/D	Methapyriline
GC/MS	EPA 8270C/D	Methyl methanesulfonate
GC/MS	EPA 8270C/D	Methyl parathion
GC/MS	EPA 8270C/D	Naphthalene
GC/MS	EPA 8270C/D	Nitrobenzene
GC/MS	EPA 8270C/D	n-Nitrosodiethylamine
GC/MS	EPA 8270C/D	n-Nitrosodimethylamine
GC/MS	EPA 8270C/D	n-Nitroso-di-n-butylamine

Solid and Chemical Waste		
Technology	**Method**	**Analyte**
GC/MS	EPA 8270C/D	n-Nitrosodi-n-propylamine
GC/MS	EPA 8270C/D	n-Nitrosodiphenylamine
GC/MS	EPA 8270C/D	n-Nitrosomethylethylamine
GC/MS	EPA 8270C/D	n-Nitrosomorpholine
GC/MS	EPA 8270C/D	n-Nitrosopiperidine
GC/MS	EPA 8270C/D	n-Nitrosopyrrolidine
GC/MS	EPA 8270C/D	O, O, O-Triethyl phosphorothioate
GC/MS	EPA 8270C/D	O,O-Diethyl O-2-pyrazinyl phosphorothioate
GC/MS	EPA 8270C/D	o-Toluidine
GC/MS	EPA 8270C/D	Pentachlorobenzene
GC/MS	EPA 8270C/D	Pentachloronitrobenzene
GC/MS	EPA 8270C/D	Pentachlorophenol
GC/MS	EPA 8270C/D	Phenacetin
GC/MS	EPA 8270C/D	Phenanthrene
GC/MS	EPA 8270C/D	Phenol
GC/MS	EPA 8270C/D	Phorate
GC/MS	EPA 8270C/D	Pronamide
GC/MS	EPA 8270C/D	Pyrene
GC/MS	EPA 8270C/D	Pyridine
GC/MS	EPA 8270C/D	Safrole
GC/MS	EPA 8270C/D	Sulfotepp
GC/MS	EPA 8270C/D	Thionazin
GC/MS	EPA 8270C/D SIM	1,1'-Biphenyl
GC/MS	EPA 8270C/D SIM	1,2,4,5-Tetrachlorobenzene
GC/MS	EPA 8270C/D SIM	1,4-Dioxane
GC/MS	EPA 8270C/D SIM	1-Methylnaphthalene
GC/MS	EPA 8270C/D SIM	2,2'-Oxybis(1-chloropropane
GC/MS	EPA 8270C/D SIM	2,3,4,6-Tetrachlorophenol

Solid and Chemical Waste		
Technology	**Method**	**Analyte**
GC/MS	EPA 8270C/D SIM	2,4,5-Trichlorophenol
GC/MS	EPA 8270C/D SIM	2,4,6-Trichlorophenol
GC/MS	EPA 8270C/D SIM	2,4-Dichlorophenol
GC/MS	EPA 8270C/D SIM	2,4-Dimethylphenol
GC/MS	EPA 8270C/D SIM	2,4-Dinitrophenol
GC/MS	EPA 8270C/D SIM	2,4-Dinitrotoluene
GC/MS	EPA 8270C/D SIM	2,6-Dinitrotoluene
GC/MS	EPA 8270C/D SIM	2-Chloronaphthalene
GC/MS	EPA 8270C/D SIM	2-Chlorophenol
GC/MS	EPA 8270C/D SIM	2-Methylnaphthalene
GC/MS	EPA 8270C/D SIM	2-Methylphenol
GC/MS	EPA 8270C/D SIM	2-Nitroaniline
GC/MS	EPA 8270C/D SIM	2-Nitrophenol
GC/MS	EPA 8270C/D SIM	3&4-Methylphenol
GC/MS	EPA 8270C/D SIM	3,3'-Dichlorobenzidine
GC/MS	EPA 8270C/D SIM	3,4-Dimethylphenol
GC/MS	EPA 8270C/D SIM	3-Nitroaniline
GC/MS	EPA 8270C/D SIM	4,6-Dinitro-2-methylphenol
GC/MS	EPA 8270C/D SIM	4-Bromophenyl-phenylether
GC/MS	EPA 8270C/D SIM	4-Chloro-3-methylphenol
GC/MS	EPA 8270C/D SIM	4-Chloroaniline
GC/MS	EPA 8270C/D SIM	4-Chlorophenyl-phenylether
GC/MS	EPA 8270C/D SIM	4-Nitroaniline
GC/MS	EPA 8270C/D SIM	4-Nitrophenol
GC/MS	EPA 8270C/D SIM	Acenaphthene
GC/MS	EPA 8270C/D SIM	Acenaphthylene
GC/MS	EPA 8270C/D SIM	Acetophenone
GC/MS	EPA 8270C/D SIM	Anthracene

Solid and Chemical Waste		
Technology	**Method**	**Analyte**
GC/MS	EPA 8270C/D SIM	Atrazine
GC/MS	EPA 8270C/D SIM	Benzaldehyde
GC/MS	EPA 8270C/D SIM	Benzo(a)anthracene
GC/MS	EPA 8270C/D SIM	Benzo(a)pyrene
GC/MS	EPA 8270C/D SIM	Benzo(b)fluoranthene
GC/MS	EPA 8270C/D SIM	Benzo(g,h,i)perylene
GC/MS	EPA 8270C/D SIM	Benzo(k)fluoranthene
GC/MS	EPA 8270C/D SIM	Bis(2-chloroethoxy)methane
GC/MS	EPA 8270C/D SIM	Bis(2-chloroethyl)ether
GC/MS	EPA 8270C/D SIM	Bis(2-ethylhexyl)phthalate
GC/MS	EPA 8270C/D SIM	Butylbenzylphthalate
GC/MS	EPA 8270C/D SIM	Caprolactam
GC/MS	EPA 8270C/D SIM	Carbazole
GC/MS	EPA 8270C/D SIM	Chrysene
GC/MS	EPA 8270C/D SIM	Dibenzo(a,h)anthracene
GC/MS	EPA 8270C/D SIM	Dibenzofuran
GC/MS	EPA 8270C/D SIM	Diethylphthalate
GC/MS	EPA 8270C/D SIM	Dimethyl phthalate
GC/MS	EPA 8270C/D SIM	Di-n-butylphthalate
GC/MS	EPA 8270C/D SIM	Di-n-octylphthalate
GC/MS	EPA 8270C/D SIM	Fluoranthene
GC/MS	EPA 8270C/D SIM	Fluorene
GC/MS	EPA 8270C/D SIM	Hexachlorobenzene
GC/MS	EPA 8270C/D SIM	Hexachlorobutadiene
GC/MS	EPA 8270C/D SIM	Hexachlorocyclopentadiene
GC/MS	EPA 8270C/D SIM	Hexachloroethane
GC/MS	EPA 8270C/D SIM	Indeno(1,2,3-cd)pyrene
GC/MS	EPA 8270C/D SIM	Isophorone

Solid and Chemical Waste		
Technology	**Method**	**Analyte**
GC/MS	EPA 8270C/D SIM	Naphthalene
GC/MS	EPA 8270C/D SIM	Nitrobenzene
GC/MS	EPA 8270C/D SIM	n-Nitroso-di-n-propylamine
GC/MS	EPA 8270C/D SIM	n-Nitrosodiphenylamine
GC/MS	EPA 8270C/D SIM	Pentachlorophenol
GC/MS	EPA 8270C/D SIM	Phenanthrene
GC/MS	EPA 8270C/D SIM	Phenol
GC/MS	EPA 8270C/D SIM	Pyrene
HPLC/UV	EPA 8330A	1 ,3, 5-Trinitrobenzene
HPLC/UV	EPA 8330A	1, 3-Dinitrobenzene
HPLC/UV	EPA 8330A	2, 4, 6-Trinitrotoluene
HPLC/UV	EPA 8330A	2, 4-Dinitrotoluene
HPLC/UV	EPA 8330A	2, 6-Dinitrotoluene
HPLC/UV	EPA 8330A	2-Amino-4, 6-dinitrotoluene
HPLC/UV	EPA 8330A	2-Nitrotoluene
HPLC/UV	EPA 8330A	3-Nitrotoluene
HPLC/UV	EPA 8330A	3,5-Dinitroaniline
HPLC/UV	EPA 8330A	4-Amino-2,6-dinitrotoluene
HPLC/UV	EPA 8330A	4-Nitrotoluene
HPLC/UV	EPA 8330A	Ethylene glycol dinitrate (EGDN)
HPLC/UV	EPA 8330A	Hexahydro-1, 3, 5-trinitro-1, 3, 5-triazine (RDX)
HPLC/UV	EPA 8330A	Nitrobenzene
HPLC/UV	EPA 8330A MOD	Nitroglycerin
HPLC/UV	EPA 8330A	Octahydro-1, 3, 5, 7-tetrazocine (HMX)
HPLC/UV	EPA 8330A	Pentaerythritol Tetranitrate (PETN)
HPLC/UV	EPA 8330A	Tetryl
HPLC/UV	EPA 8330A	Nitroguanidine
HPLC/UV	EPA 8330B	1, 3, 5-Trinitrobenzene

Solid and Chemical Waste		
Technology	**Method**	**Analyte**
HPLC/UV	EPA 8330B	1, 3-Dinitrobenzene
HPLC/UV	EPA 8330B	2, 4, 6-Trinitrotoluene
HPLC/UV	EPA 8330B	2, 4-Dinitrotoluene
HPLC/UV	EPA 8330B	2, 6-Dinitrotoluene
HPLC/UV	EPA 8330B	2-Amino-4, 6 –Dinitrotoluene
HPLC/UV	EPA 8330B	2-Nitrotoluene
HPLC/UV	EPA 8330B	3-Nitrotoluene
HPLC/UV	EPA 8330B	3,5-Dinitroaniline
HPLC/UV	EPA 8330B	4-Amino-2,6,Dinitrotoluene
HPLC/UV	EPA 8330B	4-Nitrotoluene
HPLC/UV	EPA 8330B	Ethylene glycol dinitrate (EGDN)
HPLC/UV	EPA 8330B	Hexahydro-1, 3, 5-trinitro-1, 3, 5-triazine (RDX)
HPLC/UV	EPA 8330B	Nitrobenzene
HPLC/UV	EPA 8330B	Nitroglycerin
HPLC/UV	EPA 8330B	Octahydro-1, 3, 5, 7-tetrazocine (HMX)
HPLC/UV	EPA 8330B	Pentaerythritol Tetranitrate (PETN)
HPLC/UV	EPA 8330B	Tetryl
HPLC/UV	EPA 8330B	Nitroguanidine
CVAA	EPA 7471B	Mercury
CVAF	EPA 1631E	Low Level Mercury
ICP/AES	EPA 6010C/D	Aluminum
ICP/AES	EPA 6010C/D	Antimony
ICP/AES	EPA 6010C/D	Arsenic
ICP/AES	EPA 6010C/D	Barium
ICP/AES	EPA 6010C/D	Beryllium
ICP/AES	EPA 6010C/D	Boron
ICP/AES	EPA 6010C/D	Cadmium
ICP/AES	EPA 6010C/D	Calcium

Solid and Chemical Waste		
Technology	**Method**	**Analyte**
ICP/AES	EPA 6010C/D	Chromium
ICP/AES	EPA 6010C/D	Cobalt
ICP/AES	EPA 6010C/D	Copper
ICP/AES	EPA 6010C/D	Iron
ICP/AES	EPA 6010C/D	Lead
ICP/AES	EPA 6010C/D	Magnesium
ICP/AES	EPA 6010C/D	Manganese
ICP/AES	EPA 6010C/D	Molybdenum
ICP/AES	EPA 6010C/D	Nickel
ICP/AES	EPA 6010C/D	Potassium
ICP/AES	EPA 6010C/D	Selenium
ICP/AES	EPA 6010C/D	Silicon
ICP/AES	EPA 6010C/D	Silver
ICP/AES	EPA 6010C/D	Sodium
ICP/AES	EPA 6010C/D	Strontium
ICP/AES	EPA 6010C/D	Thallium
ICP/AES	EPA 6010C/D	Tin
ICP/AES	EPA 6010C/D	Titanium
ICP/AES	EPA 6010C/D	Vanadium
ICP/AES	EPA 6010C/D	Zinc
ICP/MS	EPA 6020A/B	Aluminum
ICP/MS	EPA 6020A/B	Antimony
ICP/MS	EPA 6020A/B	Arsenic
ICP/MS	EPA 6020A/B	Barium
ICP/MS	EPA 6020A/B	Beryllium
ICP/MS	EPA 6020A/B	Boron
ICP/MS	EPA 6020A/B	Cadmium
ICP/MS	EPA 6020A/B	Calcium

Solid and Chemical Waste		
Technology	**Method**	**Analyte**
ICP/MS	EPA 6020A/B	Chromium
ICP/MS	EPA 6020A/B	Cobalt
ICP/MS	EPA 6020A/B	Copper
ICP/MS	EPA 6020A/B	Iron
ICP/MS	EPA 6020A/B	Lead
ICP/MS	EPA 6020A/B	Magnesium
ICP/MS	EPA 6020A/B	Manganese
ICP/MS	EPA 6020A/B	Molybdenum
ICP/MS	EPA 6020A/B	Nickel
ICP/MS	EPA 6020A/B	Potassium
ICP/MS	EPA 6020A/B	Selenium
ICP/MS	EPA 6020A/B	Silver
ICP/MS	EPA 6020A/B	Sodium
ICP/MS	EPA 6020A/B	Strontium
ICP/MS	EPA 6020A/B	Thallium
ICP/MS	EPA 6020A/B	Tin
ICP/MS	EPA 6020A/B	Tungsten
ICP/MS	EPA 6020A/B	Vanadium
ICP/MS	EPA 6020A/B	Zinc
IC	EPA 9056A	Bromide
IC	EPA 9056A	Chloride
IC	EPA 9056A	Fluoride
IC	EPA 9056A	Nitrate as N
IC	EPA 9056A	Nitrite as N
IC	EPA 9056A	Sulfate
Gravimetric	EPA 9071A/B	Oil and Grease, Oil and Grease with SGT
Physical	EPA 1010A	Ignitability
Physical	EPA 9045D	pH

Solid and Chemical Waste		
Technology	**Method**	**Analyte**
Titration	EPA SW-846 Chapter 7.3.4	Reactive Sulfide
Titration	Walkley-Black	Total Organic Carbon
IR	Lloyd Kahn	Total organic carbon
Turbidimetric	EPA 9038; ASTM 516-02	Sulfate
UV/VIS	EPA 350.1; SM 4500-NH3 H	Ammonia as N
UV/VIS	EPA 9251; SM 4500-Cl E	Chloride
UV/VIS	EPA SW-846 Chapter 7.3.4	Reactive Cyanide
UV/VIS	EPA 821/R-91-100	AVS-SEM
Cleanup Methods	EPA 3630C	Silica Gel
UV/VIS	EPA 7196A	Chromium VI
UV/VIS	EPA 9012B	Total cyanide
Sieves, Hydrometer	ASTM D422	Grain Size
Preparation	**Method**	**Type**
Preparation	EPA 1311	Toxicity Characteristic Leaching Procedure
Preparation	EPA 1312	Synthetic Precipitation Leaching Procedure
Cleanup Methods	EPA 3660B	Sulfur Clean-up
Cleanup Methods	EPA 3620C	Florsil Clean-up
Cleanup Methods	EPA 3630C	Silica Gel Clean-up
Cleanup Methods	EPA 3640A	GPC Clean-up
Organic Preparation	EPA 3540C	Soxhlet Extraction
Organic Preparation	EPA 3545A	Pressurized Fluid Extraction
Organic Preparation	EPA 3546	Microwave Extraction Preparation for EPA 8082A, 8081B and 8270C, D, 8015C/D
Organic Preparation	EPA 3550C	Sonication
Inorganics Preparation	EPA 3050B	Hotblock
Inorganics Preparation	EPA 3060A	Alkaline Digestion
Volatile Organics Preparation	EPA 5035/5035A	Closed System Purge and Trap

Solid and Chemical Waste		
Technology	**Method**	**Analyte**
Organic Preparation	EPA 8330A/B	ISM

Biological Tissue		
Technology	**Method**	**Analyte**
GC/ECD	EPA 8081B	4, 4`-DDD
GC/ECD	EPA 8081B	4, 4`-DDE
GC/ECD	EPA 8081B	4, 4`-DDT
GC/ECD	EPA 8081B	Aldrin
GC/ECD	EPA 8081B	alpha-BHC (alpha-Hexachlorocyclohexane)
GC/ECD	EPA 8081B	Alpha-Chlordane/cis-Chlordane
GC/ECD	EPA 8081B	beta-BHC (beta-Hexachlorocyclohexane)
GC/ECD	EPA 8081B	Cis-Nonaclor
GC/ECD	EPA 8081B	delta-BHC
GC/ECD	EPA 8081B	Dieldrin
GC/ECD	EPA 8081B	Endosulfan I
GC/ECD	EPA 8081B	Endosulfan II
GC/ECD	EPA 8081B	Endosulfan sulfate
GC/ECD	EPA 8081B	Endrin
GC/ECD	EPA 8081B	Endrin aldehyde
GC/ECD	EPA 8081B	Endrin Ketone
GC/ECD	EPA 8081B	gamma-BHC (Lindane gamma-Hexachlorocyclohexane)
GC/ECD	EPA 8081B	gamma-Chlordane/trans-Chlordane
GC/ECD	EPA 8081B	Heptachlor
GC/ECD	EPA 8081B	Heptachlor epoxide
GC/ECD	EPA 8081B	Hexachlorobenzene
GC/ECD	EPA 8081B	Methoxychlor
GC/ECD	EPA 8081B	Oxychlordane

Biological Tissue		
Technology	**Method**	**Analyte**
GC/ECD	EPA 8081B	Toxaphene (Chlorinated camphene)
GC/ECD	EPA 8081B	trans-Nonachlor
GC/ECD	EPA 8082A	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl (BZ 206)
GC/ECD	EPA 8082A	2,2',3,3',4,4',5,6-Octachlorobiphenyl (BZ 195)
GC/ECD	EPA 8082A	2,2',3,3',4,4',5-Heptachlorobiphenyl (BZ 170)
GC/ECD	EPA 8082A	2,2',3,3',4,4'-Hexachlorobiphenyl (BZ 128)
GC/ECD	EPA 8082A	2, 2', 3, 4, 4', 5, 5'-Heptachlorobiphenyl (BZ 180)
GC/ECD	EPA 8082A	2, 2', 3, 4, 4', 5', 6-Heptachlorobiphenyl (BZ 183)
GC/ECD	EPA 8082A	2, 2', 3, 4, 4', 5-Hexachlorobiphenyl (BZ 138)
GC/ECD	EPA 8082A	2, 2', 3, 4, 4', 6, 6'-Heptachlorobiphenyl (BZ 184)
GC/ECD	EPA 8082A	2, 2', 3, 4', 5, 5', 6-Heptachlorobiphenyl (BZ 187)
GC/ECD	EPA 8082A	2, 2', 3, 4, 5'-Pentachlorobiphenyl (BZ 87)
GC/ECD	EPA 8082A	2, 2', 3, 5'-Tetrachlorobiphenyl (BZ 44)
GC/ECD	EPA 8082A	2, 2', 4, 4', 5, 5'-Hexachlorobiphenyl (BZ 153)
GC/ECD	EPA 8082A	2, 2', 4, 5, 5'-Pentachlorobiphenyl (BZ 101)
GC/ECD	EPA 8082A	2, 2', 4, 5'-Tetrachlorobiphenyl (BZ 49)
GC/ECD	EPA 8082A	2, 2', 5, 5'-Tetrachlorobiphenyl (BZ 52)
GC/ECD	EPA 8082A	2, 2', 5-Trichlorobiphenyl (BZ 18)
GC/ECD	EPA 8082A	2, 3, 3', 4, 4'-Pentachlorobiphenyl (BZ 105)
GC/ECD	EPA 8082A	2, 3', 4, 4', 5-Pentachlorobiphenyl (BZ 118)
GC/ECD	EPA 8082A	2, 3', 4, 4'-Tetrachlorobiphenyl (BZ 66)
GC/ECD	EPA 8082A	2, 4, 4'-Trichlorobiphenyl (BZ 28)
GC/ECD	EPA 8082A	2, 4'-Dichlorobiphenyl (BZ 8)
GC/ECD	EPA 8082A	Decachlorobiphenyl (BZ 209)
GC/MS	EPA 8270C/D SIM	1,1'-Biphenyl
GC/MS	EPA 8270C/D SIM	1,2,4,5-Tetrachlorobenzene
GC/MS	EPA 8270C/D SIM	1,2,4-Trichlorobenzene
GC/MS	EPA 8270C/D SIM	1,2-Dichlorobenzene

Biological Tissue		
Technology	**Method**	**Analyte**
GC/MS	EPA 8270C/D SIM	1,3-Dichlorobenzene
GC/MS	EPA 8270C/D SIM	1,4-Dichlorobenzene
GC/MS	EPA 8270C/D SIM	1-Methylnaphthalene
GC/MS	EPA 8270C/D SIM	2,2'-Oxybis(1-chloropropane
GC/MS	EPA 8270C/D SIM	2,3,4,6-Tetrachlorophenol
GC/MS	EPA 8270C/D SIM	2,4,5-Trichlorophenol
GC/MS	EPA 8270C/D SIM	2,4,6-Trichlorophenol
GC/MS	EPA 8270C/D SIM	2,4-Dichlorophenol
GC/MS	EPA 8270C/D SIM	2,4-Dimethylphenol
GC/MS	EPA 8270C/D SIM	2,4-Dinitrophenol
GC/MS	EPA 8270C/D SIM	2,4-Dinitrotoluene
GC/MS	EPA 8270C/D SIM	2,6-Dinitrotoluene
GC/MS	EPA 8270C/D SIM	2-Chloronaphthalene
GC/MS	EPA 8270C/D SIM	2-Chlorophenol
GC/MS	EPA 8270C/D SIM	2-Methylnaphthalene
GC/MS	EPA 8270C/D SIM	2-Methylphenol
GC/MS	EPA 8270C/D SIM	2-Nitroaniline
GC/MS	EPA 8270C/D SIM	2-Nitrophenol
GC/MS	EPA 8270C/D SIM	3&4-Methylphenol
GC/MS	EPA 8270C/D SIM	4,6-Dinitro-2-methylphenol
GC/MS	EPA 8270C/D SIM	4-Bromophenyl-phenylether
GC/MS	EPA 8270C/D SIM	4-Chloro-3-methylphenol
GC/MS	EPA 8270C/D SIM	4-Chloroaniline
GC/MS	EPA 8270C/D SIM	4-Chlorophenyl-phenylether
GC/MS	EPA 8270C/D SIM	4-Nitrophenol
GC/MS	EPA 8270C/D SIM	Acenaphthene
GC/MS	EPA 8270C/D SIM	Acenaphthylene
GC/MS	EPA 8270C/D SIM	Acetophenone

Biological Tissue		
Technology	**Method**	**Analyte**
GC/MS	EPA 8270C/D SIM	Anthracene
GC/MS	EPA 8270C/D SIM	Atrazine
GC/MS	EPA 8270C/D SIM	Benzo(a)anthracene
GC/MS	EPA 8270C/D SIM	Benzo(a)pyrene
GC/MS	EPA 8270C/D SIM	Benzo(b)fluoranthene
GC/MS	EPA 8270C/D SIM	Benzo(g,h,i)perylene
GC/MS	EPA 8270C/D SIM	Benzo(k)fluoranthene
GC/MS	EPA 8270C/D SIM	Bis(2-chloroethoxy)methane
GC/MS	EPA 8270C/D SIM	Bis(2-chloroethyl)ether
GC/MS	EPA 8270C/D SIM	Butylbenzylphthalate
GC/MS	EPA 8270C/D SIM	Caprolactam
GC/MS	EPA 8270C/D SIM	Carbazole
GC/MS	EPA 8270C/D SIM	Chrysene
GC/MS	EPA 8270C/D SIM	Dibenzo(a,h)anthracene
GC/MS	EPA 8270C/D SIM	Dibenzofuran
GC/MS	EPA 8270C/D SIM	Diethylphthalate
GC/MS	EPA 8270C/D SIM	Dimethyl phthalate
GC/MS	EPA 8270C/D SIM	Di-n-butylphthalate
GC/MS	EPA 8270C/D SIM	Di-n-octylphthalate
GC/MS	EPA 8270C/D SIM	Fluoranthene
GC/MS	EPA 8270C/D SIM	Fluorene
GC/MS	EPA 8270C/D SIM	Hexachlorobenzene
GC/MS	EPA 8270C/D SIM	Hexachlorobutadiene
GC/MS	EPA 8270C/D SIM	Hexachloroethane
GC/MS	EPA 8270C/D SIM	Indeno(1,2,3-cd)pyrene
GC/MS	EPA 8270C/D SIM	Isophorone
GC/MS	EPA 8270C/D SIM	Naphthalene
GC/MS	EPA 8270C/D SIM	n-Nitroso-di-n-propylamine

Biological Tissue		
Technology	**Method**	**Analyte**
GC/MS	EPA 8270C/D SIM	n-Nitrosodiphenylamine
GC/MS	EPA 8270C/D SIM	Pentachlorophenol
GC/MS	EPA 8270C/D SIM	Phenanthrene
GC/MS	EPA 8270C/D SIM	Phenol
GC/MS	EPA 8270C/D SIM	Pyrene
ICP/AES	EPA 6010C/D	Aluminum
ICP/AES	EPA 6010C/D	Antimony
ICP/AES	EPA 6010C/D	Arsenic
ICP/AES	EPA 6010C/D	Barium
ICP/AES	EPA 6010C/D	Beryllium
ICP/AES	EPA 6010C/D	Boron
ICP/AES	EPA 6010C/D	Cadmium
ICP/AES	EPA 6010C/D	Calcium
ICP/AES	EPA 6010C/D	Chromium
ICP/AES	EPA 6010C/D	Cobalt
ICP/AES	EPA 6010C/D	Copper
ICP/AES	EPA 6010C/D	Iron
ICP/AES	EPA 6010C/D	Lead
ICP/AES	EPA 6010C/D	Magnesium
ICP/AES	EPA 6010C/D	Manganese
ICP/AES	EPA 6010C/D	Molybdenum
ICP/AES	EPA 6010C/D	Nickel
ICP/AES	EPA 6010C/D	Potassium
ICP/AES	EPA 6010C/D	Selenium
ICP/AES	EPA 6010C/D	Silver
ICP/AES	EPA 6010C/D	Sodium
ICP/AES	EPA 6010C/D	Thallium
ICP/AES	EPA 6010C/D	Tin

Biological Tissue		
Technology	**Method**	**Analyte**
ICP/AES	EPA 6010C/D	Vanadium
ICP/AES	EPA 6010C/D	Zinc
ICP/MS	EPA 6020A/B	Aluminum
ICP/MS	EPA 6020A/B	Antimony
ICP/MS	EPA 6020A/B	Arsenic
ICP/MS	EPA 6020A/B	Barium
ICP/MS	EPA 6020A/B	Beryllium
ICP/MS	EPA 6020A/B	Boron
ICP/MS	EPA 6020A/B	Cadmium
ICP/MS	EPA 6020A/B	Calcium
ICP/MS	EPA 6020A/B	Chromium
ICP/MS	EPA 6020A/B	Cobalt
ICP/MS	EPA 6020A/B	Copper
ICP/MS	EPA 6020A/B	Iron
ICP/MS	EPA 6020A/B	Lead
ICP/MS	EPA 6020A/B	Magnesium
ICP/MS	EPA 6020A/B	Manganese
ICP/MS	EPA 6020A/B	Molybdenum
ICP/MS	EPA 6020A/B	Nickel
ICP/MS	EPA 6020A/B	Potassium
ICP/MS	EPA 6020A/B	Selenium
ICP/MS	EPA 6020A/B	Silver
ICP/MS	EPA 6020A/B	Sodium
ICP/MS	EPA 6020A/B	Thallium
ICP/MS	EPA 6020A/B	Tin
ICP/MS	EPA 6020A/B	Vanadium
ICP/MS	EPA 6020A/B	Zinc
CVAA	EPA 7471B	Mercury

Note:

1. This scope is formatted as part of a single document including Certificate of Accreditation No. L2223.

R. Douglas Leonard Jr., VP, PILR SBU

SOPs

1,4-Dioxane

By Gas Chromatography / Mass Spectrometry in Selected Ion Mode (GC/MS-SIM) with Isotope Dilution Modification

References:

EPA 8270E, SW-846, Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, EPA SW-846, Revision VI (Phase II), June 2018.

EPA 8000C, SW-846,Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, EPA SW-846. Update III, March 2003.

1,4-Dioxane Analytical Notes, Appendix II-B-4, WSC-CAM-II-B, Revision 1, July 2010, (Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup).

1. Scope and Application

Matrices: Aqueous, soil/sediment and non-aqueous waste matrices

Definitions: Refer to Alpha Analytical Quality Manual.

This method is applicable to the quantification of 1,4-Dioxane extracted from aqueous samples in methylene chloride and analyzed by GC/MS-SIM. The extraction method is listed below and should be referenced for more details. Detection limits will vary with instrument calibration range, and volume of sample analyzed. 1,4-Dioxane detected over the calibration ranges of the instrument it is being analyzed on will be diluted and re-analyzed for accurate quantification.

The following extraction method applies:

- *Extraction of Water Samples by Separatory Funnel* (SOP 2165)
- *Microscale Solvent Extraction (MSE)* (SOP 2172)
- *Organic Waste Dilution Extraction* (SOP 2265)

The data report packages present the documentation of any method modification related to the samples tested. Depending upon the nature of the modification and the extent of intended use, the laboratory may be required to demonstrate that the modifications will produce equivalent results for the matrix. Approval of all method modifications is by one or more of the following laboratory personnel before performing the modification: Area Supervisor, Department Supervisor, Laboratory Director, or Quality Assurance Officer.

This method is restricted to use by or under the supervision of analysts experienced in the operation of the GC/MS-SIM and in the interpretation of GC/MS-SIM data. Each analyst must demonstrate the ability to generate acceptable results with this method by performing an initial demonstration of capability.

2. Summary of Method

250mL, 500mL or 1000mL of aqueous samples are serially extracted with methylene chloride in a 2 Liter Separatory Funnel (Method 3510) at a neutral pH. The extract is concentrated in MeCl2 to a 2.5mL to 10mL final volume respectively depending on the volume of sample extracted. Soil/sediment samples are extracted by Microscale Solvent Extraction (MSE Method 3570). Approximately 5g of sample is extracted and concentrated to a 4mL final volume. Non-aqueous waste samples are extracted by Organic Waste Dilution Extraction (Method 3580). Approximately 1g is diluted to 10mL

final volume.

Analytes are introduced into the GC/MS using a large volume injector and injecting 3ul of the calibration standards, quality control samples, and sample extracts into the GC equipped with a narrow-bore capillary column. The GC column is temperature programmed to separate the analytes, which are then detected with a mass spectrometer (MS) in selective ion mode. Identification of target analytes is accomplished by comparing their mass spectra with the electron impact spectra of the calibration standards. Concentrations are determined using mean relative response factors from a multi-level calibration curve. Response factors for target analytes and surrogate compounds are determined relative to the internal standards.

Isotope dilution quantification is achieved by spiking 1,4-Dioxane-d8 at extraction which is then in turn used as both an internal standard (IS) and surrogate. For quantification, the 1,4-Dioxane-d8 IS quantifies 1,4-Dioxane in samples. An additional IS added prior to analysis, 1,4-Dichlorobenzene-d4, quantifies 1,4-Dioxane-d8 as a surrogate.

2.1 Method Modifications from Reference

SIM option with Isotope dilution is utilized to increase sensitivity for this analyte. Note that while this method may be used for the evaluation of 1,4-Dioxane in soil/sediment samples, the MA DEP CAM does not approve of this method for determining presumptive certainty for MA DEP cleanup sites. Method 8260 should be employed in these cases.

3. Reporting Limits

Concentrations for 1,4-Dioxane can be detected in water samples in the range of 150ng/L to 100,000ng/L. Soil/sediment samples can be detected in the range of 8ug/Kg to 8,000ug/Kg. Standard reporting limits for aqueous samples are 150ng/L and for soil/sediment samples 8ug/kg respectively.

4. Interferences

4.1 Phthalate esters can be a major source of contamination if any material containing plasticizers (phthalates) comes in contact with the sample during the extraction process. Use of plastic or any material containing plasticizers (phthalates) should be avoided during extraction or analysis.

4.2 The injection port of the gas chromatograph can become contaminated with high boiling compounds resulting in the loss of sensitivity. It may be necessary to replace the injection port liner routinely to prevent this loss of sensitivity. Clipping off approximately four inches of the column at the injection end may also increase sensitivity. Low instrument response can be detected during the daily tuning procedure by including pentachlorophenol and benzidine in the daily tuning mix.

4.3 Raw GC/MS data from all blanks, samples, and spikes must be evaluated for interferences or carryover. Contamination by carryover can occur whenever high-concentration and low-concentration samples are sequentially analyzed.

4.4 Solvents, reagents and glassware may introduce interferences. These must be demonstrated to be free of interferences by the analysis of a method blank. See the SOP *Reagent, Solvent and Standard Control* (G-008) and *Laboratory Glassware Cleaning* (G-002), for additional details.

4.5 It should be noted that there are some chromatographic consequences observed due to the acetone used in the MSE extraction process. This is characterized by a shift in retention time

for 1,4-Dioxane and the 1,4-Dioxane-d8 surrogate (~0.4minutes), as well as the presence of a large peak (likely acetone) in all chromatograms.

5. Health and Safety

The toxicity or carcinogenicity of each reagent and standard used in this method is not fully established; however, each chemical compound should be treated as a potential health hazard. From this viewpoint, exposure to these chemicals must be reduced to the lowest possible level by whatever means available. A reference file of material safety data sheets is available to all personnel involved in the chemical analysis. Additional references to laboratory safety are available in the Chemical Hygiene Plan.

All personnel handling environmental samples known to contain or to have been in contact with municipal waste must follow safety practices for handling known disease causative agents.

6. Sample Collection, Preservation, Shipping and Handling

6.1 Sample Collection

Solid samples; A minimum of 100grams of sample must be collected in a glass jar with a Teflon lined screw cap.

Water samples: A minimum of 0.25 to 1 liters of sample must be collected in amber glass bottles.

6.2 Sample Preservation

Solid samples: The sample must be refrigerated and maintained at 4±2 °C until extraction and analysis. Sediment samples can be frozen at -20±5 °C until extraction to extend hold time. The extracts must be refrigerated and maintained at 4±2 °C until analysis.

Water samples: The samples must not be preserved except by refrigeration at 4±2 °C until extraction and analysis. The extracts must be refrigerated and maintained at 4±2 °C until analysis.

Non-aqueous waste samples: Concentrated sample extracts must be stored in contaminant-free containers and preserved in a refrigerator when not used for more than four hours.

6.3 Sample Shipping

No special shipping requirements.

6.4 Sample Handling

Solid samples: All solid samples must be extracted within 14 days from the date of collection. Frozen sample hold times are monitored up to 14 days from the date removed from freezer. The extracts must be refrigerated and maintained at 4±2 °C until analysis. Sample extracts must be analyzed within 40 days from date of extraction.

Water samples: All water samples must be extracted within 7 days from the date of collection. Sample extracts must be analyzed within 40 days from date of extraction.

Non-aqueous waste samples: Hold times do not apply to neat oils/NAPL/product samples.

7. Equipment and Supplies

7.1 Gas chromatograph – Programmable, heating range from 40C to 350C; splitless-type inlet system, (Hewlett Packard 6890N Series II or similar); mass selective detector (Hewlett Packard 5973, or similar); automatic injector (Hewlett Packard 7683B or similar).

7.2 Chromatography Column – Fused silica capillary column, 0.25mm ID x 60m length, 0.25um film thickness RTX-5, Restek Corporation, 5% diphenyl-95% dimethyl polysiloxane, Fused silica capillary column, 0.18mm ID x 60m length, 0.18um film thickness RTX-PCB, Restek Corporation, Fused silica capillary column, 0.25mm ID x 30m length, .25um film thickness (Zebron ZB-SemiVolatiles, Phenomenex Corporation, 5% Polysilarylene - 95% Polydimethylsiloxane) , or equivalent.

7.3 Gerstel Large Volume Injection System – Temperature programmable range from 0C to 350C; pressure programmable; capable of split or splitless injection; Injection volumes range from 1 to 50uL and Cryo cooling availability to allow for cold injections.

7.4 Agilent Split/Splitless injector System

7.5 Data Acquisition System - Computerized system for collecting, storing, and processing detector output (Hewlett Packard Enviroquant target software) or equivalent.

7.6 Gases - BIP Ultra high purity helium (99.9995%); Compressed nitrogen for N-Evap. Carbon dioxide (siphon type) for Gerstel.

7.7 Syringes – 10uL to 1.0mL

7.8 Vials- including 2ml, 4ml, 10ml, 40ml and other sizes as necessary.

7.9 Hamilton Gas tight Syringes - varying sizes

7.10 Gerstel Single baffle injection port liners- packed lightly with glass wool.

7.11 GC Injection Port Liner: Phenomenex Direct Connect Top Hole

7.12 Class A Volumetric flasks: Including 10ml, 20 ml, 50 ml, 100ml and other sizes as necessary

8. Reagents and Standards

Use reagent grade chemicals for all reagents. Deionized (DI) water is ASTM Type II laboratory reagent grade water.

8.1 Solvents: All solvent expirations determined as indicated by manufacturer guidelines

8.1.1 Methylene Chloride, ACS approved, Pesticide grade, see SOP *Reagent, Solvent and Standard Control* (SOP 1816) for additional details regarding solvent purity. Used to extract samples and prepare instrument/analytical standards.

8.1.2 Acetone, ACS approved, Pesticide grade, see SOP *Reagent, Solvent and Standard Control* (SOP 1816) for additional details regarding solvent purity. This water soluble solvent is used for surrogate and LCS/MS preparation.

8.1.3 Methanol, ACS approved, Pesticide grade, *Reagent, Solvent and Standard Control SOP* (SOP 1816) for additional details regarding solvent purity.

8.2 Analytical Standards: Standards should be stored at –10C or less, away from light when not in use. They should be discarded after 1 year unless the vendor expiration date states otherwise or, if degradation is observed. Stock standards are given a 1 year expiration from the preparation date or the expiration of the primary vendor solution, whichever occurs first. Working standards are given six month expiration from the preparation date or the expiration of the primary solution whichever occurs first. All analytical standards are made up in Methylene Chloride. All prep standards are made up in Acetone.

8.3 Surrogate/Internal Standard (IS):

8.3.1 A 1,4-Dioxane-d8 Primary neat standard is commercially obtained from Cambridge Isotope (Cat #DLM-28-10 or equivalent). A stock surrogate/internal standard solution is prepared by weighing 0.1 g of the primary neat standard and diluting volumetrically in 10 mls methylene chloride (or equivalent preparation) to obtain a concentration of ~10,000 ug/ml.

8.3.2 From this stock (Section 8.3.1), the Surrogate spiking solution is made by a serial dilution (1 ml diluted up in a 50 ml volumetric flask, followed by a 0.5 ml of this solution diluted up in a 20 ml volumetric flask or equivalent preparations) in Acetone to achieve a concentration of 5 ug/mL. Of this surrogate solution, 1 mL is spiked into each water sample, and 0.4 mL is spiked into each soil/sediment sample for a surrogate/IS concentration of 500 ng/mL in samples.

8.3.3 The initial stock solution (Section 8.3.1) is diluted volumetrically (250 uL diluted up in a 100 ml volumetric flask or equivalent preparation) in methylene chloride to obtain an IS solution at a concentration of 25 ug/ml for the spiking of only the analytical standards (i.e. calibration curve and continuing calibration).

8.4 Internal Standard: 1,4-Dichlorobenzene-d4 commercially obtained from Restek (Cat #31206 or equivalent). This primary solution is at 2000 ug/mL and contains other Semivolatile Internal standards, however this method only utilizes the 1,4-Dichlorobenzene-d4. This solution is diluted volumetrically (250 uL diluted up in a 50 ml volumetric flask or equivalent preparation) in methylene chloride to obtain a SIM-IS solution at a concentration of 25 ug/ml. All samples and standards are spiked with 20uL of internal standard before analysis. This IS is intended to be used for both quantitation (of the surrogate 1,4-Dioxane-d8) and the establishment of relative retention times.

8.5 Matrix Spike/Laboratory Control Spike Solutions (MS/LCS) – 1,4-Dioxane primary spike solution is commercially obtained from Restek at 2000 ug/mL (Cat #31853 or equivalent). To prepare the working spike solution, syringe measure 0.25 mL of stock and bring to 100 mL in acetone (or equivalent preparation) for a 5 ug/mL concentration. From this solution, 1 mL is spiked into each MS/LCS QC water sample and 0.4 mL is spiked into each soil/sediment sample. The final concentration in a 10 mL water extract and in a 4 mL soil/sediment sample will be 500 ng/mL.

8.6 Stock Calibration Standards are prepared from a primary standard commercially obtained from Restek at a concentration of 2000 ug/ml (Cat #31853 or equivalent). The primary standard is used to appropriately prepare a stock standard at a concentration of 10,000 ng/ml (125 uL diluted up in a 25 ml volumetric flask or equivalent preparation). The stock solution is generally made up in 25 ml increments. The stock solution then doubles as a high level standard for the calibration curve, as well as a stock solution by which to serially dilute to prepare the other calibration standards. Except for the high level standard, the calibration curve levels are generally each made at 10 ml. Refer to the table below for example calibration curve levels. All the calibration curve levels, once aliquoted at 1 ml increments for injection, have 20 ul of 1,4

Dichlorobenzene IS (SIM IS – Section 8.4) added as well as 20 uL of 1,4 Dioxane-d8 IS/Surrogate (Section 8.3.3) added.

8.7 Curve Preparation: The following 7 levels are the possible levels that can be analyzed for an ICAL.

Calibration Level	*Volume of Stock Std Added Into 10 ml of DCM*
Level 1 (10 ng/mL)	10 uL
Level 2 (50 ng/mL)	50 uL
Level 3 (100 ng/mL)	100 uL
Level 4 (500 ng/mL)	500 uL
Level 5 (1000 ng/mL) - CCV	1.0 mL
Level 6 (5000 ng/mL)	5.0 mL
Level 7 (10,000 ng/mL)	NA

8.8 The Independent Check Verification Standard is prepared from a Primary standard solution commercially obtained from Ultra (Cat NV-150-1 or equivalent) at a concentration of 100 ug/ml. The primary solution is diluted volumetrically (100 ul diluted up in a 10 ml volumetric flask or equivalent preparation) in methylene chloride to create a working ICV solution at a concentration of 1000 ng/ml. The working ICV solution is aliquoted into 1 ml increments as needed to inject with each calibration curve. Additionally, 20 ul of SIM IS (Section 8.4) and 20 ul of 1,4-Dioxane-d8 IS (Section 8.3.3) is added into the 1 ml aliquot.

9. Quality Control

The laboratory must maintain records to document the quality of data that is generated. Ongoing data quality checks are compared with established performance criteria to determine if the results of analyses meet the performance characteristics of the method.

9.1 Blank(s)

A method blank must be prepared once per every 20 samples or per extraction batch, whichever is more frequent.

Organic compounds of interest must not be detectable in the method blank at a concentration greater than the reporting limit.

Corrective Action: For contaminated blanks, all efforts must be made to identify and eliminate the source of contamination. The presence of analytes at concentrations at or above the reporting limit will warrant application of a "B" qualifier to that target compound(s) on all associated report forms, and perhaps re-extraction of all associated samples. Re-extraction of the method blank and all associated samples must be performed until the blank is in control. Surrogate recoveries must meet the QC limits for the method blank. Re-extraction must be initiated immediately so that minimum time is wasted before re-extraction can occur - if at all possible-this re-extraction should take place within holding time. Re-extraction *corrective action* that would exceed the sample holding time criteria should be discussed with the Organics Supervisor, Project Manager, client, and Operations Manager prior to implementation. Exceptions may be made with approval of the Organics Section Supervisor if the samples associated with an out of control method blank are non-detect for the affected compound(s) or if the concentration of the affected compound(s)in the sample is greater than 10x the blank level. In such cases, the sample results are accepted without corrective action for the high method blank result. The client must be notified, via the project narrative, of any method blank non-compliance associated with sample results

9.2 Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

Laboratory control samples (LCS/LCSD) must be prepared once per every 20 samples or per extraction batch, whichever is more frequent, and spiked with 1,4 Dioxane spike solution (Section 8.5) and surrogate (Section 8.3.2) before extraction. The IS (Section 8.4) is spiked after extraction and before the analysis.

Acceptable Recovery limits are 40% - 140%. The relative percent difference (RPD) between the LCS/LCSD is 30%. Limits are adapted from MCP protocol and are generally monitored and documented in-house through control charts.

Corrective Action: Analysis must be repeated if an analytical error is suspected. If the LCS/LCSD recoveries and/or %RPD are still out of control, re-extract and re-analyze the LCS/LCSD and all associated samples. Samples cannot be reported until an acceptable LCS is obtained.

9.3 Initial Calibration Verification (ICV)

Refer to Section 10.2.

9.4 Continuing Calibration Verification (CCV)

Refer to Section 10.4.

9.5 Matrix Spike / Matrix Spike Duplicate (MS/MSD)

Matrix spike / matrix spike duplicate (MS/MSD) samples are performed upon project specifications. They are performed per client request. The sample is spiked with 1,4-Dioxane spike solution (Section 8.5) and surrogate (Section 8.3.2) before extraction. The IS (Section 8.4) is spiked after extraction and before the analysis. The recovery limits are 40% - 140% and the RPD limit is 30%. Limits are adapted from MCP protocol and are generally monitored and documented in-house through control charts.

Corrective Action: Analysis must be repeated if an analytical error is suspected. If the % recovery and/or %RPD still exceeds the control limits and the LCS/LCSD is compliant; include a project narrative with the results to client noting that there may be potential matrix effects on the accuracy or precision of the reported results as evidenced by MS/MSD recoveries and/or %RPD outside of QC limits.

9.6 Laboratory Duplicate

Duplicate analyses are performed upon client and/or workplan request. *For Organic analyses, the matrix duplicate is usually in the form of the matrix spike duplicate, see Section 9.5.*

Acceptable relative percent difference (RPD) of duplicates is 30%. Acceptance criterion is not applicable to sample concentrations less than 5 times the reporting limit. Calculate the RPD as follows:

$$RPD = \frac{R1 - R2}{\frac{[R1 + R2]}{2}} \times 100$$

where:

R1 = sample Replicate #1
R2 = sample Replicate #2

The RPD limits should be monitored and documented in-house through control charts and updated as needed.

Corrective Action: Analysis must be repeated if an analytical error is suspected.. If the % RPD still exceeds the control limits; include a project narrative with the results to client noting that there may be potential matrix effects on the precision of the reported results as evidenced by the matrix duplicate % RPD exceedence.

9.7 Method-specific Quality Control Samples

9.7.1 Surrogates

Surrogate spikes (Section 8.3.2 and Section 8.3.3) must be added to QC and field samples to evaluate the extraction method performance.

The acceptable surrogate recovery limits are 15% - 110%. Limits are adapted from MCP protocol.

Corrective Action: Analysis must be repeated if an analytical error is suspected. If the % recovery still exceeds the control limits the sample must be re-extracted and re-analyzed to confirm the sample matrix. If *obvious* matrix interferences are noted, consultation with the Organic Supervisor or Operations Manager may be in order to confirm the need for sample re-extraction. If no re-extraction occurs, the surrogate results and reasons for the decision not to re-extract must be discussed in the project narrative to the client. Due to the isotope dilution nature of this method, the analyst must pay close attention to surrogate recoveries and areas as this recovery is then used to surrogate correct (as an Internal standard) the response of 1,4-Dioxane.

9.7.2 Internal Standards

Internal standards must be added to all sample extracts, QC samples and standards for quantitation purposes. For sample extracts, only the 1,4-Dichlorbenzene-d4 IS (SIM IS – Section 8.4) should be added since the extraction surrogate is then used as an Internal Standard upon analysis. However, all Calibration standards must be spiked with both 1,4-Dichlorobenzene-d4 as well as 1,4-Dioxane-d8 (Section 8.3.3). In the sample extracts the area counts for 1,4-Dioxane-d8 will vary based on the extraction, however the 1,4-Dichlorobenzene-d4 area counts should remain fairly constant. The 1,4-Dichlorobenzene-d4 internal standard should also remain constant with respect to the continuing calibration analyzed at the beginning of the run. Sample IS areas must be –50% to +100% of the Internal Standards in the Continuing Calibration – applies only to 1,4-Dichlorobenzene-d4. Additionally, the IS retention times should not differ more than 30 seconds from the Continuing Calibration.

Corrective Action: Analysis must be repeated once unless there are obvious samples matrix interferences, i.e., the sample extract was very colored and viscous, or there are obvious chromatographic interferences. If *obvious* matrix interferences are noted, consultation with the Organic Supervisor or Operations Manager may be in order to confirm the need for sample re-analysis or re-extraction.

9.8 Method Sequence

- Tune
- CCV
- Method Blank
- LCS
- LCSD
- Samples

10. Procedure

10.1 Equipment Set-up

10.1.1 The instrument used for the analysis is a HP 6890N Series gas chromatograph. The HP system is equipped with a Gerstel large volume injection system, and a 7683B-type autosampler or equivalent. The mass spectrometer is an HP 5973 or 5975 with the HP Enviroquant data system. The method is modified for selective ion monitoring. The table below lists the ions monitored in one SIM window. This method must only be set up and analyzed by an experienced mass spectrometrist.

Compound	*Primary Ion*	*Secondary Ion*
1,4-Dioxane	88	58, 43
1,4-Dioxane-d8	64	96
1,4-Dichlorobenzene-d4	152	115

10.1.2 The basic GC parameters are as follows for the Gerstel Large Volume Injection System:

Oven Equib Time: 0.10 min
Oven Max: 325
Initial Temp.: 45°C
Initial Time: 6.00 min

Level	Rate (°C/min)	Final Temp. (°C)	Final Time (min)
1	19.00	120	1.0
2	11.00	150	1.00
3	19.00	305	4.00

Final Time: 26.83

10.1.3 The basic injection port parameters are as follows for the Gerstel Large Volume Injection System:

"Splitless" mode
Initial Temp: 46 °C
Initial Time: 0.30 min
Ramp Rate: 300°/second
Final Temp: 300°C
Final Time: 30.0
Cryo: ON
Cryo Use temp: 25 °C
Cryo Timeout: 30.0 min
Cryo Fault: ON
Purge Flow: 25 ml/min

Purge Time: 2.50 min
Gas Saver: off
Gas: Helium

Mode: Constant Pressure
Average Velocity: 30cm/sec
Initial flow: 1.3 ml/min

10.1.4 The basic GC parameters are as follows for the Agilent Split/Splitless injector System:

Oven Equib Time: 0.20 min
Oven Max: 325°C
Initial Temp.: 30°C

Level	Rate (°C/min)	Final Temp. (°C)	Final Time (min)
1	0	30	2.00
2	5	50	0.00
3	50	300	2.00

Final Time: 13.00

10.1.5 The basic injection port parameters are as follows for the Agilent Split/Splitless injector System:

:

Mode: Splitless
Temperatuire: 200 °C
Flow: 1.0 mL/min
Velocity: 36.074 cm/sec
Septum Purge: 3mL/min
Purge Flow to Split Vent: 60 mL/min at 0.3 min

10.1.6 MS Acquisition Information:

Tune file: dftpp.u
Acquisition Mode: SIM
Solvent Delay: 7.70 min
MS Source temp: 280°C

10.1.7 Tuning

10.1.7.1 Before the analytical standards are analyzed the mass spectrometer must be adjusted to meet the proper ion criteria for DFTPP. This is demonstrated by injecting into the GC/MS system 1uL of a 50ug/mL DFTPP solution. After the analysis of the DFTPP, evaluate the tune as follows:

- Enter into the "Environmental Data Analysis" (off-line) screen.
- Go to "File" and select the tune data file.
- Go into "Tuner" and select "Eval DFTPP", then select "AutoFind DFTPP to Screen," to evaluate the tune file, based on the pre-set SW-846 criteria. The software will evaluate the tune by selecting three scans of the DFTPP peak

and will display the ion intensities on the screen. That is, one scan at the apex, one scan directly preceding the apex and one scan following the apex and averages them, then takes one background subtracted scan, 20 seconds before the beginning of the DFTPP peak. If the criteria below are met, repeat, select "AutoFind to Printer", for a hardcopy of the tune evaluation for the record.

If the "AutoFind" tune evaluation does not meet the criteria below, manual evaluation of the tune can be performed by attempting either of the options below:

- Blow up the DFTPP peak on the screen and select either one single scan at the apex of the peak, or a scan immediately preceding or following the apex. Go into "Tuner" and select "Evaluate DFTPP to Screen," or "Evaluate DFTPP to Printer," as described above, OR,
- Take the average of the scans across the entire peak. Go into "Tuner" and select "Evaluate DFTPP to Screen," or "Evaluate DFTPP to Printer," as described above.

10.1.7.2 The following DFTPP mass intensity criteria should be used.

DFTPP KEY MASSES AND ABUNDANCE CRITERIA

Mass	m/z Abundance criteria
51	10-80 percent of mass 198.
68	Less than 2 percent of mass 69.
70	Less than 2 percent of mass 69.
127	10-80 percent of mass 198.
197	Less than 2 percent of mass 198.
198	Base peak, or >50 percent of Mass 442.
199	5-9 percent of mass 198.
275	10-60 percent of mass 198.
365	Greater than 1 percent of mass 198.
441	Present but less than 24 percent of mass 442.
442	Base Peak, or > 50 percent of mass 198.
443	15-24 percent of mass 442.

10.1.8 Tune acceptance should be verified at the beginning of every 12 hour analytical shift. The DFTPP may be combined with the calibration verification standard as long as both tuning and calibration acceptance criteria are met.

10.2 Initial Calibration

10.2.1 After the DFTPP passes criteria, a set of multi-level calibration standards listed in Section 8.7 are analyzed, from low concentration to high. A minimum of five calibration levels are analyzed. The calibration standards are stored in amber vials in the standards freezer. The labeling convention allows each standard to have a unique identifier which distinguishes it from field samples. The naming convention used throughout the laboratory identifies the standard as semivolatile, hydrocarbon, pesticide/PCB or volatile. An example of this would be SW042407E, meaning it is a semivolatile (S) working (W) standard made on April 24, 2007 and that it was the fifth standard made that day. All certificates of analysis that are shipped with standards are filed with their receipt ID written on it to insure traceability.

10.2.2 Once the standards have been analyzed, they are reduced by the search software of the Enviroquant data system. Once all the components are identified, a linear curve is calculated for the components. The criteria for evaluation are as follows:

10.2.2.1 The average RF for each compound must be greater than 0.05.

10.2.2.2 The %RSD of each compound must not exceed 20%. If they do this may be an indication that the chromatographic system is too reactive for analysis to begin. This indicates the instrument may need maintenance.

10.2.2.3 Alternatively, a linear regression model may be employed, provided that the coefficient of determination (COD or r2) is ≥0.99. Otherwise, construct a nonlinear calibration of no more than a third order equation. Statistical considerations in developing a non-linear calibration model require more data than the more traditional linear approach. A quadratic (second order) model requires six standards, and a third order polynomial requires seven standards. In setting model parameters, do not force the line through the origin. The COD or r^2 must be greater than or equal to 0.99.

10.2.2.4 Once the calibration curve is reviewed, an Initial Calibration Checklist must be completed.

10.2.3 All samples and standards are spiked with Internal Standards (IS) before analysis. Refer to section 8.4 for specific internal standard spiking information. The IS is intended to be used for both quantitation and the establishment of relative retention times. Internal standard acceptance criteria can be found in Section 9.7.2.

10.2.4 Independent check standards (Section 8.8) from a separate source or different lot are analyzed after every initial calibration for evaluation against calibration standard solutions. The % Difference (%D) should not be greater than ±30%.

10.3 Equipment Operation and Sample Processing

10.3.1 Tuning

A DFTPP standard must be analyzed and pass criteria before a continuing calibration verification standard or any samples are analyzed. The DFTPP may be combined with the calibration verification standard as long as both tuning and calibration acceptance criteria are met. A DFTPP tune standard must be analyzed before each 12 hour analytical shift. Please refer to Section 10.1.5 for tuning criteria and other information.

10.3.2 Daily Calibration

On a daily basis after the DFTPP has passed, a mid-level (usually 1000 ng/mL) continuing calibration standard which contains all of the analytes of interest is analyzed. The criteria for acceptance are:

10.3.2.1 All analytes must have response factors greater than 0.05.

10.3.2.2 The % D must be ±20% D from the initial calibration.

10.3.3 Sample Analysis

10.3.3.1 The prep lab staff will transfer the samples to the instrument laboratory. The samples are generally brought to a 10 mL final volume for liquids or 4 ml for soil samples; 1 mL is transferred and the remaining sample volume is archived. One aliquot of each sample is then placed in the sample extract holding refrigerator located in the instrument laboratory.

10.3.3.2 All of the samples at 1 mL (including the batch QC samples) are spiked with 20 uL

internal standard (see section 8.4 for specifics regarding the internal standard). The samples are shaken briefly after the internal standard is added to ensure mixing. A sample will need a dilution for target analytes that are over calibration.

10.3.3.3 After the daily tune and CCAL have passed criteria, the analyst places the samples onto the autosampler tray. (Generally, the samples will be analyzed in order of color (lightest to darkest.) with QC samples being analyzed first. The instrument sequence is typed into the HP Chemstation Software. Next run "Simulate Sequence" (also under the "Sequence" dropdown list) without clicking the "Overwrite Files" box. Compare the order of the vials on the instrument versus the sequence to confirm all the samples and standards are in the right places. Next click "Run Sequence" also under the HP Chemstation "Sequence" dropdown list.

10.3.3.4 After the samples have been analyzed, the data files from the MS are quantitated versus the proper quantitation method. The QCPRN1.MAC macro creates a form with which to easily check internal standard and surrogate criteria are met. The following should be reviewed initially:

10.3.3.4.1 Are all the surrogates within QC criteria? Please see Section 9.7.1 for surrogate information.

10.3.3.4.2 Is the internal standard- 1,4 Dichlorobenzene-d4, within 50-200% of the daily CCAL? If not, the samples should be checked for matrix interferences that may be causing these issues. The IS peaks should also be evaluated for peak splitting or incorrect integration by the software. A sample may not need to be reanalyzed if it can be determined (with guidance from a supervisor) that the QC is exceeded due to matrix interference.

10.3.3.4.3 Are all target analytes within calibration range? If not, the sample(s) should be diluted and re-analyzed. If a dilution is performed after the internal standard has already been added, it will be necessary to add additional IS in order to make up for the impact of the original IS added also being diluted. Conversely, if a sample has been over-diluted, it may need to be analyzed at less of a dilution to detect target analytes that may have been diluted out. Note: for this method, due to the isotope dilution, it is necessary to refer to area counts to determine if dilution is required. The area response for 1,4-Dioxane should be compared to the area of the highest level of the ICAL standard for that target. If the area of 1,4-Dioxane in the extract is greater than the area of 1,4-Dioxane in the Highest level of the Calibration Curve, then a dilution is necessary. The analyst **CAN NOT** use the concentration of 1,4-Dioxane found in the extract to determine if dilution is required because the concentration of 1,4-Dioxane in the sample is surrogate corrected in Chemstation based on the use of the extraction surrogate as an Internal Standard. Once it is determined based on the peak area that a sample requires a dilution, the analyst must pay attention to the concentration of IS in the dilution. Although the analyst will adjust the 1,4-Dichlorobenzene-d4 concentration by adding the appropriate amount of additional IS to the dilution, there is no way for the analyst to make up for the dilution of the extraction surrogate 1,4 dioxane-d8 (also used as internal standard). To account for this the analyst must change the concentration of the 1,4-Dioxane-d8 within the calibration table to a value which accounts for the dilution. (Example: If the analyst performs a 10x dilution then the concentration of 1,4-Dioxane–d8 must be changed within the ICAL to 50.) The analyst must ensure that only the diluted sample is calculated against this

value and that the method is returned to the proper concentration once the analysis of the dilution is complete.

10.3.3.4.4 Are all analyses within 12 hour tune time? If a sample is analyzed outside tune time, it will need to be re-analyzed in another tune clock.

10.3.3.4.5 The sequence should also be printed out from Chemstation, initialed and dated, and placed in the logbook.

10.3.3.4.5.1 If anything in the initial review of the data indicates that there should be a re-analysis, the reason for re-analysis should be noted on the sequence.

10.3.3.4.5.2 Also, note the time the tune standard was analyzed, the time of the last sample analysis. If there are samples analyzed outside tune time, the time the last sample within tune time ran should be noted, as well as the last sample analyzed.

10.3.3.4.5.3 If a re-extract is required, the "Request for Repreparation/Reclean" book should be filled out and a photocopy of the appropriate page should be given to the Preparation Group leader or the Organics Section Head.

10.4 Continuing Calibration

Continuing Calibration Criteria is outlined in section 10.3.2

10.5 Preventive Maintenance

If performing any maintenance on any piece of equipment it must be documented in the *Instrument Maintenance Logbook* located in the laboratory specific to each instrument.

Daily

Injection port maintenance: Maintenance should be done when the daily CCAL starts to demonstrate degradation either by %D outliers or area responses <50% as compared to the ICAL areas. Several tune clocks may be injected before maintenance is needed. The type of samples analyzed will have an effect on how soon maintenance should be performed. Injection port maintenance should be done as needed. General maintenance includes replacing the single baffle liner packed lightly with glass wool, cutting about 2-4 inches off the head of the column, and replacing the septa. Refer to maintenance log for more specific information.

The Gerstel Injection port should be handled with care. The liners are quite thin. Do not force the Gerstel weldmen into place as the threads are soft metal and will cross thread. Always make sure the weldmen goes on straight. The Gerstel injection port does not require significant tightening of either the weldmen or column nut, tighten enough to seal but there is no need to crank down on it.

11. Data Evaluation, Calculations and Reporting

11.1 Qualitative Analysis

11.1.1 The qualitative identification of compounds determined by this method is based on retention time and on comparison of mass spectrum, after background correction, with

characteristic ions in a reference mass spectrum. The reference mass spectrum must be generated by the laboratory using the conditions of this method. The characteristic ions from the reference mass spectrum are defined as the two ions of greatest relative intensity, and are over 30% relative intensity. Compounds are identified when the following criteria are met.

11.1.2 The intensities of the characteristic ions of a compound must maximize in the same scan or within one scan of each other. A peak selected by the data system, based on the presence of target specific ions at a target specific retention time will be accepted as meeting these criteria.

11.1.3 The relative retention time of the sample component is within ± 0.06 RRT units of the RRT of the standard component.

11.1.4 The relative intensities of the characteristic ions agree within 30% of the relative intensities of these ions in the reference spectrum (Example: For an ion with an abundance of 50% in the reference spectrum, the corresponding abundance in a sample spectrum can range between 20% and 80%.) The relative intensities are monitored daily. The relative intensities will be updated when they exceed established values from the reference spectrum.

11.1.5 Structural isomers that produce very similar mass spectra should be identified as individual isomers if they have sufficiently different GC retention times. Sufficient GC resolution is achieved if the height of the valley between two isomer peaks is less than 25% of the sum of the two peak heights. Otherwise, structural isomers are identified as isomeric pairs.

11.1.6 Identification is hampered when sample components are not resolved chromatographically and produce mass spectra containing ions contributed by more than one analyte. When gas chromatographic peaks obviously represent more than one sample component (i.e. a broadened peak with shoulder(s) or a valley between two or more maxima), appropriate selection of analyte spectra and background spectra is important. Selective ion monitoring eliminates this potential.

11.2 Quantitative Analysis

11.2.1 Response factors and % RSD to evaluate Initial Calibration acceptability.

Calculate RF by:

$$RF = \frac{area_{cmp}}{area_{is}} \times \frac{conc_{is}}{conc_{cmp}}$$

where:

area cmp = Area of the characteristic ion for the compound being measured.
area is = Area of the characteristic ion for the specific internal standard.
conc is = Concentration of the specific internal standard.
conc cmp = Concentration of the compound being measured.

Calculate % RSD by:

$$\%RSD = \frac{SD}{\overline{x}} \times 100 \qquad SD = \sqrt{\sum_{i=1}^{N} \frac{(x_i - \overline{x})^2}{N-1}}$$

where:

% RSD = percent relative standard deviation
x = average of RF's
SD = standard deviation
xi = analytical results of each level in the final reporting units
N = number of results (levels)

11.2.2 Calculate % Difference (%D) by:

$$\%D = \frac{\overline{RF_i} - RF_c}{\overline{RF_i}} \times 100$$

where:

RFi - Initial Calibration average RF
RFc = Continuing Calibration RF

11.2.3 Results of Water Analysis - calculation as performed in report form:

$$\text{Concentration (ug/L)} = \frac{\text{(Conc) (Vf) (DF)}}{\text{(Vi)}} \times 1000$$

11.2.4 Results of Soil/Sediment Analysis – calculation as performed in report form:

$$\text{Concentration (ug/Kg)} = \frac{\text{(Conc) (Vf) (DF)}}{\text{(Vi) \%S}} \times 1000$$

where:
Conc = Raw on-column concentration obtained from the quantitation report using Initial Calibration results.
Vf = Final volume of extract (mL)
Vi = Volume of sample extracted (mL), or weight of sample extracted in grams (g)
DF = Dilution factor, for manually prepared dilutions, not instrumental "dilutions".
%S = percent solids, as a decimal

12. Contingencies for Handling Out-of-Control Data or Unacceptable Data

Section 9.0 outlines sample batch QC acceptance criteria. If non-compliant organic compound results are to be reported, the Organic Section Head and/or the Laboratory Director, and the Operations Manager must approve the reporting of these results. The laboratory Project Manager

shall be notified, and may chose to relay the non-compliance to the client, for approval, or other corrective action, such as re-sampling and re-analysis. The analyst, Data Reviewer, or Department Supervisor performing the secondary review initiates the project narrative, and the narrative must clearly document the non-compliance and provide a reason for acceptance of these results.

All results for the organic compounds of interest are reportable without qualification if extraction and analytical holding times are met, preservation requirements (including cooler temperatures) are met, all QC criteria defined in the table below are met, and matrix interference is not suspected during extraction or analysis of the samples. If any of the below QC parameters are not met, all associated samples must be evaluated for re-extraction and/or re-analysis.

QC Parameter	Acceptance Criteria
Method Blank	No analyte above the reporting limit The results are qualified with a "B" for any associated sample concentrations that are less than 10x the blank concentration for this analyte
Surrogate Recovery	15% - 110%
Laboratory Control Samples	40% - 140% and 30% RPD
Matrix Duplicate	30% RPD
Matrix Spike	40% - 140%
Matrix Spike Duplicate	40% - 140% and 30% RPD

13. Method Performance

13.1 Method Detection Limit Study (MDL) / Limit of Detection Study (LOD) / Limit of Quantitation (LOQ)

The laboratory follows the procedure to determine the MDL, LOD, and/or LOQ as outlined in Alpha SOP 1732. These studies performed by the laboratory are maintained on file for review.

13.2 Demonstration of Capability Studies

Refer to Alpha SOP 1739 for further information regarding IDC/DOC Generation.

13.2.1 Initial (IDC)

The analyst must make an initial, one-time, demonstration of the ability to generate acceptable accuracy and precision with this method, prior to the processing of any samples.

13.2.2 Continuing (DOC)

The analyst must make a continuing, annual, demonstration of the ability to generate acceptable accuracy and precision with this method.

14. Pollution Prevention and Waste Management

Refer to Alpha's Chemical Hygiene Plan and Waste Management and Disposal SOP for further pollution prevention and waste management information.

15. Referenced Documents

Chemical Hygiene Plan

SOP 1732 Detection Limit (DL), Limit of Detection (LOD) & Limit of Quantitation (LOQ)
SOP 1739 Demonstration of Capability (DOC) Generation
SOP 1731 Manual Integration & Compound Rejection
SOP 1797 Hazardous Waste and Sample Disposal

SOP 1816 Reagent, Solvent and Standard Control

16. Attachments

None

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Created By: Elizabeth Porta
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AECOM

1,4 Dioxane via EPA 8270D-SIM (WATER)

Holding Time: 7 days
Container/Sample Preservation: 2 - Amber 250ml unpreserved

Analyte	CAS #	RL	MDL	Units	LCS Criteria	LCS RPD	MS Criteria	MS RPD	Duplicate RPD	Surrogate Criteria		
1,4-Dioxane	123-91-1	150	33.9	ng/l	40-140	30	40-140	30	30			
1,4-Dioxane-d8	*17647-74-4*									*15-110*		
1,4-Dioxane-d8 (IS)	17647-74-4			ng/l								

Please Note that the RL information provided in this table is calculated using a 100% Solids factor (Soil/Solids only)
Please Note that the information provided in this table is subject to change at anytime at the discretion of Alpha Analytical, Inc

EUROFINS EATON ANALYTICAL, LLC
Standard Operating Procedure
EPA 525.2 Revision 2.0 (1995)
Confidential

1) SCOPE & APPLICATION

1.1 EPA Method 525.2 is a general purpose method for determination of many semi- volatile organic compounds, listed in Table 1 below, in finished drinking water, raw source water, or drinking water in any treatment stage. This method is applicable to any organic compound that is efficiently partitioned from a water sample onto an extraction disk, and that is sufficiently volatile and thermally stable for gas chromatography under the conditions presented in the method. Particulate bound organic matter will not be partitioned, and more than trace levels of particulates in the water may disrupt the partitioning process.

1.2 Linear range, or applicable concentration range, also varies with the factors indicated above, however it is 0.01 to 10 ug/L for most compounds. For purposes of this procedure the applicable concentration range is restricted to that range where a linear relationship exists between concentration and MS quantitation ion response. This must be determined each time calibration of the system is performed.

1.3 This standard operating procedure (SOP) is intended to be utilized by analysts experienced with the use of GC/MS systems. Sections of the SOP are to be utilized by sample preparation personnel.

Table 1. Compounds in EPA 525.2

Compound	CAS No.	EEA MRL (ug/L)
1-Methyl naphthalene	90-12-0	0.1
2-Methylnaphthalene	91-57-6	0.1
2,4-Dinitrotoluene	121-14-2	0.5
4,4'-DDD	72-54-8	0.1
4,4'-DDE	72-55-9	0.1
4,4'-DDT	50-29-3	0.1
Acenaphthene	83-32-9	0.1
Acenaphthylene	208-96-8	0.1
Alachlor ph25	15972-60-8	0.1

Table 1. Compounds in EPA 525.2

Compound	CAS No.	EEA MRL (ug/L)
Aldrin ph25	309-00-2	0.1
alpha-Chlordane	5103-71-9	0.1
Anthracene	120-12-7	0.1
Atrazine ph25	1912-24-9	0.1
Benzo[a]anthracene	56-55-3	0.1
Benzo[a]pyrene ph25	50-32-8	0.02
Benzo[b]fluoranthene	205-99-2	0.1
Benzo[g,h,i]perylene	191-24-2	0.1
Benzo[k]fluoranthene	207-08-9	0.1
Bromacil	314-40-9	0.1
Butachlor ph25	23184-66-9	0.1
Butylbenzylphthalate	85-68-7	1.0
Chlorothalonil	1897-45-6	0.1
Chrysene	218-01-9	0.1
Cyanazine	21725-46-2	0.1
Desethylatrazine	6190-65-4	1.0
Desisopropylatrazine	1007-28-9	1.0
Di(2-ethylhexyl)adipate ph25	103-23-1	0.6
Di(2-ethylhexyl)phthalate ph25	117-81-7	0.6
Di-n-butylphthalate	84-74-2	2.0
Di-n-octylphthalate	117-84-0	2.0
Diazinon	333-41-5	0.1
Dibenz[a,h]anthracene	53-70-3	0.1
Dieldrin ph25	60-57-1	0.1
Diethylphthalate	84-66-2	1.0
Dimethoate	60-51-5	0.5
Dimethylphthalate	131-11-3	1.0
EPTC	759-94-4	0.1
Endrin ph25	72-20-8	0.01
Fluoranthene	206-44-0	0.1
Fluorene	86-73-7	0.1
gamma-BHC (Lindane) ph25	58-89-9	0.02
gamma-Chlordane	5103-74-2	0.1
Heptachlor ph25	76-44-8	0.04
Heptachlor epoxide ph25	1024-57-3	0.02
Hexachlorobenzene ph25	118-74-1	0.1
Hexachlorocyclopentadiene ph25	77-47-4	0.1
Isophorone	78-59-1	0.1
Indeno[1,2,3,c,d]pyrene	193-39-5	0.1
Malathion	121-75-5	0.1
Methoxychlor ph25	72-43-5	0.1
Metolachlor ph25	51218-45-2	0.1
Metribuzin ph25	21087-64-9	0.1
Molinate	2212-67-1	0.1
Naphthalene	91-20-3	0.1
Parathion	56-38-2	0.5
Phenanthrene	85-01-8	0.1

Table 1. Compounds in EPA 525.2

Compound	CAS No.	EEA MRL (ug/L)
Prometryn	7287-19-6	0.1
Propachlor ph25	1918-16-7	0.1
Pyrene	129-00-0	0.1
Simazine ph25	122-34-9	0.07
Terbacil	5902-51-2	0.1
Thiobencarb	28249-77-6	0.1
trans-Nonachlor	39765-80-5	0.1
Trifluralin	1582-09-8	0.1

Some compounds in Table 1 have different state specific reporting limits. For those reporting limits, see the "State Specific MRLs" query in LIMS Request database application. The target search values (TSV) are set in the Enviropro reporting software so that the lowest state MRL is library searched for each sample.

Ph25 indicates compounds contained in the EPA 525.2 phase 2&5 (RLC) mix.

2) SUMMARY OF METHOD

2.1 Analytes, internal standards and surrogates are extracted from water by passing a liter of acidified sample through an extraction disk consisting of C_{18} bonded silica particles entrapped in an inert support phase. This procedure incorporates an extraction manifold assembly connected to a vacuum pump. The extraction disk is prepared by washing with a small quantity of ethyl acetate and dichloromethane, followed by drying under vacuum. The disk is then conditioned with methanol and finally rinsed with organic-free water. The sample is passed through the extraction disk. The organic compounds are eluted from the disk with small quantities of dichloromethane and ethyl acetate and then dried with anhydrous sodium sulfate. The eluate is then concentrated with dry nitrogen to slightly less than 1.0 mL in the Zymark Turbo-Vap™ concentrator. A recovery standard is added to the extract to monitor the recovery of extracted internal and surrogate standards.

The sample is analyzed by injecting an aliquot of the extract onto a capillary GC column in tandem with a mass spectrometer. Identification and quantitation is determined by evaluating retention times and the mass spectra of responses greater than a set threshold compared to reference spectra and retention times generated from calibration samples. The concentration of each identified analyte and surrogate is measured by relating the MS response of the quantitation ion(s) produced by that compound to the MS response of the quantitation ion(s) produced by the internal standard, compared to the calibration curve.

2.2 Minimum Quality Control shall include a DFTPP tune, a system performance criteria check, continuing calibration check standard, a reporting level check and extraction batch QC (method blank, lab fortified blank, matrix spike and a duplicate sample). Extraction batch QC may be analyzed in a separate analysis. Analyze an external quality control sample at least quarterly. An unextracted QCS is evaluated with each initial calibration. Internal and surrogate standards are included in each sample, along with a recovery standard to monitor the efficiency of the injection.

2.3 Comparison to EPA Method 525.2 - The method outlined above differs in some respects from EPA Method 525.2 that it is based on. These differences include:

2.3.1 The list of parameters tested includes only the compliance compounds required by states as well as selected polynuclear aromatic hydrocarbons.

2.3.2 A subset of parameters may be spiked into matrix spike samples. These subsets may be rotated, dependent on client requested parameters.

2.3.3 Project specific requirements may supersede the direction provided by this procedure. These requirements are generally noted on orders or in contracts.

2.3.4 The concentrations of the analytes used to check for breakdown and chromatographic resolution are different than those cited in the method. The acceptance criteria for the resolution and column performance checks are more defined than in the reference method.

2.3.5 The extract drying cartridges are rinsed with methylene chloride instead of 1:1 ethyl acetate:methylene chloride mixture prior to use for samples.

3) DEFINITIONS

3.1 See Glossary of Terms, 06-QA-F0401.

4) INTERFERENCES

4.1 Interferences or contamination can result in costly instrument down-time as well as the potential for erroneous results. Below are some of the more common types of interferences.

4.2 Any semi-volatile organic chemicals which come in contact with the sample and/or extraction system can result in serious contamination.

4.3 The use of plastic tubing (other than Teflon), plastic bottle caps, GC vial septa, rubber components in low cost gas regulators, and chemical preservatives in solvents used in the analysis are potential sources of organic chemical contamination or interference.

4.4 Interfering contamination may occur when a sample containing low concentrations of compounds is analyzed immediately after a sample containing relatively high concentrations of compounds (carryover). Syringes and the injection liner must be cleaned or replaced as needed; typically chromatographic performance will dictate when this is necessary. After analysis of a sample containing high concentrations of compounds, an instrument washout blank should be analyzed to minimize potential carryover into the next sample.

4.5 Phthalate esters are present as background contamination in virtually all analyses, producing a variable background. The four most commonly observed are di(2-ethylhexyl)phthalate, dimethylphthalate, di-n-butylphthalate and di-n-octylphthalate. Background contamination may also arise from solvents, reagents, and glassware. Background contamination must be reduced to an acceptable level before proceeding with sample analysis.

4.6 Care must be taken when reporting results from co-eluting compounds which share parent-daughter m/z pairs, specifically in the case of dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene. Special attention must be given to the spectra for each of these compounds to ensure proper identification of the analyte. Other potential problem compound sets include simazine-atrazine, 2-methyl naphthalene - 1-methyl naphthalene, phenanthrene-anthracene, benzo(a)anthracene-chrysene, benzo(b)fluoranthene-benzo(k)fluoranthene.

5) PERSONNEL HEALTH & SAFETY

5.1 Since very little documented information is available on the toxicity of the chemicals being analyzed by this procedure, each chemical should be considered a potential health hazard and all exposure from both inhalation and skin contact should be absolutely minimized. Some method analytes have been tentatively classified as known or suspected human or mammalian carcinogens. Pure standard materials and stock standard solutions of these compounds should be handled with suitable protection to skin, eyes, etc.

5.2 Each analyst is responsible for maintaining awareness of OSHA regulations regarding safe handling of chemicals used in this method. This information is available in the Safety Data Sheets (SDS). This information is available in the Safety Data sheets (SDS) located at https://msdsmanagement.msdsonline.com/5c1df5b3-747d-4789-8104-42457dc3a3e5/ebinder/?nas=True.

5.3 Neat chemicals may be categorized as irritants. Each chemical must be regarded as a potential health hazard and exposures should be limited as much as possible. Handle concentrated acids or bases only under the acid fume hood. Only work with dichloromethane under a fume hood.

5.4 When working with concentrated acids or bases, wear personal protective equipment (PPE). At a minimum this may include a lab coat, safety glasses, acid resistant gloves, a rubber apron, and face shield. All PPE equipment is provided by the laboratory.

5.5 The following chemicals have the potential to be highly toxic or hazardous. Their properties and specific hazards should be reviewed from information given on the SDS.

5.5.1 Hydrochloric acid.

5.5.2 Dichloromethane.

5.5.3 Ethyl acetate.

5.5.4 Standard materials used in this method.

5.5.5 Potassium Hydroxide.

6) EQUIPMENT & SUPPLIES

6.1 Gas Chromatograph/Mass Spectrometer system - The following components are recommended, but comparable equipment may be used.

- Autosampler - Thermo Scientific AI 1310, or equivalent.
- Gas Chromatograph - Thermo Scientific Trace 1310 or equivalent.
- Trace 1310 SSL injector module.
- Thermo Scientific ISQ7000 Mass Spectrometer.

6.2 Workstation - used to integrate and analyze data files. An IBM compatible computer running Chromeleon software.

6.3 GC Column - Restek XTI-5, Part No. 12223 or Restek RXI-XLB, Part No. 13723, available from Restek Corporation or equivalent.

6.4 GC Carrier Gas - Helium, Ultra High Purity.

6.5 Ultra High Purity Nitrogen.

6.6 Carrier Gas Purifier System available from Supelco, Inc. or equivalent.

6.7 The following spare parts should be available in the laboratory: septa, injector inserts, and autosampler syringes.

- Septa – Thermo Scientific BTO septa, 11mm, Part No. 31303233-BP, or equivalent.
- Injector Inserts – Restek Split Liner with Glass Frit, Catalog No. 21046-214.5, Restek Topaz Liner, splitless, single taper, wool, Catalog No. 23332, or equivalent.
- Autosampler Syringes, needles, plungers – Thermo Scientific 10 uL cone tip, Catalog No. 36500525, or equivalent.
- Ferrules - 0.4 mm, V6, 0.1-0.25 Part No. 5181-3323, or equivalent.
- O-rings - Viton, Catalog No. 22242, or equivalent.
- Inlet seals - Catalog No. 2906A081, or equivalent.

6.8 Solvent Concentrator - TurboVap™ LV Evaporator Model ZW-700, available from Zymark. Requires 20 psi or less Ultra High Purity Nitrogen.

6.9 Calibrated Centrifuge tubes - 15 mL, with teflon-lined screw-caps calibrated prior to first use. Available from Chemglass, Part No. EH-9908-271D, or equivalent.

6.10 Analytical balances - Capable of weighing from 0.0001g to 2000g.

6.11 Extraction Manifold along with Speed Disk reservoir and collection chamber. Available from JT Baker, Part No. 809506, 908-859-2151.

6.12 Extraction Disk - Baker Bond Speed Disk, Octadecyl (C_{18}), available from JT Baker, Part No. 8055-06.

6.12.1 As an alternative extraction disk, Atlantic High Capacity SPE C_{18} disk, available from Horizon Technology, Part No. 47-2436-13. This requires a Kimble manifold, associated glassware, clamps, and frits.

6.13 Vacuum system - Pump with sufficient capacity to maintain a vacuum of 13 cm (5 in) of mercury.

6.14 Side Arm Flask, 1 Liter PYREX - Available from Fisher Scientific, Part No. 10-180F.

6.15 Sample containers - One liter amber glass bottles with Teflon lined caps, available from ESS or QEC.

6.16 Volumetric Flasks - Class A, various sizes.

6.17 Storage vials - Various sized amber vials with PTFE/butyl rubber septa and screw caps.

6.18 Culture tubes 10 x75 mm, available from Fisher Scientific.

6.19 Empty 15mL SPE tubes (sodium sulfate drying tubes), pack of 50, Part No. 26013 available from Restek.

6.20 PTFE frits (for 15mL sodium sulfate drying tubes), pack of 100, Part No. 26019 available from Restek.

6.21 Micro Syringes - Various sizes from 5-1000 uL, available from Hamilton, or equivalent.

6.22 Auto sampler vials - 2 mL amber vial with cap & silicon/PTFE septum, available from an approved vendor.

6.23 Pasteur Pipets - Size 5 3/4 and Size 9".

6.24 Preparation of Glassware – See details at Glassware Cleaning, SP-SOP16311.

7) REAGENTS & STANDARDS

7.1 Reagents and Solvents - Solvents and reagents are stored at room temperature unless specifically noted as otherwise. Expiration dates for solvents and reagents are set on a case by case basis if not provided by the vendor and noted on each container.

7.2 Solvents

7.2.1 Methanol –Optima grade or better.

7.2.2 Ethyl acetate – Optima grade or better.

7.2.3 Dichloromethane – High Purity grade or better.

7.2.4 Acetone – ACS grade or better.

7.2.5 1:1 ethyl acetate:dichloromethane(v/v)-- prepared by combining 500 mL of each solvent into a 1L bottle. Store at room temperature.

7.3 Other Chemicals

7.3.1 Sodium sulfate (muffled), Na_2SO_4 – ACS grade or better

7.3.2 Sodium sulfite, Na_2SO_3 – ACS grade or better

7.3.3 Hydrochloric acid, HCl – ACS grade or better

7.3.3.1 1:1 HCL (v/v) - Prepared by slowly adding 500 mL of concentrated HCl to 500 mL of reagent water. Prepare this solution in a fume hood while wearing protective eyewear, gloves, and an acid resistant apron. Store at room temperature and replace after one year of preparation, expiration date cannot extend beyond expiration date of HCl.

7.3.4 Potassium Hydroxide, KOH – Certified grade or better.

7.4 Reagent Water – Milli-Q water treated in the laboratory (by reverse osmosis, deionization and filtration) that is free of interferences and contaminants.

7.4.1 Preserved Reagent Water to be used for extracted QC – Add 50 mg of sodium sulfite and 4 mL 1:1 HCl:RW to each bottle of reagent water(1 liter) the day before extraction. These may be held up to 14 days after collection/preparation.

7.5 pH paper, 1-12 range

7.6 DPD free chlorine reagent, available from Hach

7.7 Calibration Standards - All calibrations or verifications (second source) must be conducted using Reference Materials obtained from a reference material producer accredited to ISO Guide 34 or ISO 17034. The Certificate of Analysis for either the calibration standard or the second source QC standard, must clearly demonstrate that the vendor produced the standard in compliance to ISO Guide 34 or ISO 17034.

7.7.1 Stock Calibration Standards - All stock standards are in acetone or other suitable solvent at 1-60, 100 ug/mL, available from Phenova or other approved vendor. Store at -10°C or less. Adhere to manufacturer's recommended expiration dates for unopened ampules. Opened ampules are replaced after 3 months.

Mix	Vendor	Stock Concentration
Custom Phase II and V Mix*	Phenova	Varied 1 – 60 µg/mL
Custom 525.2 State Mix	Phenova	100 µg/mL

* - Concentration ratios reflect Table 1 MRL ratios

7.7.2 State Substock Calibration Standard – Substock standard is prepared at 10 ug/mL in acetone. Add 100 uL of the ST mix stock standard at 100 ug/mL to a 1 mL volumetric flask containing acetone and bring to a final volume of 1 mL with acetone. Store at -10°C or less and replace based on the stock standard expiration date. The substock cannot exceed stock expiration date.

7.7.3 Phase II & V Reporting Limit Check (RLC) Standard mix – The Phase II & V standard mix is in acetone with a varied concentration between 1 – 60 ug/mL (see Table 2b for concentrations) available from Phenova or other approved vendor. Store at -10°C or less. Adhere to manufacturer's recommended expiration dates for unopened ampules. Stability is 3 months when stored at -10°C or less.

7.7.4 Working Calibration Standards are prepared to cover a concentration range of 0.005 up to 5 ug/L. The working calibration range for some compounds may be limited. Label 1 mL volumetric flasks according to the

concentrations listed in Table 2 below. Fill each flask with ethyl acetate to approximately 0.5 mL. Add the volume of the IS/SS stock standard and recovery standard as indicated in Table 2 to the flask by injecting the solution(s) into the solvent. Then add the appropriate volume of the calibration standard or substock to the flask. Adjust the ethyl acetate volume in the flask to 1.0 mL. Cap and mix the contents well. Transfer the working calibration standards to properly labeled autosampler vials. Stability is 30 days when stored at less than 4°C, the same storage conditions used for sample extracts. The following form is used to record preparation information such as lot numbers and technician's initials, SP-525.2 State & Monrovia Compounds Calibration Record, 06-LO-F0428,.

Table 2a. Preparation of Working Calibration Standards – 525.2 State Mix and Isophorone/2,4-Dinitrotoluene Mix

Working Conc. ug/L	Substocks at 10 ug/mL	525.2 State Mix Stock and Isophorone/2,4-DNT* Substock at 100 ug/mL	Volume of IS/SS Stock Std	Volume of Recovery Stock Standard
0.005	0.5 uL	--	10 uL	10 uL
0.01	1 uL	--	10 uL	10 uL
0.02	2 uL	--	10 uL	10 uL
0.05	5 uL	--	10 uL	10 uL
0.1	10 uL		10 uL	10 uL
0.5	--	5 uL	10 uL	10 uL
0.75		7.5uL	10 uL	10 uL
1.0	--	10 uL	10 uL	10 uL
2.0	--	20 uL	10 uL	10 uL
3.0	--	30 uL	10 uL	10 uL
4.0	--	40 uL	10 uL	10 uL
5.0	--	50 uL	10 uL	10 uL
6.0	--	60 uL	10 uL	10 uL

Table 2b. Phase II & V Stock Standard Mix

Parameter	Stock Concentration (ug/L)	Concentration Ratio Relative to Atrazine *
Alachlor	10.0	1
Aldrin	7.0	0.7
Atrazine	10.0	1
Benzo(a)pyrene	2.0	0.2
Butachlor	10.0	1
Di(2-ethylhexyl)adipate	60.0	6
Di(2-ethylhexyl)phthalate	60.0	6
Dieldrin	2.0	0.2
Endrin	1.0	0.1
gamma-BHC (Lindane)	2.0	0.2
Heptachlor	1.0	0.1
Heptachlor epoxide	1.0	0.1
Hexachlorobenzene	10.0	1
Hexachlorocyclopentadiene	10.0	1
Methoxychlor	10.0	1
Metolachlor	10.0	1
Metribuzin	10.0	1
Propachlor	10.0	1
Simazine	7.0	0.7

7.8 Internal and Surrogate Stock Standard - The IS/SS standard mix at 0.5 mg/mL in acetone, available from Accustandard or other approved vendor. IS/SS standard contains: Acenaphthene-d_{10}, phenanthrene-d_{10},

chrysene-d_{12}, 1,3-dimethyl-2-nitrobenzene, perylene-d_{12}, and triphenylphosphate. IS/SS standards are added to each working calibration standard at a constant concentration equal to 5 ug/L, by the addition of 10 uL of the 0.5 mg/mL stock. Store at -10°C or less. Adhere to manufacturer's expiration dates for ampules. Replace opened material after 3 months.

7.9 Recovery Standard - p-terphenyl-d_{14} at 0.5 mg/mL in dichloromethane. Available from Accustandard or other approved vendor. Store at -10°C or less. Adhere to manufacturer's expiration dates for ampules. Replace opened material after 3 months.

7.10 Continuing Calibration Check (CCC) Standard - The CCC is prepared exactly as the working calibration standards described in Section 7.7.4. When prep batches include South Carolina samples an additional CCC at 0.5 ug/L must be prepared. Stability is 30 days when stored at less than or equal to 4°C.

7.11 External Quality Control Stock (QCS) Standard(s) - Available from Restek, Accustandard, or other approved vendor, at 100 or 1000 ug/mL in acetone or other suitable solvent. Store at - 10°C or less. Adhere to manufacturer's expiration dates for ampules. Replace opened material after 3 months.

Mix	Vendor	Stock Concentration
Custom Mix C1	Restek	100 µg/mL
Custom Mix C2	Restek	100 µg/mL
Isophorone	Accustandard	100 µg/mL
2,4-dinitrotoluene	Accustandard	100 µg/mL

7.11.1 Unextracted Quality Control (UQCM) – Prepared in the same manner as the working calibration standards described in Section 7.7.4. The stock material cited in Section 7.11 is used for the UQCM.

7.11.2 The UQCM for EPA 525.2 State Compounds and 525.2 Monrovia is typically prepared at 2 ug/L. An additional UQCM at 0.5 ug/L is needed to comply with South Carolina requirements. Stability is 30 days when stored at less than or equal to 4°C.

7.12 Tune Solution (DFTPP) – Stock standard is at a concentration of 2500 ug/mL. To prepare the working solution at 5 ug/mL, add 20 uL of stock solution to a 10 mL volumetric flask containing methylene chloride. Mix the 5 ug/mL solution then transfer to amber autosampler vials. Store the stock solution at –10°C or less, replace open ampules after one year. Store the working tune solution when not in use at - 4°C and replace after 3 months.

7.13 System Performance Criteria Check (SPCC) Stock Standard – Compounds in acetone at 50 ug/mL, except benzo(a)pyrene which is at 1.25 ug/mL. Available from Restek or another approved vendor. Store at -10°C or less. Adhere to manufacturer's expiration dates. Replace opened material after 3 months.

7.13.1 SPCC working solution – The SPCC working standard contains the compounds at the concentrations listed in Table 3 below. This working standard is prepared by adding approximately 5 mL of ethyl acetate to a 10.0 mL Class A volumetric flask, followed by 400 uL of SPCC stock standard. Bring to a final volume of 10.0 mL with ethyl acetate. Other volumes may be prepared as long as the ratio of SPCC stock standard and ethyl acetate remain the same. Transfer this solution to labeled autosampler vials. Record this preparation in the appropriate logbook. Store at less than or equal to 4°C. This solution expires 30 days after preparation.

Table 3. System Performance Criteria Check Working Standard

Phenanthrene	2.0 ug/mL	Anthracene	2.0 ug/mL
Endrin	2.0 ug/mL	Benzo[a]anthracene	2.0 ug/mL
Chrysene	2.0 ug/mL	DDT	2.0 ug/mL
Benzo[a]pyrene	0.05 ug/mL		

8) SAMPLE COLLECTION, PRESERVATION & STORAGE

8.1 Sample Collection -See details at Sampling and Shipping Instructions for Sample Collection, 06-LO-C0416. Collect samples in 1L amber glass bottles. Use caps that are lined with Teflon septa. If samples are to be analyzed for cyanazine, collect a separate 1L sample.

8.2 Sample Preservation - For detailed collection and preservation requirements see the LIMS Schedule of Services. For all water supplies add 50 mg of solid sodium sulfite to the sample container at the lab prior to shipping. In the field, after the sample has been dechlorinated, add 4 mL of 1:1 HCl. If samples contain a residual chlorine or are not at pH less than 2 when received at the laboratory, they are not valid samples. The client must be contacted before proceeding with processing. The samples can be processed by this procedure with the client's approval. This client notification and approval must be documented and included in the report.

Note: All sample bottles shipped from EEA-SB contain both the required preservative and dechlorinating agent. EEA-SB has found that having the dechlorinating agent in the sample bottle does not adversely affect the analysis when the sample is from a non-chlorinated site and it aids in the analysis when the sample site information is unknown to the laboratory.

8.2.1 Samples requiring cyanazine analysis - Cyanazine degrades in the sample when it is stored under acidic conditions or when sodium sulfite is present. Therefore, immediately prior to extraction, preserve the sample with sodium sulfite if the sample is chlorinated, and acidify with 4 mL of 1:1 HCl prior to fortification with internal and surrogate standards, then extract immediately.

8.3 Sample Receipt and Storage - See detailed sample collection and preservation requirements in the Sample Receipt, REC-S-6055-SOP16195. All samples must be kept sealed and iced, or refrigerated at 0-6°C from the time of collection until extraction.

Note: For South Carolina compliance, samples will be kept at less than or equal to 4°C but not frozen from the time of collection until extraction and analysis.

8.4 Sample Holding Time - Samples must be extracted within 14 days of collection. Extracts must be analyzed within 30 days of extraction. Store sample extracts at less than or equal to 4°C. Samples requesting diazinon should be extracted as soon as possible after collection and preservation.

9) QUALITY CONTROL

9.1 For a detailed listing of the Quality Control (QC) requirements of this method in table form, see QC Table Section 18 at the end of this document. Specific projects or regulations may require different quality control criteria than cited in this document. Additional tables may be added to this document for specific QC criteria.

9.2 When beginning the use of this method, or when a change is made to the instrument configuration, the criteria of Section 14 must be met prior to the analysis of samples. Minimum Reporting Levels (MRL) must be established for all analytes. The analyst is permitted to modify GC columns, GC conditions, extract evaporation techniques, internal standards or surrogate compounds. Each time such method modifications are made, the analyst must repeat the IDOC determinations in Section 14.

9.2.1 When the use of this method is established and a new analyst or technician will begin use of this method, the criteria of Sections 14.1 must be met.

9.3 MS Tune Check - This performance check consists of verifying the MS tune using the mass spectrum of DFTPP. This check must be performed at the beginning of each analysis batch. Another mass tune check must be performed each 12 hours during analysis.

9.3.1 Inject 5 ng or less of DFTPP solution into the GC/MS system. Acquire a mass spectrum that includes data for m/z 45-450. The ion abundance criteria listed in Table 4 must be met before proceeding with analysis of initial calibrations standards or samples. If the DFTPP mass spectrum does not meet all criteria in Table 4, the

instrument may need to be adjusted and the MS tune check must be repeated until the criteria are met. If instrument adjustments cannot resolve the problem, a new mass calibration may be necessary. After a mass calibration is performed, repeat the DFTPP tune check.

Table 4. Ion Abundance Criteria for Decafluorotriphenylphosphine (DFTPP)

Mass (m/z)	Relative Abundance	Criteria Purpose of Checkpoint
51	10-80% of the base peak	low mass sensitivity
68	less than 2% of mass 69	low mass resolution
69	Present	to calculate masses 68 and 70 abundances
70	less than 2% of mass 69	low mass resolution
127	10-80% of the base peak	low-mid mass sensitivity
197	less than 2% of mass 198	mid-mass resolution
198	base peak or greater than 50% of 442	mid-mass resolution and sensitivity
199	5-9% of mass 198	mid-mass resolution and isotope ratio
275	10-60% of the base peak	mid-high mass sensitivity
365	greater than 1% of the base peak	baseline threshold
441	Present and less than mass 443	high mass resolution
442	Base peak or greater than 50% of 198	high mass resolution and sensitivity
443	15-24% of mass 442	high mass resolution and isotope ratio

9.3.2 A single spectrum, or an average spectra, or an average spectrum across the entire GC peak may be used to evaluate the performance of the system. Background subtraction is permitted. It is not permissible to subtract background within the peak.

9.4 System Performance Control Check (SPCC) - Evaluate the system resolution and analyte degradation. If criteria is not met, take appropriate corrective action to resolve the problem. Reanalyze only those samples if analytes contained in the SPCC are requested. Samples not requesting analytes contained in the SPCC may be reported without comment. The acceptance criteria for the requested analyte(s) must be met before any samples are analyzed. Analyze every 12 hours.

9.4.1 System Resolution - Anthracene and phenanthrene must be separated by a valley whose height (signal) is baseline resolved. Benzo[a]anthracene and chrysene must be separated by a valley whose height is less than 25% of the average peak height of the compounds. If R is greater than 1.5 (as cited in Section 13.7) baseline resolution is presumed. If the system resolution fails, take corrective action before analyzing samples. If resolution components are not evaluated in samples the data may be reported. If the resolution analytes are requested for analysis, data cannot be reported from the analysis batch with a failed system resolution check.

9.4.2 Analyte Degradation - The degradation of endrin to endrin aldehyde and endrin ketone, and DDT to DDE and DDD, is monitored. The abundance of endrin aldehyde and/or endrin ketone and DDE and/or DDD should not be greater than 20% of endrin and DDT, respectively. If degradation components are not requested in samples the data may be reported if the criteria are not met. If degradation analytes are requested for analysis, data cannot be reported from the batch with a failed analyte degradation check. Take corrective action if the criteria are not met. Calculate degradation using the equation in Section 13.8.

9.5 Continuing Calibration Check (CCC) - Analyze a CCC standard at the beginning of each run, and then every twelve hours within a run and at the end of the run. Within the analytical run, the same CCC may be injected more than once. The preceding CCC is used to determine the acceptability of results for the subsequent samples up to the next CCC injection. Calculate percent recovery using the equation in Section 13.10.

9.5.1 In the initial CCC, determine that the absolute areas of the quantitation ions of the internal standards, recovery standard, and surrogates have not changed by more than 50% from the average of these areas

measured during initial calibration. Data should not be reported from analytical batches that do not meet this criterion. Surrogate recoveries must also be within ±30% of the target concentration.

9.5.2 In subsequent CCCs within an analytical run, the absolute areas of the quantitation ions of the internal standards, recovery standard, and surrogates must meet the following criteria. The absolute areas of the quantitation ions must be within ±30% of the most recent CCC and also within ±50% of the average of the areas measured during initial calibration. Surrogate recoveries must also be within ±30% of the target concentration. Data must not be reported from analytical batches that do not meet these criteria. If the sample(s) cannot be reanalyzed client contact is in order.

9.5.3 CCC Analyte Recovery Criteria - Method list analytes must recover within ±30% of the target concentration. Recoveries for non-method analytes must be within the limits established based on historical performance. These limits are generated based on the procedure described in the Quality Assurance Manual, QA-QM-QM17054.

9.5.3.1 If analyte recovery is outside of the acceptance range, the CCC should be repeated to verify the out of range result. If the repeated analysis is acceptable proceed with the analysis. If not, the analysis should be stopped and corrective action should be taken. Affected samples in the analysis batch must be repeated for the failing analyte. If the corrective action produces an acceptable CCC result proceed with the analysis. If not, the analysis should be stopped and additional corrective action should be taken. After additional corrective action is taken, two consecutive CCCs must be evaluated within acceptance limits or an initial calibration should be performed prior to continuing with analysis. Exceptions are discussed in the following sections.

9.5.3.2 Data for analytes that fail low in the CCC may not be reported unless the sample results are above the MCL or other regulatory limit. If an MCL or other regulatory limit is not exceeded, the samples must be reanalyzed.

9.5.3.3 If 10% or less of the analytes ordered fail, those analytes with high failures may be reported if the sample(s) results are below the MRL. Corrective action is not required on high failure if less than 10% of the analytes, but a comment regarding the high failure must be provided with the results.

9.5.3.4 If the failures exceed 10% of the reportable analytes, corrective action must be taken, and the associated samples must be reanalyzed.

9.5.3.5 If the same analyte(s) fail in three consecutive CCCs, corrective action must be taken before any additional samples are analyzed.

9.5.3.6 If the analytical batch includes samples for South Carolina compliance monitoring, then all of the South Carolina regulated compounds must be within ±30% of the target concentrations in CCC(s) associated with those samples**.** If not, the samples must be reanalyzed. The compounds that are regulated in South Carolina are identified in Table 5.

Possible corrective actions include but are not limited to adjustment of GC and/or MS conditions, injector and column maintenance, preparation of fresh calibration standards, cleaning of the ion source, and replacement of the multiplier.

9.6 Internal Standard (IS) - Each field sample and QC sample must contain internal standards. The absolute areas of the quantitation ions of the internal standards must meet the following criteria, excluding CCCs. The absolute areas of the quantitation ions must be within ±30% of the most recent CCC. Data should not be reported from samples that do not meet these criteria.

9.6.1 If the internal standard area is outside of this acceptance limit, reanalysis of the extract or re-extraction of the sample is required. If reanalysis was performed and does not meet the acceptance limit the sample should be re-extracted. If the internal standard area is still outside of the acceptable range after re-extraction and

reanalysis, the problem may be matrix related. The client report must state that the data for the compounds quantitated against the failed internal standard are suspect.

9.6.2 If re-extraction is not possible due to sample holding time or insufficient sample volume, the data is noted as suspect on the client report. If a compound calculates greater than the MRL using an internal standard which is outside of the acceptance limits the result is also noted as suspect.

9.7 Recovery Standard - In extracted samples and extracted quality control, the absolute areas of the quantitation ions of the recovery standard must be within ±30% of the absolute areas of the quantitation ions in the most recent CCC. If the recovery standard does not meet this criterion, but the absolute areas of the internal standards are within ±30% of the absolute areas of the quantitation ions most recent CCC, the data can be reported. If the above criteria are not met re-inject the extract.

9.8 Surrogate Standard (SS) - Each field sample and QC sample must contain surrogate standards. In extracted samples and QC, the percent recovery for each surrogate compound must be within 30% of the true value. Calculate percent recovery using the equation in Section 13.10.

9.8.1 If the surrogate standard recovery is outside of this acceptance limit, reanalyze the extract. If the surrogate recovery is still outside of the acceptable range, re-extract the sample. If the surrogate standard is still outside of the acceptable range, the problem may be matrix related. Report the data for that sample as suspect based on surrogate recovery in both analyses. If re-extraction is not possible due to sample holding time or insufficient sample volume, contact the client for further direction.

9.9 Laboratory Instrument Blank (LIB) - It is recommended that an instrument blank is injected after the CCC is analyzed to minimize carryover. Also, it is recommended that an LIB be injected after any fortified sample or QC sample at a high concentration. An LIB is an aliquot of extraction solvent that may or may not contain internal and surrogate standards. In some cases a previously analyzed LMB may be used as an LIB.

9.10 Laboratory Method Blank (LMB) - Extract and process an LMB with each preparation batch. Typically the LMB is analyzed prior to the analysis of the samples within the extraction batch. LMB values must be less than the MRL for each compound.

9.10.1 If the LMB has compound(s) detected above the MRL, and there are no detects above the MRL for the same compound(s) in the sample, sample data may be reported with comment explaining the lack of impact on the data reported.

9.10.2 If the LMB has detects above the MRL, and there are detects above the MRL for the same compounds in the sample, the sample data is not reported unless the detected value is greater than ten times the value in the LMB.

9.10.3 Samples not meeting the above criterion are reanalyzed or re-extracted. If reanalysis gives the same results, the samples are re-extracted. If the samples cannot be re-extracted or reanalyzed, the sample results must be qualified on the report as suspect. According to Section 13.2.4 of the reference method, phthalate esters are commonly seen in blanks. Therefore, it is difficult to measure these at concentrations less than 2 ug/L. If phthalate esters are present in the LMB and the sample(s) at concentrations less than 2 ug/L, and no other analytes are present, report the sample data with comments citing Section 13.2.4 of the reference method.

9.10.4 If samples extracted together in a batch are analyzed on different days or if the extraction batch is split between different instruments, the LMB from that particular extraction batch need only be analyzed once. The remaining samples in the extraction batch must be analyzed with CCCs and LIBs to verify instrument performance. It is strongly recommended that the LMB be analyzed with each run for determination of Tentatively Identified Compounds (TICs) and Other Compounds Detected (OCDs).

9.11 Laboratory Fortified Blank (LFB) - Prepare an LFB with each extraction batch at a mid-level concentration typically at 2.0 ug/L. For batches containing South Carolina samples, there must also be an LFB prepared at 0.5

ug/L. The LFB percent recovery for each analyte must be within ±30% of the target concentration. For analytes designated as qualitative or non-method analytes as stated in Table 5, acceptance limits will be established based on historical data for those compounds. These limits will be established using the procedure described in the Quality Assurance Manual, QA-QM-QM17054.

9.11.1 If the LFB recovery does not meet acceptance criteria, the LFB is reanalyzed for the out of range analytes. If the reanalysis is still outside of the acceptance range the affected samples should be re-extracted for the affected compound(s). If the re-extraction still does not meet acceptance criteria a client contact is in order. For phthalate and adipate compounds calculating high out of range, the data may be reported with a qualifier, stating the high biased result may be due to background contaminants as stated in EPA Method 525.2, Rev 2.0, Section 13.2.4.

9.11.2 If samples extracted together in a batch are analyzed on different days or if the extraction batch is split between different instruments, the LFB from that particular extraction batch need only be analyzed once. The remaining samples in the extraction batch must be analyzed with CCCs to verify instrument performance. Any data qualifiers for the associated LFB that are specific to an ordered parameter must be included with the appropriate sample result.

9.12 Reporting Level Check (RLC) - Prepare an RLC on each extraction day at a low level concentration typically at 0.1 ug/L. The RLC percent recovery for select analytes must be within established limits, except Minnesota compliance samples must utilize limits of 60-140%.

9.12.1 If the RLC recovery does not meet acceptance criteria, the RLC may be reanalyzed for the out of range analytes along with effected samples. If the reanalysis is still outside of the acceptance range, a different RLC may be analyzed as long as the new RLC is contained within the run. If this RLC passes, the data is deemed acceptable. Any low RLC failures require all samples to be reanalyzed for the failing parameter(s) or client contacts to be made if reanalysis is not possible. High RLC failures, with no detects in the sample, may be reported with client contacts. However, corrective action should be taken to limit the occurrence of high RLC failures.

9.12.2 If samples extracted together in a batch are analyzed on different days or if the extraction batch is split between different instruments, an RLC must be analyzed with each run to demonstrate instrument sensitivity. The RLC does not need to be from the same extraction batch as the samples within the run, except for Minnesota samples. Minnesota requires the RLC from the extraction batch to be reported as part of the prep batch QC.

9.13 Quality Control Standard (QCS) - Extract and analyze a QCS quarterly. Prepare the QCS at a mid-level concentration typically at 2.0 ug/L. QCS recovery limits are the same as for the LFB (Section 9.11). If acceptable accuracy cannot be achieved, appropriate corrective action to resolve the problem is taken.

9.13.1 An unextracted QCS sample (UQCM) is to be analyzed with each instrument initial calibration. An additional UQCM at 0.5 ug/L is needed to comply with South Carolina requirements. The acceptance limits for analytes are the same as the CCCs (Section 9.5.3). The unextracted QCS does not fulfill the quarterly frequency requirement of the extracted QCS. The purpose of this sample is to verify the calibration solution. An extracted QCS can also be used to verify an initial calibration.

9.14 Matrix Spike (MS) - A matrix spike sample is prepared with each batch to determine that the matrix does not adversely affect method performance. The matrix spike will typically be prepared at 2 ug/L. Matrix spikes of South Carolina samples will be prepared at 0.5 ug/L. In some cases a matrix spike duplicate (MSD) will be performed to measure precision of the analytical procedure.

9.14.1 MS percent recoveries should meet the limits for LFB samples (either ±30 % or established limits). If the recovery data does not meet these acceptance criteria, and the LFBs are within limits, the sample data is considered suspect due to matrix effects. Note this problem on the report. Calculate percent recovery using the equation in Section 13.11.

9.15 Field Trip Blanks - Analyze one Field Trip Blank for each sample set, if requested. Results at or above the MRL may indicate contamination at the sample collection site. If the samples in that collection set have positive results for the same parameters, the client should be notified and given the opportunity to recollect the samples.

9.16 Duplicate Analysis (FD, LD, MSD) - Monitor precision by the analysis of duplicates. A duplicate sample must be performed with each extraction batch. This can be fulfilled by the analysis of field duplicates or matrix spike duplicates. Extraction batches containing samples from the State of Minnesota require a MS/MSD pair in the batch. The MS/MSD pair does not have to be associated to the client sample from Minnesota. If the frequency criteria for Minnesota cannot be met a client contact will be submitted for client notification. Calculate relative percent difference (RPD) using the equation in Section 13.12. RPDs must meet in-house limits which are established based on historical data. If the RPD limit is exceeded, report the data with a qualifier citing the RPD is outside of the acceptance limit. The MSD must also meet the criteria listed in Section 9.13.1.

9.17 Computerized tracking and charting is performed with each submittal of data to the LIMS. Control limit calculations and trend analysis procedures are described in the QA Manual, QA-QM-QM17054.

9.18 The GC/MS peak identification software should be able to recognize a GC peak in the appropriate retention time window for each of the compounds in the calibration solution, and make correct identifications. If fewer than 99% of the compounds are recognized, system maintenance is required. The GC retention time of the sample component should be within 5 seconds of the retention time observed for that compound in the initial CCC of the analysis batch. If the retention has shifted outside of this window, the mass spectrum may be used to verify the identity of the peak.

10) PREVENTIVE MAINTENANCE & TROUBLESHOOTING

10.1 Prior to each run (calibration or sample analysis) the analytical system must meet the operational performance criteria specified in the instrument manufacturer's manual. In practice this usually consists of verifying that all GC and MS parameters are within specifications. Rarely will a complete setup or instrument tune be required, unless exceptionally dirty samples are routinely encountered. Shutdown and cleaning of the ion trap is recommended on a semi-annual basis.

10.2 Record all instrument maintenance, including detailed description of any problems and trouble-shooting steps taken in the Instrument Maintenance Log Manual, 06-QA-F0455.

10.3 Routine maintenance should include at least the following:

10.3.1 Injector Insert Replacement - Endrin breakdown approaching 20% in the SPCC is a main indicator of the need for injector insert replacement. If the recovery of hexachlorocyclopentadiene fails low in a CCC or is low bias compared to the other parameters, the insert may need to be replaced.

10.3.2 Analytical Column Clipping or Replacement – Poor response for benzo(a)pyrene in the SPCC may indicate a need to cut off a portion of the analytical column from the end near the injector. This action may cause a change in retention times. If clipping the column does not restore the benzo(a)pyrene response, replacement of the analytical column may be needed. Typically, approximately 10 cm of analytical column is removed when the injector insert is replaced.

10.3.3 Mass Spectrometer - Change mechanical pump oil every six months or as needed. Clean ion source parts per instrument manual instructions. Replace filament and multiplier as necessary.

10.3.4 Refer to the instrument manual for more details on maintenance.

11) CALIBRATION & STANDARDIZATION

11.1 Instrument Settings

11.1.1 Recommended GC Column and Temperature Settings

Temp (°C)	Rate (C/min)	Hold (min)	Total (min)
45		0	0
167	30	0	4.067
175	1	0	12.067
200	2	0	24.567
218	6	1	28.567
260	20	0	30.667
330	35	3.33	36.00

Flow Rates	mL/min	Pressure	Time
Column	1.2 (constant)	NA	NA

11.1.2 Recommended Injector Set Points

Temperature Control	250°C
Operating Mode	Splitless with surge
Splitless Flow	30 mL/min
Splitless Time	0.75 min
Purge Flow	5 mL/min
Constant Septum Purge	Yes
Surge Pressure	35 psi
Surge Duration	0.75 min

11.1.3 Recommended Autosampler Set Points

Draw Speed	Slow
Fill Strokes	6
Air volume	1
Sample Depth	Bottom
Cold Needle Injection	Yes

11.1.4 Mass Spectrometer Acquisition Parameters

MS Transfer Line Temp	330°C
Ion Source Temp	300°C
Ion Mode	EI
Scans:	
Time	3.00 min
Mass List	45-450
Dwell Time	0.15 sec
Groups:	
Time	3.00 min
Total Scan Time	0.1541 sec
Chrom Filter On	Yes
Chrom Filter ICal Width	3.4 sec
Emulsion	15
Gain	4.00×10^5

11.2 Instrument Performance - Prior to the analysis of calibration standards or samples, ensure proper instrument performance by verifying the following instrument settings and readings.

11.2.1 See guidance document 06-LO-G0400 for GC/MS Daily Checks and mass spectrometer tuning.

11.3 Initial Calibration - After the daily DFTPP tune check is successfully performed, inject aliquots of the working calibration standards (Section 7.7.1). Acquire and store data from m/z 45-450 with a total cycle time (including scan overhead time) of 1.0 second or less, usually less. Cycle time must be adjusted to measure at least five or more scans during the elution of each GC peak. Seven to ten scans across each GC peak are recommended.

11.3.1 Concentrations are calculated through the use of a linear calibration curve. Using Table 5 as a guide, construct the calibration curve according to the Varian MS Software Manual. Use a mid-level standard to obtain and store the search spectra and retention time for each component. Ignore zero in the calibration plot. 1/x weighting may be used. 1/x weighting may not be used for South Carolina calibrations.

Plot A_X/A_{IS}, vs Q_X.

Where:

A_X = peak area of quantitation ion of the analyte.
A_{IS} = peak area of quantitation ion of the internal standard.
Q_X = concentration of analyte.

11.3.1.1 For calibrations other than South Carolina, Table 2a levels 1-6 and 8-11 are typically used. For South Carolina calibrations, Table 2a levels 1-7 are used.

11.3.2 Acceptance Criteria - The curve must contain at least 5 points and have a minimum correlation coefficient (r^2) of 0.990 (cannot round for acceptable correlation coefficient.). For surrogate parameters, the %RSD of the relative response factor (RF) must be less than 20%. For analytes not passing the criteria above, re-analyze aliquots of the calibration solutions, or perform maintenance to improve GC/MS performance. There is no calibration acceptance criteria listed in the reference method if a linear regression calibration is plotted.

Table 5. Calibration Parameters

Calibration Compounds	Reference Compound	Quantitation Ion(s) ISQ7000
Internal Standards		
p-Terphenyl-d_{14}	1	244
Acenaphthene-d_{10}	2	164
Phenanthrene-d_{10}	3	188
Chrysene-d_{12}	4	240
Surrogate Standards		
1,3-Dimethyl-2-Nitrobenzene	2	134
Triphenylphosphate	4	326
Perylene-d_{12}	4	264
Target Compounds		
2,4-Dinitrotoluene	2	165
1-Methyl Naphthalene *	2	141
2-Methyl Naphthalene *	2	141
4,4'-DDD	4	235
4,4'-DDE	4	248
4,4'-DDT	4	235
Acenaphthene *	2	153
Acenaphthylene	2	152
Alachlor (SC)	3	160
Aldrin (SC)	3	66

Alpha-Chlordane	4	375
Anthracene	3	178
Atrazine (SC)	3	200
Benzo(a)anthracene	4	228
Benzo(a)pyrene (SC)	4	252
Benzo(b)fluoranthene	4	252
Benzo(g,h,i)perylene	4	276
Benzo(k)fluoranthene	4	252
Bromacil	3	205, 207
Butachlor (SC)	4	160
Butylbenzylphthalate	4	149
Chlorothalonil	3	266
Chrysene	4	228
Cyanazine #	3	225
Desethylatrazine # *	2	172
Desisopropylatrazine # *	2	145+158+173
Di(2-ethylhexyl)adipate (SC)	4	129
Di(2-ethylhexyl)phthalate (SC)	4	149
Diazinon # *	3	137
Dibenzo(a,h)anthracene	4	278
Dieldrin (SC)	4	79
Diethylphthalate	2	149
Dimethoate # *	3	87+125
Dimethylphthalate	2	163
Di-n-butyl phthalate	3	149
Di-n-octyl phthalate*	4	149
Endrin (SC)	4	263
EPTC	2	128
Fluoranthene *	4	202
Fluorene	2	165 (or 166)
Gamma-Chlordane	4	373
Heptachlor (SC)	3	100
Heptachlor Epoxide (SC)	4	353
Hexachlorobenzene (SC)	3	284
Hexachlorocyclopentadiene #(SC)	2	237
Indeno(1,2,3-cd)pyrene	4	276
Isophorone	2	82
Lindane(gamma-BHC) (SC)	3	181
Malathion *	3	173
Methoxychlor (SC)	4	227
Metolachlor (SC)	3	162

Metribuzin# (SC)	3	198
Molinate	2	126
Naphthalene *	2	128
Parathion *	3	97+109
Phenanthrene	3	178
Prometryn	3	184
Propachlor (SC)	2	120
Pyrene	4	202
Simazine (SC)	3	201
Terbacil	3	161
Thiobencarb *	3	100
Trans-Nonachlor	4	409
Trifluralin	2	264

Problem compounds - See Table 6 in Section 13.1 for a discussion about these problematic compounds.
* Compounds identified as qualitative or non-method compounds.
(SC) Compounds listed on the Certificate for South Carolina.

NOTE: The reference compound (internal standard) is based on historical data. During routine use slight shifts in retention time may occur which would suggest that the other reference compound should be utilized for certain compounds. The reference compounds listed in Table 5 will be used regardless of slight shifts in retention time. If a significant change occurs which greatly affects compound retention times the reference compounds will be re-evaluated.

11.4 Print the calibration curves and quantitation reports and for each analyte after completing the calibration process. Archive calibration data according to the Archiving Records, QA-SOP-SOP-17065.

11.5 An initial calibration is performed at least annually or as needed to meet QC criteria as outlined in this procedure.

12) PROCEDURE

12.1 Extraction batches are limited to no more than 20 field samples per batch. Analysis batches are limited to samples analyzed within a 24 hour period. The following appropriate sample preparation forms are used to record preparation information such as lot numbers and technician's initials for actions performed during the preparation of samples: 06-LO-F0424 (SP-525.2 State & Monrovia Compounds Extraction Record) and 06-LO-F0400 (SP-Organic Extraction Weigh Record).

12.2 Preparation of sodium sulfate drying cartridges

12.2.1 Carefully place a PTFE frit at the bottom of a 15 mL polypropylene tube. Ensure that it is completely seated on the bottom of the tube.

12.2.2 Weigh 6.0 +/- 1 grams of anhydrous sodium sulfate that has been muffled (Section 7.3.1) on a top loading balance or use a validated 5 mL teaspoon scoop.

12.2.3 Transfer into the polypropylene tube, and gently tap to help the sodium sulfate settle. Place a second frit over the sodium sulfate in the tube. **IMPORTANT: The top frit must be loosely seated against the sodium sulfate.**

12.2.4 Store the sodium sulfate cartridges in a tightly sealed glass container.

12.3 Sample Preparation

12.3.1 Prior to beginning an extraction batch rinse the appropriate number of centrifuge tubes (two times the number of extractions, samples and QC) used for the elution and extract drying step. Rinse each tube by adding 15-20 mL methanol to the first tube. Carefully pour the methanol from the first tube to the second tube and repeating to no more than 12 tubes. Allow the tubes to air dry prior to use.

12.3.2 Verify sample pH and presence of free chlorine residual. Samples must have a pH less than 2 as determined by pH paper and no free chlorine residual present. Free chlorine determination is performed with DPD. An immediate (less than 5 sec) pink coloration indicates the presence of free chlorine. A faint pink coloration may indicate free chlorine is present in the sample. Sample(s) with a pH of greater than 2 and/or residual free chlorine present are documented on the Extraction Record and through the generation of a LIMS Client Contact Request.

12.3.3 Weigh sample and container. Document weight using Organic Extraction Weigh Record, 06-LO-F0400, for volume correction determination. This factor is used to adjust results accordingly by the actual volume of sample extracted.

12.3.3.1 If the volume to be extracted is visually estimated to be less than 950 mL a LIMS client contact should be initiated stating that due to "limited volume the amount reported may exceed the MRL for some regulated compounds."

12.3.4 Add 5 mL of methanol to each sample and shake the bottle to mix before adding standards.

12.3.5 Add 10 uL of internal standard/surrogate standard stock to each field sample. Invert sample bottle 3 times in order to allow standards to mix in the field sample.

12.3.6 Prepare the LMB by adding 10 uL of the IS/SS stock.

12.3.7 Prepare the State & Monrovia Compounds LFB at 2 ug/L by adding 10 uL of the IS/SS stock and then add 20 uL of the 100 ug/mL state stock calibration standard.

12.3.7.1 For batches containing South Carolina Phase II & V samples, prepare an LFB at 0.5 ug/L by adding 10 uL of the IS/SS stock and add 5 uL of the 100 ug/mL state stock calibration standard.

12.3.8 Prepare the RLC at 0.1 ug/L (based on atrazine) by adding 10 uL of the IS/SS stock and then add 10 uL of the 525.2 Phase II & V mix at 10 ug/L.

12.3.9 Prepare the State and Monrovia MS or MSD at 2 ug/L by adding 10 uL of the IS/SS stock to each one liter sample volume. Then add 20 uL of the 100 ug/mL state stock calibration standard.

12.3.9.1 Prepare MS or MSD of South Carolina samples at 0.5 ug/L by adding 10 uL of the IS/SS stock to each one liter sample volume. Then add 5 uL of the 100 ug/mL state stock calibration standard.

12.3.10 Prepare the QCS at 2 ug/L by adding 10 uL of the IS/SS stock, 20 uL of each of the 100 ug/mL stock QCS C1 and C2 standards, 20 uL of each of isophorone, and 2,4-dinitrotoluene QCS stocks at 100 ug/mL.

12.4 Sample Extraction - Disk Pre-Treatment

12.4.1 Assemble the extraction units placing one Bakerbond Speedisk^{tm} or Atlantic C18 extraction disk onto each manifold port, attached to a vacuum pump system (15-30 mm Hg). Use a side arm flask as a trap to collect organic solvent.

12.4.2 Rinse inner funnel wall and disk with approximately 5 mL ethyl acetate (10 mL if using the Atlantic disk). Allow ethyl acetate to saturate disk (20-30 seconds or 60 seconds if using the Atlantic disk). Apply sufficient vacuum to pull ethyl acetate through disk. Release vacuum when solvent is through disk.

12.4.3 Rinse inner funnel wall and disk with approximately 10 mL dichloromethane. Allow dichloromethane to saturate disk (20-30 seconds or 60 seconds if using the Atlantic disk). Apply sufficient vacuum to pull dichloromethane through disk. Release vacuum when solvent is through disk.

12.4.4 Repeat Section 12.4.3 with an additional 10 mL aliquot of dichloromethane. (If using the Atlantic disk repeat this step twice.)

12.4.5 Remove the side arm flask form the vacuum system and dispose of the organic waste. Install a polypropylene carboy in the vacuum system which contains 2 g of KOH per each 1 liter sample volume to be extracted.

12.4.6 Pre-wet disk with 10 mL methanol and allow to soak for 60 seconds. ***Although vacuum is maintained, the disk must not dry out until the entire sample has passed through the disk. This is a critical step for uniform flow and good recovery.*** Apply sufficient vacuum to pull most of the methanol through the disk, leaving a thin layer on the disk surface. **Before** all of methanol is through the disk, add 20-30 mL of reagent water to the funnel. Allow reagent water to go through the disk until it is almost completely through. Proceed immediately to Section 12.5.1.

12.5 Sample Extraction

12.5.1 Immediately following reagent water, "gravity feed" sample by inverting pre-weighed sample container onto top of funnel. Apply 20-25 mm Hg vacuum to flask to pass entire sample through disk. After all water has passed through the disk, continue to apply vacuum for an additional 30 to 60 seconds to remove excess water. (If using the Atlantic disk dry for 2 minutes.)

NOTE: All samples should take approximately 10 minutes to pass through the disk.

12.6 Sample Elution

12.6.1 Place an elution tube into the manifold elution chamber. Place the chamber on the manifold and place the extraction disk housing above the elution tube.

12.6.2 Add 5 mL ethyl acetate to the sample container. Rotate sample container to rinse entire inner surface. Transfer the ethyl acetate from sample container to elution assembly by pouring from sample container on to the disk. Allow ethyl acetate to saturate disk (1-2 minutes). Apply sufficient vacuum to pull ethyl acetate through disk. (If using the Atlantic disk add solvent to the disk and then apply enough vacuum so that the solvent is drawn into the disk, then stop. Start a soak time of 90 seconds now. Then air dry for 1 minute.)

12.6.3 Repeat Section 12.6.2 once (twice if using the Atlantic disk) with 5 mL dichloromethane. Transfer dichloromethane to disk by pouring from sample container on to the disk. (If using the Atlantic disk, repeat Section 12.6.2 again using 1:1 ethyl acetate:dichloromethane. Skip to 12.6.5)

12.6.4 With vacuum still on, rinse inner funnel wall and disk with two additional 3 mL volumes of 1:1 ethyl acetate:dichloromethane. Dry the disk with vacuum for 20-30 seconds.

12.6.5 Weigh the empty sample container. Record on Organic Extraction Weigh Record, 06-LO-F0400, cited in Section 12.3.3.

12.7 Extract Drying

12.7.1 Rinse the sodium sulfate drying cartridges (Section. 12.2.4) with 5 mL of dichloromethane. Let all of the solvent drip through the cartridge before using the cartridge for extract drying. If there is still solvent in the cartridge, apply a small amount of vacuum to remove all of the dichloromethane before moving on to the next step.

12.7.2 Transfer the extract carefully into the drying cartridge and collect in a clean, pre-rinsed graduated centrifuge tube.

12.7.3 Add ~2 mL of 1:1 ethyl acetate:dichloromethane to rinse down the sides of the elution tube. Transfer this to the drying tube after the tube has stopped dripping from the original extract. Repeat this rinsing procedure two more times.

12.7.4 If the extract still contains water, repeat the extract drying with another sodium sulfate cartridge. Repeat starting with Section 12.7.1.

12.8 Extract Evaporation/Concentration - Adjust the nitrogen pressure on the Turbo Vap evaporator to 5 psi. Set Turbo Vap temperature bath to 34ºC (30-38). Place the graduated centrifuge tube into Turbo Vap evaporator. Concentrate to slightly less than 1.0 mL.

12.9 Add 10 uL of the recovery standard, p-terphenyl-d_{14}, to the graduated centrifuge tube. Adjust the volume to 1.0 mL with ethyl acetate. Transfer sample to a 1 mL amber autosampler vial and seal. **Each sample must be completed by the end of the work shift.**

12.10 Sample Analysis - Perform under the same conditions used for the initial calibration. South Carolina samples must be analyzed using a calibration that does not include 1/x weighting.

12.10.1 For routine sample analysis enter the sample specific information in the Chromeleon software sample list for all blanks, standards, unknowns and controls to be analyzed, using similar order to that shown:

1. Tune Standard
2. SPCC Standard
3. Continuing Calibration Check
4. Reporting Limit Check
5. Laboratory Fortified Blank
6. QCS Sample (if needed)
7. Instrument Rinse (if needed)
8. Laboratory Method Blank
9. Sample(s), MS and Duplicates
10. CCC
11. Sample(s), MS and Duplicates
12. CCC

Analysis batches in which South Carolina samples are analyzed must include CCCs, MS, MSD and LFB at 0.5 ug/L. Typically South Carolina samples are analyzed in a separate analysis batch.

12.11 At the completion of the analytical run the "raw data" is copied from the instrument PC to a network drive and a data processing computer. The hierarchy for the raw data network drive is: *"unique instrument identifier"(usually a letter or series of letters)/year/month* of the acquisition file.

13) DATA PROCESSING, DATA EVALUATION & CALCULATIONS

13.1 Description of problematic compounds

See Tables 6A and 6B that follow.

Table 6A. Method 525.2 Cited Qualitative or Problematic Compounds

Compound	Problem and reference method citation
Cyanazine	Degrades when stored with pH less than 2 and sodium sulfite. Method 525.2 rev 2.0 Section 8.2.1
Diazinon	Qualitative only - EPA Method 525.2, Rev 2.0 Section 1.1.

	Compound degrades in acidified reagent water.
Metribuzin	Breaks through C18 phase when many parameters are present. EPA Method 525.2, Rev 2.0 Section 13.2.7.

Table 6B. Additional Problem Compounds Identified by the Lab

Compound	Problem
Desethylatrazine	Low extraction recovery.
Desisopropylatrazine	Low extraction recovery.
Hexachlorocyclopentadiene	Susceptible to photochemical and thermal degradation and to degradation from active sites.
Phthalates and Adipate	Difficult to calculate due to background presence in variable quantities. See EPA Method 525.2, Rev 2.0 Section 13.2.4.
Prometryn	Low extraction recovery.

13.2 Some PAH compounds, including the internal standards, may be rapidly oxidized in water containing residual chlorine. These same types of compounds are also susceptible to photo degradation (Section 13.2.1 in EPA Method 525.2, Rev. 2.0.)

13.3 Retention times are evaluated and set during initial calibration based upon the retention time of a mid-point standard.

13.3.1 Retention times are verified in routine analytical runs by analyzing CCCs. Retention times are updated, as needed, using CCCs in routine analytical runs. All samples within the run must be reprocessed using the updated retention time (s).

13.3.2 Retention time search window is to +/- 5 seconds or 0.083 minutes for each parameter, centered around the set retention time. Integrated peaks whose apexes fall within the search window are considered for identification.

13.4 Initial identification and quantification is performed by the Chromeleon software. Each reportable result must be verified by a visual inspection of the mass spectra using either the reference spectra for calibrated compounds, or a commercially available mass spectra library for compounds that have not been calibrated. Identification requires expert judgment when there are closely eluting compounds or structural isomers with very similar spectra. Certain structural isomers may not be resolved under the method conditions utilized and should be reported as isomeric pairs or groups.

13.4.1 In general, all ions that are present above 10% relative abundance in the mass spectrum of the standard should be present in the mass spectrum of the sample component and should agree within an absolute 20%. For example, if an ion has a relative abundance of 30% in the standard spectrum, its abundance in the sample spectrum should be in the range of 10 to 50%. Some ions, particularly the molecular ion, are of special importance, and should be evaluated even if they are below 10% relative abundance.

13.4.2 Bromacil values greater than the MRL must be evaluated carefully as 207 m/z is an ion common to column bleed. Since the elution of bromacil occurs at a relatively low temperature the presence of 207 from column bleed should be minimal. The quantitation ion has been changed to 205+207 m/z to further alleviate this problem.

13.5 All manual integrations must be performed as stated in the Manual Integration,QA-SOP-SOP17057.

13.6 Documents contained within the data packet are noted on the GC-GC/MS SOC Analyst Checklist, 06-LO-F0413, in the section titled "Documents Assembled, Printed and Verified". Record N/A in the field next to any document listed that is not included within the data packet.

13.7 Calculate resolution using the formula below:

$$R = \frac{1.18 \times (t_2 - t_1)}{(W_1 + W_2)}$$

Where:

R = Resolution of the peak pairs 1.18 is a constant.
t_1 = Retention time of earliest eluting component.
t_2 = Retention time of later eluting component.
W_1 = Peak width at ½ height of the earliest eluting component.
W_2 = Peak width at ½ height of the later eluting component.

Note: Units of time must be the same in the formula for retention time and peak width (i.e., sec and sec or min and min).

If R is greater than 1.5 baseline resolution is presumed.

If R is less than 1.5 for benzo[a]anthracene and chrysene, a manual calculation may be performed by either using a ruler to measure the response of the apex of the peaks and the lowest valley point of the chromatogram or using the signal at the apex of the peaks and at the lowest point in the valley between peaks. Use the following formula to calculate the % resolution:

$$AP = \frac{(P_1 + P_2)}{2}$$

$$\%R_{\text{benzo[a]anthracene/chrysene}} = \frac{VH \times 100}{AP}$$

Where:

AP = average peak height or signal.
P_1 = height or signal of peak 1.
P_2 = height or signal of peak 2.
VH = valley height or signal.

If %R benzo([a]anthracene/chrysene is less than 25%, resolution is acceptable for benzo[a]anthracene and chrysene.

13.8 Calculate the percent breakdown using total ion peak areas of the degradation peaks divided by total ion peak area of the analyte plus the total ion peak areas of the degradation peaks, times 100.

$$\%\text{Endrin Breakdown} = \frac{\text{Endrin Aldehyde} + \text{Endrin Ketone}}{\text{Endrin} + \text{Endrin Aldehyde} + \text{Endrin Ketone}} \times 100$$

$$\%\text{DDT Breakdown} = \frac{\text{DDD} + \text{DDE}}{\text{DDT} + \text{DDD} + \text{DDE}} \times 100$$

13.9 The amount of target compound (analyte) present in an unknown sample is calculated by comparison to the calibration curve; (Areaanalyte/AreaIS) versus concentration. The origin is usually included in the calibration, in addition to the calibration points selected. A reference to the calibration data packet, including the calibration curve and the number of points used in the calibration of each analyte, is included with every data packet.

13.10 Percent Recovery - Calculate percent recovery as follows:

$$R = \frac{A}{B} \times 100$$

Where:

A = measured concentration in the fortified sample.
B = fortification concentration.

13.11 MS Percent Recovery - Calculate percent recovery in MS/MSD as follows:

$$R = \frac{(A - B)}{C} \times 100$$

Where:

A = measured concentration in the fortified sample,
B = measured concentration in the unfortified sample, if less than the MRL the value assigned is zero.
C = fortification concentration.

13.12 Calculate Relative Percent Difference (RPD) as follows:

13.12.1 For field duplicate or lab duplicate samples:

$$RPD = \frac{IFS - FD \text{ or } LDI}{(FS + FD \text{ or } LD)/2} \times 100$$

13.12.2 For duplicate analysis of matrix spikes:

$$RPD = \frac{IMS - MSDI}{(MS + MSD)/2} \times 100$$

13.13 Calculation of Internal Standard Percent Recovery - Use the following equation to determine the recovery of internal standards.

$$\text{Percent recovery} = \frac{A}{B \text{ or } C} \times 100$$

Where:
A = area of IS quantitation ions in sample of interest.
B = average area of IS quantitation ions in initial calibration.
C = area of IS quantitation ions in most recent CCC.

13.14 Calculations using the recovery standard are only permissible if the client gives approval. Data calculated using the recovery standard may not meet state compliance criteria. If an internal standard degrades in a sample, and analytes are present at concentrations greater than the MRL for an analyte that is calculated from that particular internal standard, the sample result may be manually calculated.

Manual calculation is typically performed using the area of the analyte, the area of the recovery standard and the area of the quantitated result of a previously analyzed CCC as compared to sample area of analyte and recovery standard area in the sample. If the CCC is not acceptable (high out of range) the LFB, if in the same analysis, may be used for this calculation. Report results as estimated due to IS failure. Calculate results using the following formula:

$$\text{Est. Concentration} = \frac{A_{SAM}}{A_{CCC}} \times \frac{RS_{CCC}}{RS_{SAM}} \times \frac{CF_{SAM}}{CF_{CCC}} \times \text{Conc CCC}$$

Where:
A_{SAM} = Area of parameter of sample.
A_{CCC} = Area of parameter of CCC.
RS_{CCC} = Area of recovery standard in the CCC.
RS_{SAM} = Area of recovery standard in the sample.
CF_{SAM} = Sample Volume and/or Dilution Correction factor.
CF_{CCC} = Correction factor of CCC = 1.
Conc CCC= Result of CCC in ug/L.

13.15 Report results as ug/L.

13.16 Tentatively Identified Compounds (TIC) - TICs will be searched in samples when specifically requested by the client. If a regulated parameter that is not specifically requested is detected at a concentration that exceeds a regulatory limit (MCL) it will be included on the final report. After visual comparison of the sample chromatogram to the LMB chromatogram, the analyst may search unknown peaks. If the criteria described below are met the analyst may assign a tentative identification or report the peak as unidentified. Samples containing components which are not calibrated compounds, when requested, will have a library search performed to tentatively identify the component. In cases, where the concentrations of background components, such as sulfur, hydrocarbon, or fuel components associated to the matrix are present, a comment on possible matrix interference will be noted instead of individually identifying the interference. If a response creates detector saturation it may be necessary to either dilute the sample or determine the identification of the component by evaluating the start of the peak and the ending of the peak. If both have a similar spectrum this peak may be identified but estimating a value will be biased low due to saturation of the detector.

13.16.1
Use Chromeleon to do a simple similarity search of the NIST library.

13.16.2 Identification of TICs - Generally, a TIC may be identified if the following criteria are met:

13.16.2.1 The match factor must be greater than 600 and the reverse fit must be greater than 600. If these criteria are not met, then the peak may be reported as an unidentified compound at the specified retention time.

13.16.2.2 Peaks characteristic of column bleed, siloxane or silyl groups, that meet the above criteria will be noted as bleed and not reported as a TIC.

13.16.2.3 The judgment of an experienced analyst must also weigh heavily on the final decision to identify the TIC. In some cases a second analyst may be consulted to assist identifying a TIC. If more than 10 TICs are requested, the client order must reflect the request. The TIC peak area must be greater than 10% of the nearest interference free internal standard to report the estimated concentration and identity of the TIC.

13.16.3 Calculation - TICs are calculated from the total ion chromatogram using the following: The concentration of the nearest internal standard multiplied by the TIC peak area divided by the area of the nearest internal standard multiplied by the sample correction factor. The reported concentration should indicate that the value is an estimate. See the formula that follows:

$$X = \frac{A*C*D}{B}$$

Where:

A= Concentration of reference internal standard.
B= Total ion area of reference internal standard.
C= Total ion area of TIC or unidentified peak.
D= Sample correction factor.
X= Estimated concentration of TIC or unidentified peak.

13.17 When the analytical data has been processed the "processed raw data" is copied from the data processing computer to a network drive. The hierarchy for the processed data network drive is:*"unique instrument identifier"(usually a letter or series of letters)/year/month* of the acquisition file.

13.18 Hard copy raw data is archived as specified in the Archiving Records, QA-SOP-SOP17065.

14) METHOD PERFORMANCE

14.1 Demonstration of Capability (DOC) - This procedure is completed for each analyst annually and each instrument performing the method. This may be used for initial demonstration or continuing demonstration of capability.

14.1.1 Prepare 4 LFB solutions in reagent water containing each analyte to be validated at a mid-point of the calibration range.

14.1.2 Analyze all of the solutions as outlined in Sections 11 and 12.

14.1.3 Obtain the recoveries in ug/L.

14.1.4 Acceptance Criteria - For each quantitative method analyte, the mean recovery must be within ±30% of the true value, and the RSD must be less than 30%. For qualitative method analytes and added compounds, use the laboratory established limits for the LFBs as the acceptance criteria.

14.1.5 Take remedial actions and repeat the procedure for any analyte that fails the criteria.

14.1.6 Four consecutive LFBs meeting accuracy and precision requirements may be used to fulfill the annual or continuing DOC requirement.

14.2 Method Detection Limit (MDL) - An MDL study must be performed for all analytes on each instrument, initially, annually, or whenever a major instrument change or repair has been made. Follow the detailed instructions in Guidance Document for Administration of MDL, MRL Confirmation & DOC Sheets, QA-WI21537. Data should be entered into the MDL Study spread sheet, 06-QA-F0430, following the instructions on the form. The method detection limit (MDL) procedure and calculation is based on EPA's procedure "Definition and Procedure for the Determination of the Method Detection Limit, Revision 2".

14.3 Documented Demonstration of Capability must be performed on an annual basis (06-QA-F0400).

15) POLLUTION PREVENTION

15.1 This method utilizes SPE technology to remove the analytes from water. It requires the use of very small volumes of organic solvent and very small quantities of pure analytes, thereby minimizing the potential hazards to both the analyst and the environment when compared with the use of large volumes of organic solvents in conventional liquid-liquid extractions. All extractions are performed under a working fume hood.

16) WASTE MANAGEMENT

16.1 For overall waste management procedures, see the Chemical and Microbiological Hygiene Plan, SF-R-SA-SOP16331.

16.2 Organic waste generated in the use of this procedure is collected in an Erlenmeyer flask. It is then transferred to a container that is located in the fume hood. When that container is full, the contents are transferred to an organic solvent waste drum located in a safety closet near the employee entrance. As needed, the contents of this drum are disposed of by a licensed waste disposal company.

16.3 Aqueous waste generated in this method is collected in 5 gallon containers. Prior to disposal, the pH of the solution is adjusted to between 5.5 and 9.5 with either KOH or HCl. It is then poured down the sink with large amounts of tap water.

16.4 Autosampler vials and vials that contained standards are disposed of by placing them in a drum used specifically for solid waste. This drum is also emptied by a licensed waste disposal company.

17) REFERENCES

17.1 J. W., Munch, Method 525.2 Determination of Organic Compounds in Drinking Water by Liquid-Solid Extraction and Capillary Column Gas Chromatography/Mass Spectrometry, Revision 2.0 (November, 1995), Environmental Monitoring Systems Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Cincinnati, Ohio. 45268

17.2 Writing Technical SOPs, QA-SOP-SOP17069.

18) QC TABLE

QC TYPE	CONCENTRATION LEVEL	FREQUENCY	ACCEPTANCE CRITERIA
Tune	Introduce 5 ng of DFTPP into the GC.	Analyzed at the beginning of the run, and every 12 hours.	Mass 51 10-80% of base peak Mass 68 < 2% of Mass 69 Mass 69 Present

			Mass 70 < 2% of Mass 69 Mass 127 10-80% of base peak Mass 197 < 2% of Mass 198 Mass 198 Base peak or > 50% of 442 Mass 199 5-9% of Mass 198 Mass 275 10-60% of base peak Mass 365 > 1% of the base peak Mass 441 Present and < Mass 443 Mass 442 Base peak of > 50% of 198 Mass 443 15-24% of Mass 442
System Resolution (SPCC)	Anthracene, benzo(a) anthracene, chrysene, and phenanthrene, all at 2.0 ug/mL.	Analyzed at the beginning of the run, and every 12 hours. Required when analytes in the SPCC are requested for sample analysis.	System resolution: R is greater than 1.5, if not for chrysene and benzo(a) anthracene valley height must be less than 25%.
Analyte Degradation (SPCC)	Endrin and DDT at 2.0 ug/mL.	Analyzed at the beginning of the run, and every 12 hours. Required when analytes in the SPCC are requested for sample analysis.	The abundance of endrin aldehyde and/of endrin ketone and DDE and/of DDD should be less than 20% of endrin and DDT, respectively.
Initial Calibration (ICS)	A calibration curve consisting of at least 5 standard concentrations per analyte. The lowest calibration standard must be at or below the MRL.	When first using this method on an instrument, after major instrument maintenance, or when indicated by a change in instrument response.	Linear fit. Correlation Coefficient of 0.990. For surrogate parameters, the %RSD of the RF must be less than 20%.
FTB	Reagent Water prepared, shipped and analyzed as a sample.	Whenever provided by the client.	No analytes of interest present at or above the MRL.
LMB	Reagent water prepared and analyzed as a sample.	One extracted per extraction batch.	No analytes of interest present at or above the MRL.
CCC	Calibration standard(s) at varied concentrations within the calibration range.	Analyzed at the beginning of the run and every 12 hours throughout the run.	Analytes +/-30% of true value. 10% of the analytes can fail high. No analyte can fail in 3 consecutive CCCs.
IS	Acenaphthene-d_{10}, phenanthrene-d_{10} and chrysene-d_{12} at a concentration of 5.0 ug/L.	Run in every sample.	In CCCs, the absolute areas of the quant ions must be +/- 50% of the average areas of the initial calibration, and +/-30% of the quant ion areas of the most recent CCC. In extracted samples and QC, the areas must be +/-30% of the areas in the previous CCC.
RS	p-terphenyl-d_{14} at 5.0 ug/L.	Run in every sample.	See Internal Standard. If recovery standard (RS) does not meet criteria but internal standards (IS) are acceptable data maybe reported.
SS	1,3-Dimethyl-2-nitrobenzene, perylene-	Run in every sample.	Recovery must be within +/- 30% of the target. In CCCs, the absolute

	d_{12}, and triphenylphosphate at 5.0 ug/L.		areas of the quant ions must be +/-50% of the average areas of the initial calibration, and +/-30% of the quant ion areas of the most recent CCC.
LFB	LFB - analytes of interest at a mid-concentration.	One analyzed per extraction batch.	LFB - Use either +/-30% or the established limit.
RLC	Analytes of interest at or below the MRL.	One analyzed per analysis batch.	Established limits for select analytes, except for MN compliance samples require 60-140%.
QCS	All of the analytes of interest at a mid-range concentration.	Quarterly.	Same as the LFB.
UQCM	Mid-range concentration for analytes being calibrated.	Each instrument calibration.	Same as the CCC.
MS/MSD	All of the analytes of interest at a mid-range concentration.	One analyzed per extraction batch. State of Minnesota requires a MSD.	Analyte recovery same as the LFB.
FD or LD		One analyzed per extraction batch, if no MSD.	In-house limits.
IDC or DOC	4 LFB's at mid-level concentration.	Initially and annually with each technician/analyst.	Mean percent recovery same as LFB. RSD less than 30%.
MDL	Seven LMBs and LFBs at a low level concentration extracted and processed over at least three days.	Annually for each instrument.	

19) REVISION

Revision 14.0 (2021-04-20)

Annual Review.
Created draft in response to the 2020 ISO/NELAC audit.
Added D4 references as needed.
Added tables as needed.
Change Supelco to Phenova in sections 7.7.1 and 7.7.5.
Section 1.3 - Added "standard operating procedure (SOP)".
Section 1.3 Table 1 - Changed "#" to "No.", Removed the superscripts for the QCS mixes. Removed "C1 and C2 indicate compounds contained in the QCS mixes." and "Neat indicates compounds that are purchased as neat standards." From beneath the table. Added "(RLC)" to the Ph25 comment.
Section 2.1 - Removed "ion trap".
Section 4 - Renumbered section.
Section 6.1 - Changed Varian models to Thermo Scientific models.
Section 6.2 - Changed Varian MS Workstation to Chromeleon.
Section 6.7 - Changed parts to what we currently use.
Section 6.19 and 6.20 - Updated part numbers and vendor.
Section 7 - Renumbered entire section and references.
Section 7.4.1 added "to be used for extracted QC" and ""and 4 mL 1:1 HCl:RW""
Section 7.4.2 - Removed SPE Rinse Water – Prepare a 200 mg/L sodium sulfite solution by adding 20 mg sodium sulfite to 100 mL of RW. Add 1 mL of the 200 mg/L sodium sulfite solution to each 1 L bottle of reagent water which is used for SPE rinse. These must be prepared at least one day before extraction and may be held up to 14 days after preparation.

Section 7.7 added "All calibrations or verifications (second source) must be conducted using Reference Materials obtained from a reference material producer accredited to ISO Guide 34 or ISO 17034. The Certificate of Analysis for either the calibration standard or the second source QC standard, must clearly demonstrate that the vendor produced the standard in compliance to ISO Guide 34 or ISO 17034.
Section 7.7.1 - Removed ", or 1000" and "Absolute Standards,"; Removed Isophorone and 2,4-Dinitrotoluene from Mix table. Removed the combination of stocks table.
Section 7.7.2 - Removed " Isophorone/2,4-dinitrotoluene Calibration Substock Standard at 100 ug/mL– Substock standards are prepared at 100 ug/mL in acetone. Add 100 uL of each of the stock standards of isophorone and 2,4-Dinitrotoluene at 1000 ug/mL to a 1 mL volumetric flask containing acetone using a microsyringe. Then adjust to a final volume of 1 mL with acetone. Store at -10°C or less and replace based on the stock standard expiration date. The substock cannot exceed stock expiration date.
Section 7.7.3 - Removed Isophorone/2,4-dinitrotoluene Calibration Substock standard at 10 ug/mL – This substock standard is prepared at 10 ug/mL in acetone. Add 100 uL of the isophorone/2,4-dinitrotoluene calibration substock at 100 ug/mL (Section 7.7.2) to a 1 mL volumetric flask containing acetone using a microsyringe. Then adjust to a final volume of 1 mL with acetone. Store at -10°C or less and replace based on the stock standard expiration date. The substock cannot exceed stock expiration date." Renumbered rest of section.
Section 7.7.4 Table 2a - Removed "*-2,4-Dinitrotoluene" and added a point at 6.0.
Section 7.10 - Removed "Concentrations for the State Compounds and Monrovia tests typically used are varied between the range of 1.0 to 2.0 ug/L."
Section 7.10 and 7.11.1 -Changed reference to 7.7.6 to 7.7.4.
Section 7.11 - changed stock concentration of Isophorone and 2,4-Dinitrotoluene to 100 ug/mL from 1000 ug/mL. Removed the combination of stocks table.
Section 7.11.1 - Removed Isophorone/2,4-dinitrotoluene QCS Substock Standard @ 100 ug/mL – Substock standards are prepared at 100 ug/mL in acetone. Add 100 uL of isophorone at 1000 ug/mL and 100 uL of 2,4-Dinitrotoluene at 1000 ug/mL to a 1 mL volumetric flask containing acetone and bring to a final volume of 1 mL with acetone. Store at - 10°C or less and replace based on the stock standard expiration date. The substock cannot exceed stock expiration date." Renumbered rest of section.
Section 8.1 - Changed title of the Sampling and Shipping Instructions.
Section 8.2 and 8.2.1 changed 6 to 4 mL 1:1 HCl.
Section 9.1- Added "(QC)" and changed the reference for the QC Table in the SOP.
Section 9.2 - Added "(MRL)" and changed "IDC" to "IDOC".
Section 9.5.3.6 - Changed "trap" to "source".
Section 9.11.1 - Added "EPA" to the method title.
Section 9.12.2 - Added ", except for Minnesota samples. Minnesota requires the RLC from the extraction batch to be reported as part of the prep batch QC."
Section 10 - Renumbered entire section.
Section 10.3.3 - Replaced "Clean vacuum manifold and ionization trap parts per instrument manual instructions." with "Clean ion source parts per instrument manual instructions." Removed "and manifold gaskets".
Section 10.3.4 - Removed "If a Guard Column is in use, poor phenanthrene / anthracene resolution in the SPCC and/or in the CCCs may indicate the need for replacement of the guard column and press fit. Normally the guard column will be replaced prior to the beginning of each analytical batch." Renumbered rest of section.
Section 11.3.2 Table 5 - Removed the 2000-MS and 240-MS columns and replaced with the ISQ7000 information.
Section 11.1.1 - Updated the settings in the tables for the new Thermo instruments.
Section 11.3 - Changed reference Section 7.6.1 to Section 7.7.1.
Section 11.3.2 - Added "cannot round for acceptable correlation coefficient and must contain 5 points".
Section 12 - Renumbered entire section.
Sect. 12.3.6 - Removed "4 mL of 1:1 HCl:RW to 1L of preserved reagent water. Add "
Sect. 12.3.7 - Removed "4 mL of 1:1 HCl:RW to 1L of preserved reagent water. Added " and "Add 20 uL of the 100 ug/mL Isophorone/2,4-dinitrotoluene Calibration Substock Standard when 525 Monrovia samples are being extracted."
Sect. 12.3.7.1 - Removed "4 mL of 1:1 HCl:RW to 1L of preserved reagent water. Add "
Section 12.3.8 - Removed "4 mL of 1:1 HCl:RW to 1L of preserved reagent water. Add ".
Section 12.3.9 - Removed "Add 20 uL of the 100 ug/mL Isophorone/2,4-dinitrotoluene Calibration Substock Standard when 525 Monrovia samples are being extracted."

Section 12.3.10 - Removed "4 mL of 1:1 HCl:RW to 1L of preserved reagent water. Reworded for clarity and removed "sub".
Section 12.5.1 - Replaced "Samples for Monrovia should take about 1 hour to pass through the extraction disks." with "All samples should take approximately 10 minutes to pass through the disk."
Section 12.10.1 - Replaced "MS workstation" with "Chromeleon".
Section 13.4 -Replaced "MS workstation" with "Chromeleon".
Section 13.4.2 added "+207".
Section 13.7 added "is" and ","
Sect. 13.16 - Removed "To perform a library search the fit criteria should be set to 1 to assure that a match is provided by the library."
Section 13.16.1 - Removed "The automated library search algorithm is conducted in three stages:
a. The mass spectrum is reduced to a maximum of 16 masses where more weighting is assigned to the higher masses.
b. The reduced sample mass spectra are compared to the mass spectra in the library. Each library spectra is reduced to eight peaks. The library spectra that are found to agree by mass with the sample spectra are stored for the main search.
c. The main search is the statistical and pattern-matching search. The algorithm evaluates matches by mass and intensity of masses, favoring mass. Three methods are available for searching purity, fit and reverse fit. The lab generally utilizes the purity search type." And replaced it with "Use Chromeleon to do a simple similarity search of the NIST library."
Sect. 13.16.2.1 - Replaced "fit" with "match factor" and removed ", purity must be greater than 600,"
Sect. 13.16.3 - Removed "interference free" in both places.
Section 18 QC Table - Changed the Correlation Coefficient from 0.99 to 0.990.

Revision 13 (2019-09-06)
Annual review.
Correct title and added "EPA" and "Liquid-Solid Extraction" to the title.
Section 1 - Table 1 swapped the CAS numbers on desethylatrazine and desisopropylatrazine. They now are correct and match what is in the database.
Section 5.2 - Updated MSDSonline link for access to SDS sheets.
Section 6 - Replaced "part number" with "Part No.". and "Cat. #" with "Catalog No.".
Section 6.1 - Replaced #1-4 with bullets.
Section 6.7 - Replaced # 1-3 with bullets.
Section 6.12.1 - Changed Baker to Kimble.
Section 6.15 - Added ESS or QEC.
Section 6.24 - Added title to the D4 reference.
Section 7 - Correct formatting of the "=" to "less than or equal to", Replaced "part number" with "Part No.", and "Cat. #" with "Catalog No.".
Section 7.6.1 - Bold titles on table.
Section 7.8 - Changed vendor from Restek to Accustandard.
Section 7.12.1 - Changed sentence to state the following:"This working standard is prepared by adding approximately 5 mL of ethyl acetate to a 10.0 mL Class A volumetric flask, followed by 400 uL of SPCC stock standard. Bring to a final volume of 10.0 mL with ethyl acetate."
Section 7.9 - Removed reference to MNCC. When prep batches include Minnesota samples an additional CCC at 0.1 must be prepare and logged as a MNCC.
Section 8.3 - Added Sample Receipt D4 reference number and replaced "= 4oC" with "less than or equal to 4°C".
Table 5 - Fix formatting to match SOP text.
Section 8.4 - Changed the "=" to "less than or equal to".
Section 9 - Replaced the inserted symbol with the correct phrase of either "greater than" or "less than". Corrected section of the text referencing Section 13.
Section 11.4 - Added D4 Reference number to Archiving Records.
Section 12.2.2 - Changed the "<" with "less than".
Section 13.1 Table 6A - Changed the "<" with "less than".
Added the following 13.3 sections due to WI audit and renumbered the rest of the section appropriately:

13.3 Retention times are evaluated and set during initial calibration based upon the retention time of a mid-point standard.
13.3.1 Retention times are verified in routine analytical runs by analyzing CCCs. Retention times are updated, as needed, using CCCs in routine analytical runs. All samples within the run must be reprocessed using the updated retention time (s).
13.3.2 Retention time search window is to +/- 5 seconds or 0.083 minutes for each parameter, centered around the set retention time. Integrated peaks whose apexes fall within the search window are considered for identification.
13.4.1 In general, all ions that are present above 10% relative abundance in the mass spectrum of the standard should be present in the mass spectrum of the sample component and should agree within an absolute 20%. For example, if an ion has a relative abundance of 30% in the standard spectrum, its abundance in the sample spectrum should be in the range of 10 to 50%. Some ions, particularly the molecular ion, are of special importance, and should be evaluated even if they are below 10% relative abundance.
Previous 13.4.1 - is renumbered to 13.4.2.
Section 13.7 - Changed the symbol with either "less than" or "greater than".
Section 14.1.4 - Changed the inserted symbol to "less than". for the RSD.
Section 14.2 - Corrected Guidance document number to the D4 reference number.
Section 17.2 - Hyperlinked D4 reference.
QC Table - Fixed formatting.

Revision 13.0 (2019-09-06)
Annual review.
Correct title and added "EPA" and "Liquid-Solid Extraction" to the title.
Section 1 - Table 1 swapped the CAS numbers on desethylatrazine and desisopropylatrazine. They now are correct and match what is in the database.
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Section 6 - Replaced "part number" with "Part No.". and "Cat. #" with "Catalog No.".
Section 6.1 - Replaced #1-4 with bullets.
Section 6.7 - Replaced # 1-3 with bullets.
Section 6.12.1 - Changed Baker to Kimble.
Section 6.15 - Added ESS or QEC.
Section 6.24 - Added title to the D4 reference.
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Table 5 - Fix formatting to match SOP text.
Section 8.4 - Changed the "=" to "less than or equal to".
Section 9 - Replaced the inserted symbol with the correct phrase of either "greater than" or "less than". Corrected section of the text referencing Section 13.
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Previous 13.4.1 - is renumbered to 13.4.2.
Section 13.7 - Changed the symbol with either "less than" or "greater than".
Section 14.1.4 - Changed the inserted symbol to "less than". for the RSD.
Section 14.2 - Corrected Guidance document number to the D4 reference number.
Section 17.2 - Hyperlinked D4 reference.
QC Table - Fixed formatting.

Revision 12.0 (2018-03-15)
Uploaded into the D4 system.
Section 2.3.3 removed regarding recovery standard, IS/SS updates.
Section 7.7 updated SS/IS mix to Accustandard.
Section 7.8 updated recovery standard to p-terphenyl-d14.
Sections 11.1.1 and 11.1.2 updated.
Section 11.3.2 Table 5 updated for method SS and IS compounds
Section 12.8 updated recovery standard to p-terphenyl-d14.
Section 18 was added for the QC Table, updated SS compounds, IS compounds, and recovery standard; updated MDL frequency to annually for each instrument and acceptance criteria.
Section 19 was added for revision detail.
Section 8.1 - Corrected referenced document number.
Section 13.17 - Updated referenced document number to the D4 system.
Section 14.2 rewritten to "Method Detection Limit (MDL) - An MDL study must be performed for all analytes on each instrument, initially, annually, or whenever a major instrument change or repair has been made. Follow the detailed instructions in *Guidance Document for Administration of MDL, MRL Confirmation & DOC Sheets*, 06-LO-G0401. Data should be entered into the *MDL Study spread sheet*, 06-QA-F0430, following the instructions on the form. The method detection limit (MDL) procedure and calculation is based on EPA's procedure "Definition and Procedure for the Determination of the Method Detection Limit, Revision 2"."
Corrected spacing per Bill's comments;
Extra space between note in 8.3 and 8.4
Rest ok

End of document

Version history

Version	Approval	Revision information	
12	14.SEP.2018		
13	16.JAN.2020		
14	21.APR.2021		

EUROFINS EATON ANALYTICAL, LLC
Standard Operating Procedure
EPA 515.3 Revision 1.0 (1996)
Confidential

1) SCOPE & APPLICATION

1.1 EPA Method 515.3 is a method for determination of certain chlorinated acids, listed below, in ground water, surface water and finished drinking water. This method may be applicable to the salts and esters of analyte acids. Results are calculated and reported as the total free acid.

Table 1. Compounds in EPA Method 515.3

Compound	CAS No.	MRL No. (ug/L)
Acifluorfen	50594-66-6	1.0
Bentazon	25057-89-0	0.5
Chloramben	133-90-4	2.0
2,4-D	94-75-7	0.1
DCPA (Dacthal acid) metabolites		0.5
Dalapon	75-99-0	1.0
2,4-DB	94-82-6	2.0
Dicamba	1918-00-9	0.1
3,5-Dichlorobenzoic acid	51-36-5	0.5
Dichloroprop	120-36-5	2.0
Dinoseb	88-85-7	0.1
MCPA *^	94-74-6	0.5
MCPP (Mecoprop) *^	7085-19-0	0.5
Pentachlorophenol	87-86-5	0.04
Picloram	1918-02-1	0.1
2,4,5-T	93-76-5	0.5
2,4,5-TP (Silvex)	93-72-1	0.1
Triclopyr *	55335-06-3	0.5

* Additional parameters not listed in EPA Method 515.3.

^ Analysis performed by GC/MS # Samples for Wisconsin compliance need to be evaluated to the WI Limit of Detection (LOD).

1.2 Linear range, or applicable concentration range, is typically 0.04 to 5 ug/L for most compounds. The linear working range in the mass spectrometer (MS) is approximately 0.5 to 5 ug/L. For purposes of this procedure the applicable concentration range is restricted to that range where a first or second order curve exists between concentration and detector response.

1.3 This method is to be used by an analyst skilled in liquid-liquid extraction and derivatization techniques as well as the use of gas chromatography and mass spectrometers. The operator of the method must be familiar with both ECD and MS detectors. The operator will be required to understand the special detector set-up and the principles of large volume injection (LVI).

2) SUMMARY OF METHODS

2.1 A 40 mL sample is adjusted to pH 12 with sodium hydroxide to hydrolyze the compounds of interest. It is necessary to hydrolyze the samples to convert the ester and salt compounds to the parent acid prior to extraction. The sample is then acidified and extracted with 4 mL of MTBE. The acids that have been partitioned into the organic phase are then derivatized to their methyl esters using diazomethane. The esters are identified and quantitated by a GC ECD system or a GC/MS system dependent on the analytes requested. Instruments may have dual ECD detectors where the confirmation analysis occurs simultaneously. Analytes and surrogate standards are quantitated using a procedural standard calibration. A 3 uL injection volume is used for ECD analysis. Analysis of MCPP and MCPA by MS requires a 20 uL injection volume and a large volume injection (LVI) injector.

2.2 Quality of the data in an analytical run is assured by running: Mass Spectrometer Tunes, Cal-Gas checks, Laboratory Performance Checks, Continuing Calibration Checks, Laboratory Method Blanks, Quality Control Samples, Matrix Spikes, Reporting Limit Checks, Duplicate samples, and Surrogate and Internal standards in all field samples, blanks, and QC samples.

2.3 This standard operating procedure (SOP) differs from the reference method (EPA 515.3) in order to improve sensitivity and overall method performance. These differences include:

2.3.1 Ethyl ether is not used when preparing the acidified sodium sulfate due to safety concerns with this solvent. MTBE is used instead.

2.3.2 Copper II Sulfate Pentahydrate is not used in the extraction process, since it only "helps to distinguish between the organic and aqueous layers." It is not necessary and may introduce impurities into the sample extracts.

2.3.3 Sodium sulfite is used as an alternative dechlorinating agent in this procedure. Sodium thiosulfate may cause undesirable sulfur formation resulting in high baselines and interference. Deviation supported by an email received from EPA on August 23, 2012.

2.3.4 Storage of acidified sodium sulfate is in a desiccator at room temperature. The method states to store at 100° C

2.3.5 There may be situations when the mass spectral data must be used for quantitation and reporting of target analytes. The following are two situations where this may occur:

2.3.5.1 MCPP and MCPA respond poorly by Electron Capture (ECD) detection and must be quantitated and reported using the Mass Spectrometer (MS) detector.

2.3.5.2 Matrix interference with the ECD may result in spurious peaks and other matrix components co-eluting with target analytes. The MS may be used to identify, quantitate, and report those analytes when matrix interference is present. The associated batch quality control must meet the criteria listed in Section 9.

2.3.6 The LPC utilized by this procedure is different than the reference method. Pentachlorophenol is evaluated for chromatographic performance replacing 4-nitrophenol. 4-nitrophenol is not evaluated using this procedure due to the derivatization technique.

2.3.7 The diazomethane generation procedure differs basically due to single-batch preparation, which are then combined to form one batch for use.

2.3.8 The time that the samples are shaken on the mechanical shaker is shorter in this procedure due to the type of shaker utilized. The method states that samples are to be shaken 30 minutes on a platform shaker or 2 minutes by hand. This procedure uses 6 minutes on a platform shaker at 300 RPM or greater. This is a significantly more vigorous shaking than could be accomplished by hand.

2.3.9 The amount of diazomethane used in this procedure is more than that initially added in the EPA method. The EPA method allows for additional diazomethane to be used to complete the esterification process as long as the same amount is used for all samples.

2.3.10 The reaction time for derivatization in this procedure is allowed to continue for an hour which is longer than 30 minutes listed in the EPA method

2.3.11 The diazomethane reaction is quenched with twice as much silica gel than suggested in the EPA method in order to fully quench the reaction.

2.3.12 Florisil cleanup is not performed as cited in the method as samples evaluated by this procedure are typically "clean".

2.3.13 The internal standard acceptance criteria is established from the average IS area of the initial calibration, instead of the five point calibration curve cited in the reference method.

3) DEFINITIONS

3.1 See QA Glossary of Terms 06-QA-F0401.

4) INTERFERENCES

4.1 Interferences or contamination can result in costly instrument downtime as well as the potential for erroneous results. Below are some of the more common types of interferences that the analyst must be aware of.

4.2 Any chlorinated acids which come into contact with the sample and/or extraction system can result in serious contamination.

4.3 The use of plastic tubing (other than Teflon), plastic bottle caps, GC vial septa, rubber components in low cost gas regulators and chemical preservatives in solvents used in the analysis may be potential sources of organic chemical contamination.

4.4 Interfering contamination may occur when a sample containing low concentrations of compounds is analyzed immediately after a sample containing relatively high concentrations of compounds. Syringes and the injection port liner must be cleaned carefully or replaced as needed. After analysis of a sample containing high concentrations of compounds, an instrument washout blank should be analyzed to ensure that accurate values are obtained for the next sample.

4.5 The acid forms of the analytes react readily with alkaline substances and can be lost during sample preparation. The sodium sulfate used to dry the extract must be acidified with sulfuric acid prior to use to avoid analyte loss due to adsorption.

4.6 Chlorinated hydrocarbons and phthalate esters may interfere with analysis by electron capture detector, but generally not with mass spectrometer analysis.

4.7 The presence of water in the extract may inhibit full derivatization of the chlorinated acids. It is imperative that the sample extract, all extraction glassware and reagents are completely free of water.

4.8 The use of sodium thiosulfate as a preservative may cause high baseline noise and chromatographic interference. Thus sodium sulfite is used as a preservative for this procedure.

4.9 A dirty GC insert may cause poor peak shapes and elevated background. Injector inserts, guard columns, and press-fit connectors and "Y" connectors should be replaced at regular intervals. Maintenance should be performed when peak shapes begin to show increased tailing or there is a significant decrease in analyte response. Chloramben, picloram and 2,4-D are typically the compounds that should be monitored to determine if column or injector maintenance is required.

4.10 See Section 2.3.5 concerning the use of MS for quantitation and reporting of target analytes in certain situations. The analyst must be aware of the parameters ordered for the analysis and check for interferences in the ECD data.

4.11 In the ECD analysis, non-target analyte peaks may elute near the retention time of target analytes. It may be necessary to modify the GC oven program to improve chromatographic separation.

5) PERSONNEL HEALTH & SAFETY

5.1 Since very little documented information is available on the toxicity of the chemicals being analyzed by this procedure, each chemical should be considered a potential health hazard. All exposure from both inhalation and skin contact should be absolutely minimized. Some method analytes have been tentatively classified as known or suspected human or mammalian carcinogens. Latex and nitrile gloves, safety glasses and lab coats are provided to protect employees while handling pure standard materials and stock standard solutions of these compounds. Each analyst is responsible for maintaining awareness of OSHA regulations regarding safe handling of chemicals used in this method. This information is available in the Safety Data sheets (SDS) located at https://msdsmanagement.msdsonline.com/5c1df5b3-747d-4789-8104-42457dc3a3e5/ebinder/?nas=True.

5.2 Diazomethane is a toxic carcinogen which can explode under certain conditions. Use the diazomethane generator behind a safety shield in a well-ventilated fume hood. The generator must not be heated above 90°C, and ground glass surfaces must be avoided. Do not store diazomethane. Generate the amount needed fresh each time. If the generation procedure is followed exactly, only micro molar amounts of diazomethane are produced, thus minimizing the possibility of an explosion. Quench any unused diazomethane by adding excess silica gel (0.2 g per mL of diazomethane).

5.3 The toxicity of the extraction solvent, MTBE, has not been well-defined. Susceptible individuals may experience adverse effects upon skin contact or inhalation of vapors. MTBE must be handled in a chemical fume hood while wearing protective clothing and gloves. The same precaution applies to pure standard materials.

5.4 When working with concentrated acids or bases, wear personal protective equipment (PPE). At a minimum this may include a lab coat, safety glasses, acid resistant gloves, a rubber apron and a face shield. The laboratory provides all PPE equipment. All work with concentrated acids must be in a fume hood. Most reactions with strong acids are exothermic.

6) EQUIPMENT & SUPPLIES

6.1 Gas Chromatograph (ECD)/Mass Spectrometer system - The following components are recommended, but comparable systems may be used.

- Autosampler - Varian Model 8100, 8200, or 8400. Thermo AI 1310.
- Gas Chromatograph - Varian Model 3800 or equivalent. Thermo Trace 1310 GC

- Varian 1079 temperature programmable injector (2 if dual injector system used).
- Mass Spectrometer.
- IBM compatible computer running current Chromeleon software.
- Electron Capture Detector (ECD), Varian model or equivalent. Thermo Trace 1310 GC.
- A 100 uL large volume injection syringe for MS analysis.

Note: For analysis with the 8200 autosampler, use SGE Part No. SG-002924 Thermo syringe 365D1856 for the syringe or equivalent and use a Supelco replacement needle Part No. N10VA8100H. For the 8400 autosampler, Use SGE Part No. SG005333 for the syringe and Microliter Part No. L100.10265 for the replacement needles. For the Thermo AI 1310 use SG-002924 Thermo syringe 365D1856.

6.2 Workstation - An IBM compatible computer running Chromeleon software. Chromeleon software is utilized for data acquisition and data processing of the ECD data.

6.3 GC Columns for ECD analysis - Other dimensions or columns may be used as long as the criteria in Section 14 is met. These are available from Agilent.

6.3.1 Primary ECD Column - DB-35ms, Length: 30 meters x 0.25 mm I.D., Film Thickness: 0.25 micron.

6.3.2 Confirmation ECD Column - DB-XLB, Length: 30 meters x 0.25 mm I.D., Film Thickness: 0.5 micron.

6.4 GC column for MS analysis - XTI-5, Length: 30 meters x 0.25 mm I.D., Film Thickness: 0.25 micron.

6.5 Deactivated fused silica, 10 m, 0.25 mm ID for guard column. This is only needed if the universal "Y" connector is used for a dual column analysis. Both are available from Restek.

6.6 GC Carrier Gases

6.6.1 For systems configured with mass spectrometers - High Purity Helium.

6.6.2 For dual ECD systems - Ultra High Purity Hydrogen or Helium and Ultra High Purity Nitrogen.

6.7 Two Stage Gas Regulator, 0-200 psi or 13.79 bars.

6.8 Carrier Gas Purifier System available from Agilent, or other approved vendor.

6.9 Gas Chromatography Recommended Spare Parts - Keep a supply of the following parts available: septa, injector inserts (1079, 2 mm or 3.4 mm open inserts - Siltek treated), deactivated glass wool or Siltek wool, autosampler syringe for large volume injections (100 uL).

6.10 Analytical balance - Capable of reading 0.0001 g.

6.11 Extraction container - 60 mL VOA vial with Teflon-faced cap.

6.12 17 mm x 125 mm; 15 mL conical centrifuge tubes with Teflon-lined caps. Available from Fisher Scientific, or equivalent.

6.13 Diazomethane Generator. Available from Aldrich or Fisher.

6.14 Sample containers - 120 mL amber glass bottles.

6.15 Volumetric Flasks - Class A, various sizes.

6.16 Storage vials - Various sized amber vials with Teflon/butyl rubber septa and polypropylene screw caps for storage of standards.

6.17 Micro syringes - Hamilton or equivalent, various sizes: 5, 10, 25, 50, 100, 250, 1000, and 2500 uL.

6.18 Mechanical platform shaker – programmable for time and RPM and capable of holding extraction vials.

6.19 Vortex mixer – capable of 3000 rpm with a touch to activate switch

6.20 Autosampler vials - 2 mL vial with polypropylene cap & Teflon/silicon septum.

6.21 Pasteur Pipets - Sizes 5 3/4"and 9".

6.22 10 x 75 mm culture tubes available from Fisher Scientific or other approved vendor

6.23 Preparation of Glassware - Refer to Glassware Cleaning, SP-SOP16311. Select glassware used in the extraction process should be solvent rinsed with MTBE or acetone as specified in this SOP.

7) REAGENTS & STANDARDS

7.1 Solvents and Reagents - All solvents and reagents must be high purity (HPLC grade, ACS grade or better). Consult manufacturer's recommended expiration dates on neat solvents and reagents. Store at room temperature unless otherwise noted.

7.1.1 Ethyl acetate – Optima grade or better.

7.1.2 Methyl tert-Butyl Ether (MTBE) - HPLC grade or better.

7.1.3 Hexane - HPLC grade or better.

7.1.4 Acetone - HPLC grade or better.

7.1.5 Methanol - High Purity grade or better.

7.2 Reagent Water - Water treated in the laboratory (by reverse osmosis, deionization, or filtration) that is free of interferences and contaminants.

7.3 Sulfuric acid, H_2SO_4, concentrated – Trace metal grade or better. If not stated, expires after 3 years of opening.

7.4 Sodium sulfate (muffled), Na_2SO_4 – ACS grade or better.

7.4.1 Acidified Sodium Sulfate - Slurry the muffled Na_2SO_4 with enough MTBE to just cover the solid. Slowly add 0.7 mL of concentrated H_2SO_4 per 500 g of Na_2SO_4 and mix thoroughly. Allow the MTBE to evaporate in the hood until there is no longer any solvent odor. Heat the sodium sulfate in an oven at 130°C for 1 hour. Mix approximately 100 mg of the solid with approximately 3 mL reagent water in a culture tube. The pH must be below pH 4, document this check in the reagent prep log. Store the acidified sodium sulfate in a closed glass container in a desiccator. Prepare fresh after 6 months or dry in an oven at 130°C if the sodium sulfate absorbs water.

7.5 Sodium hydroxide, NaOH.- ACS grade or better.

7.5.1 4 N NaOH - This is used to adjust the pH of the samples, allowing hydrolysis to take place. Prepare this solution by dissolving 160 g NaOH pellets in approximately 80 mL of reagent water in a 1000 mL volumetric flask. When the pellets are completely dissolved, dilute exactly to 1000 mL. Replace with fresh solution as needed or on an annual basis.

7.6 Sodium Chloride - ACS grade or better.

7.7 Carbitol, Diethylene glycol monoethyl ether – 99% or better.

7.8 Potassium hydroxide, KOH - ACS grade or better.

7.8.1 KOH, 37% (w/v) - Used in the generation of diazomethane. Dissolve 37 g KOH pellets in approximately 80 mL of fresh reagent water in a clean volumetric flask. When the pellets are dissolved, dilute to 100 mL. Replace with fresh solution as needed or on an annual basis.

7.9 Diazald - 99% or better. 7.10 Sodium sulfite, Na_2SO_3 – ACS grade or better- Used as a preservative.

7.10.1 Sodium sulfite solution for quality control samples - Add 25 mg sodium sulfite to 400 mL of reagent water in a 500 mL volumetric flask. Mix well and dilute to the mark. Prepare this solution fresh daily, and discard any old solution. Other volumes may be prepared as long as the ratio of sodium sulfite and water remain constant. Use this solution for preparation of all QC samples, i.e., ICS, CCC, QCS, LMB, or PE samples.

7.11 DPD-free chlorine reagent pillows.

7.12 pH Paper – low range pH 0-3, full range pH 0-13 and high range pH 11.8-13.4.

7.13 Silica gel– high purity grade - available from Sigma, Aldrich or other approved vendor.

7.14 Sodium Hydroxide (NaOH) Solution 50% (w/w), – Analytical reagent grade - available from Fisher Scientific.

7.15 Internal Standard Stock Solution - 4,4'-Dibromooctafluorobiphenyl, at 2.5 ug/mL, in MTBE, available from AccuStandard or an equivalent. Follow vendor's expiration date for sealed ampules. If the standard is transferred to an amber vial for storage, replace after 1 month. Store at -10°C or less.

7.16 Surrogate Standards - 2,4-Dichlorophenylacetic acid, at a concentration of 100 ug/mL in acetone. Available from Accustandard or equivalent. Follow vendor's expiration date for sealed ampules. If the standard is transferred to an amber vial for storage, replace after 1 month. Store at -10°C or less.

7.17 Calibration Standards - All calibrations or verifications (second source) must be conducted using Reference Materials obtained from a reference material producer accredited to ISO Guide 34 or ISO 17034. The Certificate of Analysis for either the calibration standard or the second source QC standard, must clearly demonstrate that the vendor produced the standard in compliance to ISO Guide 34 or ISO 17034.

7.18 Calibration Standard Stock Solution (5.0 ug/mL in terms of 2,4-D) - Custom mix prepared at various concentrations (1-5 ug/mL) in acetone, available from Restek or other approved vendors. Follow vendor's expiration date for sealed ampules. If the standard is transferred to an amber vial for storage, replace after 1 month. Store at -10°C or less.

7.18.1 Calibration Standard Substock Solution at 1.0 ug/mL (in terms of 2,4-D) - Prepare a substock at 1 ug/mL by placing approximately 0.8 mL of acetone in a 1.0 mL Class A volumetric flask. Add 200 uL of the varied concentration stock to the flask. Bring to a final volume of 1.0 mL with acetone. Mix by inverting the flask several times, and then transfer the contents to a clean amber vial and cap. Store at -10°C or less. This solution has the same expiration date as the stock standard from which it was prepared.

7.19 The working calibration standards in this procedure are extracted or "procedural" standards. Place 40 mL of preserved reagent water (Section 7.10.1) in either a screw-capped 60 mL VOA vial or Teflon-faced screw-capped centrifuge tube. Determine the actual volume of reagent water used by weight. Add the necessary amount of substock and surrogate standard to each vial according to Table 2.

7.19.1 Working calibration standards are prepared and extracted on the same day. Process the calibration standards as described in Section 12. After extraction, add 10 uL of the 2.5 ug/mL internal standard to each 1 mL extract. The extracts can be stored at -10°C or less for up to 14 days.

Table 2. Preparation of 40 mL of Working Calibration Standards

Final Conc. ug/L**	Substock at 1.0 ug/mL	Stock at 5.0 ug/mL	SS Stock at 100 ug/mL
0.10	4 uL	—	10 uL
0.20	8 uL	—	10 uL
0.50	20 uL	—	10 uL
1.0	—	8 uL	10 uL
2.0	—	16 uL	10 uL
3.0	—	24 uL	10 uL
4.0	—	32 uL	10 uL
5.0	—	40 uL	10 uL

Note: All compounds are at the same concentration with the exceptions of 2,4,5-TP (silvex) and picloram, which are at a concentration of one-half of the stated concentration, and pentachlorophenol which is at a concentration of one-fifth of the stated concentration.

7.20 Continuing Calibration Check (CCC) Standard - The CCC is prepared exactly as the working calibration standards and require the same storage and expiration criteria. Use two different calibration levels, 1.0 and 3.0 ug/L, in terms of 2,4-D, each day of analysis.

7.21 Laboratory Performance Check (LPC) - Column and system performance is determined by evaluation of the daily CCC or the ICS at 1 ug/L. The concentrations in the CCC (ICS) are lower than the method levels for the LPC. See Section 9.5 for criteria.

7.22 External Quality Control Standard Stock Solution (5.0 ug/mL in terms of 2,4-D) - Custom mix prepared at various concentrations in acetone, available from Restek or other approved vendors. This solution must be a unique lot that differs from the material used for calibration. Follow vendor's expiration date for sealed ampules. If the standard is transferred to an amber vial for storage, replace after 1 month. Store at -10°C or less.

7.23 External Quality Control Sample (QCS) - The QC sample is taken through the extraction procedure in Section 12. Prepare the QCS at a concentration of 3.0 ug/L, in terms of 2,4-D. The QCS must be analyzed with each instrument calibration or at a minimum quarterly. Adhere to the same expiration and storage requirements as CCCs.

7.24 GC/MS Tune Check Solution, Decafluorotriphenylphosphine (DFTPP) - Prepare the tuning standard by adding 1 uL of the 2500 ug/mL stock solution to 1 mL of hexane in a volumetric flask. The concentration is equal to 2.5 ug/mL. Inject 5 uL or less of this standard. Store this solution for up to one month in an amber vial at -10°C or less.

7.25 FC-43 Cal gas - Available directly from approved vendors.

7.26 Reporting Limit Check (RLC) - The RLC is prepared exactly as the working calibration standards and requires the same storage and expiration criteria. The RLC is typically at a concentration of 0.2 ug/L in terms of 2,4-D. Analytical batches containing samples from Minnesota use the RLC as the MNCC (see the attached Quality Control Requirements).

8) SAMPLE COLLECTION, PRESERVATION & STORAGE

8.1 Sample Collection – See details at Sampling and Shipping Instruction for Sample Collection, 06-LO-C0416. Samples are collected in duplicate in 120 mL amber glass bottles with Teflon-lined screw caps.

8.2 Sample Preservation - Add 6-8 mg of sodium sulfite to each bottle before collection. See the LIMS application Schedule of Services.

8.3 Sample Receipt and Storage - Samples must be kept at 4°C (0-6°C) from the time of collection. Upon receipt, refrigerate samples at less than or equal to 4°C. Extracts must be stored at -10°C or less in amber vials.

Note: For South Carolina compliance, samples will be kept at less than or equal to 4°C but not frozen from the time of collection until extraction and analysis.

8.4 Sample Maximum Holding Time - Samples must be extracted within 14 days from collection. Extracts must be analyzed within 14 days after extraction.

9) QUALITY CONTROL

9.1 For a detailed listing of the Quality Control (QC) requirements of this method, see Section 18.

9.2 When beginning the use of this method, or when a change is made to the instrument configuration, the criteria of Section 14 must be met prior to the analysis of samples. Minimum Reporting Levels must be established for all analytes. The analyst is permitted to modify GC columns, GC conditions, extract evaporation techniques, internal standards or surrogate compounds. Each time such method modifications are made, the analyst must repeat the IDC determinations in Section 14.

9.2.1 When the use of this method is established and a new analyst or technician will begin use of this method, the criteria of Section 14.1 must be met.

9.3 MS Tune Check - The mass spectrometer tune will be checked by DFTPP Tune. This check is only necessary when using the mass spectrometer for analysis.

9.3.1 DFTPP Check - This performance check consists of verifying the MS tune using the mass spectrum of DFTPP. This check must be performed daily at the beginning of a run.

9.3.1.1 Inject 5 uL (12.5 ng or less) of DFTPP solution into the GC/MS system. Acquire a mass spectrum that includes data for m/z 45-450. The ion abundance criteria listed in Table 3 must be met before proceeding with analysis. If the DFTPP mass spectrum does not meet all criteria in Table 3, the instrument must be adjusted and the MS tune check must be repeated. If instrument adjustments do not resolve the problem, a mass calibration (Section 11.3) may be necessary. After a mass calibration is performed, repeat the MS tune check.

9.3.1.2 A single spectrum at the apex of the chromatographic peak, or an average of the three spectra at the apex of the peak, or an average spectrum across the entire GC peak may be used to evaluate the performance of the system. Background subtraction is permitted.

Table 3. Ion Abundance Criteria for Decafluorotriphenylphosphine (DFTPP)

Mass (m/z)	Relative Abundance Criteria	Purpose of Checkpoint
51	10-80% of the base peak	low mass sensitivity
68	<2% of mass 69	low mass resolution
69	Exists only	low mass resolution
70	<2% of mass 69	low mass resolution
127	10-80% of the base peak	low-mid mass sensitivity
197	<2% of mass 198	mid-mass resolution
198	base peak or >50% of 442	mid-mass resolution and sensitivity
199	5-9% of mass 198	mid-mass resolution and isotope ratio
275	10-60% of the base peak	mid-high mass sensitivity
365	>1% of the base peak	baseline threshold
441	Present and <mass 443	high mass resolution
442	Base peak or >50% of 198	high mass resolution and sensitivity

Mass (m/z)	Relative Abundance Criteria	Purpose of Checkpoint
443	15-24% of mass 442	high mass resolution and isotope ratio

9.4 LPC - The initial CCC at 1 ug/L or the initial calibration standard at 1 ug/L is used to determine acceptable instrument performance. Evaluate the CCC against the LPC criteria stated below:

9.4.1 Sensitivity - The system must detect dinoseb in the ECD with signal-to-noise ratio (S/N) greater than 3. If sensitivity is not met, maintenance is required before samples are analyzed. Data cannot be reported from an analytical batch that contains an LPC that does not pass these criteria.

9.4.2 Chromatographic Performance - The Peak Gaussian Factor (PGF) for pentachlorophenol must be between greater than 0.80 and less than 1.15. Calculate the PGF using the equation in Section 13.9. If the PGF is outside of this range, take corrective action before analyzing samples. Data cannot be reported from an analysis batch if the LPC failed these criteria. Instrument maintenance must be performed prior to the next analysis.

9.4.3 Column Performance - The calculated resolution for chloramben and 2,4-DB must be greater than 0.5. If the separation of the two peaks is not clearly baseline resolved, calculate the column performance using the equation in Section 13.10. The Chromeleon software performs this check using the Report Template > peak Analysis tab. Typically the resolution is deemed passing by visual inspection for baseline resolution. If the column performance is outside of this range take corrective action before analyzing samples. Data cannot be reported from an analysis batch with a failed column performance for chloramben or 2,4-DB unless those parameters are not to be evaluated within the analysis. Instrument maintenance must be performed prior to the next run.

9.5 Continuing Calibration Check (CCC) - A CCC must be analyzed at the beginning of each analysis set, and at most after every tenth field sample, and after the final sample analysis. The CCCs must be at 2 different concentrations, and at least one CCC must be from the same extraction batch as the samples. These checks are typically performed with the initial CCC at 1 ug/L and subsequent CCCs at 3 ug/L in terms of 2,4-D. Calculate analyte recoveries for all target analytes using the equation in Section 13.6. Recoveries must fall between 70% and 130% of the target for all analytes listed in EPA Method 515.3 and surrogate. Parameters not listed in EPA Method 515.3 have in-house statistical limits. Additionally, the internal standard area must be within ±30% of the average IS response in the initial calibration.

9.5.1 If the recoveries are outside of these acceptance criteria, the CCC extract should be reinjected in order to verify the problem. If the acceptance criteria are still not met, a previously analyzed (and acceptable CCC) should be analyzed to determine if the problem is related to the initial extract. If this second CCC also fails to meet the acceptance criteria, corrective action may be in order, up to and including recalibration.

9.5.1.1 The data may be reported for high biased failures in the CCC when corresponding analytes are below the MRL in the field samples.

9.5.1.2 Data for analytes that fail low may not be reported. The samples must be reanalyzed after the appropriate corrective action has been taken. Corrective action may include instrument maintenance, recalibration or re-extraction. All samples analyzed back to the last passing CCC must be reanalyzed.

9.5.1.3 If the analytical batch includes samples for South Carolina compliance monitoring, then all of the South Carolina regulated compounds must be within ±30% of the target concentrations in CCC(s) associated with those samples. If not, the samples must be reanalyzed. The compounds that are regulated in South Carolina are identified in Table 6.

9.6 Laboratory Method Blank (LMB) - With each extraction batch, extract and analyze an LMB to determine the background system contamination. If, within the retention time window of any analyte, the LMB produces a peak that would prevent the determination of that analyte, determine the source of contamination and eliminate the interference before processing samples. Background contamination must be reduced to less than the MRL before proceeding with the analyses. Certain client-specific projects may require different evaluation criteria

9.6.1 If an analyte is found in the LMB at a concentration greater than the MRL, sample data may be reported for samples that do not contain that analyte at concentrations greater than the MRL. The client report must include an explanation about the possible contamination in the LMB.

9.7 Internal Standard (IS) - The analyst must monitor the peak area of the internal standard in all injections during each analysis day. The IS response (peak area) in any chromatographic run must not deviate by more than 30% from the average area measured during initial analyte calibration.

9.7.1 A poor injection could cause the IS area to fail to meet this criterion. Inject a second aliquot of the suspect extract to determine whether the failure is due to poor injection or a problem possibly related to the sample extract.

9.7.2 If the reinjected aliquot produces an acceptable internal standard response, report results for that aliquot.

9.7.3 If a deviation of greater than 30% is obtained for the reinjected extract the analyst should check the calibration by reanalyzing the most recently acceptable CCC. If the CCC fails the criteria of Section 9.6, recalibration may be in order. If the CCC is acceptable, extraction of the sample should be repeated provided the sample is still within the holding time. If the sample is outside of holding time, report results obtained from the original or reinjected extract, but annotate the sample data as suspect.

9.8 Surrogate Recovery - The surrogate standards are added to all calibration standards, samples, CCCs, MSs, FDs, LDs, RLCs, QCSs, and LMBs. The surrogate is a means of assessing method performance from extraction to analysis. Calculate percent recovery using the equation in Section 13.6.

9.8.1 When surrogate recovery exceeds ±30%, reanalyze the extract or re-extract a second sample aliquot and analyze.

9.8.2 If the reanalysis or the re-extraction analysis meets the required surrogate recovery criterion, report that data.

9.8.3 If the sample analysis of the second extraction also fails the surrogate recovery criterion, annotate the sample data as suspect.

9.9 Matrix Spike (MS) – Matrix spike sample(s) are prepared with each extraction batch at a frequency of 10% of field samples in a batch. Typically, two different MS samples are extracted with each batch of 20 samples. The MS sample and its parent sample are to be prepared and evaluated for all requested parameters within the extraction batch.

9.9.1 The MS samples are prepared by spiking each sample designated as a matrix spike sample with an appropriate amount of the fortification solution. The MS concentrations are at 3 ug/L.

9.9.2 Calculate the percent recovery for each analyte after correcting the measured fortified sample concentration for the background concentration measured in the unfortified sample using the equation in Section 13.7. If the background concentration in the sample is greater than the spiked concentration, data should not be reported.

9.9.3 Analyte recoveries may be affected by the sample matrix. For samples fortified at or above their native concentration, recoveries should be between 70 and 130% or within established limits. If the accuracy of any analyte falls outside the designated range, and the laboratory performance for that analyte is shown to be in control, the accuracy problem encountered with the fortified sample is judged to be matrix related, not system related. The result for that analyte in the unfortified sample is labeled suspect/matrix to inform the data user that the results are suspect due to matrix effects.

9.10 Duplicate Sample (FD, LD or MSD) –Analyze a duplicate sample with each extraction batch. Typically a MSD sample will be prepared. Extraction batches containing samples from the State of Minnesota require a MS/MSD

pair in the batch. The MS/MSD pair does not have to be associated to the client sample from Minnesota. If the frequency criteria for Minnesota cannot be met a client contact will be submitted for client notification. Calculate the relative percent difference (RPD) for duplicate measurements as shown in Section 13.8.

9.10.1 The RPDs for FD, LD and MSDs should fall in the range of limits established from historical data. Greater variability may be observed for target analytes with concentrations near the low end of the calibration range. If the RPD for any analyte falls outside the established RPD limit, the result for the analyte is labeled suspect due to failure to meet the RPD criteria. MSD samples must also meet criteria listed in Section 9.10.3.

9.11 Quality Control Sample (QCS) - Analyze a QCS from an external source with each instrument calibration, or at a minimum, quarterly. Calculate percent recovery using the equation in Section 13.6. The acceptance criteria are the same as CCCs. If the measured analyte concentrations are not acceptable, check the entire analytical procedure to locate and correct the problem.

9.12 Quality Control Tracking - Computerized QC tracking and trend analysis procedures and requirements are described in the QA Manual.

9.13 Reporting Limit Check (RLC) - An RLC must be analyzed with each analysis. The RLC must be at a concentration at or near the low end f the calibration range, typically at 0.2 ug/L in terms of 2,4-D. Calculate analyte recoveries for all target analytes using the equation in Section 13.6. Recoveries must meet current in-house statistical limits for compounds listed in CFR 40 part 161.41 except for Minnesota compliance samples. Minnesota compliance samples must utilize limits of 60-140%. Dalapon is not evaluated in the RLC as the verification at the MRL is performed by the analysis of the CCC at 1 ug/L.

9.13.1 If the recoveries are outside of these acceptance criteria, the RLC extract should be reinjected in order to verify the problem. If the acceptance criteria are still not met, a previously analyzed RLC may be analyzed. If the second RLC also fails to meet the acceptance criteria, corrective action is in order, up to and including recalibration. Analytes which have recoveries greater than current in-house statistical limits may be reported with a client contact as long as there are no detects greater than the MRL for that compound in the sample reported. The appropriate Data Entry flag must be set when reporting analytes which have high RLC failures when required.

9.14 Positive results—ECD parameters only

9.14.1 Positive results must be confirmed on the secondary column within ± 50% RPD of primary column results.

9.14.2 If the RPD is outside of 50%, the chromatogram should be evaluated to determine if there is an assignable cause. The experience of the analyst should weigh heavily in the interpretation of the chromatograms. The results from the primary column should be qualified on the report stating the disparity between the two columns.

9.14.3 The QC in the run should also be evaluated on the secondary column for the positive compound/s. All QC criteria that applies to that parameter should be met on the secondary column as well, including IS and SS.

9.14.3.1 If the QC criteria are not met on the secondary column, the data should be qualified on the report stating the deviation.

10) PREVENTATIVE MAINTENANCE & TROUBLESHOOTING

10.1 Over time, the ECD baseline may become noisy and it may be difficult to see low level standards. If this occurs, remove the column and ferrule, and install a no-hole ferrule. Bake the injector for 2-3 hours at 400°C with adequate make-up gas flow. If the baseline is still noisy, replace the detector and return the detector to the vendor for service.

10.1.1 As noted in Section 4.9, routine column and injector maintenance is required to maintain proper peak shapes and response. Periodically replace the injector insert as specified in Section 6.9. Also, remove a small section of the guard column and/ or analytical column from the injector end in order to prevent the buildup of

active sites on the column. It may also be necessary to replace the press-fit connectors and "Y" connectors regular intervals. Replacement of the analytical column may be necessary if routine maintenance does not improve the peak shape and response for analytes. Column replacement should be done at the analyst's discretion.

10.2 Nitrogen make-up gas - A very high baseline may indicate a contamination issue with the bulk nitrogen gas.

10.3 DFTPP solution stability - DFTPP can easily break down in the tuning solution, especially when prepared in ethyl acetate, acetone, or MTBE. Prepare tune solution in hexane and prepare fresh as needed.

11) CALIBRATION & STANDARDIZATION

11.1 Recommended Instrument Settings for analysis by ECD

Injection volume: 3 uL
Solvent Rinse: Hexane and Acetone

Thermo GC

Autosampler:

Sampler Inject Options

Sampling Parameters:
Drew Speed: Slow
Fill Strokes: 3
Air Volume: 1 uL
Sample Depth: Bottom

Injection Parameters:
Cold Needle Injection: No
GC Type: Trace 1300_1310
Pre-Injection Delay Time: 0.3 s
Post-Injection Delay Time: 0.4 s

Sampler Wash Program
Pre-Injection Washing Cycles: 1
Pre-Injection Washing Vials: A_B (Acetone > Hexane)
Sample Washing Cycles: 2
Post-Injection Washing Cycles: 2
Post-Injection Washing Vials: C_D (Acetone > Hexane)

GC Inlets:
Front Inject Options:
Use This Inlet: Yes

Temperature Settings:
Enable Temperature Control: Yes
Temperature: 310 C

Inlet Parameters:
Operation Mode: Splitless
Split Flow Control: Yes
Split Flow: 320 mL/min
Split Ratio: n/a
Splitless Time: 0.5 min
Purge Flow Control: Yes

Purge Flow: 5.0 mL/min
Vacuum Compensation: No
Enable Gas Saver Mode: Yes
Gas Saver Flow: 10.0 mL/min
Gas Saver Time: 1.50 min

Front Flow/Pressure Options: Constant Flow @ 4.0 mL/min

GC Oven Settings:

Preparation Run Timeout: 10.00 min
Oven Equilibration Time: 1.50 min
Ready Delay: 0.00 min

Mode: Ramped Temperature

No.	Retention Time	Rate Degree (°C/min)	Target Degree (°C/min)	Hold Time (Minutes)
1	0.000	--	--	--
2	2.000	0.0	45	2
3	15.145	8.0	150	0.02
4	20.165	2.0	160	0.02
5	32.185	2.5	190	0.02
6	33.955	20.0	225	0.02
7	39.175			

Column Configuration Setting
Validate Column Configuration: No

GC Detectors – Front ECD Options
Detector Active: Yes
Acquisition On: 0.00 min
Acquisition Off: 40.400 min
Data Collection Rate: 10 Hz

Detector Settings
Detector Temperature Control: yes
Detector Temperature: 300 C
Pulse Amplitude: 50v
Pulse Width: 0.2 uS
Reference Current: 0.5 nA
Peak Width: Standard

Gas Settings
Makeup Gas Flow Out: Yes
Makeup Gas Flow: 25.0 mL/min

GC Detectors – Back ECD Options
Detector Active: Yes
Acquisition On: 0.00 min
Acquisition Off: 40.400 min
Data Collection Rate: 10 Hz

Detector Settings

Detector Temperature Control: yes
Detector Temperature: 300 C
Pulse Amplitude: 50v
Pulse Width: 0.2 uS
Reference Current: 0.5 nA
Peak Width: Standard

Gas Settings
Makeup Gas Flow Out: Yes
Makeup Gas Flow: 25.0 mL/min

Injection volume: 3 uL
Solvent Rinse: Hexane and Acetone **Varian GC**

Instrument Setup: Column Parameters for Helium Carrier Gas

Location	Carrier	Length	ID
Front	He	30	250
Middle	He	30	250
Rear	He	0	0

Sample Delivery Setup:
Injector Port to use with CP-8400 autosampler:
Front Syringe Size: 10 uL

1079 Injector Set Points

Temperatures (°C)	Rates (°C/min)	Time (min)	Total Time(min)
Initial = 270	NA	Int. Hold = 2	2
310	200	Hold = 15	17.2

1079 Split/Splitless Times and Flow Rate

Time (min)	Split State	Split ratio
Initial	On	10
0.01	Off	Off
0.5	On	100
2.00	On	50

Front Injector EFC Type 1:

Constant Flow	5 mL/min (Helium)
Pressure Pulse	NO
Septum Purge	0.5 mL/min @ 20 psi or 1.38 bars

NOTE: An alternative setting for Front Injector EFC Type 1 is as follows:

Constant Flow	ON
Pressure Pulse	YES
Column Flow	4.0 mL/min
Pulse Pressure	27.6 psi or 1.9 bar
Pulse Duration	0.5 min

Detector – Electron Capture:

Detector:	310°C, Range 1
Detector Make Up:	N2 = 25-30 mL/min

Column Program Set Points

Temperatures (°C)	Rates (°C/min)	Times (min)	Total Time (min)
Initial = 45		Int. Hold = 2.0	2.00
Final 1 = 150	R-1 = 5.0	Hold-1 = 0.00	23.00
Final 2 = 160	R-2 = 1.0	Hold-2 = 1.00	34.00
Final 3 = 190	R-3 = 5.0	Hold-3 = 0.00	40.00
Final 4 = 205	R-4 = 2.0	Hold-4 = 0.00	47.50
Final 5 = 270	R-5 = 30.0	Hold-5 = 0.00	49.67
Final 6 = 320	R-6 = 50.0	Hold-6 = 4.21	54.88

Autosampler Set Points (8400)

Injection mode:	Std. on column

Instrument Setup: Column Parameters for Hydrogen Carrier Gas

Location	Carrier	Length	ID
Front	H2	30	250
Middle	H2	0	0
Rear	H2	0	0

Sample Delivery Setup:
Injector Port to use with 8200 autosampler: Front
Syringe Size: 10 uL

1079 Injector Set Points

Temperatures (°C)	Rates (°C/min)	Time (min)	Total Time(min)
Initial = 270	NA	Int. Hold = 2	2
310	200	Hold = 15	17.2

1079 Split/Splitless Times and Flow Rate

Time (min)	Split State	Split ratio
Initial	On	10
0.01	Off	Off
0.5	On	100
2.00	On	50

Front Injector EFC Type 1:

Pressure (psi or bar)	Rate (psi or bar/min)	Hold (min)	Total (min)
30.0 psi or 2.069 bar	0.00	0.05	0.5
10.0 psi or 0.69 bar	25	0.00	1.3
16.0 psi or 1.103 bar	0.4	6.00	22.3
18.0 psi or 1.241 bar	0.34	0.00	28.18
18.5 psi or 1.276 bar	0.11	0.00	32.73
22.0 psi or 1.52 bar	1.0	0.77	37.0

The above settings create a constant column flow of ~2 mL/min (hydrogen).

Septum purge 0.5 mL/min @ 20 psi or 1.80 bar

Detector – Electron Capture:

Detector:	310°C, Range 1
Detector Make Up	N2 = 25-30 mL/min

Column Program Set Points

Temperatures (°C)	Rates (°C/min)	Times (min)	Total Time (min)

Initial = 45		Int. Hold = 2.0	2.00
Final 1 = 150	R-1 = 6.0	Hold-1 = 0.00	19.50
Final 2 = 190	R-2 = 2.0	Hold-2 = 0.00	39.50
Final 3 = 255	R-3 = 20.0	Hold-3 = 0.00	42.75
Final 4 = 320	R-4 = 50.0	Hold-4 = 4.32	48.37

Autosampler Set Points (8200)

Injection mode:	User Defined
Solvent plug:	0.2 uL
Uptake speed:	1.0 uL/sec
Upper air gap:	Yes
Lower air gap:	Yes
Pause Time:	5 sec
Injection Rate:	5 uL/sec

11.2 Recommended Instrument Settings for analysis by MS

Injection volume: 20 uL
Solvent Rinse: Ethyl Acetate

Thermo GC/MS

Autosampler:

Sampler Inject Options

Sampling Parameters:
- Draw Speed: Slow
- Fill Strokes: 3
- Air Volume: 0.5 uL
- Sample Depth: Bottom

Injection Parameters:
- Cold Needle Injection: Yes
- GC Type: Trace 1300_1310
- Pre-Injection Delay Time: No
- Post-Injection Delay Time: No

Sampler Wash Program
- Pre-Injection Washing Cycles: 1
- Pre-Injection Washing Vials: C_D (Ethyl Acetate)
- Sample Washing Cycles: 0
- Post-Injection Washing Cycles: 2
- Post-Injection Washing Vials: C_D (Ethyl Acetate)

GC Inlets:

Front Inject Options:
- Use This Inlet: Yes

Temperature Settings:
- Enable Temperature Control: Yes
- Temperature: 275 C

Inlet Parameters:
- Operation Mode: Splitless w/surge

Split Flow Control: Yes
Split Flow: 30 mL/min
Split Ratio: n/a
Splitless Time: 0.6 min
Purge Flow Control: Yes
Purge Flow: 5.0 mL/min
Constant Septum Purge: Yes
Stop Purge For: n/a
Surge Pressure: 20.0 psi
Surge Duration: 0.6 min
Vacuum Compenstation: Yes
Enable Gas Saver Mode: Yes
Gas Saver Flow: 20.0 mL/min
Gas Saver Time: 3.0 min

Front Flow/Pressure Options:
Constant Flow @ 1.2 mL/min

GC Oven Settings:
Preparation Run Timeout: 10.00 min
Oven Equilabration Time: 0.1 min
Ready Delay: 0.10 min

Mode: Ramped Temperature

No.	Retention Time	Rate Degree (°C/min)	Target Degree (°C)	Hold Time (min)
1	0.000	--	--	--
2	2.500	0.0	40	2.5
3	7.5	3.0	55	0
4	10.5	50.0	155	1
5	23.5	10.0	275	1
6	25.5	50.0	300	1

Column Configuration Setting
Validate Column Configuration: No

MS Device – Settings
Acquisition: General
MS Transfer Line Temperature: 280 C
Ion Source Temperature: 250 C
Acquisition Threshold: No
Ionization Mode: EI
CI Gas Type: n/a
CI Gas Flow: n/a
Run Completion: GC Run Time

Scans: Time (min)	Mass List or Range (amu)	Dewll or Scan Time
3.00	45 – 450	0.15 sec.

Groups Time(min)	Total Scan Time (sec)
3.00	0.1541

System

Run Time: 27.00 min
Diagnostic Channel: n/a

11.3 Instrument Performance - Prior to the analysis of calibration standards or samples, ensure proper instrument performance by inspecting the following instrument values.

11.3.1 Gas Chromatograph - Verify the correct method is selected for acquisition. If any settings require major modification, consult the Instrument Operations Manual.

11.3.2 Electron Capture Detector (ECD) - The baseline should be steady and relatively low. Reset the contact potential if needed. Note that if the contact potential is re-set, recalibration may be necessary. See instrument manual for re-setting the contact potential.

11.4 Mass Spectrometer - See guidance document GC/MS Daily Checks, 06-LO-G0400 and mass spectrometer tuning

11.5 Initial Calibration

11.5.1 ECD analysis - Inject aliquots of the eight working calibration standards. Eight standards are analyzed due to the different responses of analytes and the calibration range of analytes. Six calibration levels are used for the GC/MS analysis.

11.5.2 MS analysis- Verify proper calibration by performing DFTPP Tune Check. After the daily DFTPP MS Tune Check is successfully performed, inject aliquots of the working calibration standards. Acquire and store data with a scan time (including pre-scan time) of 1.0 second or less. The scan time must be adjusted to measure five or more scans during the elution of each GC peak.

11.5.3 Concentrations are calculated through the use of a calibration curve which uses an Internal Standard calibration as calculated in Section 11.7.5. The GC system measures peak area and identifies analytes by retention time. For MS analysis, use Table 6 as a guide to construct the calibration file according to the software manual. Use a mid-level standard to obtain and store the reference MS spectra and retention time for each component.

11.5.4 Dalapon, Dichlorprop, Chloramben, 2,4-DB, DCPA Acid metabolites and Acifluorfen are calibrated down to 0.5 ug/L or lower. 3,5-DCBA, Dicamba, Triclopyr, 2,4,5-T, Dinoseb and Bentazon are calibrated down to 0.2 ug/L or lower. 2,4-D, 2,4,5-TP and Picloram are calibrated down to 0.1 ug/L or lower. Pentachlorophenol is calibrated down to 0.04 ug/L. MCPP and MCPA are calibrated down to 0.5 ug/L. The surrogate standard uses a multi-point calibration at a single level of 25 ug/L.

11.5.5 Ignore zero in the calibration curve. The data system plots a curve with QX/QIS on the X axis and AX/AIS on the Y axis.

Where:
AX = peak area of the analyte.
AIS = peak area of the internal standard.
QX = concentration of analyte.
QIS = concentration of internal standard.

11.5.6 Acceptance Criteria - The curve must consist of at least 5 points for linear curves, 6 points for quadratic curves, and have a correlation coefficient of 0.950 or greater. If the analytical batch contains compliance samples from the state of South Carolina (SC), compounds indicated in Table 1 must be quantitated against calibration curves that have a correlation coefficient of 0.990 or greater, a minimum of 5 points and use linear, non-weighted curves only. For analytes not passing the criteria above, analyze additional aliquots of the calibration solutions, or perform maintenance to improve performance. One calibration point must be equal to or less than the MRL. Acceptance criteria for the surrogate calibration is a Response Factor RSD of 20% or less.

11.5.6.1 The relative error must be verified at the lowest calibration standard and at a mid-level calibration standard. % Relative Error (%RE) is utilized for this method by back calculating the calibration points of interest versus the calibration curve. The %RE for the lowest standard must be between ± 50% and the mid-range calibration standard must be between ± 30%. Use the equation in section 13.11 to calculate %RE. The Chromeleon software may be able to calculate and report the %RE for each calibration point in the calibration report, but only the two points listed above have acceptance criteria. If the software is not reporting %RE, the analyst may use form 06-QA-F0493 to calculate the %RE. Include the form in the data packet, if used. Additional detail can be obtained from the Calibration Training Manual, QA-SOP-17056.

Note: Since this method does not specify criterion for the lowest calibration level, 50% will be used based on standard use in newer published methods. The mid-range calibration standard criterion will be equal to the continuing calibration recovery limits listed in the SOP for mid-range CCC." Analytes not passing the criteria above, reanalyze aliquots of the calibration solutions or perform maintenance to improve performance.

Table 6. MS Calibration Parameters and Quantitation Ions

Comp'd No.	Parameter	Reference	Quantitation Ion(s)
Internal Standard			
1	4,4'-Dibromoosctafluorobiphenyl		296 + 297
Surrogate Standard			
2	2,4-Dichlorophenylacetic	1	159 + 183
Compounds			
3	Mecoprop (MCPP)	1	169 + 228
4	MCPA	1	214

11.5.7 MS analysis, a fit of 700 and a S/N level of 3 can be used for most compounds so that they will be detected at the MRL. Some analytes with poorer response may require a lower fit threshold setting. It is very important that the fit threshold values are not set too high, as this may result in a missed analyte.

11.6 Confirm all analytes detected in field samples at concentrations greater than the MRL by either dissimilar column analysis by GC- ECD (or by MS analysis when possible)

11.7 Calibration data packets are archived in the same manner as routine data packets. See Section 13.10.

12) PROCEDURE

12.1 The following Sample Prep forms are used to record preparation information such as lot numbers, and technician's initials for the actions performed during the preparation of the samples in this procedure: SP-515.3 Extraction Record, 06-LO-F0432 and SP- Organic Extraction Weight + Preservative Check Record, 06-LO-F0400. Use 3 mL of solvent (acetone or MTBE) for glassware rinsing as specified in the below sections. The rinsing solvent must "wet" the entire inner wall of the glassware. 60 mL VOA vials are rinsed with Millipore water prior to the solvent rinse with acetone. Extraction batches are limited to no more than 20 field samples per batch. Analysis batches are limited to no more than 30 field samples in a batch.

12.2 Sample Preparation and Pretreatment

12.2.1 Check each sample for free chlorine using a DPD free chlorine reagent pillow. Place approximately 1/10 of the contents of a pillow in a disposable culture tube and add approximately 2 mL of sample (one pipette full). If the contents immediately turn pink (less than 5 sec), free chlorine is present and the client should be contacted regarding this issue.

12.2.2 Measure by weight 40 mL sample into a dry 60 mL VOA vial that was rinsed with reagent water and then acetone. Allow to air dry prior to use. To get an accurate volume, weigh out 40 grams of sample. For reagent water QC samples, use the preserved reagent water cited in Section 7.10.1.

12.2.2.1 To prepare the LMB add 40 mL of the preserved reagent water to a dry 60 mL VOA vial. Add 10 uL of the surrogate stock standard.

12.2.2.2 To prepare the CCC at 1 and 3 ug/L add 40 mL of the preserved reagent water to 2 dry 60 mL VOA vials. To the vial designated CCC 1 ug/L add 10 uL of the surrogate stock standard and add 8 uL of the calibration stock standard. To the other vial, CCC 3 ug/L, add 10 uL of the surrogate stock standard and 24 uL of the calibration stock standard.

12.2.2.3 To prepare the QCS at 3 ug/L add 40 mL of the preserved reagent water to a dry 60 mL VOA vial and add 10 uL of the surrogate stock standard and 24 uL of the QCS stock standard.

12.2.2.4 To prepare the Matrix Spike and Matrix Spike Duplicate sample(s) at 3 ug/L add 40 mL of the selected matrix to 2 dry 60 mL VOA vials. Add 10 uL of the surrogate stock standard and 24 uL of the calibration stock standard.

12.2.2.5 To prepare the RLC at 0.2 ug/L add 40 mL of the preserved reagent water to a dry 60 mL VOA vial and add 10 uL of the surrogate stock standard and 8 uL of the 1 ug/mL calibration substock standard.

12.2.3 Add 10 uL of the surrogate stock standard to each field sample. After injection, cap the sample vial and invert once.

12.2.4 Add 1.0 mL of 4 N NaOH to all samples and QC. After agitation, check the pH of the field samples and QC samples with high range (11.8 – 13.4) pH paper. The pH must be greater than 12. If not, add additional volumes of 4 N NaOH, document the additional volume on the extraction record and check the pH again. If greater than pH of 12, let the samples sit at room temperature for 1 hour (+/- 5 minutes). The samples should be periodically mixed during this one-hour time period. Check the pH after 1 hour to ensure that the pH has remained over 12. If the sample pH is less than 12 after one hour, it may be due to a matrix problem. Document any sample pH measure that is less than 12 on the extraction record. A Client Contact may be necessary to determine how to proceed with that sample.

12.2.5 Adjust the pH to less than 0.5 by adding at least 2 mL of concentrated H_2SO_4. Verify that the pH is less than 0.5 using low range (0.0 – 3.0) pH paper before proceeding, add additional H_2SO_4 if necessary.

12.2.6 Quickly add 16 g of muffled anhydrous sodium sulfate and shake in a horizontal position for 6 min on mechanical shaker at 300 or more RPM until almost all the salt is dissolved.

12.3 Diazomethane generation

12.3.1 Assemble dry MTBE rinsed milllimole diazomethane generators. Place the lower portion of each generator into an ice bath, using a 1L beaker cover with cutouts to hold the generators in place. Submerge the outer tubes in the ice bath approximately 1-2 inches. The ice bath consists of 16 ice cubes, 50 g of sodium chloride and a volume of water needed to submerge the outer tube as indicated above. The MTBE in the outer tube must be submersed in the ice bath. Adjust ice bath as needed with water.

12.3.2 Add 5.5 mL of MTBE to each outer tube.

12.3.3 Add the following reagents, in order to each generator:

1) Add 0.96 g diazald to the inner tube.

2) Add 0.75 mL Carbitol with a 2.5 mL syringe to the inner tube. Seal the inner tube with a new Teflon-faced septum (face down).

3) Place the inner tube inside of outer tube with O-ring in between the tubes. Apply the clamp and adjust the knurled nut to seal the two tubes together. Submerge the lower portion of the generator into an ice bath.

4) Slowly add 1.5 mL 37% potassium hydroxide (KOH) dropwise with a syringe through the septa.

12.3.4 Allow reaction to proceed for 1.0 hour (+/- 5 min). Add more ice to bath as necessary during this time. The MTBE solution should have a golden color.

12.3.5 When ready to derivatize the extracts as stated in Section 12.3.4 consolidate all of the individual diazomethane batches. Using a 10 mL pipette, transfer the diazomethane into a dry MTBE rinsed 40 mL VOA vial placed in an ice bath. Cap the diazomethane if not used immediately. The diazomethane should be used within an hour after consolidation due to stability issues. A minimum of 3 batches and a maximum of 5 batches can be consolidated. **Caution:** Do not allow water from the ice bath to contaminate the diazomethane.

12.4 Sample Extraction and Derivatization

12.4.1 After nearly all of the sodium sulfate has dissolved, add 4.0 mL of MTBE to the sample and cap tightly. The 4.0 mL volume of MTBE dispensed must be verified on a daily basis prior to use using a class A graduated cylinder.

12.4.2 Place the samples horizontal on a mechanical shaker for 6 min at 300 or more rpm. After shaking remove and place upright and allow the phases to separate for a minimum of 5 minutes.

12.4.3 Using a disposable pipette, transfer approximately 3.5 mL of the sample extract (upper MTBE layer) to a dry, acetone rinsed 15 mL conical screw-capped centrifuge tube containing approximately a 1 mL volume of acidified sodium sulfate to "dry" the extract. Do not transfer any of the water layer to the centrifuge tube. Cap and mix for about 10 seconds using the vortex mixer. If the acidified sodium sulfate "clumps", add additional acidified sodium sulfate until it remains granular.

12.4.3.1 Pipette the remaining MTBE in the VOA sample vials for disposal in the organic waste stream. The manual pipetting is necessary due to the high concentration of sodium sulfate in the aqueous portion of the samples.

12.4.3.2 After removal of the organic layer consolidate the remaining aqueous sample volumes in the VOA vials in a 2 L polypropylene pitcher.

12.4.4 Using a disposable pipette, transfer exactly 3.0 mL of dried MTBE extract to a second dry, acetone rinsed 15 mL graduated conical centrifuge tube. Add 0.5 mL of the diazomethane with a 2.5 mL syringe to each extract, cap the tube and gently agitate to mix well. Mixing ensures consistent derivatization. Check each tube after 5 min to make sure that a slightly yellow color persists. If not, document the lack of color on the extraction record. Allow this reaction to proceed for 1 hour (+/- 5 minutes).

12.4.4.1 After transferring, dispose of the remaining dried MTBE in the organic waste stream. The acidified sodium sulfate used to dry the extracts should be added to the polypropylene pitcher for neutralization.

12.4.5 Add 0.2 g silica gel (one scoop with designated spatula) to quench the unreacted diazomethane. The addition of silica gel will evolve nitrogen gas. Add additional silica gel until the evolution of nitrogen gas has ceased. Cap the tube, mix for 10 seconds using the vortex mixer. Allow this reaction to proceed for at least 30 minutes in the capped centrifuge tube. This time also enhances the settling of the silica gel.

12.4.6 Using a disposable pipet, transfer exactly 1.0 mL of the extract, without transferring any silica gel, to a dry 1.0 mL Class A MTBE rinsed volumetric flask. Add 10 uL of the internal standard solution (2.5 ug/mL 4,4'-dibromooctafluorobiphenyl) to each extract. Mix the extract then using a new disposable pipet, transfer the extract to a 2 mL amber autosampler vial. Cap the vial tightly, and store in an explosion-proof freezer at -10°C or less.

12.4.6.1 If samples require analysis by MS (requesting analysis for all extended compounds or either or both MCPP and MCPA) a second extract should be prepared, as noted in Section 12.3.6, for those sample(s) and their associated batch QC. This allows for simultaneous analysis on two different systems.

12.4.6.2 After transferring, dispose of the remaining MTBE extract in the organic waste stream.

12.4.6.3 After the extraction procedure is complete, neutralize the contents of the polypropylene pitcher to a pH range of 5-9 using a 50% solution of sodium hydroxide. Verify to pH 5-9 using wide range pH paper (0-13) or a pH meter prior to disposal in the city sewer system.

12.5 Sample Analysis – Analyze the samples using the GC and/or MS conditions outlined in Section 11.

12.5.1 Routine analysis - Enter all blanks, standards, unknowns and controls which are typically analyzed as shown below (typical concentrations are also listed for QC samples):

LIB
ICS (if calibration is needed, see section 11.7)
QCS (required if calibration is included or required quarterly)
CCC (more than one CCC may be analyzed) 1 ug/L
LMB
RLC (0.2 ug/L). The RLC is not required for the GC/MS analysis.
Field samples (maximum of 10 between CCCs), matrix spike (3 ug/L), duplicate sample (FD, MSD)
CCC (3 ug/L)
Field samples (maximum of 10 between CCCs), matrix spike (3 ug/L), duplicate sample (FD, MSD)
CCC (3 ug/L)

The analysis does not need to meet a 24 hour requirement between QC samples or DFTPP Tune. LIB's may be inserted, at the analyst's discretion, within the run to reduce potential carryover from highly concentrated samples.

12.6 At the completion of the analytical run the "raw data" is copied from the instrument PC to a network drive and a data processing computer. The hierarchy of the network drive for raw data is: unique instrument identifier"(usually a letter or series of letters)/year/month of the acquisition file.

13) DATA PROCESSING, DATA EVALUATION, & CALCULATIONS

13.1 Retention times - Set analyte retention time based upon the lowest calibration point for initial calibration batches. For routine analytical batches, verify the set retention time by visual comparison to the initial CCC of the analytical batch, adjust if needed.

13.2 Retention time windows – During initial calibration, retention time windows are set based upon the retention time for the lowest calibration point for each analyte. The window is set to just include the apex of the analyte. This window is verified each analytical run by visual comparison to the initial CCC of the analytical batch. Process all data within the analytical batch, using the same retention time windows.

13.3 The ECD data is generally used for quantitation for all compounds with the exception of MCPP and MCPA. However, if interferences or target analyte co-elution occur for any analyte, the analyst may use the MS for quantitative analysis for the select analyte provided all of the method QC criteria are met for that analyte by MS detection.

13.4 Confirmational analysis is performed using a dissimilar column and occurs with each injection. Primary column results that are greater than the MRL are compared to the confirmation column. The comparison consists of determining if a peak is found within the retention time window of the expected analyte on the confirmation column. If a peak is present and the shape of the peak matches the peak shape in a CCC or RLC the presence of the analyte is confirmed. If a peak is not present on the confirmation column, the analyst must note that the result is not confirmed. If a peak is present but the peak shape does not match the CCC, the analyst must record justification for accepting or rejecting the confirmation. If MS is employed for confirmation, a standard at or below the analyte MRL must be analyzed with the sample(s).

13.4.1 The confirmation column is calibrated in the same manner as the primary column in order to quantitate results when a detect is confirmed. If a result is confirmed to be present above the MRL on the primary column the

result will be quantitated on the confirmation column along with the LMB, RLC and CCCs. Positive results must be confirmed on the secondary column within ± 50% RPD of primary column results. If the RPD is within limits for the sample, the primary column result will be reported. If the RPD is outside of limits, then the result will be qualified with a comment on the report.

13.5 Use the data system to calculate all results. The ECD data is acquired and reduced in the Chromeleon software.

13.5.1 Results are submitted to the database without rounding. Results are rounded by the LIMS system as stated in the QA Manual. Report all results in ug/L.

13.5.2 Report results from repeat injections if the previous injection(s) failed QC criteria.

13.5.3 Documents contained within the data packet are listed on the GC-GC/MS SOC Analyst Checklist, 06-LO-F0413, in the section titled "documents assembled, printed and verified". Record N/A in the filed next to any document listed in the documents assembled, printed and verified section that is not included within the data packet.

13.6 Percent Recovery - Calculate percent recovery as follows:

$$R = \frac{A}{B} \times 100$$

Where:
A = measured concentration in the fortified sample
B = fortification concentration.

13.7 MS Percent Recovery - Calculate percent recovery in MS/MSD's as follows:

$$R = \frac{(A - B)}{C} \times 100$$

Where:
A = measured concentration in the fortified sample,
B = measured concentration in the unfortified sample at or above the MRL. Zero is used when the concentration is less than the MRL.
C = fortification concentration.

13.8 Calculate Relative Percent Difference (RPD) as follows:

13.8.1 For duplicate field sample analysis:

$$RPD = \frac{|FS - (FD \text{ or } LD)|}{(FS + (FD \text{ or } LD))/2} \times 100$$

13.8.2 For duplicate analysis of matrix spikes:

$$RPD = \frac{|MS - MSD|}{(MS + MSD)/2} \times 100$$

13.9 To calculate the Peak Gaussian Factor

$$PGF = \frac{1.83 \times W(1/2)}{W(1/10)}$$

Where: W(1/2) = peak width at half height.
W(1/10) = peak width at tenth height.

13.10 To Calculate Column Performance

$$Resolution = \frac{t * C}{W}$$

Where: t = retention time difference between the peaks (min).
W = average baseline peak width of the peaks (cm).
C = chart speed (cm/min).

13.11 Calculate Percent Relative Error (%RE)

$$\%\ Relative\ Error = \frac{x'_i - x_i}{x_i} \times 100$$

x_i = True value for the calibration standard
x'_i = Measured concentration of the calibration standard

13.12 When the analytical data has been processed the "processed raw data" is copied from the data processing computer to a network drive. The hierarchy of the network drive for raw processed data is: unique instrument identifier"(usually a letter or series of letters)/year/month of the acquisition file.

13.13 Hardcopy raw data is archived as specified in the Archiving Records, QA-SOP-SOP17065.

14) METHOD PERFORMANCE

14.1 Initial Demonstration of Capability (IDOC/DOC) - This procedure should be completed initially for each analyst for each parameter before performing this procedure, document on form 06-QA-F0400.

14.1.1 Prepare four LFB samples in preserved reagent water containing each analyte to be validated at a mid-range concentration. Process all of the solutions as outlined in Sections 11 and 12. Obtain the recoveries in ug/L.

14.1.2 Acceptance Criteria - For each method cited analyte, the mean recovery must be ±20% of the target concentration and have a relative standard deviation (RSD) of less than 20%.

Note: These criteria do not apply to analytes that have been added which are not listed by the referenced EPA method. The acceptance criteria for these analytes are established using in-house data as described in the Quality Assurance Manual. Take remedial actions and repeat the procedure for any analyte that fails the criteria.

14.2 Annual Demonstration of Capability – Continuing Demonstration of Capability must be performed on an annual basis according to form 06-QA-F0400.

14.3 Method Detection Limits (MDLs) - An MDL study must be performed for all analytes on each instrument, initially, annually, or whenever a major instrument change or repair has been made. Follow the detailed instructions in the Guidance Document for Administration of MDL, MRL Confirmation & DOC Sheets, QA-WI21537. Data should be entered into the MDL Study spread sheet, 06-QA-F0430, following the instructions on the form. The method detection limit (MDL) procedure and calculation is based on EPA's procedure "Definition and Procedure for the Determination of the Method Detection Limit, Revision 2."

15) POLLUTION PREVENTION

15.1 See the Chemical and Microbiological Hygiene Plan, SF-R-SA-SOP16331, for a comprehensive explanation of the laboratory's policies concerning pollution prevention within the lab environment.

15.2 The extraction procedure is performed in a fume hood.

16) WASTE MANAGEMENT

16.1 See the Chemical and Microbiological Hygiene Plan for a comprehensive explanation of the laboratory's policies concerning waste disposal within the lab environment.

16.2 All sample extracts and standards are collected in an approved container and disposed by an outside vendor.

17) REFERENCES

17.1 Method 515.3 Determination of Chlorinated Acids in Drinking Water by liquid-liquid Extraction, Derivatization and Gas Chromatography With Electron Capture Detection, Revision 1.0, July, 1996, Lichtenburg, et al., Environmental Monitoring Systems Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Cincinnati, OH 45268.

17.2 Hodgeson, Jimmie, Collins, Jeffrey and Becker, David, Advanced Techniques for the Measurement of Acidic Herbicides and Disinfection Byproducts in Aqueous Samples, Proceedings: 14th Annual EPA Conference on Analysis of Pollutants in the Environment, Norfolk, Virginia, May 7-9, 1991, pgs. 164-194.

17.3 Definition and Procedure for the Determination of the Method Detection Limit, Revision 2 EPA 821-R-16-006 December 2016.

17.4 Writing Technical SOPs, QA-SOP-SOP17069.

18) QC TABLE

QC TYPE	CONCENTRATION LEVEL	FREQUENCY	ACCEPTANCE CRITERIA
MS Tune Check	Introduce 10 ng of Decafluorotriphenylphosphine into the GC. (DFTPP)	Run daily at the beginning of the run.	Mass 51 10-80% of base peak Mass 68 less than 2% of mass 69 Mass 69 present Mass 70 less than 2% of mass 69 Mass 127 10-80% of base peak Mass 197 less than 2% of mass 198 Mass 198 Base peak or greater than 50% of 442

			Mass 199 5-9% of mass 198 Mass 275 10-60% of base peak Mass 365 greater than 1% of the base peak Mass 441 Present and less than mass 443 Mass 442 Base peak or greater than 50% of 198 Mass 443 15-24% of mass 442
Initial Calibration	Various, for linear curves at least a minimum of 5 points or 6 points for quadratic curves. One point must be at or below the MRL.	When first using this method, and whenever necessary for corrective action.	The %RE for the lowest standard must be ± 50% and the mid-range calibration standard must be ± 30%. Correlation Coefficient of 0.950 or higher. South Carolina requires a linear non-weighted fit and a correlation coefficient of 0.990 or better. Surrogate calibration must have a Response Factor RSD of 20% or less.
Continuing Calibration Check	Mid-range calibration stds. (usually at 1.0 & 3.0 ug/L for most compounds).	Analyzed at beginning, after every 10th sample and at the end of the run. Minimum of one per extraction batch.	The percent recovery must be within +/-30% for all analytes listed in EPA Method 515.3. Parameters not listed in EPA Method 515.3 have in-house statistical limits.
Laboratory Performance Check	CCC at 1.0 ug/L (pentachlorophenol at 0.2 ug/L).	Analyzed at the beginning of the run. Same injection as the CCC or ICS at 1.0 ug/L.	Sensitivity: Dinoseb Signal to Noise >3 PGF: Pentachlorophenol between 0.8 and 1.15 Resolution: Chloramben and 2,4-DB baseline resolved or >0.5
Laboratory Method Blank		One per extraction batch.	All analytes less than the MRL.
Internal Standard	4,4'-Dibromoocta-fluorobiphenyl at a	In every sample.	The peak area must be within +/- 30% of the

	concentration of 0.025 ug/mL.		average IS area in the initial calibration.
Surrogate Standard	2,4-Dichlorophenyl-acetic acid in every sample at 25 ug/L.	In every sample.	Surrogate recovery must be within +/- 30% of the target.
Quality Control Sample	Same as CCC.	One/Quarter or with each instrument calibration.	The percent recovery must be within +/-30% for all analytes listed in EPA Method 515.3. Parameters not listed in EPA Method 515.3 have in-house statistical limits.
Matrix Spike	All of the analytes of interest typically at a concentration of 3 ug/L as 2,4-D.	At a frequency of 10% of all samples analyzed or one per set, whichever is greater.	Percent recovery for each analyte must be within +/- 30% for all analytes listed in EPA Method 515.3. Parameters not listed in EPA Method 515.3 have in-house statistical limits.
Duplicate samples (FD, LD or MSD)	Either a matrix spike duplicate at 3 ug/L or a lab duplicate.	One per extraction batch.	RPD within in-house statistical limits.
Initial Demonstration of Capability	4 LFBs at a mid-level concentration.	Initially and annually.	Mean percent recovery for each method cited analyte must be within +/- 20% of target. Non-method within established limits. RSD less than 20%.
Method Detection Limit	*See Section 14 for details.*	*See Section 14 for details.*	*See Section 14 for details.*
Reporting Limit Check (RLC)	target of 0.2 ug/L for select compounds, actual concentrations vary.	Analyzed within the run, typically analyzed after the first CCC.	The percent recovery must be within established statistical limits, except MN which requires 60-140%.

19) REVISION

Revision 14.0 (2021-03-25)

Created a draft for instrument updates.
Section 1.1 Table 1 - Added "EPA".
Section 2.2 - Added a dash to "Calgas".
Section 6.1 - Added "Thermo syringe 365C1856" and "equivalent". Added Thermo instrumentation.
Section 6.2 - Varian software removed and replaced with Thermo instrumentation.
Section 6.4 - Changed "DB-1701" to "XTI-5".
Section 7.19.1 Table 2 - Changed 0.2 ug/L to 0.20 ug/L and the Substock to 8 ug/L.
Section 7.25 - Removed Varian and "and is used for routine daily check of the MS instrument tune."
Old Section 9.3 - Removed language for the ECD.
New Section 9.3 and the rest of the section - Renumbered.
NEW Section 9.4 - Removed "one of 2 methods".

Section 9.4.1 - Removed "on the initial set-up of the instrument, annually and when major maintenance is performed on the mass spectrometer. Major maintenance is defined as either an ion trap cleaning and/or electronic board changes." and added " daily at the beginning of a run."
Old Section 9.4.2 - Removed reference of the FC-43 Check and renumbered the rest of the section.
NEW Section 9.4.3 - Added "The Chromeleon software performs this check using the Report Template > peal Analysis tab."
Section 10 - Removed the entire 10.1 and renumbered the rest of the section.
Section 11.1 - Added Instrument settings for the Thermo GC.
Section 11.2 - Added Instrument settings for the Thermo GC/MS and removed the instrument setup, column and temperature program set points, middle injector EFC Type 1, 1079 injector set points, and autosampler set points (8400).
Old Section 11.5 - Removed.
Old Section 11.6 - Removed.
Old Section 11.6 Table 5 and Table 5a - Removed.
Section 11.7 - Renumbered to 11.5 and renumbered the rest of the section.
Section 11.5.1 - Added "Six calibration levels are used for the GC/MS analysis."
Section 11.5.2 - Removed FC-43 and replaced with DFTPP. Changed the Table 5 reference to Table 1.
Section 11.5.4 - Changed the whole section to new language.
Section 11.5.6 - Changed the table reference to table 1 and removed the (WI) note.
Section 11.5.6.1- Replaced language with "The relative error must be verified at the lowest calibration standard and at a mid-level calibration standard. % Relative Error (%RE) is utilized for this method by back calculating the calibration points of interest versus the calibration curve. The %RE for the lowest standard must be between ± 50% and the mid-range calibration standard must be between ± 30%. Use the equation in section 13.11 to calculate %RE. The Chromeleon software may be able to calculate and report the %RE for each calibration point in the calibration report, but only the two points listed above have acceptance criteria. If the software is not reporting %RE, the analyst may use form 06-QA-F0493 to calculate the %RE. Include the form in the data packet, if used. Additional detail can be obtained from the Calibration Training Manual, QA-SOP-17056. Note: Since this method does not specify criterion for the lowest calibration level, 50% will be used based on standard use in newer published methods. The mid-range calibration standard criterion will be equal to the continuing calibration recovery limits listed in the SOP for mid-range CCC."
Analytes not passing the criteria above, reanalyze aliquots of the calibration solutions or perform maintenance to improve performance."
Section 11.7.6 Table 6 - Updated the parameters and quantitation ions.
Section 18 QC Table - Changed the MS Tune Check Frequency to "Run daily at the beginning of the run."

Revision 13.0 (2020-12-10)
Annual Review.
Changed the revision date from 2020-11-11 to 2020-12-10.
Section 1.1 Table 1 - Changed "#" to "No.".
Section 2.3 - Added "standard operating procedure".
Section 4 - Renumbered the entire section.
Section 5.4 - Separated section from section 5.3.
Section 7.17 - Renumbered to 7.18.
NEW Section 7.17 - Added language from the ISO/NELAC 202 audit.
Section 9.1 - Changed the language where the QC Table is located on the SOP.
Section 9 - Changed the inserted symbol with either "less than" or "greater than".
Section 10.4 - Separated section from Section 10.3.
Section 11.7.6 - Added "for linear curves, 6 points for quadratic curves". Removed ", using either first (linear) or second order (quadratic) regression". Change "first order regression" to "linear" and non-weighted "curves" only.
NEW Section 11.7.6.1 - Added "For linear or quadratic calibrations, the relative error must be verified at two levels: the lowest calibration point and a point near or at the mid-level calibration standard. % Relative Error (%RE) is utilized for this method by back calculating the calibration points of interest versus the calibration curve. The %RE for the lowest standard must be ± 50% and the mid-range calibration standard must be ± 30%. Use the equation in section 13.11 to calculate %RE. Additional detail can be obtained from the Calibration Training Manual, QA-SOP-17056. Note: Since this method does not specify criterion for the lowest calibration level, 50% will be

used based on standard use in newer published methods. The mid-range calibration standard criterion will be equal to the continuing calibration recovery limits listed in the SOP for mid-range CCC."
Section 13.13 - Renumbered to Section 13.14 and renumbered the rest of the section.
NEW Section 13.13 - Added %RE formula.
Section 12 - Renumbered the entire section and reference sections.
Section 18 QC Table - Changed the inserted symbols to either "less than" or "greater than". Removed ", using either first (linear) or second order (quadratic) regression". Added "%RE acceptance criteria and the 5 pts/6pts for linear/quadratic, respectively".

Revision 12.0 (2019-11-25)
Draft was created to move this SOP from GCMS to LCGC per recommendation from EEA-SB internal audit.

Revision 11.0 (2019-09-05)
Uploaded into the D4 system.
Annual review.
Added references to bar for any pressures reported in psi to reflect data collection in new software.
Section 5.1 - Updated link for MSDSonline.com.
Section 6 - Replaced all "part no." with "P/N".
Section 6.1 - Added bullets to the components for ECD.
Section 6.2 - Replaced the following statement "Workstation - An IBM compatible computer running Varian MSWS or Star software, (MSWS revision 6.9 or most recent version released by Varian). Chromeleon Software is utilized for data acquisition and data processing." to "Workstation - An IBM compatible computer running Varian MSWS or Star software, (MSWS revision 6.9 or most recent version released by Varian) or Chromeleon software. Chromeleon software is utilized for data acquisition and data processing of the ECD data. Varian MSWS or Star software is used for GC/MS data acquisition and processing."
Section 7.14 - Removed the following sentence "This product is labeled internally with "For Sample Neutralization Only, NOT Intended for Analytical Use."
Section 7.16 - Changed vendor from Restek to Accustandard.
Section 8.1 - Corrected the referenced document number.
Section 10.2.1 - Replacement of the analytical column may be necessary if routine maintenance does not improve the peak shape and response for analytes. Column replacement should be done at the analyst's discretion.
Section 11.1 - Place Front Injector EFC Type 1 settings on a table and added a second table for alternative setting for Front Injector EFC Type 1.
Sections 13.1 and 13.2 added for Wisconsin 2018 audit, addressing retention times and windows, renumbered rest of section.
Section 13.5 - Replaced the following statement "Use the data system to calculate all results. The ECD data is reduced in the Star Workstation software. The MS data is processed using the Saturn software. or Chromeleon software." to "Use the data system to calculate all results. The ECD data is acquired and reduced in the Chromeleon software. The GC/MS data is acquired and reduced in the Varian MSWS or Star software."
Section 13.12 - Updated the referenced document number to the D4 system.
Section 14.1 - add "document on form 06-QA-F0400" to end of sentence.
Section 14.3 - Replace text with the following,"An MDL study must be performed for all analytes on each instrument, initially, annually, or whenever a major instrument change or repair has been made. Follow the detailed instructions in the Guidance Document for Administration of MDL, MRL Confirmation & DOC Sheets, QA-WI21537. Data should be entered into the MDL Study spread sheet, 06-QA-F0430, following the instructions on the form. The method detection limit (MDL) procedure and calculation is based on EPA's procedure "Definition and Procedure for the Determination of the Method Detection Limit, Revision 2."
Section 17.3 - Removed "The internal document".
Section 17.4 - Added Definition and Procedure for the Determination of the Method Detection Limit, Revision 2 EPA 821-R-16-006 December 2016.
Section 18 - Added for the QC Table, QC table remove acceptance criteria for MDL, and adjust thickness of border of table.
Section 19 - Added for revision detail and re-format edits for Revision 10 in numerical order.

REVISION 10.0 (2019-12-03)

While importing this document into D4, this revision number was skipped by accident. SOP was imported into D4 with the incorrect revision number. D4 will not reverse the error to the document.

End of document

Version history

Version	Approval	Revision information	
12	03.DEC.2019		
13	14.DEC.2020		
14	13.APR.2021		