2019 COMPREHENSIVE SURFACE WATER REPORT FOR DARK HEAD COVE AND COW PEN CREEK LOCKHEED MARTIN CORPORATION MIDDLE RIVER COMPLEX 2323 EASTERN BOULEVARD MIDDLE RIVER, MARYLAND

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March 2020

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Revision: 0

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ACRONYMS AND ABBREVIATIONS

AECOM	AECOM Technical Services, Inc.
ALS-Rochester	ALS Environmental in Rochester, New York
BTAG	Biological Technical Advisory Group
cis-1,2-DCE	*cis*-1,2-dichloroethene
COC	chains-of-custody
COMAR	Code of Maryland Regulations
EEHS	energy, environment, safety and health
g/d/feet	gallon(s) per day per foot
GIS	geographic information system
gpm	gallon(s) per minute
HASP	health and safety plan
LCS/LCSD	laboratory control spike/laboratory control spike duplicate
Lockheed Martin	Lockheed Martin Corporation
MDE	Maryland Department of the Environment
MDL	method detection limit
MS/MSD	matrix spike/matrix spike duplicate
µg/L	microgram(s) per liter
MRC	Middle River Complex
PCB(s)	polychlorinated biphenyl(s)
PCE	tetrachloroethene
PE	performance evaluation
QC	quality control
TA-Savannah	TestAmerica Laboratories, Inc. in Savannah, Georgia
TCE	trichloroethene
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound

EXECUTIVE SUMMARY

On behalf of Lockheed Martin Corporation, AECOM Technical Services, Inc., has prepared this report documenting the February, April, June, and September 2019 surface water monitoring at the Lockheed Martin Middle River Complex in Middle River, Maryland. This report is part of the long-term groundwater and surface water monitoring program at the Middle River Complex. The objectives for the surface water monitoring program are to update surface water analytical data, understand the nature and extent of contamination, evaluate contaminant trends to supplement the ongoing remediation efforts, and assess off-site contaminant migration. Investigative activities conducted from 2018 to 2020 as part of this surface water monitoring program include three annual rounds of sampling and chemical analysis of surface water in Dark Head Cove and Cow Pen Creek in April, June, and September of each year.

In addition to the triannual surface water sampling, an interim surface water sampling event was conducted on February 14, 2019. AECOM Technical Services, Inc., collected surface water samples and various quality control samples from Dark Head Cove as part of the investigation into the causation of multiple polychlorinated biphenyl detections reported in the April 2018 surface water analytical. Analytical data collected in previous years were mostly non-detect for polychlorinated biphenyls in Dark Head Cove. TestAmerica Laboratories, Inc., in Savannah, Georgia, had performed the analysis of polychlorinated biphenyl homologs prior to 2018 and ALS Environmental in Rochester, New York, performed the analysis in 2018. Both laboratories performed the analysis using United States Environmental Protection Agency Method 680. The February 2019 samples were collected as co-located pairs and split between these two laboratories to provide a direct comparison between the previous laboratory (TestAmerica Laboratories, Inc.) and the current laboratory (ALS Environmental).

This report evaluates the February, April, June, and September 2019 surface water sampling analytical data based on current and historical results. The February, April, and June sampling rounds were previously summarized individually and transmitted by Technical Memoranda to Lockheed Martin Corporation, the Remediation Technical Operations contractor CDM Smith, and Maryland Department of the Environment.

During the interim surface water sampling conducted in February 2019, field samples were collected from eight sample locations in Dark Head Cove and submitted to the subcontracted laboratories for polychlorinated biphenyl analysis only. Quality control samples were collected along with these field samples, which included one field duplicate, two trip blanks, one performance evaluation sample, two equipment blanks, and two field blanks. These field samples and quality control samples were collected as split samples and sent to both subcontracted laboratories. Two additional trip blanks were also submitted to Test America Laboratories, Inc. Lot bottle blanks were also analyzed by both subcontracted laboratories.

During the April, June, and September sampling rounds, 21 surface water locations in Cow Pen Creek and Dark Head Cove were collected for chemical analysis along with associated quality assurance/quality control samples. Surface water samples were sent to ALS Environmental (in Middletown, Pennsylvania) to be chemically analyzed for volatile organic compounds and 1,4-dioxane. Surface water samples for polychlorinated biphenyl analysis were collected only during the April round of sampling and were analyzed by ALS Environmental in Rochester, New York. Seven of the 21 surface water sampling locations were analyzed for 1,4-dioxane (MRC-SW6A-S, MRC-SW6B-S, MRC-SW8A-S, MRC-SW8B-S, MRC-SW17A, MRC-SW1A, and MRC-SW2A) and 18 of the 21 surface water sampling locations were analyzed for polychlorinated biphenyls (all locations in Dark Head Cove).

The analytical results from the sampling events were evaluated with respect to ecological and human health screening-level criteria, including:

- Maryland ambient water quality criteria for human health consumption of organisms (Code of Maryland Regulations 26.08.02.03)
- United States Environmental Protection Agency National Recommended Water Quality Criteria – human health criteria, consumption of organism only (United States Environmental Protection Agency, 2015)
- United States Environmental Protection Agency National Recommended Aquatic Life Criteria – freshwater, acute and chronic criteria (United States Environmental Protection Agency, 2018a)
- United States Environmental Protection Agency Region III Biological Technical Advisory Group freshwater screening levels (United States Environmental Protection Agency, 2006)
    - If no benchmarks were listed by United States Environmental Protection Agency Region III, guidance from United States Environmental Protection Agency Region

IV (United States Environmental Protection Agency, 2018b) and Region V (United States Environmental Protection Agency, 2003) were reviewed for additional ecological benchmarks.

- Risk-based site-specific swimming screening levels developed in 2019 for trichloroethene, *cis*-1,2-dichloroethene, 1,2,4-trichlorobenzene, chlorobenzene, polychlorinated biphenyls, and 1,4-dioxane for Dark Head Cove and Cow Pen Creek at the Middle River Complex. These risk-based screening values were approved by the Maryland Department of the Environment in 2019 (Lockheed Martin Corporation, 2019).

Findings from the February interim surface water sampling and review of the data are as follows:

- The review of ALS Environmental and TestAmerica Laboratories, Inc. chromatograms and manual recalculation of all reported on-column homolog results in sample delivery groups showed that the detected concentrations of polychlorinated biphenyl homologs were reported correctly by each laboratory.

- No laboratory or field blank displayed positive results for any homolog groups.

- All field samples submitted to TestAmerica Laboratories, Inc. were reported non-detect for all homolog groups.

- Field samples submitted to ALS Environmental displayed detected results for dichlorobiphenyls at levels approximate to those found in the 2018 sampling at all eight locations in Dark Head Cove. Dichlorobiphenyls were detected at a concentration range from 0.0042 micrograms per liter (µg/L) to 0.0087 µg/L (Table 2). The February 2019 polychlorinated biphenyl concentrations are below site-specific risk-based swimming levels and below the United States Environmental Protection Agency's National Recommended Aquatic Life Criteria Federal Benchmark; however, they are above Maryland ambient water quality criteria (0.00064 µg/L) for human health consumption-of-organisms and above the Biological Technical Advisory Group regional benchmark of 0.000074 µg/L.

- The matrix spike pair submitted to TestAmerica Laboratories, Inc. displayed percent recoveries less than the lower quality control limits for five homolog groups, including dichlorobiphenyls. Field sample MRC-SW9A-S-021419-T displayed a percent recovery for surrogate decachlorobiphenyl-$^{13}C_{12}$ that was less than the lower quality control limits as well. These results could indicate low extraction efficiency due to the site matrix effects since this indicates method performance in the site matrix of interest may be low compared to the matrix-free laboratory control spike pair, which was within quality control limits.

- ALS Environmental reported high recoveries for laboratory-blind performance evaluation sample results for dichlorobiphenyls, monochlorobiphenyls, and tetrachlorobiphenyls, all greater than 150%. This could indicate a potential high bias in the ALS Environmental homolog reported results (Appendix E).

The findings of the interim surface water sampling verify the concentrations of total dichlorobiphenyls detected in 2018 surface water samples from Dark Head Cove. The

discrepancies between the two laboratories can be attributed to (1) the lower method detection limits achieved by ALS Environmental for total dichlorobiphenyls and (2) a possible high bias of ALS Environmental data combined with possible low biases due to matrix interferences in the TestAmerica Laboratories, Inc.

Findings from the April, June, and September 2019 surface water sampling are as follows:

- 1,4-dioxane – detected in all seven primary surface water samples where it was analyzed for in 2019 (all three sample locations in Cow Pen Creek and four samples from Dark Head Cove [(MRC-SW6A-S, MRC-SW6B-S, MRC-SW8A-S, and MRC-SW8B-S]) with the highest concentration of 0.078 µg/L at MRC-SW17A in Cow Pen Creek. During data validation of the laboratory results, all seven samples were assigned a "J" as a final qualifier for 1,4-dioxane, indicating that this value is an estimated concentration greater than the method detection limit and less than the reporting limit. These concentrations are negligible compared to the United States Environmental Protection Agency ecological screening level of 22,000 µg/L. The concentrations are also below the Maryland Department of the Environment-approved risk-based swimming screening level of 20 µg/L.

- acetone – detected in a large majority of surface water sampling locations for the April, June, and September sampling events in 2019, at estimated concentrations ranging from 3.3 to 9.0 µg/L, below its ecological screening level of 1500 µg/L. Acetone is a common laboratory contaminant used in decontaminating equipment.

- benzene – during the September 2019 surface water sampling event, a single detection of benzene was present at an estimated concentration of 0.24 µg/L in MRC-SW7B-S in Dark Head Cove, adjacent to Block D, below its most conservative human health consumption screening level of 160 µg/L.

- chloroform – detected during the April, June, and September 2019 surface water sampling events in Cow Pen Creek at MRC-SW17A, at estimated concentrations ranging from 0.32 to 0.47 µg/L, below its most conservative Biological Technical Advisory Group regional benchmark of 1.8 µg/L.

- *cis*-1,2-dichloroethene – detected in three surface water samples in Dark Head Cove: MRC-SW11A-S, MRC-SW12A-S, MRC-SW13A-S, at concentrations ranging from 0.33 to 1.1 µg/L in 2019. The maximum *cis*-1,2-dichloroethene concentration detected in 2019 is more than 18 times below the most conservative screening criteria of the Maryland Department of the Environment approved site-specific risk-based swimming screening level of 20 µg/L for evaluating exposure risks to swimmers. *Cis*-1,2-dichlorethene is not used on-site but is a degradation product of trichloroethene, which was historically used on-site.

- polychlorinated biphenyls, as the dichlorobiphenyl homolog group – were detected at all 18 of the Dark Head Cove surface water sampling locations. Estimated concentrations ranged from 0.0030 to 0.0082 µg/L during the April 2019 sampling event. The April 2019 polychlorinated biphenyl concentrations are below site-specific risk-based swimming

levels and below United States Environmental Protection Agency's National Recommended Aquatic Life Criteria Federal Benchmark; however, they are above Maryland ambient water quality criteria (0.00064 µg/L) for human health consumption of organisms and above the Biological Technical Advisory Group regional benchmark of 0.000074 µg/L. Surface water sampling and analysis for polychlorinated biphenyls was conducted only during the April 2019 sampling event and not during the June 2019 or September 2019 sampling events.

- *tert*-butyl alcohol – detected in two samples (MRC-SW7A-S and MRC-SW7B-S) from Dark Head Cove during the September and April 2019 sampling events, at estimated concentrations of 5.20 µg/L and 3.10 µg/L, respectively. Tert-butyl alcohol does not have any established criteria.

- toluene – detected in six samples (MRC-SW7B-S, MRC-SW8B-S, MRC-SW9A-S, MRC-SW11A-S, MRC-SW15A-S, and MRC-SW16A-S) in Dark Head Cove at estimated concentrations ranging from 0.25 to 0.43 µg/L during the April and September 2019 sampling events. All toluene results are below the most conservative Biological Technical Advisory Group regional benchmark of 2 µg/L.

- trichloroethene – the primary volatile organic compound of concern associated with groundwater at the Middle River Complex, was detected in eight sampling locations over the 2019 triannual sampling events in Dark Head Cove: MRC-SW6A-S, MRC-SW9A-S, MRC-SW9B-S, MRC-SW11A-S, MRC-SW11B-S, MRC-SW12A-S, MRC-SW15A-S, and MRC-SW18A-S at concentrations ranging from 0.68 to 4.2 µg/L, all below screening levels. The highest concentration of trichloroethene was observed in the April sampling event (4.2 µg/L in MRC-SW12A-S) where a portion of the trichloroethene groundwater plume in Blocks E and F may discharge into Dark Head Cove. Trichloroethene detections during the June 2019 sampling event in MRC-SW11A-S, MRC-SW11B-S, MRC-SW12A-S, MRC-SW13A-S, and MRC-SW18A-S are flagged "B" due to associated blank detections. Therefore, these detections should be considered potential false positives.

SECTION 1
INTRODUCTION

On behalf of Lockheed Martin Corporation, AECOM Technical Services, Inc. has prepared the following report for the February, April, June, and September 2019 surface water monitoring at the Lockheed Martin Middle River Complex in Middle River, Maryland (see Figure 1). This report details the analytical results from 21 surface water locations and associated quality assurance/quality control samples collected along Dark Head Cove and Cow Pen Creek during the April, June, and September sampling events. In addition, field samples were collected from eight sample locations in Dark Head Cove in February 2019 and analyzed for polychlorinated biphenyls as part of the interim surface water sampling event (AECOM, 2019d).

The objectives for the surface water monitoring program are to update surface water analytical data, understand the nature and extent of contamination, evaluate contaminant trends to supplement ongoing remediation efforts, and to assess off-site contaminant migration. The objective of the February 2019 interim surface water sampling was to confirm the surface water sample detections reported for total dichlorobiphenyls in April 2018 by ALS Environmental in Rochester via comparison of laboratory split surface water sample results between ALS Environmental and Test America in Savannah, Georgia.

Before 2017, surface water had been sampled annually. In 2017, the sampling frequency increased to three times per year (April, June, and September). Surface water has been sampled to assess whether volatile organic compounds were reaching Dark Head Cove and Cow Pen Creek at concentrations exceeding site-specific risk-based swimming screening levels. Additional sampling (as compared to previous surface water events) was conducted in 2017 to determine if polychlorinated biphenyls were in surface water subsequent to the sediment removal actions and in-place sediment treatment that Lockheed Martin Corporation performed in Dark Head Cove between 2013 and 2017, and to determine if the Block G 1,4-dioxane groundwater plume is potentially discharging to Cow Pen Creek (see Appendix A).

Surface water samples collected in Dark Head Cove in 2017 were not analyzed for 1,4-dioxane, as it was not a chemical of concern in groundwater in the southeastern portion of the Middle River Complex. Beginning in April 2018, selected surface water samples have been collected and analyzed for 1,4-dioxane because it had been detected in the 2017 groundwater samples in the southeastern Blocks E and F trichloroethene plume, and site-specific swimming screening levels had since been revised lower.

This technical memorandum is organized as follows:

- Section 1—Introduction: Presents objectives for the surface water monitoring program.
- Section 2—Site Background: Briefly describes site history and surface water sampling history.
- Section 3—Investigation Approach and Methodology: Presents the technical approach to surface water sampling and describes the field methodology employed.
- Section 4—Analytical Results: Discusses the analytical results for each analyte.
- Section 5 – Summary: Summarizes findings and conclusions.
- Section 6—References: Cites references used to compile this report.

SECTION 2
SITE BACKGROUND

The Middle River Complex is part of the Chesapeake Industrial Park at 2323 Eastern Boulevard in Middle River, Maryland, approximately 11.5 miles northeast of downtown Baltimore. It is composed of approximately 161 acres, including 12 main buildings, an active industrial area and yard, perimeter parking lots, an athletic field, a vacant concrete lot, a trailer and parts storage lot, and numerous grassy spaces along its perimeter. It is bounded by Eastern Boulevard (Route 150) to the north, Martin State Airport to the east, Dark Head Cove to the south, and Cow Pen Creek to the west. Figure 2 shows the Middle River Complex site layout.

LMC Properties, Inc. owns the Middle River Complex. Its primary activities at the Middle River Complex include facility and building management and maintenance. The main site tenant, MRA Systems, LLC, whose corporate form was changed and ownership was transferred to Vision Technologies Aerospace Incorporated (United States subsidiary of Singapore Technologies Engineering Ltd.) in April 2019, designs, manufactures, fabricates, tests, overhauls, repairs, and maintains aeronautical structures, parts, and components for military and commercial applications. Lockheed Martin Rotary and Mission Systems (a division of Lockheed Martin Corporation) conducts engineering activities and fabricates, assembles, tests, and otherwise supports vertical-launch systems at Middle River Complex.

2.1 MIDDLE RIVER COMPLEX HISTORY

In 1929, the Glenn L. Martin Company (a predecessor entity of Lockheed Martin Corporation) acquired large parcels of undeveloped land in Middle River, Maryland, on which to manufacture aircraft for the United States government and commercial clients. In the early 1960s, Glenn L. Martin Company merged with American-Marietta Company to form Martin Marietta Corporation. Around 1975, the adjacent eastern airport area (currently Martin State Airport), approximately 750 acres, was transferred to the State of Maryland. In the mid-1990s, Martin Marietta Corporation merged with Lockheed Corporation to form Lockheed Martin Corporation. Shortly after the merger, General Electric Company entities acquired most of Lockheed Martin Corporation's aeronautical business in Middle River and the General Electric subsidiary, MRA Systems, Inc.,

began operations at the site. MRA Systems, Inc. was sold to Vision Technologies Aerospace Incorporated (United States subsidiary of Singapore Technologies Engineering Ltd.) in April 2019.

2.2 MIDDLE RIVER COMPLEX CHARACTERISTICS

2.2.1 Physiography

The Middle River Complex is in the Western Shore of the Coastal Plain physiographic province, which is generally characterized by low relief. The Middle River Complex's topography slopes gently, ranging from sea level to 32 feet above mean sea level (Cassell, 1977). The topography declines from Eastern Boulevard to the southwest and south toward Cow Pen Creek and Dark Head Cove.

2.2.2 Hydrology

The Middle River Complex is at the junction of Cow Pen Creek and Dark Head Cove. Both surface water bodies discharge into Dark Head Creek, a tributary of Middle River, which is a tributary of Chesapeake Bay. The Middle River Complex is approximately 3.24 miles (17,100 feet) upstream of Chesapeake Bay. The Middle River Complex has no surface water bodies on site. Surface water runoff discharges from the facility via storm drains, except for areas immediately adjacent to Cow Pen Creek and Dark Head Cove.

2.2.3 Regional Hydrogeology

Sand and gravel zones in the unconsolidated surficial deposits at the Middle River Complex, when present, might form an unconfined or water table aquifer system (Bennett and Meyer, 1952). The water table at the Middle River Complex generally conforms to the land surface, with the highest water levels in interior land areas and the lowest levels at approximately surface water elevations along the shoreline.

Regionally, the Patuxent Formation is the most important water-bearing formation in the Baltimore area. Industrial wells in the southeastern part of the area, specifically Curtis Bay and Sparrows Point, yield 500–900 gallons per minute (gpm). In these industrialized areas, the transmissivity and storage coefficient in confined portions of the aquifer average about 50,000 gallons per day per foot (g/d/feet) and 0.00026, respectively.

The Patapsco Formation is also an important water-bearing formation in industrialized Baltimore, where it is separated by clay into a lower and an upper aquifer. Industrial wells screened in the lower aquifer yield as much as 500–750 gpm, with an estimated transmissivity of 25,000 g/d/feet (Bennett and Meyer, 1952). The upper aquifer yields quantities of water similar to the lower aquifer, but likely has a higher overall transmissivity, because it is thicker than the lower aquifer.

2.3 SURFACE WATER

Dark Head Cove and Cow Pen Creek receive groundwater discharge from the Middle River Complex either directly or through infiltration into storm drains and outfalls. Chemicals of concern found in Middle River Complex groundwater (e.g., trichloroethene and 1,4-dioxane) have historically been detected at low levels both in creek and cove samples. Sampling of surface water and sediment adjacent to the Middle River Complex's southern and western property boundaries began in March 2005 (Tetra Tech Inc., 2005).

Tetra Tech Inc. conducted subsequent sampling in 2005 and in each year from 2010–2017 to characterize surface water and sediment, conduct a human health and ecological risk assessment, aid in subsequent design of the sediment remedy, and support storm-drain investigations (Tetra Tech Inc., 2017b).

The current annual surface water sampling program seeks to assess the extent to which chemicals in groundwater, soil, and residual sediment contamination at the Middle River Complex have been transported to surface water, and if constituents in any of these media might be affecting surface water. The sampling program (occurring in April, June, and September) is also designed to provide analytical data during times of greatest recreational use of these surface water bodies.

SECTION 3
INVESTIGATION APPROACH AND METHODOLOGY

The objectives for the surface water monitoring program are to update surface water analytical data, understand the nature and extent of contamination, evaluate contaminant trends to supplement ongoing remediation efforts, and assess off-site contaminant migration. Before beginning fieldwork, personnel from AECOM Technical Services, Inc. (AECOM) reviewed the site-specific health and safety plan (HASP) and the respective "Safe Work" permits and emergency response plan included in the HASP. Surface water sampling nomenclature for all locations sampled includes the "MRC-" prefix, so all references to locations in Sections 3 and 4 will be abbreviated to exclude the prefix (e.g., "MRC-SW1A" to "SW1A" and "MRC-SW18A-S" to "SW18A-S").

AECOM conducted mandatory health and safety tailgate meetings before each day's fieldwork and twilight debrief meetings at the end of each day. The AECOM site health and safety officer documented the topics covered and personnel in attendance. Safety requirements are addressed in detail in the site-specific AECOM HASP, included in the *2018–2020 Groundwater and Surface Water Monitoring Work Plan* and its associated addenda (AECOM, 2017, 2018a, 2018b, 2019a).

3.1 SURFACE WATER SAMPLING

The April, June, and September 2019 surface water sampling described herein provides additional and updated surface water quality data for Dark Head Cove and Cow Pen Creek. One goal of this investigation is to determine whether volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), and/or 1,4-dioxane previously detected in groundwater and soil are reaching Dark Head Cove and Cow Pen Creek via groundwater seepage, infiltration, or transport through nearby storm drains at concentrations greater than the established site-specific risk-based swimming screening levels. Concentrations of VOCs, PCBs, and 1,4-dioxane in surface water were determined through laboratory analyses of the collected samples. Analytical testing for PCBs is performed only in the April round of sampling for Dark Head Cove samples. On February 14,

2019, an additional interim surface water sampling event was conducted to allow for a direct comparison between ALS Environmental (ALS-Rochester) and TestAmerica Laboratories, Inc. (TA-Savannah) to further evaluate the validity of the 2018 surface water sample total PCB detections.

Samples in Dark Head Cove and Cow Pen Creek were collected with dedicated, disposable tubing, attached to a depth transducer that was part of the YSI water quality meter, which measures the water quality parameters outlined in Section 4.4. The meter was lowered to one foot below the water surface and marked by electrical tape on the cord at the one foot mark. The appropriate length of tubing was cut (to ensure collection from one foot below the water surface) and samples were collected via a peristaltic pump set at a purge rate of approximately 500 milliliters per minute. The one exception to this is MRC-SW17A, located in Cow Pen Creek. MRC-SW17A was collected approximately three to six inches below the water surface (total water column thickness) during each sampling event using a peristaltic pump.

3.1.1 Dark Head Cove

During the April, June, and September sampling events, 18 surface water samples were collected in Dark Head Cove at and near Outfalls 005E, 005W, 006, 007, 008, and 009 which discharge to the cove (Figure 3). Two samples were collected at Outfalls 006, 007, 008, and 009: one sample from 10-feet offshore ("A" sample) and a second sample from 50-feet offshore ("B" sample) at each of the above listed outfall locations. Three sampling locations west of Outfall 008 (SW13A-S, SW15A-S, and SW16A-S) have no associated "B" sample. These surface water samples were collected 10 feet offshore. These samples represent surface water from the area where the trichloroethene (TCE) groundwater plume (originating in Block E and flowing through Block F) presumably discharges to Dark Head Cove. During the February 2019 interim surface water sampling, a total of eight investigative surface water samples were collected from Dark Head Cove at locations SW5A1-S, SW5A2-S, SW7A-S, SW8A-S, SW8B-S, SW9A-S, SW13A-S, and SW15A-S.

Four additional samples were collected during the triannual sampling events as compared to the 2018 surface water sampling program west of Outfall 008 (SW11A-S, SW11B-S, SW12A-S, and SW18A-S). The former three locations were added in 2019 to better characterize potential surface

water interaction with the TCE plume associated with the southeastern portions of Block E and F. SW18A-S was also added to the surface water sampling program in 2019. This location is approximately 150 feet east of Outfall 005E and downgradient of Transformer Room #3 which is associated with the chlorobenzene groundwater plume in the southwestern region of Blocks E and F.

Two outlets are at Outfalls 005: 005E and 005W. One sample was collected at each outlet, 10 feet offshore, recorded as the 5A1-S and 5A2-S samples. A single sample was collected 50 feet offshore, perpendicular to the bulkhead and halfway between the outlets, and was recorded as the "B" sample.

3.1.2 Cow Pen Creek

For the April, June, and September sampling events, two samples (SW1A and SW2A) were collected along the centerline of Cow Pen Creek downgradient of Outfall 004, with one sample collected upstream near the Block G swale outfall and one sample collected downstream of the Block G swale outfall. A third sample (SW17A) was collected near Outfall 003 and represents the farthest upgradient sample that can be collected within the site boundaries. SW17A was collected immediately downstream of the Baltimore Gas and Electric property boundary. Table 1 summarizes the analytical constituents included in the 2019 monitoring program.

3.1.3 Chemical Analyses

For the April, June, and September sampling events, surface water samples were analyzed at ALS Environmental (in Middletown, Pennsylvania) for chemical analysis of VOCs and 1,4-dioxane. Surface water samples for PCBs were analyzed by ALS-Rochester. Cow Pen Creek surface water samples were analyzed for VOCs and 1,4-dioxane. Dark Head Cove surface water samples were analyzed for VOCs and PCB homologs, and select samples were analyzed for 1,4-dioxane. The February 2019 interim surface water sample analysis of polychlorinated biphenyl homologs was performed by ALS-Rochester and TA-Savannah. Sampling methods are described in the 2*018-2020 Groundwater and Surface Water Monitoring Work Plan* and associated addenda (AECOM, 2017, 2018a, 2018b, 2019).

Water quality parameters, including color, temperature, pH, specific conductance, hardness, salinity, turbidity, dissolved oxygen, and oxidation reduction potential, were measured at all surface water sampling locations at the time of sampling.

3.1.3.1 February 2019

As part of the interim surface water sampling, an extended list of Quality Control (QC) samples were collected and submitted as laboratory splits. The list of QC samples included laboratory-blind PCB trip blanks, field blanks, equipment rinsates, and laboratory-blind performance evaluation (PE) samples. The following is a description of the QC samples:

- *Laboratory-blind PCB trip blanks* were prepared at the laboratory by filling sample bottles with deionized water and shipping them to the AECOM sampling team where they were stored with the sample bottleware order and remained sealed for the entire duration of AECOM's custody. The trip blank bottles and labels were the same type and indistinguishable from those used for surface water investigative samples. After surface water sample collection, these trip blanks were labeled as surface water investigative samples and shipped in the same coolers as the surface water investigative samples.
- *Field blanks* were prepared on the surface water sampling vessel by the field chemist, who poured deionized water directly into the empty sample bottleware from a laboratory-filled and sealed container that remained unopen until immediately preceding field blank collection.
- *Equipment rinsate blanks* were prepared on the surface water sampling vessel using a peristaltic pump with new, previously unhandled, tubing. Deionized water was pumped into empty sample bottles from a previously sealed container filled by the laboratory.
- *Laboratory-blind Performance Evaluation (PE) samples* were prepared by adding an ampoule containing certified concentrations of PCB homologs to one liter of laboratory-provided deionized water. Certified concentrations of PCB homologs were provided directly to the AECOM sampling team by Phenova. The PE samples were prepared offsite by AECOM and labeled consistently with investigative surface water sample nomenclature in order to remain laboratory-blind.

Both laboratories reported non-detect results for all homologs in the batch/lot-certified bottle blanks and no blank detections were encountered in any QC sample during the 2019 interim surface water sampling.

3.1.3.2 April 2019

One field duplicate, one matrix spike, and one matrix spike duplicate sample for each parameter (VOCs, 1,4-dioxane, and PCB homologs) were collected during the April 2019 surface water sampling event. One trip-blank sample per sampling event (i.e., one per cooler) was also collected for VOC analysis, one field blank was collected off the side of the sampling vessel in Dark Head Cove for VOC, 1,4-dioxane, and PCB analyses, and two PE samples were prepared for PCB homologs for quality assurance/quality control purposes. PE samples are prepared by "spiking" a known concentration of PCB homologs (monochlorobiphenyl, dichlorobiphenyl, trichlorobiphenyl, and tetrachlorobiphenyl) into laboratory provided analyte-free DI water and bottleware. PE samples were submitted as double-blind and as part of the field sample shipment, so that the laboratories are unaware of concentration levels, and unaware that the sample is a PE. The laboratory's analysis of PE samples is used to evaluate their ability to produce accurate results.

3.1.3.3 June 2019

One field duplicate and two matrix spike pairs were analyzed during the June 2019 surface water sampling. The field duplicate parameters included VOCs and 1,4-dioxane. One matrix spike pair included all parameters (VOCs and 1,4-dioxane) and the other matrix spike pair only included VOCs. The second matrix spike pair was performed using extra sample volume from location SW15A-S for the laboratory to meet its internal QC frequency goal. Therefore, the matrix spike pair frequency met the programmatic goal of one per 20 samples, for each matrix and each parameter. The programmatic goal of one field duplicate per 20 samples for each matrix and parameter was not met for the June 2019 sampling event. Prior to sampling, an additional surface water sample location was added to the scope of work, creating a total of 21 sample locations, which was not reflected in the field QC count established during project planning. The QC sampling frequency will be increased in all future surface water sampling events in 2020 to ensure a minimum frequency of one per 20. Based on the data reviewed, the field duplicate collected is representative of all 21 surface water samples collected. Furthermore, no instances of duplicate heterogeneity or imprecision were observed in the June 2019 surface water data or in any previous

surface water data collected by AECOM under this program. Therefore, no impact on data quality is anticipated. One trip blank sample per cooler was submitted for VOC analysis. One field blank was collected while on the sampling vessel in Dark Head Cove by pouring laboratory provided de-ionized water into laboratory provided bottleware for VOC and 1,4-dioxane analysis.

3.1.3.4 September 2019

One field duplicate and two matrix spike pairs were analyzed during the September 2019 surface water sampling. The field duplicate and matric spike pair parameters included VOCs and 1,4-dioxane. The programmatic goal of one field duplicate per 20 samples for each matrix and parameter was not met for the September 2019 sampling event. Prior to sampling, an additional surface water sample location was added to the scope of work, creating a total of 21 sample locations, which was not reflected in the field QC count established during project planning. The QC sampling frequency will be increased in all future surface water sampling events in 2020 to ensure a minimum frequency of one per 20. Based on the data reviewed, the field duplicate collected is representative of all 21 surface water samples collected. Furthermore, no instances of duplicate heterogeneity or imprecision were observed in the September 2019 surface water data or in any previous surface water data collected by AECOM under this program. Therefore, no impact on data quality is anticipated. One trip blank sample per cooler was submitted for VOC analysis.

3.1.4 Staff Gauges and Tidal Stages

Tidal stages on the day of sample collection for the April, June, and September events were recorded from two staff gauges shown on Figure 3. One staff gauge is in Dark Head Cove at the confluence with the mouth of Cow Pen Creek (MRC-STAFF02) and the other is in Dark Head Cove in the vicinity of Outfall 009 (MRC-STAFF01). Tidal stages were recorded before and after sampling during the April, June, and September surface water events. Timing for high and low tide was noted for the Bowley Bar Point station, southeast of Middle River, Maryland in order to plan for sampling during a low-tide cycle for each of the sampling events, as the peak groundwater to surface water discharge period occurs during low-tide. Staff gauge information is documented on the surface water sampling forms in Appendix B.

3.2 MOBILE DATA-COLLECTION DOCUMENTATION

All site activities and observations, including an overall record of field activities, were recorded on electronic field log sheets and submitted in daily field reports to the Lockheed Martin Remediation Technical Operations contractor (remediation oversite contractor for Lockheed Martin Corporation) and Lockheed Martin Corporation. Completed chains-of-custody (COC) and matrix specific sampling log sheets were maintained. Completed COC forms are presented in the *Data-Validation Report* in Appendix C. AECOM used two of Esri's mobile applications, *Survey123* and *Collector for ArcGIS*®, during groundwater and surface-water data collection. They feature map and business logic that enhance a technician's ability to locate and record accurate and timely data. All electronic data collection forms were designed to be consistent with the forms in Appendix B.

Once in the field, if the technician required location services, needed to reference a base map, or needed to add or edit a location, *Collector for ArcGIS*® was used. The technician was also able to review historical information about the location, make edits, and take photos with the application, as required. New data records were created within *Survey123*, leveraging form-based business logic, including related reference tables, if/then-style follow-up fields, and the ability to format data into a database-compatible spreadsheet.

Upon sampling completion, the technician submitted the record from their mobile device, where it was synchronized with AECOM's *Portal for ArcGIS*®. The team could access data immediately once it had synchronized. Data were downloaded from *Portal for ArcGIS*® and were available to be used in any other geographic information system (GIS) or database management system. Surface-water sampling locations were also surveyed using a handheld global positioning system receiver in the Maryland State Plane North American Datum 1983.

3.3 EQUIPMENT DECONTAMINATION

No decontamination fluids other than distilled water were used for the surface water sampling. Distilled water rinse was discharged directly into Dark Head Cove or Cow Pen Creek. Therefore, collecting and disposing of rinse water generated during the sampling events was unnecessary.

3.4 WASTE MANAGEMENT

No investigation derived waste was generated during this surface water sampling. Purge water was returned to the surface water bodies after each sample was collected. General waste, e.g., gloves and tubing, was disposed of as general refuse.

3.5 DATA REVIEW

Laboratory data were entered into an internal sample database and evaluated against site-specific risk-based swimming screening levels and applicable regulatory criteria. AECOM performed a manual data review and data validation using the *EQuIS™ Automated Validation Assistant* tool. This included completing a limited data review (evaluating data completeness, holding times, laboratory and field blank contamination, laboratory batch quality control, field duplicate precision, and detection limits) concurrent with the data evaluation review. The review is based on the United States Environmental Protection Agency (USEPA) *National Functional Guidelines for Organic Superfund Methods Data Review* (USEPA-540-R-2017-002, January 2017a) and USEPA *National Functional Guidelines for Inorganic Superfund Methods Data Review* (USEPA 540-R-2017-001, January 2017b) for an Organic/Inorganic Level I (https://www.epa.gov/quality/epa-region-3-data-validation) data review. Data were reviewed based on the specifics of the analytical method used. The data-qualifying flags applied to the surface water chemical results during data validation are identified in the *Data Validation and Usability Reports* in Appendix C. The analytical laboratory reports can be found in Appendix D.

3.5.1 Quality Control Samples

During each sample event, QC samples were collected to measure sample representativeness (see Section 3.1.3 for specific QC samples collected per event). Representativeness qualitatively expresses the degree to which data accurately reflect site conditions. Factors that affect the representativeness of analytical data include appropriate sample population definitions, proper sample collection and preservation techniques, analytical holding times, use of standard analytical methods, and determination of matrix or analyte interferences. Representativeness is also monitored using negative controls such as trip blanks, field blanks, and equipment blanks, along with adherence to the standard operating procedures and sampling plans.

3.5.1.1 February 2019

The PCB homolog blanks in this sampling event included laboratory-blind trip blanks, field blanks, equipment rinsate blanks, and laboratory method blanks. Laboratory-blind trip blanks were prepared by the laboratory filling sample bottles with deionized water and shipping them to the AECOM sampling team where they were stored with the sample bottleware order and remained sealed for the entire duration of AECOM's custody. After sample collection, these trip blanks were labeled as surface water investigative samples and shipped in the same coolers as the surface water investigative samples. Field blanks were prepared on the surface water sampling vessel by the field chemist. Deionized water was poured directly into sample bottleware from a laboratory-filled and sealed container, which remained unopen immediately preceding field blank collection. Equipment rinsate blanks were prepared on the surface water sampling vessel using a peristaltic pump with new, previously unhandled, tubing. Deionized water was pumped into sample bottles from a previously sealed container filled by the laboratory. Laboratory method blanks are prepared and analyzed in the laboratory alongside the surface water investigative samples at a frequency of one per sample preparation batch. All blanks reported non-detect results for all PCB homologs.

3.5.1.2 April 2019

Eight trip blanks, eight laboratory method blanks, and one field blank were assessed for their effect on data quality. In six instances, laboratory method blanks displayed detections greater than the method detection limits. The affected analytes included bromomethane, 1,3-dichlorobenzene, 1,4-dichlorobenzene, and tetrachloroethene (PCE). The positive associated field sample results and field/trip blank results that were within five times the laboratory method blank concentrations were qualified B, bl (laboratory blank contamination). The qualified field sample results should be considered potential false positives. In 20 instances, an individual result from the trip blank (e.g., bromomethane in trip blank TB-042419-1) displayed a detection greater than the method detection limit (MDL). The affected analytes included acetone, bromomethane, *tert*-butyl alcohol, and PCE. All detections for PCE and bromomethane were associated with laboratory method blank detections of the same analytes. Therefore, trip blank detections of those analytes were not used to qualify field sample results. The positive field sample results that were associated with the remaining trip blank detections and within five times the trip blank concentrations were qualified B, bt (trip blank contamination), unless previously qualified due to a laboratory method blank

detection. The qualified field sample results should be considered potential false positives. The field blank, FB-042519-ZN, displayed a detection for bromomethane greater than the MDL. This field blank result was previously qualified due to a laboratory method blank detection for bromomethane; no further data qualifying action was taken.

3.5.1.3 June 2019

Laboratory method blanks were prepared at a frequency of one per laboratory batch as a negative control to assess data quality. The laboratory did not provide trip blanks, so a field blank was prepared during sample collection in place of trip blanks. In six instances, an individual result from the laboratory method blank (e.g., bromomethane in laboratory method blank 2966475) displayed a detection greater than the MDL. The affected analytes included bromomethane, chloromethane, and TCE. The positive associated field sample results and field blank results that were within five times the laboratory method blank concentrations were qualified B, bl. The qualified field sample results should be considered potential false positives. The field blank, FB-061319, displayed detections for acetone and bromomethane greater than the MDL. The detection for bromomethane was associated with a laboratory method blank detection of the same analyte. Therefore, the field blank detection of bromomethane was not used to qualify field sample results. The positive field sample results that were associated with the remaining field blank detection and within five times the field blank concentration were qualified B, bf (field blank contamination), unless previously qualified due to a laboratory method blank detection. The qualified field sample results should be considered potential false positives.

3.5.1.4 September 2019

Laboratory method blanks were prepared at a frequency of one per laboratory QC batch and a total of one (1) trip blank was analyzed, at a rate of one per VOC sample cooler. These blanks were used as negative controls to assess data quality. In two instances, laboratory method blanks displayed detections greater than the MDLs. The affected analytes included bromomethane and methylene chloride. The positive field sample results that were within five times the associated bromomethane laboratory method blank concentrations were qualified B, bl. The qualified field sample results should be considered potential false positives. The field samples associated with the laboratory method blank detections for methylene chloride were non-detect, therefore, no data qualifying action was required.

3.5.2 Data Usability

Accuracy is a measure of confidence in a measurement. The smaller the difference between the measurement of a parameter and its "true" or expected value, the more accurate the measurement. Accuracy in the field was monitored using negative controls that included laboratory-blind trip blanks, field blanks, and equipment rinsates, along with adherence to the standard operating procedures and sampling plans. Analytical accuracy was assessed through the measurement laboratory method blanks, percent differences in initial/continuing calibration verifications, as well as percent recoveries in the surrogate spikes, the laboratory control spike pair (LCS/LCSD), the matrix spike pair (MS/MSD), and the laboratory-blind PE samples (PE samples are only for PCBs).

Overall data usability met the completeness requirement outlined in the Quality Assurance Project Plan at 100% for all sampling events in 2019. During the data validation, several minor anomalies were noted which is to be anticipated based on statistical predictability of standard analytical procedures. Several field sample results were qualified due to these minor anomalies. All data are considered usable as qualified, for their intended purpose based on the data reviewed. Data validation reports are provided in Appendix C, laboratory reports are provided in Appendix D, and recalculations and PE results are provided in Appendix E.

3.5.2.1 February 2019

During the data quality review, AECOM encountered minor QC anomalies, but found that all data from both laboratories were usable as reported. Additionally, through recalculation of the chromatographic responses, it was demonstrated that the detected results reported by ALS-Rochester and TA-Savannah were reported correctly. The recalculated results are presented in Appendix E.

TA-Savannah reported low recoveries for laboratory-blind PE sample results for monochlorobiphenyls and trichlorobiphenyls, possibly due to the relatively lower concentrations of the PE sample compared to their reporting limits.

The findings of the laboratory data comparison study and interim surface water sampling verify the concentrations of total dichlorobiphenyls detected in 2018 surface water samples from Dark Head Cove and the discrepancies between the two laboratories can be attributed to (1) the lower

method detection limits achieved by ALS-Rochester for total dichlorobiphenyls and (2) a possible high bias of ALS-Rochester data combined with possible low biases due to site matrix interferences in the TA-Savannah data.

3.5.2.2 April 2019

The LCS performed in analytical batch 510561 displayed percent recoveries greater than the upper QC limits for 2-chlorovinyl ether and tertiary-amyl methyl ether. The associated field sample results were non-detect; no data qualifying action was required. No impact on data quality is anticipated from these anomalies.

The MS/MSD performed on field sample SW8A-S and SW8B-S displayed percent recoveries less than the QC limits for naphthalene and 2-chlorovinyl ether, respectively. The associated field sample results were non-detect and were qualified UJ, m (matrix spike recovery anomaly). Anomalies are considered minor and the qualified field sample results should be considered usable as estimated values with a negative bias.

The surrogate spikes performed on samples SW11A-S, SW18A-S, SW12A-S, SW15A-S, and SW16A-S displayed percent recoveries less than the lower QC limit for 4,4-dichlorodiphenyltrichloroethane. The positive associated field sample results were qualified J-, s (surrogate recovery anomaly), while non-detects were qualified UJ, s. These anomalies are considered minor and the qualified field sample results should be considered usable as estimated values with a negative bias. Additionally, the surrogate spike performed on field sample SW18A-S displayed a percent recovery greater than upper QC limit for 4-bromofluorobenzene. The positive associated field sample result was qualified J+, s. This anomaly is considered minor and the qualified field sample result should be considered usable as an estimated value with a positive bias.

A laboratory-blind PE sample, SW20, was prepared by adding certified concentrations of PCB homologs to one-liter of laboratory-provided deionized water. The laboratory-blind PE sample displayed percent recoveries greater than the upper QC limit of 150% for dichlorobiphenyls (162%), monochlorobiphenyls (171%) and tetrachlorobiphenyls (170%). The positive associated field sample results were qualified J+, ps (performance evaluation sample anomaly), unless previously qualified due to surrogate percent recovery anomalies. These anomalies are considered

minor and the qualified field sample results should be considered usable as estimated values with a positive bias.

3.5.2.3 June 2019

Several LCS displayed percent recoveries outside the QC limits. The field sample results associated with percent recoveries greater than the upper QC limits were non-detect; no data qualifying action was required. The field sample result associated with the percent recovery less than the lower QC limit was non-detect and was qualified UJ, l (laboratory control sample recovery anomaly). These anomalies are considered minor, and the qualified field sample result should be considered usable as an estimated value with a negative bias.

The MS/MSD performed on field sample SW8B-S and SW15A-S displayed percent recoveries less than the lower QC limits for bromomethane and 2-chlorovinyl ether. The positive associated field sample result was previously qualified due to a laboratory method blank detection; no further data qualifying action was taken. The associated non-detect field sample results were qualified UJ, m. These anomalies are considered minor and the qualified field sample results should be considered usable as estimated values with a negative bias.

3.5.2.4 September 2019

During the VOC analysis, several LCS displayed percent recoveries outside the QC limits. The field sample results associated with positive percent recoveries were non-detect, therefore, no data qualifying action was required. The field sample results associated with the negative bias for n-butylbenzene were qualified UJ, l. These anomalies are considered minor and the qualified field sample results should be considered usable as estimated values with a negative bias.

During the VOC analysis, the MS/MSD performed on parent sample SW8A-S displayed several percent recoveries outside the QC limits. The field sample results associated with positive percent recoveries were non-detect, therefore, no data qualifying action was required. The parent sample results associated with percent recoveries less than the lower QC limits were non-detect and were qualified UJ, m. These anomalies are considered minor and the qualified field sample results should be considered usable as estimated values with a negative bias.

3.6 ENERGY, ENVIRONMENT, SAFETY AND HEALTH-GIS DATABASE

AECOM uploaded the surface water sampling locations and validated data from each of the 2019 sampling events into the Lockheed Martin Energy, Environment, Safety and Health (EESH)-GIS database for the February, April, June, and September surface water sampling events.

3.7 SUSTAINABILITY APPROACH

AECOM incorporated Green and Sustainable Remediation practices into the groundwater and surface water monitoring program at the Middle River Complex (MRC) to advance Lockheed Martin's Corporate ESH key objectives to protect, enhance, optimize and simplify, and to highlight the added values that sustainable practices bring.

AECOM implemented sustainable approaches in all aspects of work wherever practical and with prior approval from Lockheed Martin and the Lockheed Martin Remediation Technical Operations contractor (CDM Smith). For the MRC monitoring program, AECOM implemented paper-free electronic data collection across all aspects of the surface water sampling program. This data collection approach and the use of rechargeable batteries for field instruments reduced total waste and provided resource efficiency. The utilization of local field staff, carpooling, and the use of locally sourced materials wherever possible contributed to reduced overall mobile emissions.

SECTION 4
ANALYTICAL RESULTS

Validated analytical data from the February, April, June, and September 2019 surface water sampling were evaluated with respect to ecological and human health screening-level criteria, including:

- Maryland ambient water quality criteria for human health consumption of organisms (Code of Maryland Regulations [COMAR] 26.08.02.03)
- United States Environmental Protection Agency (USEPA) National Recommended Water Quality Criteria – human health criteria, consumption of organism only (USEPA, 2015)
- USEPA National Recommended Aquatic Life Criteria – freshwater, acute and chronic criteria (USEPA, 2018a)
- USEPA Region III Biological Technical Advisory Group (BTAG) freshwater screening levels (USEPA, 2006)
    - If no benchmarks were listed by USEPA Region III, guidance from USEPA Region IV (USEPA, 2018b) and Region V (USEPA, 2003) were reviewed for additional ecological benchmarks.
- Risk-based site-specific swimming screening levels developed in 2019 for trichloroethene (TCE), *cis*-1,2-dichloroethene (*cis*-1,2-DCE), 1,2,4-trichlorobenzene, and 1,4-dioxane for Dark Head Cove and Cow Pen Creek at the Middle River Complex (MRC). These risk-based screening values were approved by the Maryland Department of the Environment (MDE) in 2019 (Lockheed Martin Corporation [Lockheed Martin], 2019).

Site contaminants in groundwater at the MRC could potentially be introduced to surface water through groundwater discharge or through groundwater infiltration into storm drains, thereby discharging to surface water through nearby outfalls. The objectives for the surface water monitoring program are to update surface water analytical data, understand the nature and extent of contamination, evaluate contaminant trends to supplement ongoing remediation efforts, and to assess off-site contaminant migration. The analytical data suggest that a mechanism of transporting groundwater contaminants of concern to surface water exists (notably *cis*-1,2-DCE and TCE at SW12A-S), via either of the two pathways described above. Table 2 outlines the detected analytes from each sampling location from the February, April, June, and September sampling events and

compares that to the screening levels established by each of the above entities. The distribution of detections is shown in Figure 4.

4.1 VOLATILE ORGANIC COMPOUNDS

Table 2 summarizes volatile organic compound (VOC), 1,4-dioxane, and PCB detections in 2019. The distribution of detections is shown in Figure 4. Seven VOCs were detected in surface water over the course of the four sampling events: acetone, benzene, chloroform, *cis*-1,2-DCE, *tert*-butyl alcohol, toluene, and TCE. These detections are discussed below. Chlorobenzene and 1,2,4-trimethylbenzene were not detected in surface water samples collected during the 2019 sampling events.

4.1.1 Trichloroethene

Trichloroethene, the primary VOC of concern associated with groundwater at the MRC, was detected in eight sampling locations over the triannual sampling events in Dark Head Cove: SW6A-S, SW9A-S, SW9B-S, SW11A-S, SW11B-S, SW12A-S, SW15A-S, and SW18A-S at concentrations ranging from 0.68 to 4.2 micrograms per liter (µg/L) in 2019. The highest concentration of TCE was observed in the April sampling event (4.2 µg/L in SW12A-S) where a portion of the TCE groundwater plume in Blocks E and F discharges to Dark Head Cove. TCE detected during the June 2019 sampling event in SW11A-S, SW11B-S, SW12A-S, SW13A-S, and SW18A-S are flagged "B" due to associated blank detections. Therefore, these detections should be considered potential false positives.

All trichloroethene concentrations are below the United States Environmental Protection Agency screening level value of 21 µg/L, well below the human health consumption of organism's level of 300 µg/L per the Code of Maryland Regulations, and well below the site-specific risk-based swimming screening level of 30 µg/L.

4.1.2 *cis*-1,2-Dichloroethene

cis-1,2-Dichloroethene, a breakdown product of TCE, was detected in three surface water samples in Dark Head Cove: SW11A-S, SW12A-S, and SW13A-S, at concentrations ranging from 0.33 to 1.1 µg/L, in 2019. The maximum *cis*-1,2-DCE concentration detected in 2019 is more than 18 times below the most conservative screening criteria of the MDE-approved site-specific risk-based swimming screening level of 20 µg/L for evaluating exposure risks to swimmers.

4.1.3 Additional Volatile Organic Compounds

During the September sampling event, a single detection of benzene was present at an estimated concentration of 0.24 µg/L in SW7B-S in Dark Head Cove, adjacent to Block D, below its most conservative human health consumption screening level of 160 µg/L.

During the April, June, and September 2019 surface water sampling events, chloroform was detected in one sampling location in Cow Pen Creek, in SW17A, at estimated concentrations ranging from 0.32 to 0.47 µg/L, below its most conservative USEPA BTAG regional benchmark of 1.8 µg/L.

Acetone was detected in most surface water sampling locations for all three sampling events, at estimated concentrations ranging from 3.3 to 9.0 µg/L. Acetone is a common laboratory contaminant used in decontaminating equipment. The USEPA BTAG regional benchmark for acetone is 1,500 µg/L.

Additional VOCs, toluene and *tert*-butyl alcohol were detected in some Dark Head Cove samples at estimated concentrations ranging from 0.25 to 0.43 µg/L (SW7B-S, SW8B-S, SW9A-S, SW11A-S, SW15A-S, and SW16A-s) and 3.1 to 5.2 µg/L (SW7A-S and SW7B-S), respectively. All toluene results are below the most conservative USEPA BTAG regional benchmark of 2 µg/L. *Tert*-butyl alcohol does not have any established criteria.

4.2 1,4-DIOXANE

As shown in Table 2 and on Figure 4, 1,4-dioxane was detected in all three surface water samples from Cow Pen Creek (SW1A, SW2A, and SW17A) and four samples (SW6A-S, SW6B-S, SW8A-S, and SW8B-S) in Dark Head Cove with the highest concentration of 0.078 µg/L from SW17A. During data validation of the laboratory results, all four samples were assigned a “J” as a final qualifier for 1,4-dioxane, indicating that this value is an estimated concentration greater than the method detection limit and less than the reporting limit. These concentrations are negligible compared to the USEPA BTAG regional benchmark of 22,000 µg/L. The concentrations are also below the MDE-approved risk-based swimming screening level of 20 µg/L.

4.3 POLYCHLORINATED BIPHENYLS

During the interim surface water sampling conducted in February 2019, field samples were collected from eight sample locations in Dark Head Cove and submitted to the subcontracted laboratories for polychlorinated biphenyl analysis only. Quality control samples were collected along with these field samples, which included one field duplicate, two trip blanks, one PE sample, two equipment blanks, and two field blanks. These field samples and quality control samples were collected as split samples and sent to both subcontracted laboratories. Two additional trip blanks were also submitted to Test America Laboratories, Inc. Lot bottle blanks were also analyzed by both subcontracted laboratories when AECOM ordered the bottleware.

During the April 2019 surface water sampling, 18 of the 21 sampling locations were analyzed for PCBs (all locations in Dark Head Cove). The findings of both sampling events for PCBs are presented below.

4.3.1 February 2019

PCB detections, as the dichlorobiphenyl homolog group, were detected in samples from all 14 of the Dark Head Cove surface water sampling locations, ranging from 0.0019 to 0.0066 micrograms per liter (µg/L) during the April 2018 event. The February 2019 event displayed similar detections, ranging from 0.0042 to 0.0087 µg/L (Table 2). Both data sets were presented by ALS-Rochester. The laboratory reports are included in Appendix D.

Findings from the February interim surface water sampling and review of the data are as follows:

- The review of ALS Environmental and TestAmerica Laboratories, Inc. chromatograms and manual recalculation of all reported on-column homolog results in sample delivery groups showed that the detected concentrations of polychlorinated biphenyl homologs were reported correctly by each laboratory.
- No laboratory or field blank displayed positive results for any homolog groups.
- All field samples submitted to TestAmerica Laboratories, Inc. were reported non-detect for all homolog groups.
- Field samples submitted to ALS Environmental displayed detected results for dichlorobiphenyls at levels approximate to those found in the 2018 sampling at all eight locations. Dichlorobiphenyls were detected at a concentration range from 0.0042 µg/L to 0.0087 µg/L (Table 2).
- The matrix spike pair submitted to TestAmerica Laboratories, Inc. displayed percent recoveries less than the lower quality control limits for five homolog groups, including dichlorobiphenyls, and field sample MRC-SW9A-S-021419-T displayed a percent

recovery for surrogate decachlorobiphenyl-$^{13}C_{12}$ that was less than the lower quality control limits as well. This could indicate low extraction efficiency due to the site matrix effects since this indicates method performance in the site matrix of interest may be low compared to the matrix-free laboratory control spike pair, which was within quality control limits.

- ALS Environmental reported high recoveries for laboratory-blind PE sample results for dichlorobiphenyls, monochlorobiphenyls, and tetrachlorobiphenyls, all greater than 150%. This could indicate a potential high bias in the ALS Environmental homolog reported results (Appendix E).

The findings of the interim surface water sampling verify the concentrations of total dichlorobiphenyls detected in 2018 surface water samples from Dark Head Cove. The discrepancies between the two laboratories can be attributed to (1) the lower method detection limits achieved by ALS Environmental for total dichlorobiphenyls and (2) a possible high bias of ALS Environmental data combined with possible low biases due to matrix interferences in the TestAmerica Laboratories, Inc.

4.3.2 April 2019

PCBs, specifically the total dichlorobiphenyl homolog (the only PCB detected in both 2019 and 2018), were detected in all 18 surface water samples collected in Dark Head Cove in April 2019. Estimated concentrations range from a low of 0.0030 µg/L at SW18A-S to a high of 0.0082 µg/L at SW13A-S. In 2015-2016, dredging in Dark Head Cove removed PCB-impacted sediment around Outfall 005, and the remaining cove sediment dredging was completed in March 2017 (Tetra Tech, 2017b). PCBs are not chemicals of concern in southwestern groundwater and therefore were not analyzed for in Cow Pen Creek surface water samples.

Surface water location SW13A-S, which had the highest PCB concentration (0.0082 µg/L) during the April 2019 sampling, had an estimated concentration of 0.0019 µg/L in April 2018. Tetrachlorobiphenyl, the only PCB homolog detected in 2017 Dark Head Cove surface water samples, was detected in only one sample (SW5A2-S) at a concentration of 0.014 µg/L. This sample was collected 10 feet from Outfall 005 in September 2017. In April 2019, SW5A-S had a concentration of 0.0070 µg/L of the dichlorobiphenyl homolog group only.

Annual groundwater monitoring in 2019 was conducted from April 4 to April 25 in which a select set of wells in Blocks E and F were analyzed for PCBs. The April surface water sampling event was conducted from April 24 to 25, 2019 where all 18 locations in Dark Head Cove were analyzed

for PCBs. Figure 5 depicts PCB detections in groundwater and surface water. There is no clear relationship between the homologs detected in groundwater and the dichlorobiphenyl homolog group solely detected in surface water.

Sediment with the highest concentrations of PCBs was removed from Dark Head Cove near Outfall 005 during the sediment-removal action in 2014–2015, followed by a second removal of sediment with lower concentrations in the cove in 2016-2017. Sediment with the lowest concentrations is undergoing remediation via *in situ* application of a carbon amendment that binds the PCBs, decreasing their bioavailability, and thereby removing them from the food chain (Tetra Tech, 2017).

All 18 surface water samples collected from Dark Head Cove exceed the human health consumption-of-organism's screening-level criterion of 0.00064 µg/L set in place by the COMAR for total PCBs as well as the USEPA BTAG regional benchmark of 0.000074 µg/L. No screening level is associated solely with the dichlorobiphenyl homolog group. All total PCB concentrations reported from the February and April 2019 sampling events consist of the total dichlorobiphenyl homolog. PCB analytical detections are not associated with high turbidity, and therefore are considered to represent surface water detections.

4.4 WATER QUALITY PARAMETERS

Water quality parameters were collected in the field during the 2019 sampling events. Water quality parameter data are presented in Table 3. Field parameters were measured at a depth of approximately one foot below the water surface, prior to sample collection. The one exception to this is MRC-SW17A, located in Cow Pen Creek. MRC-SW17A was collected approximately three to six inches below the water surface (total water column thickness) during each sampling event using a peristaltic pump.

The slightly basic pH values for the 2019 sampling events, ranging between 7.06 and 9.13, are consistent with natural surface water in this region. The exception to this was during the April 2019 sampling event where Cow Pen Creek samples (SW1A and SW2A) and Dark Head Cove sample (SW6A-S) ranged from 6.12 to 6.93. Cow Pen Creek location SW17A also had a slightly acidic pH of 6.32 during the September sampling event.

Turbidity was consistent in most samples, with the highest turbidity reported from SW1A within Cow Pen Creek at 26.1 nephelometric turbidity units during the June 2019 sampling. Dissolved oxygen levels, ranging from 2.61 to 9.58 milligrams per liter, indicate a healthy estuarine environment. Additionally, all oxidation-reduction potential values are positive, ranging from 157 to 252 millivolts, which is consistent with surface water containing oxygen.

SECTION 5
SUMMARY

AECOM Technical Services, Inc. collected surface water samples during the April, June, and September 2019 surface water sampling events from 21 locations throughout Cow Pen Creek and Dark Head Cove on behalf of Lockheed Martin Corporation. The samples were collected, sent to ALS Environmental Laboratories, and chemically analyzed for volatile organic compounds, 1,4-dioxane, and PCBs. These analyses were carried out to determine if these constituents are in surface water and, if so, to assess whether there are indications of their originating from stormwater outfalls, sediments, or groundwater plumes at the Middle River Complex. A statistical data summary table is provided in Table 4.

In addition to the triannual surface water sampling, an interim surface water sampling event was conducted on February 14, 2019. AECOM Technical Services, Inc. collected surface water samples and various quality control samples from Dark Head Cove as part of the investigation into the causation of multiple polychlorinated biphenyl detections reported in the April 2018 surface water analytical data. Analytical data collected in previous years were mostly non-detect for polychlorinated biphenyls in Dark Head Cove. TestAmerica Laboratories, Inc. in Savannah, Georgia, had performed the analysis of polychlorinated biphenyl homologs prior to 2018 and ALS Environmental in Rochester, New York, performed the analysis in 2018. Both laboratories performed the analysis using United States Environmental Protection Agency Method 680. The February 2019 samples were collected as co-located pairs and split between these two laboratories to provide a direct comparison between the previous laboratory (TestAmerica Laboratories, Inc.) and the current laboratory (ALS Environmental), as is discussed in greater detail later in this summary.

Trichloroethene, the primary volatile organic compound of concern associated with groundwater at the Middle River Complex, was detected in eight sampling locations over the 2019 triannual sampling events in Dark Head Cove: MRC-SW6A-S, MRC-SW9A-S, MRC-SW9B-S, MRC-SW11A-S, MRC-SW11B-S, MRC-SW12A-S, MRC-SW15A-S, and MRC-SW18A-S at concentrations ranging from 0.68 to 4.2 µg/L, all below screening levels. The highest concentrations of trichloroethene was observed in the April sampling event (4.2 µg/L in MRC-

SW12A-S) where a portion of the trichloroethene groundwater plume in Blocks E and F discharges to Dark Head Cove. Trichloroethene detected during the June 2019 sampling event in MRC-SW11A-S, MRC-SW11B-S, MRC-SW12A-S, MRC-SW13A-S, and MRC-SW18A-S are flagged "B" due to associated blank detections. Therefore, these detections should be considered potential false positives. All trichloroethene concentrations are below all screening values.

Cis-1,2-dichloroethene, a breakdown product of trichloroethene, was detected in three surface water samples in Dark Head Cove: MRC-SW11A-S, MRC-SW12A-S, and MRC-SW13A-S, at concentrations ranging from 0.33 to 1.1 µg/L in 2019. The maximum *cis*-1,2-dichloroethene concentration detected in 2019 is more than 18 times below the most conservative screening criteria of the Maryland Department of the Environment-approved site-specific risk-based swimming screening level of 20 µg/L for evaluating exposure risks to swimmers. *Cis*-1,2-dichlorethene is not used on-site but is a degradation product of trichloroethene, which was historically used on-site.

All additional volatile organic compounds detected: acetone, benzene, chloroform, *tert*-butyl alcohol, and toluene, were below their respective ecological and/or human health screening criteria.

1,4-Dioxane was detected in all seven primary surface water samples where it was analyzed for in 2019 (all three sample locations in Cow Pen Creek and four samples from Dark Head Cove [MRC-SW6A-S, MRC-SW6B-S, MRC-SW8A-S, and MRC-SW8B-S]) with the highest concentration of 0.078 µg/L at MRC-SW17A in Cow Pen Creek. These concentrations are negligible compared to the United States Environmental Protection Agency ecological screening level of 22,000 µg/L. The concentrations are also well below the Maryland Department of the Environment-approved risk-based swimming screening level of 20 µg/L.

Polychlorinated biphenyls, as the dichlorobiphenyl homolog group, were detected at all 18 of the Dark Head Cove surface water sampling locations. Estimated concentrations ranged from 0.0030 to 0.0082 µg/L during the April 2019 sampling event. The April 2019 polychlorinated biphenyl concentrations are below site-specific risk-based swimming levels and below United States Environmental Protection Agency's National Recommended Aquatic Life Criteria Federal Benchmark; however, they are above Maryland ambient water quality criteria (0.00064 µg/L) for human health consumption-of-organisms and above the Biological Technical Advisory Group

regional benchmark of 0.000074 µg/L. The findings of the interim surface water sampling event conducted in February 2019 verify the concentrations of total dichlorobiphenyls detected in 2018 surface water samples from Dark Head Cove. The discrepancies between the two laboratories can be attributed to (1) the lower method detection limits achieved by ALS Environmental for total dichlorobiphenyls and (2) a possible high bias of ALS Environmental data combined with possible low biases due to matrix interferences at TestAmerica Laboratories, Inc.

SECTION 6
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FIGURES

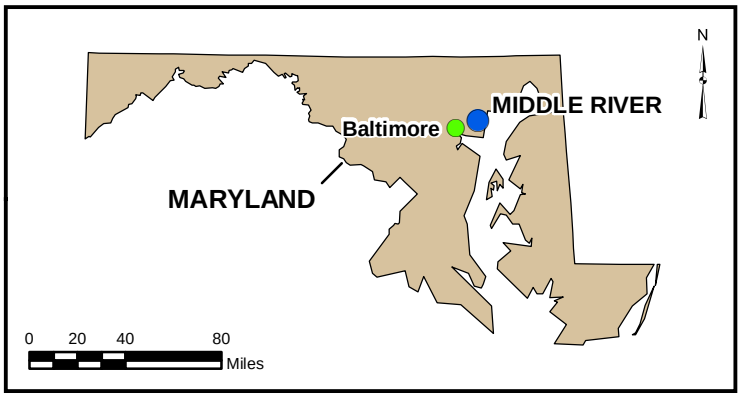

FIGURE 1

MIDDLE RIVER COMPLEX
LOCATION MAP

Lockheed Martin Middle River Complex
Middle River, Maryland

DATE MODIFIED:	01/15/19	CREATED BY:	JEE

AECOM

Map Document: (Q:\Projects\ENV\GEARS\GEO\Lockheed Martin\Middle River\Middle River FY18-20 GW_SW_Mon\900-CAD-GIS\920-GIS\MXDs\2018 SW Memo\Figure_1_Location_Map.mxd)
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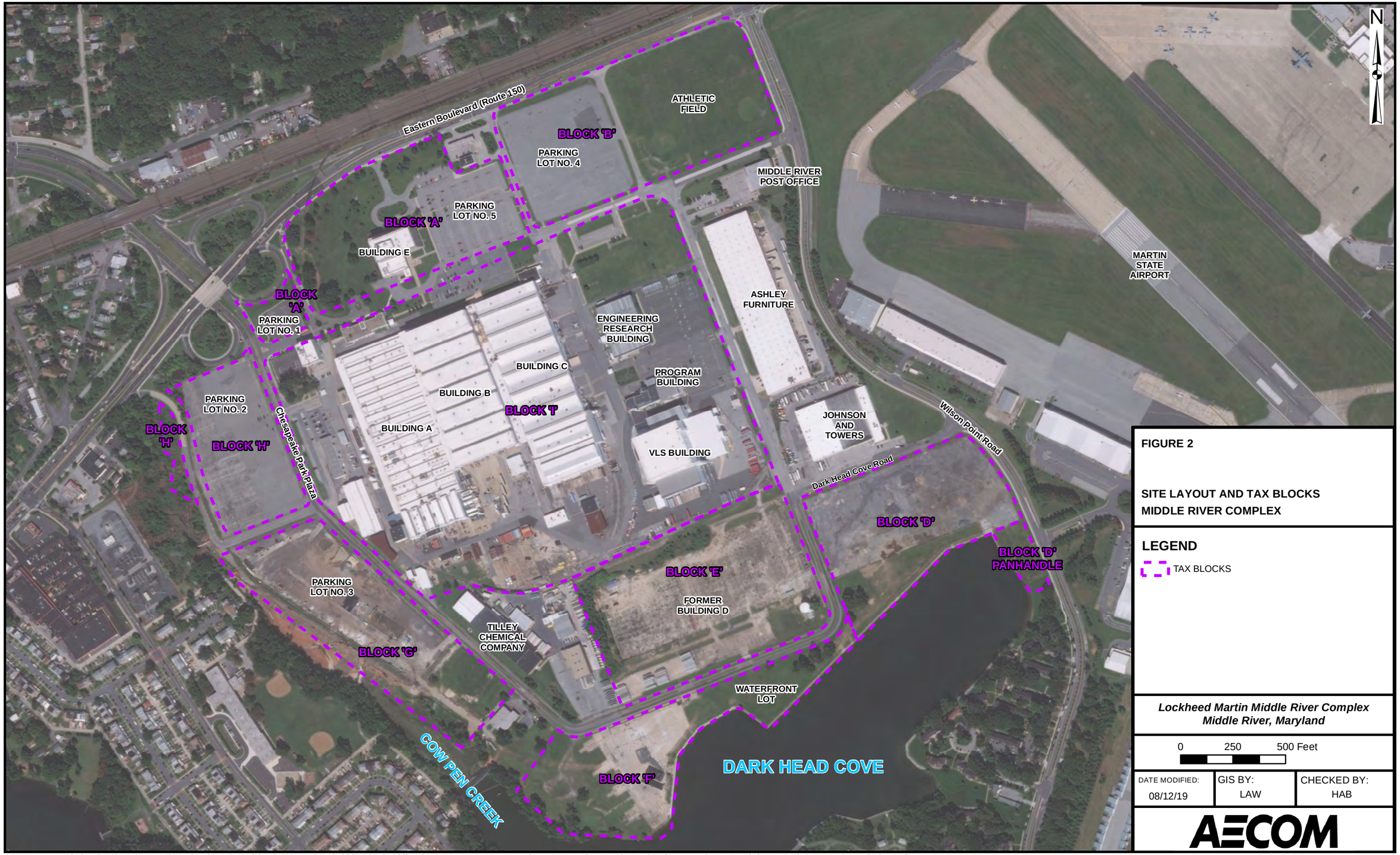

FIGURE 2

SITE LAYOUT AND TAX BLOCKS
MIDDLE RIVER COMPLEX

LEGEND

TAX BLOCKS

Lockheed Martin Middle River Complex
Middle River, Maryland

0 250 500 Feet

DATE MODIFIED:	GIS BY:	CHECKED BY:
08/12/19	LAW	HAB

AECOM

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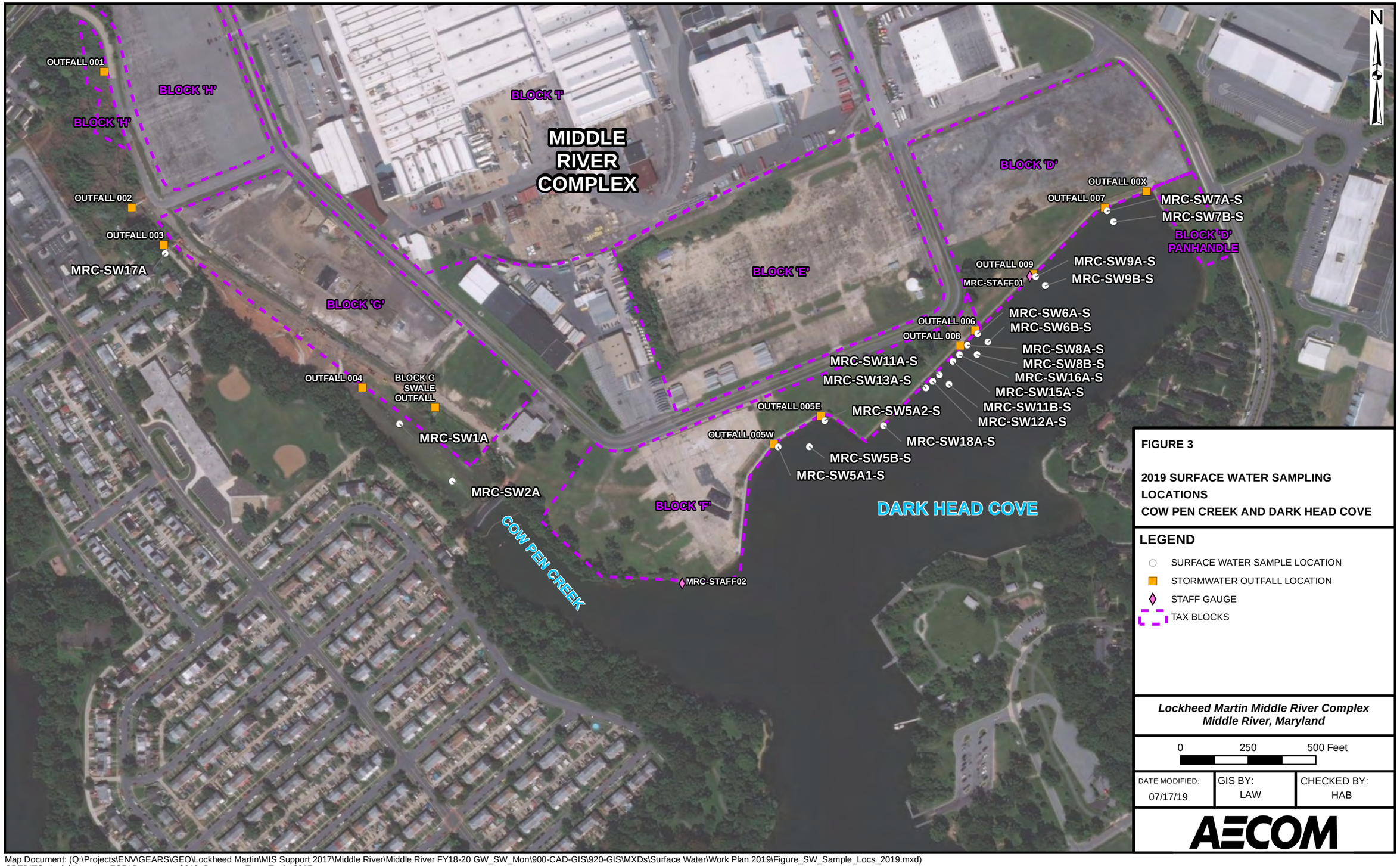

FIGURE 3

2019 SURFACE WATER SAMPLING LOCATIONS
COW PEN CREEK AND DARK HEAD COVE

LEGEND

- SURFACE WATER SAMPLE LOCATION
- STORMWATER OUTFALL LOCATION
- STAFF GAUGE
- TAX BLOCKS

Lockheed Martin Middle River Complex
Middle River, Maryland

0 250 500 Feet

DATE MODIFIED:	GIS BY:	CHECKED BY:
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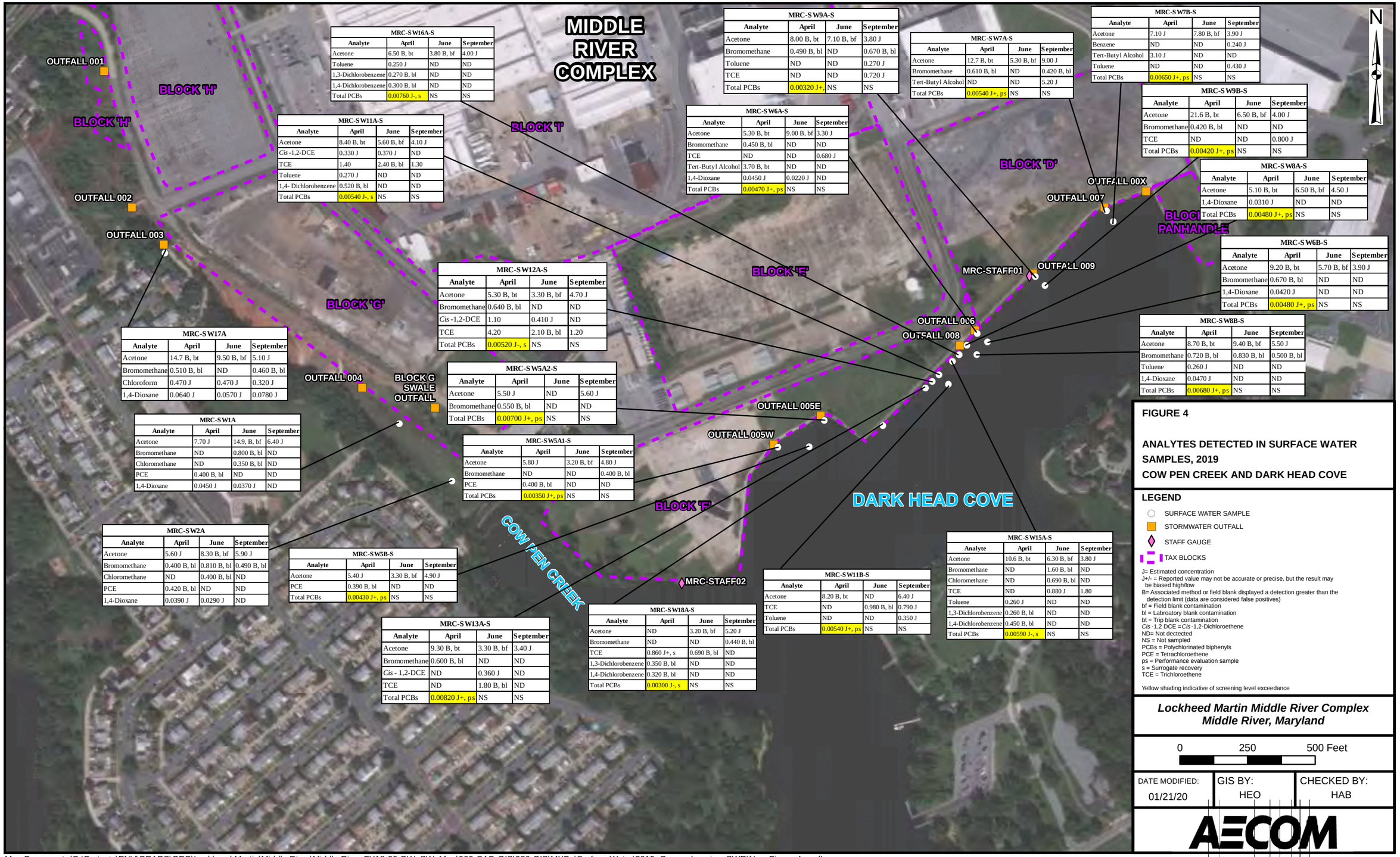

MRC-SW16A-S			
Analyte	April	June	September
Acetone	6.50 B, bt	3.80 B, bf	4.00 J
Toluene	0.250 J	ND	ND
1,3-Dichlorobenzene	0.270 B, bl	ND	ND
1,4-Dichlorobenzene	0.300 B, bl	ND	ND
Total PCBs	0.00760 J-, s	NS	NS

MRC-SW11A-S			
Analyte	April	June	September
Acetone	8.40 B, bt	5.60 B, bf	4.10 J
Cis -1,2-DCE	0.330 J	0.370 J	ND
TCE	1.40	2.40 B, bl	1.30
Toluene	0.270 J	ND	ND
1,4- Dichlorobenzene	0.520 B, bl	ND	ND
Total PCBs	0.00540 J-, s	NS	NS

MRC-SW17A			
Analyte	April	June	September
Acetone	14.7 B, bt	9.50 B, bf	5.10 J
Bromomethane	0.510 B, bl	ND	0.460 B, bl
Chloroform	0.470 J	0.470 J	0.320 J
1,4-Dioxane	0.0640 J	0.0570 J	0.0780 J

MRC-SW1A			
Analyte	April	June	September
Acetone	7.70 J	14.9, B, bf	6.40 J
Bromomethane	ND	0.800 B, bl	ND
Chloromethane	ND	0.350 B, bl	ND
PCE	0.400 B, bl	ND	ND
1,4-Dioxane	0.0450 J	0.0370 J	ND

MRC-SW2A			
Analyte	April	June	September
Acetone	5.60 J	8.30 B, bf	5.90 J
Bromomethane	0.400 B, bl	0.810 B, bl	0.490 B, bl
Chloromethane	ND	0.400 B, bl	ND
PCE	0.420 B, bl	ND	ND
1,4-Dioxane	0.0390 J	0.0290 J	ND

MRC-SW5B-S			
Analyte	April	June	September
Acetone	5.40 J	3.30 B, bf	4.90 J
PCE	0.390 B, bl	ND	ND
Total PCBs	0.00430 J+, ps	NS	NS

MRC-SW12A-S			
Analyte	April	June	September
Acetone	5.30 B, bt	3.30 B, bf	4.70 J
Bromomethane	0.640 B, bl	ND	ND
Cis -1,2-DCE	1.10	0.410 J	ND
TCE	4.20	2.10 B, bl	1.20
Total PCBs	0.00520 J-, s	NS	NS

MRC-SW5A2-S			
Analyte	April	June	September
Acetone	5.50 J	ND	5.60 J
Bromomethane	0.550 B, bl	ND	ND
Total PCBs	0.00700 J+, ps	NS	NS

MRC-SW5A1-S			
Analyte	April	June	September
Acetone	5.80 J	3.20 B, bf	4.80 J
Bromomethane	ND	ND	0.400 B, bl
PCE	0.400 B, bl	ND	ND
Total PCBs	0.00350 J+, ps	NS	NS

MRC-SW13A-S			
Analyte	April	June	September
Acetone	9.30 B, bt	3.30 B, bf	3.40 J
Bromomethane	0.600 B, bl	ND	ND
Cis - 1,2-DCE	ND	0.360 J	ND
TCE	ND	1.80 B, bl	ND
Total PCBs	0.00820 J+, ps	NS	NS

MRC-SW18A-S			
Analyte	April	June	September
Acetone	ND	3.20 B, bf	5.20 J
Bromomethane	ND	ND	0.440 B, bl
TCE	0.860 J+, s	0.690 B, bl	ND
1,3-Dichlorobenzene	0.350 B, bl	ND	ND
1,4-Dichlorobenzene	0.320 B, bl	ND	ND
Total PCBs	0.00300 J-, s	NS	NS

MRC-SW9A-S			
Analyte	April	June	September
Acetone	8.00 B, bt	7.10 B, bf	3.80 J
Bromomethane	0.490 B, bl	ND	0.670 B, bl
Toluene	ND	ND	0.270 J
TCE	ND	ND	0.720 J
Total PCBs	0.00320 J+,	NS	NS

MRC-SW6A-S			
Analyte	April	June	September
Acetone	5.30 B, bt	9.00 B, bf	3.30 J
Bromomethane	0.450 B, bl	ND	ND
TCE	ND	ND	0.680 J
Tert-Butyl Alcohol	3.70 B, bt	ND	ND
1,4-Dioxane	0.0450 J	0.0220 J	ND
Total PCBs	0.00470 J+, ps	NS	NS

MRC-SW7A-S			
Analyte	April	June	September
Acetone	12.7 B, bt	5.30 B, bf	9.00 J
Bromomethane	0.610 B, bl	ND	0.420 B, bl
Tert-Butyl Alcohol	ND	ND	5.20 J
Total PCBs	0.00540 J+, ps	NS	NS

MRC-SW11B-S			
Analyte	April	June	September
Acetone	8.20 B, bt	ND	6.40 J
TCE	ND	0.980 B, bl	0.790 J
Toluene	ND	ND	0.350 J
Total PCBs	0.00540 J+, ps	NS	NS

MRC-SW7B-S			
Analyte	April	June	September
Acetone	7.10 J	7.80 B, bf	3.90 J
Benzene	ND	ND	0.240 J
Tert-Butyl Alcohol	3.10 J	ND	ND
Toluene	ND	ND	0.430 J
Total PCBs	0.00650 J+, ps	NS	NS

MRC-SW9B-S			
Analyte	April	June	September
Acetone	21.6 B, bt	6.50 B, bf	4.00 J
Bromomethane	0.420 B, bl	ND	ND
TCE	ND	ND	0.800 J
Total PCBs	0.00420 J+, ps	NS	NS

MRC-SW8A-S			
Analyte	April	June	September
Acetone	5.10 B, bt	6.50 B, bf	4.50 J
1,4-Dioxane	0.0310 J	ND	ND
Total PCBs	0.00480 J+, ps	NS	NS

MRC-SW6B-S			
Analyte	April	June	September
Acetone	9.20 B, bt	5.70 B, bf	3.90 J
Bromomethane	0.670 B, bl	ND	ND
1,4-Dioxane	0.0420 J	ND	ND
Total PCBs	0.00480 J+, ps	NS	NS

MRC-SW8B-S			
Analyte	April	June	September
Acetone	8.70 B, bt	9.40 B, bf	5.50 J
Bromomethane	0.720 B, bl	0.830 B, bl	0.500 B, bl
Toluene	0.260 J	ND	ND
1,4-Dioxane	0.0470 J	ND	ND
Total PCBs	0.00680 J+, ps	NS	NS

MRC-SW15A-S			
Analyte	April	June	September
Acetone	10.6 B, bt	6.30 B, bf	3.80 J
Bromomethane	ND	1.60 B, bl	ND
Chloromethane	ND	0.690 B, bl	ND
TCE	ND	0.880 J	1.80
Toluene	0.260 J	ND	ND
1,3-Dichlorobenzene	0.260 B, bl	ND	ND
1,4-Dichlorobenzene	0.450 B, bl	ND	ND
Total PCBs	0.00590 J-, s	NS	NS

FIGURE 4

ANALYTES DETECTED IN SURFACE WATER SAMPLES, 2019
COW PEN CREEK AND DARK HEAD COVE

LEGEND

- SURFACE WATER SAMPLE
- STORMWATER OUTFALL
- STAFF GAUGE
- TAX BLOCKS

J= Estimated concentration
J+/- = Reported value may not be accurate or precise, but the result may be biased high/low
B= Associated method or field blank displayed a detection greater than the detection limit (data are considered false positives)
bf = Field blank contamination
bl = Labroatory blank contamination
bt = Trip blank contamination
Cis -1,2 DCE =*Cis* -1,2-Dichloroethene
ND= Not dectected
NS = Not sampled
PCBs = Polychlorinated biphenyls
PCE = Tetrachloroethene
ps = Performance evaluation sample
s = Surrogate recovery
TCE = Trichloroethene

Yellow shading indicative of screening level exceedance

Lockheed Martin Middle River Complex
Middle River, Maryland

0 250 500 Feet

DATE MODIFIED:	GIS BY:	CHECKED BY:
01/21/20	HEO	HAB

AECOM

Map Document: (Q:\Projects\ENV\GEARS\GEO\Lockheed Martin\Middle River\Middle River FY18-20 GW_SW_Mon\900-CAD-GIS\920-GIS\MXDs\Surface Water\2019_Comprehensive_SWR\New Figure 4.mxd)
CREDITS: Aerial Imagery, ESRI Basemaps, 2019; Basemap, Tetra Tech, 2017

Figure 5
2019 Groundwater and Surface Water PCB Detections

LEGEND

- Surface Water Sample Location
- Monitoring Well, PCBs detected
- Injection Well, PCBs detected
- Monitoring Well, PCBs not detected
- Monitoring Well
- Injection Well
- Extraction Well
- STAFF GAUGE
- STORMWATER OUTFALL LOCATION
- TAX BLOCKS

B= Associated method or field blank displayed a detection greater than the detection limit (data are considered false positives)
be = Equipment blank contamination
Di = Dichlorobiphenyls
Hepta = Heptachlorobiphenyls
Hexa = Hexachlorobiphenyls
J= Estimated concentration
J+/- = Reported value may not be accurate or precise, but the result may be biased high/low
ld = Laboratory duplicate RPDs
Mono = Monochlorobiphenyls
PCBs = Polychlorinated biphenyls
Penta = Pentachlorobiphenyls
ps = Performance evaluation sample
RPD = Relative percent difference
s = Surrogate recovery
Tetra = Tetrachlorobiphenyls
Tri = Trichlorobiphenyls

Notes:
1. Concentrations are in micrograms per liter (µ/L)
2. Data was sampled between 4/4/2019 - 4/25/2019

Lockheed Martin Middle River Complex
Middle River, Maryland

0 150 300 Feet

DATE MODIFIED:	GIS BY:	CHECKED BY:
01/20/20	HEO	HAB

AECOM

Map Document: (Q:\Projects\ENV\GEARS\GEO\Lockheed Martin\Middle River\Middle River FY18-20 GW_SW_Mon\900-CAD-GIS\920-GIS\MXDs\Surface Water\2019_Comprehensive_SWR\PCB_Detections.mxd)
CREDITS: Aerial Imagery, ESRI Basemaps, 2019; Basemap, Tetra Tech, 2017

TABLES

Table 1
2019 Surface Water Sampling Locations and Chemical Analyses
Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland

Sample Location	Sample Number	Distance From Shore (in feet)	Samples Per Round	Analytical Parameters
Dark Head Cove				
Outfall 005E and 005W	MRC-SW5A1-S	10	1	VOCs, PCBs**
	MRC-SW5A2-S	10	1	field parameters
	MRC-SW5B-S	50	1	
Outfall 006	MRC-SW6A-S	10	1	VOCs, 1,4-Dioxane, PCBs**
	MRC-SW6B-S	50	1	field parameters
Outfall 007	MRC-SW7A-S	10	1	VOCs, PCBs**
	MRC-SW7B-S	50	1	field parameters
Outfall 008	MRC-SW8A-S	10	1	VOCs, 1,4-Dioxane, PCBs**
	MRC-SW8B-S	50	1	field parameters
Outfall 009	MRC-SW9A-S	10	1	VOCs, PCBs**
	MRC-SW9B-S	50	1	field parameters
Dark Head Cove	MRC-SW11A-S	10	1	
	MRC-SW11B-S	50	1	
	MRC-SW12A-S	10	1	VOCs, PCBs**
	MRC-SW13A-S	10	1	
	MRC-SW15A-S	10	1	
	MRC-SW16A-S	10	1	
	MRC-SW18A-S	10	1	field parameters
Cow Pen Creek				
Outfall 003	MRC-SW17A	downstream*	1	VOCs, 1,4-Dioxane, field parameters
Near western plume	MRC-SW1A	upstream*	1	
	MRC-SW2A	downstream*	1	

Notes:

Samples are to be collected in April, June and September each year

* Samples were collected from the creek's centerline, 10 feet upstream (northwest) and 10 feet downstream (southeast) from the estimated groundwater plume boundaries

** PCB samples were collected only in the April round

All samples were collected one foot below the water surface

DO - Dissolved Oxygen

VOCs – volatile organic compounds by USEPA SW-846 Method 8260C

MRC - Middle River Complex

ORP – oxidation-reduction potential

PCBs – polychlorinated biphenyl homologs by USEPA SW-846 Method 680

SW - Surface Water

1,4-Dioxane by USEPA SW-848270D SIM

USEPA – United States Environmental Protection Agency

Field parameters include pH, temperature, specific conductance, DO, hardness, turbidity, ORP, and salinity using calibrated portable field instruments (Horiba U-52) at the time of sampling

Table 2
Detected Analytes and Screening Level Exceedances in 2019 Surface Water Samples
Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland

		Ecological			Human Health				MRC-SW1A				MRC-SW2A				MRC-SW5A1-S				MRC-SW5A2-S				MRC-SW5B				MRC-SW6A-S				MRC-SW6B-S				MRC-SW7A-S			
		Federal Benchmarks (1)		Regional Benchmarks (2)	Human Health Consumption (Organism Only)		Swimming Screening Levels (6)	Sample Event	Field Sample				Field Sample				Field Sample				Field Sample				Field Sample				Field Sample				Field Sample				Field Sample			
Analyte	CAS Number	Acute	Chronic		Federal (3,4)	State (5)			Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC
VOLATILES (µg/L)																																								
1,2-Dichloroethylene (total)	540-59-0	NE	NE	590	NE	NE	NE	April 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								June 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								Sept 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
1,3-Dichlorobenzene	541-73-1	NE	NE	150	10	960	NE	April 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								June 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								Sept 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
1,4-Dichlorobenzene	106-46-7	NE	NE	26	900	190	NE	April 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								June 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								Sept 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
Acetone	67-64-1	NE	NE	1500	NE	NE	NE	April 2019	**7.70**	J			**5.60**	J			**5.80**	J			**5.50**	J			**5.40**	J			**5.30**	J	B	bt	**9.20**	J	B	bt	**12.7**		B	bt
								June 2019	**14.9**		B	bf	**8.30**	J	B	bf	**3.20**	J	B	bf	ND	U			**3.30**	J	B	bf	**9.00**	J	B	bf	**5.70**	J	B	bf	**5.30**	J	B	bf
								Sept 2019	**6.40**	J			**5.90**	J			**4.80**	J			**5.60**	J			**4.90**	J			**3.30**	J			**3.90**	J			**9.00**	J		
Benzene	71-43-2	NE	NE	370	160	510	NE	April 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								June 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								Sept 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
Bromomethane	74-83-9	NE	NE	16	10000	1500	NE	April 2019	ND	U			**0.400**	J	B	bl	ND	U			**0.550**	J	B	bl	ND	U			**0.450**	J	B	bl	**0.670**	J	B	bl	**0.610**	J	B	bl
								June 2019	**0.800**	J	B	bl	**0.810**	J	B	bl	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								Sept 2019	ND	U			**0.490**	J	B	bl	**0.400**	J	B	bl	ND	U			ND	U			ND	U			ND	U			**0.420**	J	B	bl
Chloroform	67-66-3	NE	NE	1.8	2000	4700	NE	April 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								June 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								Sept 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
Chloromethane	74-87-3	NE	NE	NE	NE	NE	NE	April 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								June 2019	**0.350**	J	B	bl	**0.400**	J	B	bl	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								Sept 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
cis-1,2-Dichloroethene	156-59-2	NE	NE	590	NE	NE	20	April 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								June 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								Sept 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
Tert-Butyl Alcohol	75-65-0	NE	NE	NE	NE	NE	NE	April 2019	ND	U			ND	U			ND	U			ND	U			ND	U			**3.70**	J	B	bt	ND	U			ND	U		
								June 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								Sept 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			**5.20**	J		
Tetrachloroethene	127-18-4	NE	NE	111	290	33	NE	April 2019	**0.400**	J	B	bl	**0.420**	J	B	bl	**0.400**	J	B	bl	ND	U			**0.390**	J	B	bl	ND	U			ND	U			ND	U		
								June 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								Sept 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
Toluene	108-88-3	NE	NE	2	520	15000	NE	April 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								June 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								Sept 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
Trichloroethene	79-01-6	NE	NE	21	70	300	30	April 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								June 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								Sept 2019	ND	U			ND	U			ND	U			ND	U			ND	U			**0.680**	J			ND	U			ND	U		

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References and Footnotes

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2 United States Environmental Protection Agency (USEPA) Region 3 Biological Technical Advisory Group (BTAG)
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6 Site-specific swimming screening levels were developed for trichloroethene, *cis* -1,2-dichloroethene, and 1,4 dioxane
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Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland

		Ecological			Human Health				MRC-SW1A				MRC-SW2A				MRC-SW5A1-S				MRC-SW5A2-S				MRC-SW5B				MRC-SW6A-S				MRC-SW6B-S				MRC-SW7A-S			
		Federal Benchmarks (1)		Regional Benchmarks (2)	Human Health Consumption (Organism Only)		Swimming Screening Levels (6)	Sample Event	Field Sample				Field Sample				Field Sample				Field Sample				Field Sample				Field Sample				Field Sample				Field Sample			
Analyte	CAS Number	Acute	Chronic		Federal (3,4)	State (5)			Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC
SEMIVOLATILES (µg/L)																																								
1,4-Dioxane	123-91-1	NE	NE	22000	NE	NE	20	April 2019	**0.0450**	J			**0.0390**	J			NS				NS				NS				**0.0450**	J			**0.0420**	J			NS			
								June 2019	**0.0370**	J			**0.0290**	J			NS				NS				NS				**0.0220**	J			ND	U			NS			
								Sept 2019	ND	U			ND	U			NS				NS				NS				ND	U			ND	U			NS			
POLYCHLORINATED BIPHENYLS (µg/L)																																								
Total PCBs (7)	1336-36-3	NE	0.014	0.000074	0.00064	0.00064	5	Feb 2019	NS				NS				**0.00420**				**0.00420**				NS				NS				NS				**0.00520**			
								April 2019	NS				NS				**0.00350**	J	J+	ps	**0.00700**		J+	ps	**0.00430**	J	J+	ps	**0.00470**	J	J+	ps	**0.00480**	J	J+	ps	**0.00540**	J	J+	ps
								June 2019	NS				NS				NS				NS				NS				NS				NS				NS			
								Sept 2019	NS				NS				NS				NS				NS				NS				NS				NS			

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Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland

		Ecological			Human Health				MRC-SW7A-S				MRC-SW7B-S				MRC-SW8A-S				MRC-SW8A-S				MRC-SW8B-S				MRC-SW8B-S				MRC-SW9A-S				MRC-SW9B-S			
		Federal Benchmarks (1)		Regional Benchmarks (2)	Human Health Consumption (Organism Only)		Swimming Screening Levels (6)	Sample Event	Field Duplicate				Field Sample				Field Sample				Field Duplicate				Field Sample				Field Duplicate				Field Sample				Field Sample			
Analyte	CAS Number	Acute	Chronic		Federal (3,4)	State (5)			Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC
VOLATILES (µg/L)																																								
1,2-Dichloroethylene (total)	540-59-0	NE	NE	590	NE	NE	NE	April 2019	NS				ND	U			ND	U			ND	U			ND	U			NS				ND	U			ND	U		
								June 2019	NS				ND	U			ND	U			NS				ND	U			ND	U			ND	U			ND	U		
								Sept 2019	NS				ND	U			ND	U			ND	U			ND	U			NS				ND	U			ND	U		
1,3-Dichlorobenzene	541-73-1	NE	NE	150	10	960	NE	April 2019	NS				ND	U			ND	U			ND	U			ND	U			NS				ND	U			ND	U		
								June 2019	NS				ND	U			ND	U			NS				ND	U			ND	U			ND	U			ND	U		
								Sept 2019	NS				ND	U			ND	U			ND	U			ND	U			NS				ND	U			ND	U		
1,4-Dichlorobenzene	106-46-7	NE	NE	26	900	190	NE	April 2019	NS				ND	U			ND	U			ND	U			ND	U			NS				ND	U			ND	U		
								June 2019	NS				ND	U			ND	U			NS				ND	U			ND	U			ND	U			ND	U		
								Sept 2019	NS				ND	U			ND	U			ND	U			ND	U			NS				ND	U			ND	U		
Acetone	67-64-1	NE	NE	1500	NE	NE	NE	April 2019	NS				**7.10**	J			**5.10**	J	B	bt	ND	U			**8.70**	J	B	bt	NS				**8.00**	J	B	bt	**21.6**		B	bt
								June 2019	NS				**7.80**	J	B	bf	**6.50**	J	B	bf	NS				**5.60**	J	B	bf	**9.40**	J	B	bf	**7.10**	J	B	bf	**6.50**	J	B	bf
								Sept 2019	NS				**3.90**	J			**4.50**	J			ND	U			**5.50**	J			NS				**3.80**	J			**4.00**	J		
Benzene	71-43-2	NE	NE	370	160	510	NE	April 2019	NS				ND	U			ND	U			ND	U			ND	U			NS				ND	U			ND	U		
								June 2019	NS				ND	U			ND	U			NS				ND	U			ND	U			ND	U			ND	U		
								Sept 2019	NS				**0.240**	J			ND	U			ND	U			ND	U			NS				ND	U			ND	U		
Bromomethane	74-83-9	NE	NE	16	10000	1500	NE	April 2019	NS				ND	U			ND	U			ND	U			**0.720**	J	B	bl	NS				**0.490**	J	B	bl	**0.420**	J	B	bl
								June 2019	NS				ND	U			ND	U			NS				**0.830**	J	B	bl	ND	U			ND	U			ND	U		
								Sept 2019	NS				ND	U			ND	U			ND	U			**0.500**	J	B	bl	NS				**0.670**	J	B	bl	ND	U		
Chloroform	67-66-3	NE	NE	1.8	2000	4700	NE	April 2019	NS				ND	U			ND	U			ND	U			ND	U			NS				ND	U			ND	U		
								June 2019	NS				ND	U			ND	U			NS				ND	U			ND	U			ND	U			ND	U		
								Sept 2019	NS				ND	U			ND	U			ND	U			ND	U			NS				ND	U			ND	U		
Chloromethane	74-87-3	NE	NE	NE	NE	NE	NE	April 2019	NS				ND	U			ND	U			ND	U			ND	U			NS				ND	U			ND	U		
								June 2019	NS				ND	U			ND	U			NS				ND	U			ND	U			ND	U			ND	U		
								Sept 2019	NS				ND	U			ND	U			ND	U			ND	U			NS				ND	U			ND	U		
cis-1,2-Dichloroethene	156-59-2	NE	NE	590	NE	NE	20	April 2019	NS				ND	U			ND	U			ND	U			ND	U			NS				ND	U			ND	U		
								June 2019	NS				ND	U			ND	U			NS				ND	U			ND	U			ND	U			ND	U		
								Sept 2019	NS				ND	U			ND	U			ND	U			ND	U			NS				ND	U			ND	U		
Tert-Butyl Alcohol	75-65-0	NE	NE	NE	NE	NE	NE	April 2019	NS				**3.10**	J			ND	U			ND	U			ND	U			NS				ND	U			ND	U		
								June 2019	NS				ND	U			ND	U			NS				ND	U			ND	U			ND	U			ND	U		
								Sept 2019	NS				ND	U			ND	U			ND	U			ND	U			NS				ND	U			ND	U		
Tetrachloroethene	127-18-4	NE	NE	111	290	33	NE	April 2019	NS				ND	U			ND	U			ND	U			ND	U			NS				ND	U			ND	U		
								June 2019	NS				ND	U			ND	U			NS				ND	U			ND	U			ND	U			ND	U		
								Sept 2019	NS				ND	U			ND	U			ND	U			ND	U			NS				ND	U			ND	U		
Toluene	108-88-3	NE	NE	2	520	15000	NE	April 2019	NS				ND	U			ND	U			ND	U			**0.260**	J			NS				ND	U			ND	U		
								June 2019	NS				ND	U			ND	U			NS				ND	U			ND	U			ND	U			ND	U		
								Sept 2019	NS				**0.430**	J			ND	U			ND	U			ND	U			NS				**0.270**	J			ND	U		
Trichloroethene	79-01-6	NE	NE	21	70	300	30	April 2019	NS				ND	U			ND	U			ND	U			ND	U			NS				ND	U			ND	U		
								June 2019	NS				ND	U			ND	U			NS				ND	U			ND	U			ND	U			ND	U		
								Sept 2019	NS				ND	U			ND	U			ND	U			ND	U			NS				**0.720**	J			**0.800**	J		

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		Federal Benchmarks (1)		Regional Benchmarks (2)	Human Health Consumption (Organism Only)		Swimming Screening Levels (6)	Sample Event	Field Duplicate				Field Sample				Field Sample				Field Duplicate				Field Sample				Field Duplicate				Field Sample				Field Sample			
Analyte	CAS Number	Acute	Chronic		Federal (3,4)	State (5)			Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC
SEMIVOLATILES (µg/L)																																								
1,4-Dioxane	123-91-1	NE	NE	22000	NE	NE	20	April 2019	NS				NS				**0.0310**	J			**0.0240**	J			**0.0470**	J			NS				NS				NS			
								June 2019	NS				NS				ND	U			NS				ND	U			ND	U			NS				NS			
								Sept 2019	NS				NS				ND	U			ND	U			ND	U			NS				NS				NS			
POLYCHLORINATED BIPHENYLS (µg/L)																																								
Total PCBs (7)	1336-36-3	NE	0.014	0.000074	0.00064	0.00064	5	Feb 2019	ND	U			NS				**0.00660**				NS				**0.00640**				NS				**0.00870**				NS			
								April 2019	NS				**0.00650**		J+	ps	**0.00420**	J	J+	ps	**0.00480**	J	J+	ps	**0.00680**		J+	ps	NS				**0.00320**	J	J+	ps	**0.00420**	J	J+	ps
								June 2019	NS				NS				NS				NS				NS				NS				NS				NS			
								Sept 2019	NS				NS				NS				NS				NS				NS				NS				NS			

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3 National Recommended Water Quality Criteria, http://water.epa.gov/scitech/swguidance/standards/current/index.cfm

4 For carcinogens (i.e., trichloroethene), criterion is for incremental cancer risk of $1x10^{-5}$

5 Maryland Numerical Criteria for Toxic Substances in Surface Waters, Code of Maryland Regulations (COMAR)
26.08.02.03, http://www.dsd.state.md.us./comar/comarhtml/26/26.08.02.03-2.htm

6 Site-specific swimming screening levels were developed for trichloroethene, *cis* -1,2-dichloroethene, and 1,4 dioxane
for Dark Head Cove.

7 The results shown are for the dichlorobiphenyl homolog group. Only dichlorobiphenyls were detected during the February and April 2019 event.

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Table 2
Detected Analytes and Screening Level Exceedances in 2019 Surface Water Samples
Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland

		Ecological			Human Health				MRC-SW11A-S				MRC-SW11B-S				MRC-SW12A-S				MRC-SW13A-S				MRC-SW15A-S				MRC-SW16A-S				MRC-SW17A				MRC-SW18A-S			
		Federal Benchmarks (1)		Regional Benchmarks (2)	Human Health Consumption (Organism Only)		Swimming Screening Levels (6)	Sample Event	Field Sample				Field Sample				Field Sample				Field Sample				Field Sample				Field Sample				Field Sample				Field Sample			
Analyte	CAS Number	Acute	Chronic		Federal (3,4)	State (5)			Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC
VOLATILES (µg/L)																																								
1,2-Dichloroethylene (total)	540-59-0	NE	NE	590	NE	NE	NE	April 2019	ND	U			ND	U			**1.10**	J			ND	U			ND	U			ND	U			ND	U			ND	U		
								June 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								Sept 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
1,3-Dichlorobenzene	541-73-1	NE	NE	150	10	960	NE	April 2019	ND	U			ND	U			ND	U			ND	U			**0.260**	J	B	bl	**0.270**	J	B	bl	ND	U			**0.350**	J	B	bl
								June 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								Sept 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
1,4-Dichlorobenzene	106-46-7	NE	NE	26	900	190	NE	April 2019	**0.520**	J	B	bl	ND	U			ND	U			ND	U			**0.450**	J	B	bl	**0.300**	J	B	bl	ND	U			**0.320**	J	B	bl
								June 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								Sept 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
Acetone	67-64-1	NE	NE	1500	NE	NE	NE	April 2019	**8.40**	J	B	bt	**8.20**	J	B	bt	**5.30**	J	B	bt	**9.30**	J	B	bt	**10.6**		B	bt	**6.50**	J	B	bt	**14.7**		B	bt	ND	U		
								June 2019	**5.60**	J	B	bf	ND	U			**3.30**	J	B	bf	**3.30**	J	B	bf	**6.30**	J	B	bf	**3.80**	J	B	bf	**9.50**	J	B	bf	**3.20**	J	B	bf
								Sept 2019	**4.10**	J			**6.40**	J			**4.70**	J			**3.40**	J			**3.80**	J			**4.00**	J			**5.10**	J			**5.20**	J		
Benzene	71-43-2	NE	NE	370	160	510	NE	April 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								June 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								Sept 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
Bromomethane	74-83-9	NE	NE	16	10000	1500	NE	April 2019	ND	U			ND	U			**0.640**	J	B	bl	**0.600**	J	B	bl	ND	U			ND	U			**0.510**	J	B	bl	ND	U		
								June 2019	ND	U			ND	U			ND	U			ND	U			**1.60**	J	B	bl	ND	U			ND	U			ND	U		
								Sept 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			**0.460**	J	B	bl	**0.440**	J	B	bl
Chloroform	67-66-3	NE	NE	1.8	2000	4700	NE	April 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			**0.470**	J			ND	U		
								June 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			**0.470**	J			ND	U		
								Sept 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			**0.320**	J			ND	U		
Chloromethane	74-87-3	NE	NE	NE	NE	NE	NE	April 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								June 2019	ND	U			ND	U			ND	U			ND	U			**0.690**	J	B	bl	ND	U			ND	U			ND	U		
								Sept 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
cis-1,2-Dichloroethene	156-59-2	NE	NE	590	NE	NE	20	April 2019	**0.330**	J			ND	U			**1.10**				ND	U			ND	U			ND	U			ND	U			ND	U		
								June 2019	**0.370**	J			ND	U			**0.410**	J			**0.360**	J			ND	U			ND	U			ND	U			ND	U		
								Sept 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
Tert-Butyl Alcohol	75-65-0	NE	NE	NE	NE	NE	NE	April 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								June 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								Sept 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
Tetrachloroethene	127-18-4	NE	NE	111	290	33	NE	April 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								June 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								Sept 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
Toluene	108-88-3	NE	NE	2	520	15000	NE	April 2019	**0.270**	J			ND	U			ND	U			ND	U			**0.260**	J			**0.250**	J			ND	U			ND	U		
								June 2019	ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
								Sept 2019	ND	U			**0.350**	J			ND	U			ND	U			ND	U			ND	U			ND	U			ND	U		
Trichloroethene	79-01-6	NE	NE	21	70	300	30	April 2019	**1.40**				ND	U			**4.20**				ND	U			ND	U			ND	U			ND	U			**0.860**	J	J+	s
								June 2019	**2.40**		B	bl	**0.980**	J	B	bl	**2.10**		B	bl	**1.80**		B	bl	**0.880**	J			ND	U			ND	U			**0.690**	J	B	bl
								Sept 2019	**1.30**				**0.790**	J			**1.20**				ND	U			**1.80**				ND	U			ND	U			ND	U		

Bold values indicate detections

Yellow shading indicates a results that exceeds a screening criterion

References and Footnotes

1 United States Environmental Protection Agency's (USEPA's) National Recommended Aquatic Life Criteria http://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table

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6 Site-specific swimming screening levels were developed for trichloroethene, *cis* -1,2-dichloroethene, and 1,4 dioxane for Dark Head Cove.

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Analyte	CAS Number	Acute	Chronic		Federal (3,4)	State (5)			Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC	Result	LQ	VQ	RC
SEMIVOLATILES (µg/L)																																								
1,4-Dioxane	123-91-1	NE	NE	22000	NE	NE	20	April 2019	NS				NS				NS				NS				NS				NS				**0.0640**	J			NS			
								June 2019	NS				NS				NS				NS				NS				NS				**0.0570**	J			NS			
								Sept 2019	NS				NS				NS				NS				NS				NS				**0.0780**	J			NS			
POLYCHLORINATED BIPHENYLS (µg/L)																																								
Total PCBs (7)	1336-36-3	NE	0.014	0.000074	0.00064	0.00064	5	Feb 2019	NS				NS				NS				**0.00470**				**0.00430**				NS				NS				NS			
								April 2019	**0.00540**	J	J-	s	**0.00540**	J	J+	ps	**0.00520**		J-	s	**0.00820**		J+	ps	**0.00590**		J-	s	**0.00760**		J-	s	NS				**0.00300**	J	J-	s
								June 2019	NS				NS				NS				NS				NS				NS				NS				NS			
								Sept 2019	NS				NS				NS				NS				NS				NS				NS				NS			

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Table 3
Field Measurements for Surface Water Quality, 2019
Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland

Location	Date	Time	Temp (°C)	pH (s.u.)	Specific Conductance (µS/cm)	Turb (NTU)	DO (mg/L)	ORP (mV)	Salinity (ppt)	Hardness (mg/L $CaCO_3$)
MRC-SW1A	4/25/2019	1542	19.69	6.12	1.23	1.70	7.10	226.0	0.61	129.7
	6/12/2019	0841	24.58	7.06	0.539	26.1	4.67	169.2	0.30	165.7
	9/16/2019	1630	26.74	8.87	5.65	0	6.94	164.0	0.31	202.0
MRC-SW2A	4/25/2019	1528	19.10	6.93	1.10	2.70	6.23	198.0	0.55	129.7
	6/12/2019	0905	25.17	7.5	0.537	13.30	4.48	178.5	0.30	165.7
	9/16/2019	1605	26.94	8.85	5.69	0	8.77	167.0	0.31	202.0
MRC-SW5A1-S	4/25/2019	1505	20.17	8.27	1.19	0	7.61	177.0	0.59	129.7
	6/12/2019	0936	25.87	7.66	0.545	14.20	4.5	172.9	0.30	165.7
	9/16/2019	1550	28.13	8.53	5.70	0	6.08	167.0	0.31	202.0
MRC-SW5A2-S	4/25/2019	1500	20.31	8.45	1.10	0	8.50	176.0	0.54	129.7
	6/12/2019	0947	25.90	7.61	0.545	11.30	4.77	171.5	0.30	165.7
	9/16/2019	1535	27.72	8.48	5.76	0	5.84	168.0	0.31	202.0
MRC-SW5B-S	4/25/2019	1513	19.75	8.04	1.09	0	8.07	190.0	0.54	129.7
	6/12/2019	1000	25.88	7.75	0.545	9.60	4.55	171.4	0.30	165.7
	9/16/2019	1520	28.10	8.29	5.77	0	7.61	169.0	0.31	202.0
MRC-SW6A-S	4/25/2019	1217	19.06	6.43	1.23	0	8.72	252.0	0.61	129.7
	6/12/2019	1320	26.63	8.24	0.551	10.40	4.67	172.1	0.30	165.7
	9/16/2019	1120	25.10	7.44	5.77	0	2.91	181.0	0.31	202.0
MRC-SW6B-S	4/25/2019	1232	19.90	8.52	1.18	0	8.31	192.0	0.59	129.7
	6/12/2019	1300	26.40	8.22	0.551	10.90	4.8	170.8	0.30	165.7
	9/16/2019	1135	25.94	7.48	5.77	0	4.07	176.0	0.31	202.0
MRC-SW7A-S	4/25/2019	1115	19.94	8.80	1.09	0	7.98	173.0	0.54	129.7
	6/12/2019	1400	27.08	8.23	0.551	9.30	4.71	189.4	0.30	165.7
	9/16/2019	1013	24.70	7.08	5.71	0	5.80	157.0	0.31	202.0
MRC-SW7B-S	4/25/2019	1129	19.86	8.63	1.09	0	7.92	175.0	0.54	129.7
	6/12/2019	1410	27.00	8.22	0.551	10.8	4.73	183.1	0.30	165.7
	9/16/2019	1030	24.98	7.30	5.75	0	3.00	173.0	0.31	202.0
MRC-SW8A-S	4/25/2019	1258	20.74	9.13	1.20	0	8.63	169.0	0.60	129.7
	6/12/2019	1210	26.07	8.01	0.551	9.50	4.7	185.6	0.30	165.7
	9/16/2019	1200	27.00	7.52	5.71	0	5.29	189.0	0.31	202.0
MRC-SW8B-S	4/25/2019	1304	20.51	9.08	1.20	0	9.58	169.0	0.60	129.7
	6/12/2019	1230	26.08	8.01	0.55	10.70	4.35	195.7	0.30	165.7
	9/16/2019	1300	26.81	7.67	5.72	0	5.59	180.0	0.31	202.0
MRC-SW9A-S	4/25/2019	1150	19.88	8.52	1.08	0	6.77	185.0	0.53	129.7
	6/12/2019	1350	27.03	8.22	0.551	9.90	4.74	198.4	0.30	165.7
	9/16/2019	1045	25.26	7.35	5.74	0	3.38	182.0	0.31	202.0
MRC-SW9B-S	4/25/2019	1205	19.90	8.57	1.09	0	7.56	181.0	0.54	129.7
	6/12/2019	1340	26.71	8.27	0.551	10.40	4.87	175.8	0.30	165.7
	9/16/2019	1100	25.49	7.41	5.75	0	3.52	175.0	0.31	202.0
MRC-SW11A-S	4/25/2019	1335	20.37	8.90	1.09	0	8.50	164.0	0.54	129.7
	6/12/2019	1055	25.87	7.71	0.548	9.60	4.51	171.2	0.30	165.7
	9/16/2019	1405	27.80	8.05	5.71	0	5.98	172.0	0.31	202.0
MRC-SW11B-S	4/25/2019	1400	20.50	9.05	1.19	0	8.22	162.0	0.59	129.7
	6/12/2019	1103	25.84	7.74	0.547	11.70	4.31	176.8	0.30	165.7
	9/16/2019	1415	28.26	8.10	5.65	0	5.51	170.0	0.31	202.0
MRC-SW12A-S	4/25/2019	1320	20.39	8.86	1.19	0	7.45	163.0	0.59	129.7
	6/12/2019	1041	25.85	7.72	0.548	10.60	4.33	168.8	0.30	165.7
	9/16/2019	1430	27.79	8.11	5.73	0	4.91	174.0	0.31	202.0
MRC-SW13A-S	4/25/2019	1325	20.25	8.84	1.67	0	8.25	169.0	0.59	129.7
	6/12/2019	1030	25.86	7.78	0.547	10.00	4.7	169.4	0.30	165.7
	9/16/2019	1450	27.57	8.19	5.74	0	6.93	171.0	0.31	202.0
MRC-SW15A-S	4/25/2019	1442	20.46	9.01	1.19	0	8.64	163.0	0.59	129.7
	6/12/2019	1115	25.87	7.77	0.55	10.30	4.39	180.7	0.30	165.7
	9/16/2019	1350	27.58	8.04	5.70	0	5.23	173.0	0.31	202.0
MRC-SW16A-S	4/25/2019	1429	20.56	9.09	1.19	0	9.47	161.0	0.59	129.7
	6/12/2019	1150	25.93	7.88	0.55	10.20	4.8	179.4	0.30	165.7
	9/16/2019	1335	27.76	7.75	5.69	0	5.50	176.0	0.31	202.0
MRC-SW17A	4/25/2019	1036	17.50	7.99	0.71	0	9.02	167.0	0.34	181.0
	6/12/2019	1500	25.46	8.33	0.51	10.00	6.54	197.8	0.20	208.0
	9/16/2019	0855	20.02	6.32	0.44	0	2.61	216.0	0.02	220.0
MRC-SW18A-S	4/25/2019	1245	20.46	8.69	1.19	0	7.65	169.0	0.59	129.7
	6/12/2019	1012	25.84	7.77	0.547	10.00	4.51	181.5	0.30	165.7
	9/16/2019	1500	28.17	8.15	5.73	0	5.61	172.0	0.31	202

Notes:

Temp - Temperature
(°C) - Degrees Celcius
s.u. - Standard units
mV - millivolts
µs/cm - MicroSiemens per centimeter
Turb - Turbidity
NTU - Nephelometric turbidity unit
ppt - parts per trillion
DO - Dissolved oxygen
mg/L - milligrams per liter
ORP - Oxidation reduction potential

Table 4
Statistical Summary of Surface Water Sampling Results for Dark Head Cove and Cow Pen Creek
April, June, and September 2019
Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland

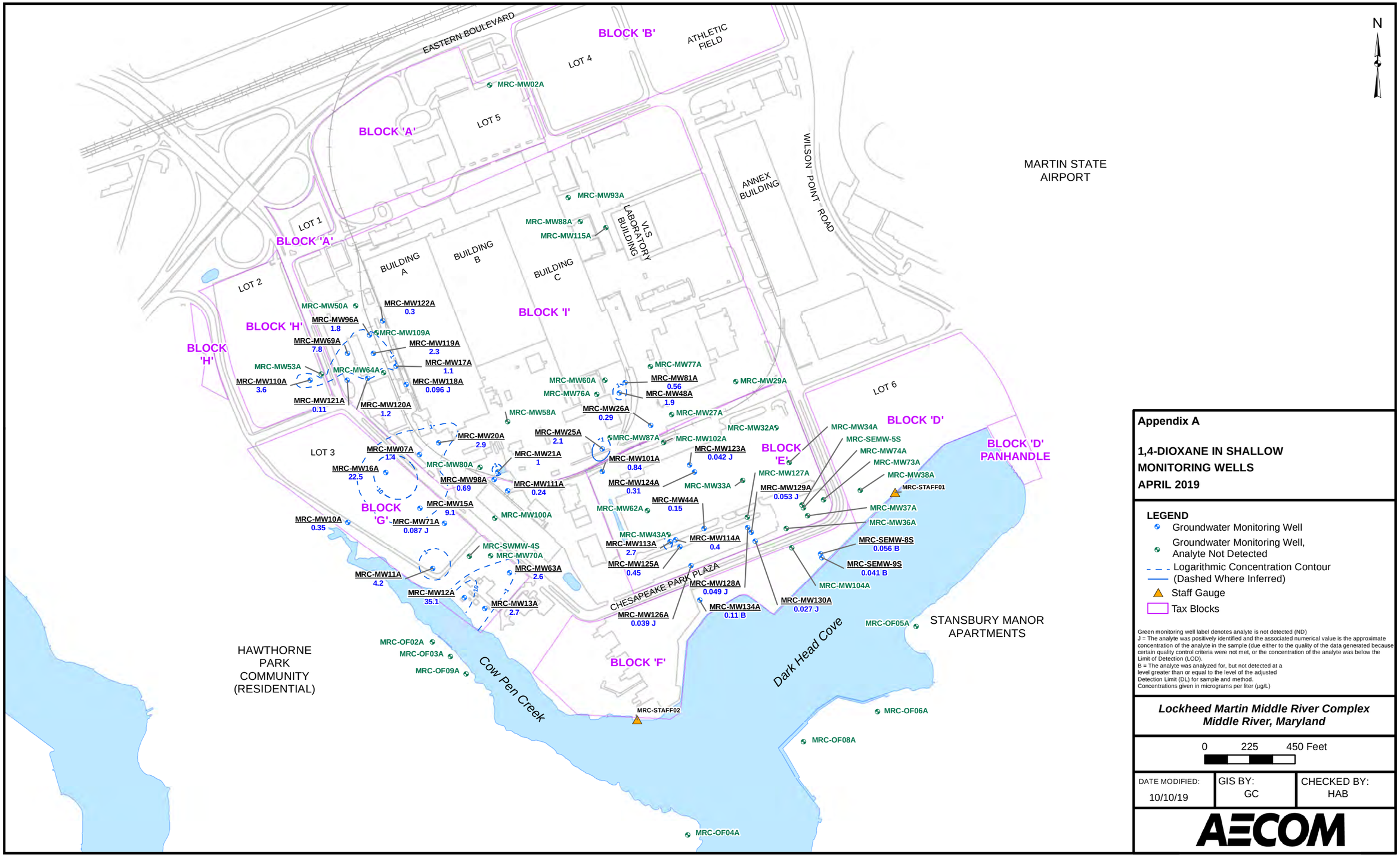
Parameter	Frequency of Detection		Minimum Non-Detect Concentration	Maximum Non-Detect Concentration	Minimum Detected Concentration	Maxmimum Detected Concentration	Location of Maximum Detected Concentration	Average of All Results (1)	Average of Detected Results	Standard Deviation	Sampling Date (2)
	Number	Percent									
VOLATILES (µg/L)											
1,2-Dichloroethylene (total)	1/66	2%	2	2	1.1 J	1.1 J	MRC-SW12A-S	1.1	1.1	N/A	4/24/2019
1,3-Dichlorobenzene	3/66	5%	1	1	0.26 B	0.35 B	MRC-SW18A-S	0.293	0.293	0.0493	4/24/2019
1,4-Dichlorobenzene	4/66	6%	1	1	0.3 B	0.52 B	MRC-SW11A-S	0.398	0.398	0.105	4/24/2019
Acetone	61/66	92%	10	10	3.2 B	21.6 B	MRC-SW9B-S	6.509	6.566	3.274	4/25/2019
Benzene	1/66	2%	1	1	0.24 J	0.24 J	MRC-SW7B-S	0.24	0.24	N/A	9/16/2019
Bromomethane	22/66	33%	1	1	0.4 B	1.6 B	MRC-SW15A-S	0.581	0.613	0.26	6/12/2019
Chloroform	3/66	5%	1	1	0.32 J	0.47 J	MRC-SW17A	0.42	0.42	0.0866	(3)
Chloromethane	3/66	5%	1	1	0.35 B	0.69 B	MRC-SW15A-S	0.48	0.48	0.184	6/12/2019
cis-1,2-Dichloroethene	5/66	8%	1	1	0.33 J	1.1	MRC-SW12A-S	0.379	0.514	0.329	4/24/2019
Tert-Butyl Alcohol	3/66	5%	10	10	3.1 J	5.2 J	MRC-SW7A-S	4	4	1.082	9/16/2019
Tetrachloroethene	4/66	6%	1	1	0.39 B	0.42 B	MRC-SW2A	0.403	0.403	0.0126	4/24/2019
Toluene	7/66	11%	1	1	0.25 J	0.43 J	MRC-SW7B-S	0.299	0.299	0.0669	9/16/2019
Trichloroethene	16/66	24%	1	1	0.68 J	4.2	MRC-SW12A-S	0.948	1.413	0.918	4/24/2019
1,4-DIOXANE (analyzed as a Semivolatile Organic; µg/L)											
1,4-Dioxane	13/24	54%	0.095	0.1	0.022 J	0.078 J	MRC-SW17A	0.0431	0.0431	0.016	9/16/2019
POLYCHLORINATED BIPHENYLS (µg/L)											
Total PCBs (4)	19/19	100%	N/A	N/A	0.003 J-	0.0082 J+	MRC-SW13A-S	0.00527	0.00527	0.00145	4/24/2019

1 If the dataset contains non-detects, the average was calculated using the Kaplan Meier method.
2 Date of sample in which maximum concentration was detected.
3 Maximum detected concentration recorded at MRC-SW17A during April and June 2019 events (4/25/2019 and 6/12/2019).
4 The results shown are for the dichlorobiphenyl homolog group. Only dichlorobiphenyls were detected during the April 2019 event.

B = The associated method blank or field blank displayed a detection greater than the DL. The reported result value is unchanged and did not require further qualification by data reviewers.
J = Estimated concentration
J- = Reported value may not be accurate or precise, but the result may be biased low.
J+ = Reported value may not be accurate or precise, but the result may be biased high.
µg/L = micrograms per liter
MRC = Middle River Complex
N/A = not applicable

APPENDIX A

1,4-DIOXANE IN GROUNDWATER, 2019



Appendix A

1,4-DIOXANE IN SHALLOW MONITORING WELLS
APRIL 2019

LEGEND

- Groundwater Monitoring Well
- Groundwater Monitoring Well, Analyte Not Detected
- Logarithmic Concentration Contour (Dashed Where Inferred)
- Staff Gauge
- Tax Blocks

Green monitoring well label denotes analyte is not detected (ND)
J = The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the Limit of Detection (LOD).
B = The analyte was analyzed for, but not detected at a level greater than or equal to the level of the adjusted Detection Limit (DL) for sample and method.
Concentrations given in micrograms per liter (µg/L)

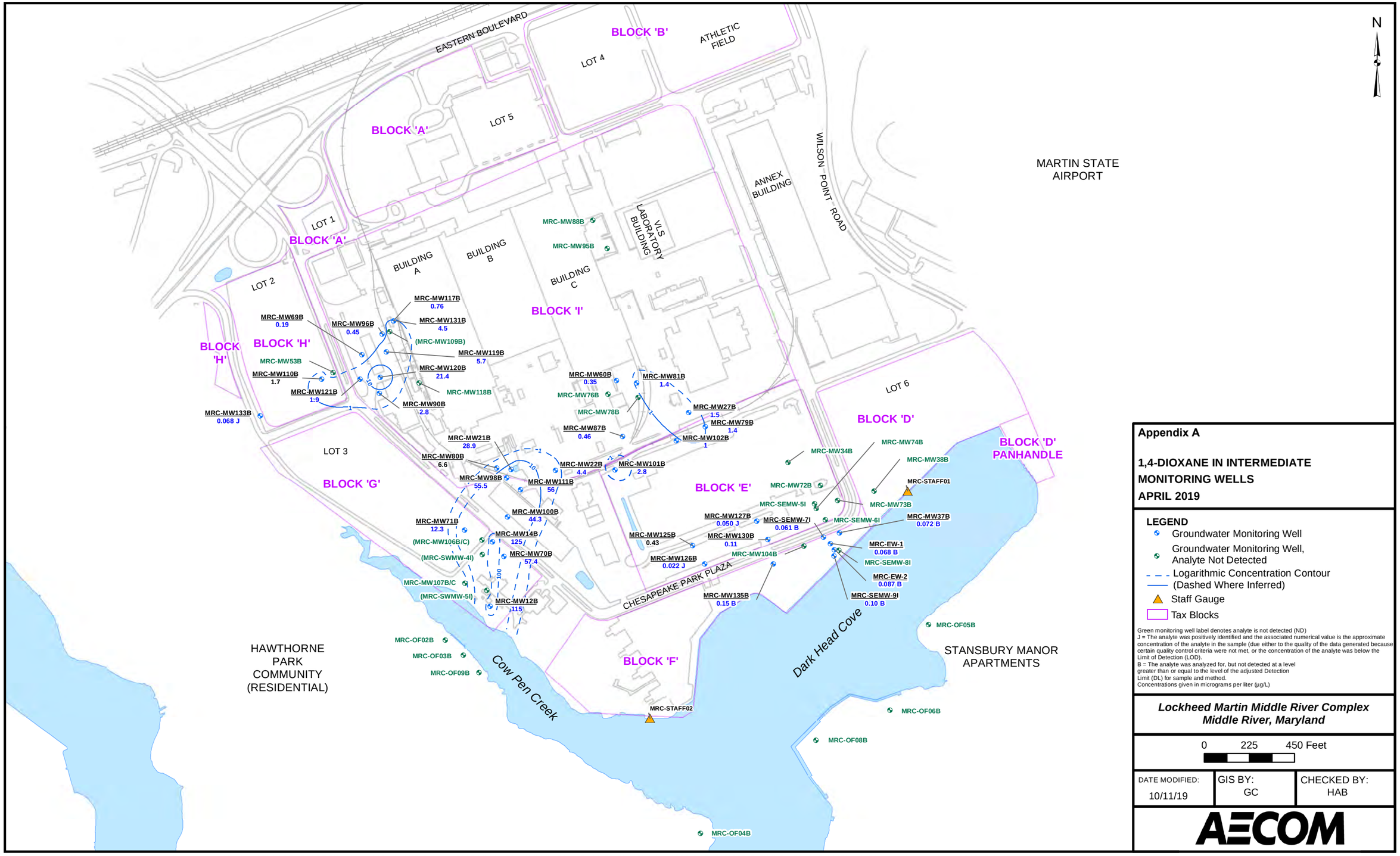
Lockheed Martin Middle River Complex
Middle River, Maryland

0 225 450 Feet

DATE MODIFIED:	GIS BY:	CHECKED BY:
10/10/19	GC	HAB

AECOM

Map Document: (\\ursgermantown.us.ie.urs\germantown\Projects\ENV\GEARS\GEO\Lockheed Martin\MIS Support 2017\Middle River\Middle River FY18-20 GW_SW_Mon\900-CAD-GIS\920-GIS\MXDs\2019_GWMR\1_4_Dioxane_Shallow_2019_GWMR.mxd)
Credits: Basemap, Tetra Tech, 2017



Appendix A

1,4-DIOXANE IN INTERMEDIATE MONITORING WELLS APRIL 2019

LEGEND

- Groundwater Monitoring Well
- Groundwater Monitoring Well, Analyte Not Detected
- Logarithmic Concentration Contour (Dashed Where Inferred)
- Staff Gauge
- Tax Blocks

Green monitoring well label denotes analyte is not detected (ND)
J = The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the Limit of Detection (LOD).
B = The analyte was analyzed for, but not detected at a level greater than or equal to the level of the adjusted Detection Limit (DL) for sample and method.
Concentrations given in micrograms per liter (µg/L)

Lockheed Martin Middle River Complex
Middle River, Maryland

0 225 450 Feet

DATE MODIFIED:	GIS BY:	CHECKED BY:
10/11/19	GC	HAB

AECOM

Map Document: (\\ursgermantown.us.ie.urs\germantown\Projects\ENV\GEARS\GEO\Lockheed Martin\MIS Support 2017\Middle River\Middle River FY18-20 GW_SW_Mon\900-CAD-GIS\920-GIS\MXDs\2019_GWMR\1_4_Dioxane_Intermediate_2019_GWMR.mxd)
Credits: Basemap, Tetra Tech, 2017

APPENDIX B

Surface Water Sampling Forms

April 2019

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW1A Project No.: 60555202 Sample Location: MRC-SW1A

Sampled By: Zachary Neigh

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 04/24/2019 Time: 1015	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1007: 1.28 feet 1800: 0.38 feet	**clear**	**6.12**	**1.23**	**19.69**	**1.7**	**7.1**	**0.61**	**226**

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
1,4-dioxane (8270D SIM)	None	2 - 1 L ambers	Yes

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable: N/A

MS/MSD **Duplicate ID:**

Signature:

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW2A Project No.: 60555202 Sample Location: MRC-SW2A

Sampled By: Zachary Neigh

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 04/24/2019 Time: 1040	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1007: 1.28 feet 1800: 0.38 feet	**clear**	**6.93**	**1.1**	**19.1**	**2.7**	**6.23**	**0.55**	**198**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
1,4-dioxane (8270D SIM)	None	2 - 1 L ambers	Yes

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:	**N/A**	**Signature:**
MS/MSD	**Duplicate ID:**	

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW5A1-S Project No.: 60555202 Sample Location: MRC-SW5A1-S

Sampled By: Zachary Neigh

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 04/25/2019 Time: 1145	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 0809: 0.3 feet 1119: 1.3 feet	**clear**	**8.27**	**1.19**	**20.17**	**0**	**7.61**	**0.59**	**177**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
PCB Homologs (680/8260C)	None	2 - 1 L amber	Yes
OBSERVATIONS / NOTES:		**MAP:**	

Circle if Applicable:	**N/A**	**Signature:**
MS/MSD	**Duplicate ID:**	

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW5A2-S Project No.: 60555202 Sample Location: MRC-SW5A2-S

Sampled By: Zachary Neigh

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 04/24/2019 Time: 1205	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1007: 1.28 feet 1800: 0.38 feet	**clear**	**8.45**	**1.1**	**20.31**	**0**	**8.5**	**0.54**	**176**

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
PCB Homologs (680/8260C)	None	2 - 1 L amber	Yes
OBSERVATIONS / NOTES:		**MAP:**	

Circle if Applicable:	**N/A**	**Signature:**
MS/MSD	**Duplicate ID:**	

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW5B-S Project No.: 60555202 Sample Location: MRC-SW5B-S

Sampled By: Zachary Neigh

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 04/24/2019 Time: 1120	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1007: 1.28 feet 1800: 0.38 feet	**clear**	**8.04**	**1.09**	**19.75**	**0**	**8.07**	**0.54**	**190**

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
PCB Homologs (680/8260C)	None	2 - 1 L amber	Yes

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:	N/A	Signature:
MS/MSD	Duplicate ID:	

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW6A-S Project No.: 60555202 Sample Location: MRC-SW6A-S

Sampled By: Zachary Neigh

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

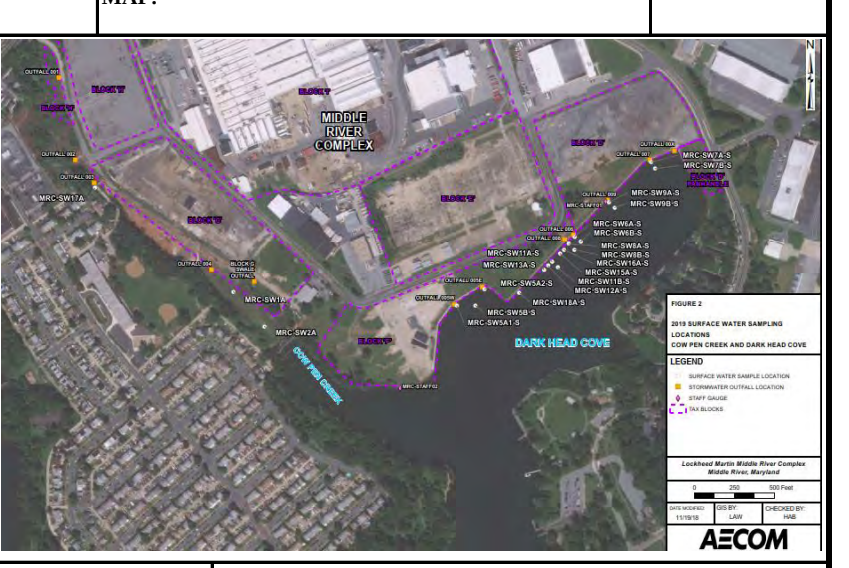
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 04/25/2019 Time: 0820	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 0809: 0.3 feet 1119: 1.3 feet	**clear**	**6.43**	**1.23**	**19.06**	**0**	**8.72**	**0.61**	**252**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
1,4 Dioxane (8270D SIM)	None	2 - 1000 mL ambers	Yes
PCB Homologs (680/8260C)	None	2 - 1 L amber	Yes
OBSERVATIONS / NOTES:		**MAP:**	



Circle if Applicable: N/A		**Signature:**
MS/MSD	**Duplicate ID:**	

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW6B-S Project No.: 60555202 Sample Location: MRC-SW6B-S

Sampled By: Zachary Neigh

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 04/25/2019 Time: 0850	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 0809: 0.3 feet 1119: 1.3 feet	**clear**	**8.52**	**1.18**	**19.9**	**0**	**8.3**	**0.59**	**192**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
1,4 Dioxane (8270D SIM)	None	2 - 1000 mL ambers	Yes
PCB Homologs (680/8260C)	None	2 - 1 L amber	Yes
OBSERVATIONS / NOTES:		**MAP:**	

Circle if Applicable: N/A		**Signature:**
MS/MSD	**Duplicate ID:**	

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW7A-S Project No.: 60555202 Sample Location: MRC-SW7A-S

Sampled By: Zachary Neigh

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 04/25/2019 Time: 0945	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 0809: 0.3 feet 1119: 1.3 feet	**clear**	**8.8**	**1.09**	**19.94**	**0**	**7.98**	**0.54**	**173**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
PCB Homologs (680/8260C)	None	2 - 1 L amber	Yes
OBSERVATIONS / NOTES:		**MAP:**	

Circle if Applicable:	**N/A**	**Signature:**
MS/MSD	**Duplicate ID:**	

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW7B-S Project No.: 60555202 Sample Location: MRC-SW7B-S

Sampled By: Zachary Neigh

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 04/25/2019 Time: 1015	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 0809: 0.3 feet 1119: 1.3 feet	**clear**	**8.63**	**1.09**	**19.86**	**0**	**7.92**	**0.54**	**175**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
PCB Homologs (680/8260C)	None	2 - 1 L amber	Yes
OBSERVATIONS / NOTES:		**MAP:**	

Circle if Applicable:	**N/A**	**Signature:**
MS/MSD	**Duplicate ID:**	

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW8A-S-042419

Sample Location: MRC-SW8A-S

Sampled By: Zachary Neigh

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 04/24/2019 Time: 1520	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1007: 1.28 feet 1800: 0.38 feet	**clear**	**9.13**	**1.2**	**20.74**	**0**	**8.63**	**0.6**	**169**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
1,4 Dioxane (8270D SIM)	None	2 - 1000 mL ambers	Yes
PCB Homologs (680/8260C)	None	2 - 1 L amber	Yes
OBSERVATIONS / NOTES:		**MAP:**	

Circle if Applicable:		**Yes**
MS/MSD	**Duplicate ID:**	
Yes	**Yes**	**MRC-SW8A-S-DUP-042419**

Signature: Zachary Neigh

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW8B-S Project No.: 60555202 Sample Location: MRC-SW8B-S

Sampled By: Zachary Neigh

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 04/24/2019 Time: 1600	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1007: 1.28 feet 1800: 0.38 feet	**clear**	**9.08**	**1.2**	**20.51**	**0**	**9.58**	**0.6**	**169**

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
1,4 Dioxane (8270D SIM)	None	2 - 1000 mL ambers	Yes
PCB Homologs (680/8260C)	None	2 - 1 L amber	Yes
OBSERVATIONS / NOTES:		**MAP:**	

Circle if Applicable:	**N/A**	**Signature:**
MS/MSD	**Duplicate ID:**	

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW9A-S Project No.: 60555202 Sample Location: MRC-SW9A-S

Sampled By: Zachary Neigh

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 04/25/2019 Time: 0905	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 0809: 0.3 feet 1119: 1.3 feet	**clear**	**8.52**	**1.08**	**19.88**	**0**	**6.77**	**0.53**	**185**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
PCB Homologs (680/8260C)	None	2 - 1 L amber	Yes
OBSERVATIONS / NOTES:		**MAP:**	

Circle if Applicable:		**Signature:**
MS/MSD	**Duplicate ID:**	Zachary Neigh

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW9B-S Project No.: 60555202 Sample Location: MRC-SW9B-S

Sampled By: Zachary Neigh

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 04/25/2019 Time: 0920	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 0809: 0.3 feet 1119: 1.3 feet	**clear**	**8.57**	**1.09**	**19.9**	**0**	**7.56**	**0.54**	**181**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
PCB Homologs (680/8260C)	None	2 - 1 L amber	Yes
OBSERVATIONS / NOTES:		**MAP:**	

Circle if Applicable:		**Signature:**
MS/MSD	**Duplicate ID:**	Zachary Neigh

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW11A-S Project No.: 60555202 Sample Location: MRC-SW11A-S

Sampled By: Zachary Neigh

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

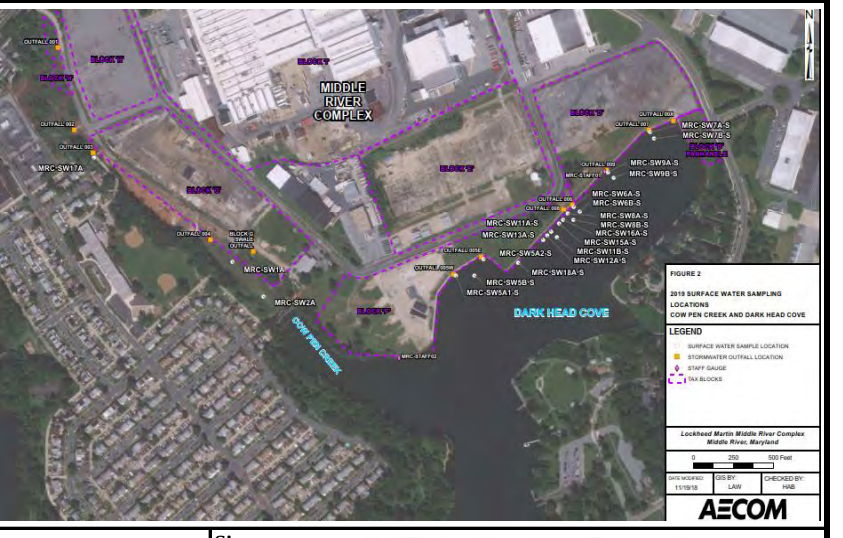
Date: 04/24/2019 Time: 1335	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1007: 1.28 feet 1800: 0.38 feet	**clear**	**8.9**	**1.09**	**20.37**	**0**	**8.5**	**0.54**	**164**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
PCB Homologs (680/8260C)	None	2 - 1 L amber	Yes

OBSERVATIONS / NOTES:

MAP:



Circle if Applicable: N/A

MS/MSD **Duplicate ID:**

Signature:

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW11B-S Project No.: 60555202 Sample Location: MRC-SW11B-S

Sampled By: Zachary Neigh

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

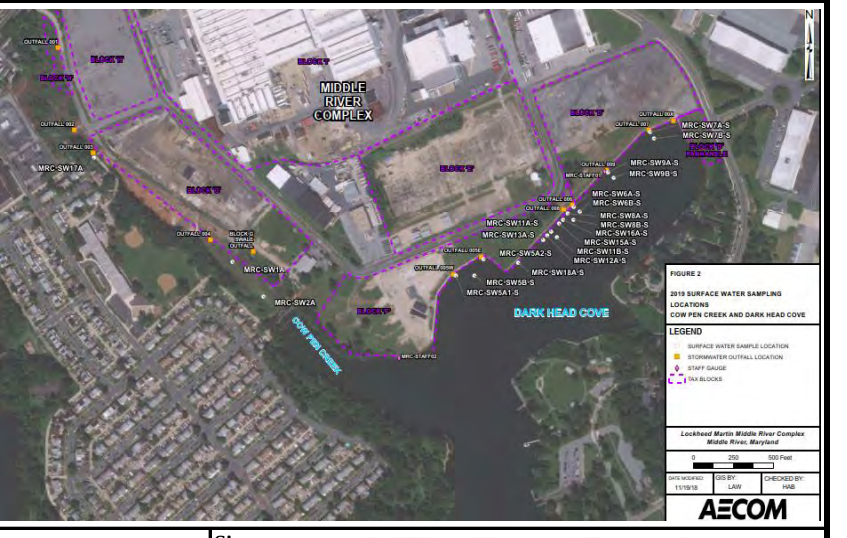
Date: 04/24/2019 Time: 1400	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1007: 1.28 feet 1800: 0.38 feet	**clear**	**9.05**	**1.19**	**20.5**	**0**	**8.22**	**0.59**	**162**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
PCB Homologs (680/8260C)	None	2 - 1 L amber	Yes

OBSERVATIONS / NOTES:

MAP:



Circle if Applicable: N/A

MS/MSD **Duplicate ID:**

Signature:

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW12A-S Project No.: 60555202 Sample Location: MRC-SW12A-S

Sampled By: Zachary Neigh

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

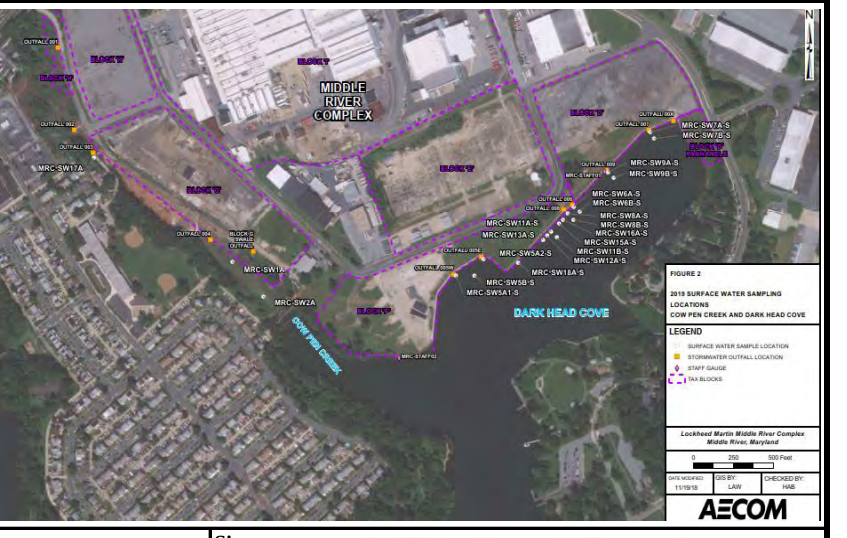
Date: 04/24/2019 Time: 1320	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1007: 1.28 feet 1800: 0.38 feet	**clear**	**8.86**	**1.19**	**20.39**	**0**	**7.45**	**0.59**	**163**

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
PCB Homologs (680/8260C)	None	2 - 1 L amber	Yes

OBSERVATIONS / NOTES:

MAP:



Circle if Applicable: N/A

MS/MSD **Duplicate ID:**

Signature:

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW13A-S Project No.: 60555202 Sample Location: MRC-SW13A-S

Sampled By: Zachary Neigh

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

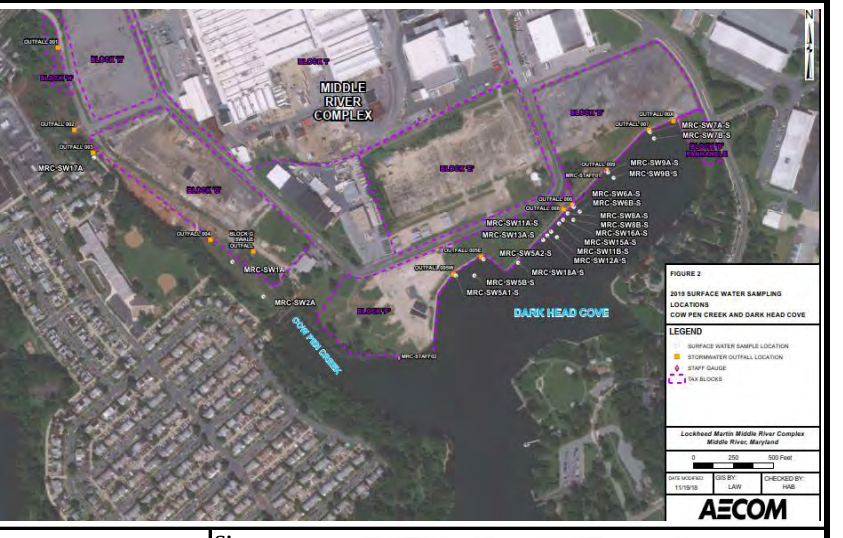
Date: 04/24/2019 Time: 1300	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1007: 1.28 feet 1800: 0.38 feet	**clear**	**8.84**	**1.67**	**20.25**	**0**	**8.25**	**0.59**	**169**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
PCB Homologs (680/8260C)	None	2 - 1 L amber	Yes

OBSERVATIONS / NOTES:

MAP:



Circle if Applicable: N/A

MS/MSD **Duplicate ID:**

Signature:

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW15A-S Project No.: 60555202 Sample Location: MRC-SW15A-S

Sampled By: Zachary Neigh

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

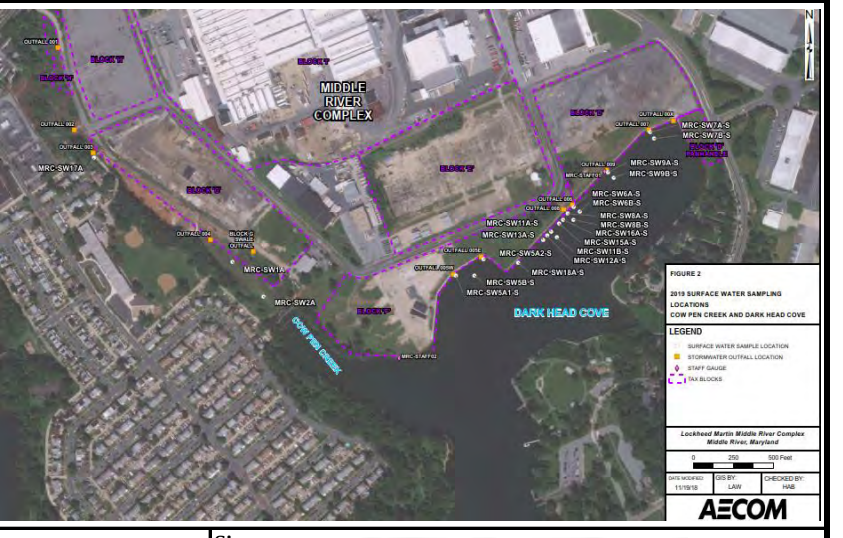
Date: 04/24/2019 Time: 1420	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1007: 1.28 feet 1800: 0.38 feet	**clear**	**9.01**	**1.19**	**20.46**	**0**	**8.64**	**0.59**	**163**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
PCB Homologs (680/8260C)	None	2 - 1 L amber	Yes

OBSERVATIONS / NOTES:

MAP:



Circle if Applicable: N/A

MS/MSD **Duplicate ID:**

Signature:

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW16A-S Project No.: 60555202 Sample Location: MRC-SW16A-S

Sampled By: Zachary Neigh

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

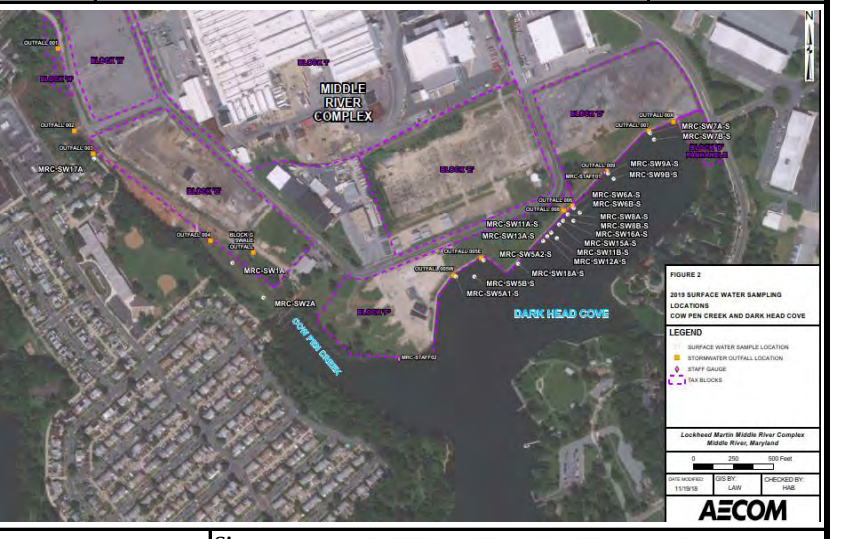
Date: 04/24/2019 Time: 1435	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1007: 1.28 feet 1800: 0.38 feet	**clear**	**9.09**	**1.19**	**20.56**	**0**	**9.47**	**0.59**	**161**

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
PCB Homologs (680/8260C)	None	2 - 1 L amber	Yes

OBSERVATIONS / NOTES:

MAP:



Circle if Applicable: N/A

MS/MSD **Duplicate ID:**

Signature:

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW17A Project No.: 60555202 Sample Location: MRC-SW17A

Sampled By: Zachary Neigh

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

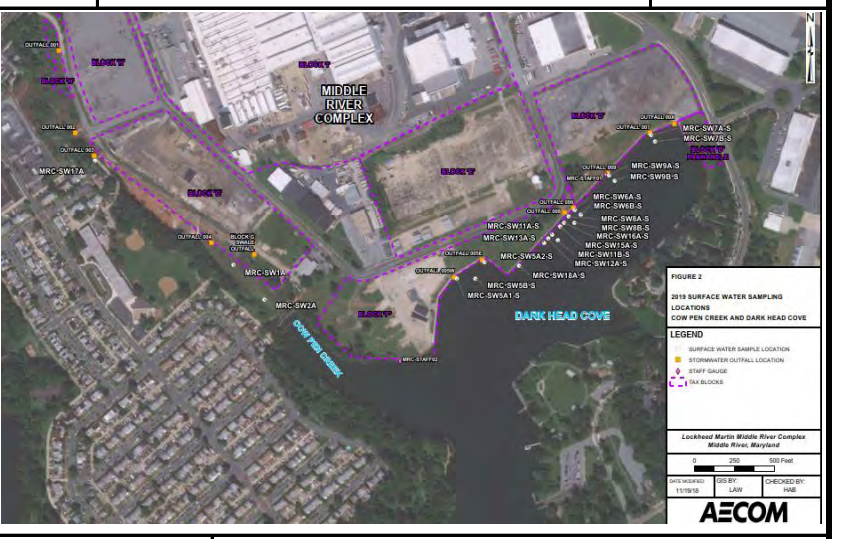
Date: 04/25/2019 Time: 1215	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 0809: 0.3 feet 1119: 1.3 feet	**clear**	**7.99**	**0.705**	**17.5**	**0**	**9.02**	**0.34**	**167**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
1,4 Dioxane (8270D SIM)	None	2 - 1000 mL ambers	Yes

OBSERVATIONS / NOTES:

MAP:



Circle if Applicable: N/A

MS/MSD **Duplicate ID:**

Signature: Zachary Neigh

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SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW18A-S Project No.: 60555202 Sample Location: MRC-SW18A-S

Sampled By: Zachary Neigh

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 04/24/2019 Time: 1245	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1007: 1.28 feet 1800: 0.38 feet	**clear**	**8.69**	**1.19**	**20.46**	**0**	**7.65**	**0.59**	**169**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
PCB Homologs (680/8260C)	None	2 - 1 L amber	Yes

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable: N/A

MS/MSD **Duplicate ID:**

Signature:

June 2019

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SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW1A Project No.: 60555202 Sample Location: MRC-SW1A

Sampled By: Victoria Kirkpatrick

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater

Type of Sample:
[X] Low Concentration
[] QA Sample Type: _____ [] High Concentration

SAMPLING DATA:

Date: 06/12/2019 Time: 0841	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF02 1525: 0.3 feet 1600: 0.4 feet	**clear**	**7.06**	**0.539**	**24.58**	**26.1**	**4.67**	**0.3**	**169.2**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
1,4-dioxane (8270D/SIM)	None	2 - 1 L ambers	Yes
OBSERVATIONS / NOTES:		**MAP:**	

Hardness (mg/L $CaCO_3$) = 165.7

Circle if Applicable:	**N/A**	**Signature:**
MS/MSD	**Duplicate ID:**	

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW2A Project No.: 60555202 Sample Location: MRC-SW2A

Sampled By: Victoria Kirkpatrick

[ ] Domestic Well Data
[ ] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater

Type of Sample:
[X] Low Concentration
[ ] QA Sample Type: _____ [ ] High Concentration

SAMPLING DATA:

Date: 06/12/2019 Time: 0905	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF02 1525: 0.3 feet 1600: 0.4 feet	**clear**	**7.5**	**0.537**	**25.17**	**13.3**	**4.48**	**0.3**	**178.5**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
1,4-dioxane (8270D/SIM)	None	2 - 1 L ambers	Yes
OBSERVATIONS / NOTES:		**MAP:**	

Hardness (mg/L CaCO3) = 165.7

Circle if Applicable:	**N/A**	**Signature:**
MS/MSD	**Duplicate ID:**	

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW5A1-S Project No.: 60555202 Sample Location: MRC-SW5A1-S

Sampled By: Victoria Kirkpatrick

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater

Type of Sample:
[X] Low Concentration
[] High Concentration
[] QA Sample Type: _____

SAMPLING DATA:

Date: 06/12/2019 Time: 0936	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1105: 0.0 feet 1500: 0.3 feet	**clear**	**7.66**	**0.545**	**25.87**	**14.2**	**4.5**	**0.3**	**172.9**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:

Hardness (mg/L CaCO3) = 165.7

MAP:

Circle if Applicable: N/A

MS/MSD **Duplicate ID:**

Signature:

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW5A2-S Project No.: 60555202 Sample Location: MRC-SW5A2-S

Sampled By: Victoria Kirkpatrick

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater

Type of Sample:
[X] Low Concentration
[] High Concentration
[] QA Sample Type: _____

SAMPLING DATA:

Date: 06/12/2019 Time: 0947	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1105: 0.0 feet 1500: 0.3 feet	**clear**	**7.61**	**0.545**	**25.9**	**11.3**	**4.77**	**0.3**	**171.5**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:

Hardness (mg/L CaCO3) = 165.7

MAP:

Circle if Applicable: N/A

MS/MSD

Duplicate ID:

Signature:

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW5B-S Project No.: 60555202 Sample Location: MRC-SW5B-S

Sampled By: Victoria Kirkpatrick

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater

Type of Sample:
[X] Low Concentration
[] High Concentration
[] QA Sample Type: _____

SAMPLING DATA:

Date: 06/12/2019 Time: 1000	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1105: 0.0 feet 1500: 0.3 feet	**clear**	**7.75**	**0.545**	**25.88**	**9.6**	**4.55**	**0.3**	**171.4**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:

Hardness (mg/L CaCO3) = 165.7

MAP:

Circle if Applicable: N/A

MS/MSD **Duplicate ID:**

Signature:

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW6A-S Project No.: 60555202 Sample Location: MRC-SW6A-S

Sampled By: Victoria Kirkpatrick

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater

Type of Sample:
[X] Low Concentration
[] High Concentration
[] QA Sample Type: _____

SAMPLING DATA:

Date: 06/12/2019 Time: 1320	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1105: 0.0 feet 1500: 0.3 feet	**clear**	**8.24**	**0.551**	**26.63**	**10.4**	**4.67**	**0.3**	**172.1**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
1,4 Dioxane (6020A/7470)	None	2 - 1000 mL ambers	Yes
OBSERVATIONS / NOTES:		**MAP:**	

Hardness (mg/L CaCO3) = 165.7

Circle if Applicable:	**N/A**	**Signature:**
MS/MSD	**Duplicate ID:**	

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW6B-S Project No.: 60555202 Sample Location: MRC-SW6B-S

Sampled By: Victoria Kirkpatrick

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater

Type of Sample:
[X] Low Concentration
[] High Concentration
[] QA Sample Type: _____

SAMPLING DATA:

Date: 06/12/2019 Time: 1300	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1105: 0.0 feet 1500: 0.3 feet	**clear**	**8.22**	**0.551**	**26.4**	**10.9**	**4.8**	**0.3**	**170.8**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
1,4 Dioxane (6020A/7470)	None	2 - 1000 mL ambers	Yes
OBSERVATIONS / NOTES:		**MAP:**	

Hardness (mg/L CaCO3) = 165.7

Circle if Applicable:		**N/A**	**Signature:**
MS/MSD	**Duplicate ID:**		

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW7A-S Project No.: 60555202 Sample Location: MRC-SW7A-S

Sampled By: Victoria Kirkpatrick

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater

Type of Sample:
[X] Low Concentration
[] High Concentration
[] QA Sample Type: _____

SAMPLING DATA:

Date: 06/12/2019 Time: 1400	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1105: 0.0 feet 1500: 0.3 feet	**clear**	**8.23**	**0.551**	**27.08**	**9.3**	**4.71**	**0.3**	**189.4**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:

Hardness (mg/L CaCO3) = 165.7

MAP:

Circle if Applicable: N/A

MS/MSD **Duplicate ID:**

Signature:

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW7B-S Project No.: 60555202 Sample Location: MRC-SW7B-S

Sampled By: Victoria Kirkpatrick

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater

Type of Sample:
[X] Low Concentration
[] High Concentration
[] QA Sample Type: _____

SAMPLING DATA:

Date: 06/12/2019 Time: 1410	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1105: 0.0 feet 1500: 0.3 feet	**clear**	**8.22**	**0.551**	**27**	**10.8**	**4.73**	**0.3**	**183.1**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:

Hardness (mg/L CaCO3) = 165.7

MAP:

Circle if Applicable: N/A

MS/MSD **Duplicate ID:**

Signature:

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW8A-S Project No.: 60555202 Sample Location: MRC-SW8A-S

Sampled By: Victoria Kirkpatrick

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater

Type of Sample:
[X] Low Concentration
[] High Concentration
[] QA Sample Type: _____

SAMPLING DATA:

Date: 06/12/2019 Time: 1210	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1105: 0.0 feet 1500: 0.3 feet	**clear**	**8.01**	**0.551**	**26.07**	**9.5**	**4.7**	**0.3**	**185.6**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
1,4 Dioxane (6020A/7470)	None	2 - 1000 mL ambers	Yes
OBSERVATIONS / NOTES:		**MAP:**	

Hardness (mg/L CaCO3) = 165.7

Circle if Applicable:	**N/A**	**Signature:**
MS/MSD	**Duplicate ID:**	

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW8B-S Project No.: 60555202 Sample Location: MRC-SW8B-S

Sampled By: Victoria Kirkpatrick

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater

Type of Sample:
[X] Low Concentration
[] High Concentration
[] QA Sample Type: _____

SAMPLING DATA:

Date: 06/12/2019 Time: 1230	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1105: 0.0 feet 1500: 0.3 feet	**clear**	**8.01**	**0.55**	**26.08**	**10.7**	**4.35**	**0.3**	**195.7**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
1,4 Dioxane (6020A/7470)	None	2 - 1000 mL ambers	Yes
OBSERVATIONS / NOTES:		**MAP:**	

Hardness (mg/L CaCO3) = 165.7

Circle if Applicable:	**Yes - Duplicate, MS, and MSD**	**Signature:**
MS/MSD **Yes**	**Duplicate ID: MRC-SW8B-S DUP**	

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW9A-S Project No.: 60555202 Sample Location: MRC-SW9A-S

Sampled By: Victoria Kirkpatrick

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater

Type of Sample:
[X] Low Concentration
[] High Concentration
[] QA Sample Type: _____

SAMPLING DATA:

Date: 06/12/2019 Time: 1350	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1105: 0.0 feet 1500: 0.3 feet	**clear**	**8.22**	**0.551**	**27.03**	**9.9**	**4.74**	**0.3**	**198.4**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:

Hardness (mg/L CaCO3) = 165.7

MAP:

Circle if Applicable: N/A

MS/MSD **Duplicate ID:**

Signature:

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW9B-S Project No.: 60555202 Sample Location: MRC-SW9B-S

Sampled By: Victoria Kirkpatrick

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater

Type of Sample:
[X] Low Concentration
[] High Concentration
[] QA Sample Type: _____

SAMPLING DATA:

Date: 06/12/2019 Time: 1340	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1105: 0.0 feet 1500: 0.3 feet	**clear**	**8.27**	**0.551**	**26.71**	**10.4**	**4.87**	**0.3**	**175.8**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:

Hardness (mg/L CaCO3) = 165.7

MAP:

Circle if Applicable: N/A

MS/MSD **Duplicate ID:**

Signature:

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW11A-S Project No.: 60555202 Sample Location: MRC-SW11A-S

Sampled By: Victoria Kirkpatrick

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater

Type of Sample:
[X] Low Concentration
[] High Concentration
[] QA Sample Type: _____

SAMPLING DATA:

Date: 06/12/2019 Time: 1325	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1105: 0.0 feet 1500: 0.3 feet	**clear**	**7.71**	**0.548**	**25.87**	**9.6**	**4.51**	**0.3**	**171.2**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:

Hardness (mg/L CaCO3) = 165.7

MAP:

Circle if Applicable: N/A

MS/MSD

Duplicate ID:

Signature:

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW11B-S Project No.: 60555202 Sample Location: MRC-SW11B-S

Sampled By: Victoria Kirkpatrick

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater

Type of Sample:
[X] Low Concentration
[] High Concentration
[] QA Sample Type: _____

SAMPLING DATA:

Date: 06/12/2019 Time: 1103	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1105: 0.0 feet 1500: 0.3 feet	**clear**	**7.74**	**0.547**	**25.84**	**11.7**	**4.31**	**0.3**	**176.8**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:

Hardness (mg/L CaCO3) = 165.7

MAP:

Circle if Applicable: N/A

MS/MSD **Duplicate ID:**

Signature:

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW12A-S Project No.: 60555202 Sample Location: MRC-SW12A-S

Sampled By: Victoria Kirkpatrick

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater

Type of Sample:
[X] Low Concentration
[] High Concentration
[] QA Sample Type: _____

SAMPLING DATA:

Date: 06/12/2019 Time: 1041	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1105: 0.0 feet 1500: 0.3 feet	**clear**	**7.72**	**0.548**	**25.85**	**10.6**	**4.33**	**0.3**	**168.8**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:

Hardness (mg/L CaCO3) = 165.7

MAP:

Circle if Applicable: N/A

MS/MSD

Duplicate ID:

Signature:

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW13A-S Project No.: 60555202 Sample Location: MRC-SW13A-S

Sampled By: Victoria Kirkpatrick

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater

Type of Sample:
[X] Low Concentration
[] High Concentration
[] QA Sample Type: _____

SAMPLING DATA:

Date: 06/12/2019 Time: 1030	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1105: 0.0 feet 1500: 0.3 feet	**clear**	**7.78**	**0.547**	**25.86**	**10**	**4.7**	**0.3**	**169.4**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:

Hardness (mg/L CaCO3) = 165.7

MAP:

Circle if Applicable: N/A

MS/MSD

Duplicate ID:

Signature:

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW15A-S Project No.: 60555202 Sample Location: MRC-SW15A-S

Sampled By: Victoria Kirkpatrick

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater

Type of Sample:
[X] Low Concentration
[] High Concentration
[] QA Sample Type: _____

SAMPLING DATA:

Date: 06/12/2019 Time: 1115	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1105: 0.0 feet 1500: 0.3 feet	**clear**	**7.77**	**0.55**	**25.87**	**10.3**	**4.39**	**0.3**	**180.7**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:

Hardness (mg/L CaCO3) = 165.7

MAP:

Circle if Applicable: N/A

MS/MSD **Duplicate ID:**

Signature:

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW16A-S Project No.: 60555202 Sample Location: MRC-SW16A-S

Sampled By: Victoria Kirkpatrick

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater

Type of Sample:
[X] Low Concentration
[] High Concentration
[] QA Sample Type: _____

SAMPLING DATA:

Date: 06/12/2019 Time: 1150	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1105: 0.0 feet 1500: 0.3 feet	**clear**	**7.88**	**0.55**	**25.93**	**10.2**	**4.8**	**0.3**	**179.4**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
OBSERVATIONS / NOTES:		**MAP:**	

Hardness (mg/L CaCO3) = 165.7

Circle if Applicable: N/A

MS/MSD **Duplicate ID:**

Signature:

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW17A Project No.: 60555202 Sample Location: MRC-SW17A

Sampled By: Victoria Kirkpatrick

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater

Type of Sample:
[X] Low Concentration
[] High Concentration
[] QA Sample Type: _____

SAMPLING DATA:

Date: 06/12/2019 Time: 1500	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF02 1525: -0.4 feet 1600: 0.3 feet	**clear**	**8.33**	**0.51**	**25.46**	**0**	**6.54**	**0.2**	**197.8**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
1,4-dioxane (8270D/SIM)	None	2 - 1 L ambers	Yes
OBSERVATIONS / NOTES:		**MAP:**	

Hardness (mg/L CaCO3) = 208

Circle if Applicable: N/A

MS/MSD:

Duplicate ID:

Signature:

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW18A-S Project No.: 60555202 Sample Location: MRC-SW18A-S

Sampled By: Victoria Kirkpatrick

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater

Type of Sample:
[X] Low Concentration
[] High Concentration
[] QA Sample Type: _____

SAMPLING DATA:

Date: 06/12/2019 Time: 1012	**Color** (Visual)	**pH** (S.U.)	**S.C.** (mS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (%)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF02 1525: -0.4 feet 1600: 0.3 feet	**clear**	**7.33**	**0.547**	**25.84**	**10**	**4.51**	**0.3**	**181.5**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
1,4-dioxane (8270D/SIM)	None	2 - 1 L ambers	Yes
OBSERVATIONS / NOTES:		**MAP:**	

Circle if Applicable: N/A

MS/MSD:

Duplicate ID:

Signature:

September 2019

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.:MRC-SW1A Project No.: 60555202 Sample Location: MRC-SW1A

Sampled By: Antonio Zarrelli

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 09/16/2019 Time: 1630	**Color** (Visual)	**pH** (S.U.)	**S.C.** (µS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (ppt)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF02 1002: 0.90 feet 1635: -0.10 feet	**clear**	**8.87**	**5.65**	**26.74**	**0**	**6.94**	**0.31**	**164**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
1,4-dioxane (8270D/SIM)	None	2 - 1 L ambers	Yes

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable: N/A

MS/MSD | **Duplicate ID:**

Signature: Antonio Zarrelli

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW2A Project No.: 60555202 Sample Location: MRC-SW2A

Sampled By: Antonio Zarrelli

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 09/16/2019 Time: 1605	**Color** (Visual)	**pH** (S.U.)	**S.C.** (µS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (ppt)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF02 1002: 0.90 feet 1635: -0.10 feet	**clear**	**8.85**	**5.69**	**26.94**	**0**	**8.77**	**0.31**	**167**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
1,4-dioxane (8270D/SIM)	None	2 - 1 L ambers	Yes

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable: Yes

MS/MSD:

Duplicate ID:

Signature: Antonio Zarrelli

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW5A1-S Project No.: 60555202 Sample Location: MRC-SW5A1-S

Sampled By: Antonio Zarrelli

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 09/21/2018 Time: 1550	**Color** (Visual)	**pH** (S.U.)	**S.C.** (µS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (ppt)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1002: 0.90 feet 1635: -0.10 feet	**clear**	**8.53**	**5.70**	**28.13**	**0**	**6.08**	**0.31**	**167**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
1,4-dioxane (8270D/SIM)	None	2 - 1L ambers	Yes

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable: N/A

MS/MSD **Duplicate ID:**

Signature: Antonio Zarrelli

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex
Project No.: 60555202
Sample ID No.: MRC-SW5A2-S
Sample Location: MRC-SW5A2-S
Sampled By: Antonio Zarrelli

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 09/16/2019 Time: 1535	**Color** (Visual)	**pH** (S.U.)	**S.C.** (µS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (ppt)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1002: 0.90 feet 1635: -0.10 feet	**clear**	**8.48**	**5.76**	**27.72**	**0**	**5.84**	**0.31**	**168**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable: N/A

MS/MSD

Duplicate ID:

Signature: Antonio Zarrelli

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW5B-S Project No.: 60555202 Sample Location: MRC-SW5B-S

Sampled By: Antonio Zarrelli

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 09/16/2019 Time: 1520	**Color** (Visual)	**pH** (S.U.)	**S.C.** (µS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (ppt)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1002: 0.90 feet 1635: -0.10 feet	**clear**	**8.29**	**5.77**	**28.10**	**0**	**7.61**	**0.31**	**169**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable: N/A

MS/MSD

Duplicate ID:

Signature: Antonio Zarrelli

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW6A-S Project No.: 60555202 Sample Location: MRC-SW6A-S

Sampled By: Antonio Zarrelli

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

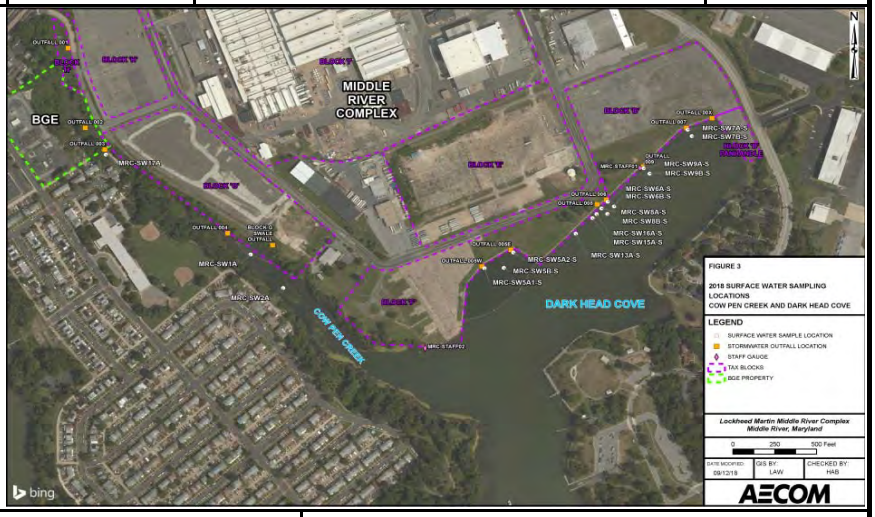
Date: 09/16/2019 Time: 1120	**Color** (Visual)	**pH** (S.U.)	**S.C.** (µS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (ppt)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1002: 0.90 feet 1635: -0.10 feet	**clear**	**7.44**	**5.77**	**25.10**	**0**	**2.91**	**0.31**	**181**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
1,4 Dioxane (8270D/SIM)	None	2 - 1000 mL ambers	Yes

OBSERVATIONS / NOTES:

MAP:



Circle if Applicable: N/A

MS/MSD

Duplicate ID:

Signature: Antonio Zarrelli

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW6B-S Project No.: 60555202 Sample Location: MRC-SW6B-S

Sampled By: Antonio Zarrelli

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 09/16/2019 Time: 1135	**Color** (Visual)	**pH** (S.U.)	**S.C.** (µS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (ppt)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1002: 0.90 feet 1635: -0.10 feet	**clear**	**7.48**	**5.77**	**25.94**	**0**	**4.07**	**0.31**	**176**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
1,4 Dioxane (8270D/SIM)	None	2 - 1000 mL ambers	Yes

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable: N/A

MS/MSD

Duplicate ID:

Signature: Antonio Zarrelli

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW7A-S Project No.: 60555202 Sample Location: MRC-SW7A-S

Sampled By: Antonio Zarrelli

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 09/16/2019 Time: 1015	**Color** (Visual)	**pH** (S.U.)	**S.C.** (µS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (ppt)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1002: 0.90 feet 1635: -0.10 feet	**clear**	**7.08**	**5.71**	**24.70**	**0**	**5.80**	**0.31**	**157**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
OBSERVATIONS / NOTES:		**MAP:**	

Circle if Applicable:		**N/A**	**Signature:**
MS/MSD	**Duplicate ID:**		Antonio Zarrelli

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW7B-S Project No.: 60555202 Sample Location: MRC-SW7B-S

Sampled By: Antonio Zarrelli

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 09/16/2019 Time: 1030	**Color** (Visual)	**pH** (S.U.)	**S.C.** (µS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (ppt)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1002: 0.90 feet 1635: -0.10 feet	**clear**	**7.30**	**5.75**	**24.98**	**0**	**3.00**	**0.31**	**173**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable: N/A

MS/MSD

Duplicate ID:

Signature: Antonio Zarrelli

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW8A-S Project No.: 60555202 Sample Location: MRC-SW8A-S

Sampled By: Antonio Zarrelli

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 09/16/2019 Time: 1200	**Color** (Visual)	**pH** (S.U.)	**S.C.** (µS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (ppt)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1002: 0.90 feet 1635: -0.10 feet	**clear**	**7.52**	**5.71**	**27.00**	**0**	**5.29**	**0.31**	**189**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	8 - 40 mL glass vials	Yes
1,4 Dioxane (8270D/SIM)	None	8 - 1000 mL ambers	Yes

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable: Yes

MS/MSD	**Duplicate ID:**	**MRC-SW8A-S-DUP**
Yes		

Signature: Antonio Zarrelli

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW8B-S Project No.: 60555202 Sample Location: MRC-SW8B-S

Sampled By: Antonio Zarrelli

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 09/16/2019 Time: 1300	**Color** (Visual)	**pH** (S.U.)	**S.C.** (µS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (ppt)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1002: 0.90 feet 1635: -0.10 feet	**clear**	**7.67**	**5.72**	**26.81**	**0**	**5.59**	**0.31**	**180**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
1,4 Dioxane (8270D/SIM)	None	2 - 1000 mL ambers	Yes

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable: N/A

MS/MSD

Duplicate ID:

Signature: Antonio Zarrelli

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW9A-S Project No.: 60555202 Sample Location: MRC-SW9A-S

Sampled By: Antonio Zarrelli

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 09/16/2019 Time: 1045	**Color** (Visual)	**pH** (S.U.)	**S.C.** (µS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (ppt)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1002: 0.90 feet 1635: -0.10 feet	**clear**	**7.35**	**5.74**	**25.26**	**0**	**3.38**	**0.31**	**182**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
OBSERVATIONS / NOTES:		**MAP:**	

Circle if Applicable:	**N/A**	**Signature:**
MS/MSD	**Duplicate ID:**	Antonio Zarrelli

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex
Project No.: 60555202
Sample ID No.: MRC-SW9B-S
Sample Location: MRC-SW9B-S
Sampled By: Antonio Zarrelli

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 09/16/2019 Time: 1100	**Color** (Visual)	**pH** (S.U.)	**S.C.** (µS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (ppt)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1002: 0.90 feet 1635: -0.10 feet	**clear**	**7.41**	**5.75**	**25.49**	**0**	**3.52**	**0.31**	**175**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable: N/A

MS/MSD

Duplicate ID:

Signature: Antonio Zarrelli

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW11A-S Project No.: 60555202 Sample Location: MRC-SW11A

Sampled By: Antonio Zarrelli

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 09/16/2019 Time: 1405	**Color** (Visual)	**pH** (S.U.)	**S.C.** (µS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (ppt)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1002: 0.90 feet 1635: -0.10 feet	**clear**	**8.05**	**5.71**	**27.80**	**0**	**5.98**	**0.31**	**172**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable: N/A

MS/MSD

Duplicate ID:

Signature: Antonio Zarrelli

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW11B-S Project No.: 60555202 Sample Location: MRC-SW11B

Sampled By: Antonio Zarrelli

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 09/16/2019 Time: 1415	**Color** (Visual)	**pH** (S.U.)	**S.C.** (µS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (ppt)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1002: 0.90 feet 1635: -0.10 feet	**clear**	**8.10**	**5.65**	**28.26**	**0**	**5.51**	**0.31**	**170**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable: N/A

MS/MSD **Duplicate ID:**

Signature: Antonio Zarrelli

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex
Project No.: 60555202
Sample ID No.: MRC-SW13A-S
Sample Location: MRC-SW13A-S
Sampled By: Antonio Zarrelli

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 09/16/2018 Time: 1450	**Color** (Visual)	**pH** (S.U.)	**S.C.** (µS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (ppt)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1002: 0.90 feet 1635: -0.10 feet	**clear**	**8.19**	**5.74**	**27.57**	**0**	**6.93**	**0.31**	**171**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
OBSERVATIONS / NOTES:		**MAP:**	

Circle if Applicable: N/A

MS/MSD

Duplicate ID:

Signature: Antonio Zarrelli

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW15A-S Project No.: 60555202 Sample Location: MRC-SW15A-S

Sampled By: Antonio Zarrelli

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 09/21/2018 Time: 1149	**Color** (Visual)	**pH** (S.U.)	**S.C.** (µS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (ppt)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1002: 0.90 feet 1635: -0.10 feet	**clear**	**8.04**	**5.70**	**27.58**	**0**	**5.23**	**0.31**	**173**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable: N/A

MS/MSD

Duplicate ID:

Signature: Antonio Zarrelli

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW16A-S Project No.: 60555202 Sample Location: MRC-SW16A-S

Sampled By: Antonio Zarrelli

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 9/16/19 Time: 1335	**Color** (Visual)	**pH** (S.U.)	**S.C.** (µS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (ppt)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF01 1002: 0.90 feet 1635: -0.10 feet	**clear**	**7.75**	**5.69**	**7.76**	**0**	**5.50**	**0.31**	**176**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable: N/A

MS/MSD

Duplicate ID:

Signature: Antonio Zarrelli

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW17A Project No.: 60555202 Sample Location: MRC-SW17A

Sampled By: Antonio Zarrelli

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 09/16/2019 Time: 0855	**Color** (Visual)	**pH** (S.U.)	**S.C.** (µS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (ppt)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF02 1002: 0.90 feet 1635: -0.10 feet	**clear**	**6.32**	**0.44**	**20.02**	**0**	**2.61**	**0.020**	**216**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes
1,4-dioxane (8270D/SIM)	None	2 - 1 L ambers	Yes

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable: N/A

MS/MSD:

Duplicate ID:

Signature: Antonio Zarrelli

AECOM

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW18A Project No.: 60555202 Sample Location: MRC-SW18A

Sampled By: Antonio Zarrelli

[] Domestic Well Data
[] Monitoring Well Data
[X] Other: Tidal Creek - Freshwater
[] QA Sample Type: _____

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 09/16/2019 Time: 1500	**Color** (Visual)	**pH** (S.U.)	**S.C.** (µS/cm)	**Temp.** (°C)	**Turbidity** (NTU)	**DO** (mg/l)	**Salinity** (ppt)	**ORP** (mV)
Method: Grab Sample Depth: 1 ft below water surface Static Water Level: MRC-STAFF02 1002: 0.90 feet 1635: -0.10 feet	**clear**	**8.15**	**5.73**	**28.17**	**0**	**5.61**	**0.31**	**172**

SAMPLE COLLECTION INFORMATION:

Analysis	**Preservative**	**Container Requirements**	**Collected**
VOCs (8260C)	HCl	2 - 40 mL glass vials	Yes

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable: N/A

MS/MSD:

Duplicate ID:

Signature: Antonio Zarrelli

APPENDIX C

Data Validation Reports

AECOM

Data Validation and Usability Report

February 2019 Dark Head Cove Interim PCB Homolog Surface Water Sampling

TestAmerica – Savannah, Georgia

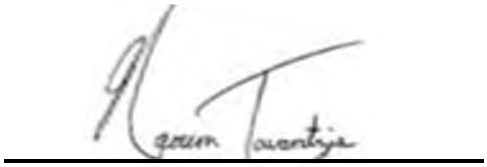
Lockheed Martin Corporation
Middle River Complex
Middle River, Maryland

April 2019

IDENTIFICATION FORM

Data Validation and Data Usability Review

Zachary Neigh
Data Validator
AECOM
03/29/2019



Naoum Tavantzis
Project Chemist
AECOM
03/29/2019

Table of Contents

I. Executive Summary

AECOM performed data validation on 100% of the surface water field investigative samples collected on February 14th, 2019 at the Lockheed Martin Middle River Complex located in Middle River, Maryland. Sample analysis was performed by TestAmerica in Savannah, Georgia. The validation was performed to a United States Environmental Protection Agency (USEPA) Region III Organic Level 2 based on the specifics of the analytical methods referenced and qualified according to the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic/Inorganic (January 2017) Superfund Data Review, with the exception of blank detections which were qualified according to the USEPA Region III modifications to the National Functional Guidelines defining the use of the "B" flag.

The review was assisted through the use of an electronic data management tool that compiles batch-level quality control (QC) data submitted with the laboratory deliverables and identifies anomalies for verification and qualification by the data reviewer. This information is provided in the form of a structured workbook that includes field sample analytical results, QC sample results, batch associations, and QC criteria. Prior to validation, the quality assurance procedures applied to the process itself consist of reviewing the output for data completeness based on laboratory deliverables and chain of custody reports; verification of QC criteria based on the aforementioned data validation guidelines and project-specific Quality Assurance Project Plan (QAPP); and strict control of data management permissions. The resulting data validation workbooks were evaluated and validated using the AECOM automated validation assistant (AVA) tool. The specific data elements that were reviewed using AVA include:

- Holding times and sample preservation
- Blanks (Method, Trip, Field, and Equipment)
- Matrix spike (MS) and/or matrix spike duplicate (MSD) results
- Laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) results
- Surrogate spike results
- Field duplicates
- Laboratory duplicates
- Performance evaluation samples
- Sensitivity

Additionally, a manual review of the laboratory data packages was performed to evaluate the instrument-level QC data and compound quantification. The specific elements that were reviewed manually include:

- Relative standard deviation (RSD) of initial calibration
- Percent difference of initial and continuing calibration verifications (ICV/CCV)
- Instrument tune results
- Internal standard area count and percent recovery

- Relative response factor (RRF)
- Retention time
- Result recalculation

Data validation qualifiers were applied to results where a QC nonconformance required qualification per USEPA guidance. All QC anomalies were assessed for their impact on data quality in regards to precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) as discussed in **II: PARCCS Data Quality**. A detailed list of the QC non-conformances can be found in **III: Data Validation Findings**. The associated field sample results that required qualification are listed in **IV: Qualified Field Sample Results**.

II. PARCCS Data Quality

Precision

Precision is the degree of agreement among repeated measurements of the same characteristic on the same sample or on separate samples collected as close as possible in time and place. Field sampling precision is measured using the field duplicate relative percent differences; laboratory precision is measured using initial calibration relative standard deviations, relative response factors, instrument tuning data, internal standard area counts and relative retention times, laboratory duplicate relative percent differences and/or laboratory control spike and matrix spike duplicate relative percent differences. All quality control criteria impacting precision were met for the data reviewed.

Accuracy

Accuracy is a measure of confidence in a measurement. The smaller the difference between the measurement of a parameter and its "true" or expected value, the more accurate the measurement. Accuracy in the field was monitored through the use of negative controls that included laboratory-blind trip blanks, field blanks, and equipment rinsates, along with adherence to the standard operating procedures and sampling plans. Analytical accuracy was assessed through the measurement method blanks, percent differences in initial/continuing calibration verifications (ICV/CCV), as well as percent recoveries in the surrogate spikes, the laboratory control spike pair (LCS/LCSD), the matrix spike pair (MS/MSD), and the laboratory-blind performance evaluation sample.

The PCB homolog blanks in this data validation include laboratory-blind trip blanks, field blanks, equipment rinsate blanks, and method blanks. Laboratory-blind trip blanks were prepared by the laboratory filling sample bottles with deionized water and shipping them to the AECOM sampling team where they were stored with the sample bottleware order and remained sealed for the entire duration of AECOM’s custody. After sample collection, these trip blanks were labeled as surface water investigative samples and shipped in the same coolers as the surface water investigative samples. Field blanks were prepared on the surface water sampling vessel by the field chemist. Deionized water was poured directly into sample bottleware from a laboratory-filled and sealed container, which remained unopen immediately preceding field blank collection. Equipment rinsate blanks were prepared on the surface water sampling vessel using a peristaltic pump with new, previously unhandled, tubing. Deionized water was pumped into sample bottles from a previously sealed container filled by the laboratory. Method blanks are prepared and analyzed in the laboratory alongside the surface water investigative samples at a frequency of one per sample preparation batch. All blanks reported non-detect results for all PCB homologs.

The MS/MSD performed on parent sample MRC-SW7A-S-021419-T displayed percent recoveries less than the lower QC limits for monochlorobiphenyls, dichlorobiphenyls,

trichlorobiphenyls, tetrachlorobiphenyls, and heptachlorobiphenyls. Additionally, the MS/MSD displayed a relative percent difference greater than the upper QC limit of 20% for pentachlorobiphenyls at 52%. The associated parent sample results were non-detect and were qualified UJ,m. These anomalies are considered minor and the qualified field sample results should be considered usable as estimated values with a negative bias.

Field sample MRC-SW9A-S-021419-T displayed a percent recovery for surrogate decachlorobiphenyl-$^{13}C_{12}$ that was less than the lower QC limit of 25% at 20%. The associated field sample results were non-detect and were qualified UJ,s. These anomalies are considered minor and the qualified field sample results should be considered usable as estimated values with a negative bias.

A laboratory-blind performance evaluation sample was prepared by adding certified-concentrations of PCB homologs to one-liter of laboratory-provided deionized water. The laboratory-blind performance evaluation sample displayed percent recoveries less than the lower QC limit of 40% for monochlorobiphenyls (0%) and trichlorobiphenyls (0%). All associated field sample results were non-detect and were qualified UJ,ps, unless previously qualified due to MS/MSD or surrogate percent recovery anomalies. These anomalies are considered minor and the qualified field sample results should be considered usable as estimated values with a negative bias.

Representativeness

Representativeness qualitatively expresses the degree to which data accurately reflect site conditions. Factors that affect the representativeness of analytical data include appropriate sample population definitions, proper sample collection and preservation techniques, analytical holding times, use of standard analytical methods, and determination of matrix or analyte interferences. All quality control criteria impacting representativeness were met for the data reviewed.

Comparability

Comparability is the extent to which data from one study can be compared directly to either past data from the current project or data from another study. Using standardized sampling and analytical methods, units of reporting, and site selection procedures helps ensure comparability. Standard field sampling methods and current CLP analytical methods by an accredited laboratory were used in this investigation.

Completeness

Completeness is a measure of the amount of valid data obtained from a measurement system compared to the amount of data expected under normal conditions. It is expected that laboratories will provide data meeting system quality control acceptance criteria for all samples tested. Project completeness is determined by evaluating the planned versus actual quantities of

usable data. A total of seventeen (17) field samples were validated, including eight (8) investigative surface water samples, one (1) field duplicate, one (1) performance evaluation sample, one (1) field blank, two (2) equipment rinsates, and four (4) trip blanks. All data are usable, as qualified, for their intended purpose based on the data reviewed.

Sensitivity

Sensitivity reflects the ability of the analytical method to detect analytes of interest below the level of concern. This goal is achieved by identifying the level of concern, choosing a method with appropriate method detection limits, and ensuring that the laboratory analyzes calibration standards at or below the level of concern. The laboratory was able to achieve the lowest reporting limits based on the analytical methods employed and the variety of matrices encountered. No field sample results were reported from dilutions. Any analytes detected below the reporting limit and above the method detection limit were reported and qualified "J" as estimated values by the laboratory.

Overall Impact on Data Usability

Overall data usability met the completeness requirement outlined in the QAPP at 100%. During the course of the data validation, a limited number of minor anomalies were noted which is to be anticipated based on statistical predictability of standard analytical procedures. No field sample results were qualified due to these minor anomalies. All data are considered usable as qualified, for their intended purpose based on the data reviewed.

III. Data Validation Findings

PCB Homologs

SW846-8270D-SIM	Description	Sample ID	Analyte	Value (Control Limit)
Holding Times	Re-extraction	MRC-SW9A-S-021419-T	All PCB Homologs	12 Days (7 Days)
Method Blanks	No Anomalies			
Field/Equipment Blanks	No Anomalies			
LCS/LCSD	No Anomalies			
MS/MSD	MSD % Recovery	MRC-SW7A-S-021419-T	Dichlorobiphenyls	44% (49-130%)
			Heptachlorobiphenyls	60% (62-130%)
			Monochlorobiphenyls	38% (42-130%)
			Tetrachlorobiphenyls	49% (54-130%)
			Trichlorobiphenyls	49% (51-130%)
	MS/MSD RPD	MRC-SW7A-S-021419-T	Pentachlorobiphenyls	52% (40%)
Surrogate Spike	% Recovery	MRC-SW9A-S-021419-T	Decachlorobiphenyl-13C12	20% (25-113%)
Laboratory Duplicates	No Anomalies			
Field Duplicates	No Anomalies			
PE Sample	Low % Recovery	MRC-SW40-S-021419-T	Monochlorobiphenyls	0% (40-150%)
			Tetrachlorobiphenyls	0% (40-150%)
Initial Calibration	No Anomalies			
ICV/CCV	No Anomalies			
Internal Standards	No Anomalies			
Instrument Tune	No Anomalies			
RRF	No Anomalies			
Retention Time	No Anomalies			
Quantitation	No Anomalies			
Manual Recalculation	No Anomalies			

IV. Qualified Field Sample Results

Field Sample ID	Analytical Method	Analyte	Result	Units	Qualifier	Reason Code
EB-TUBE1-021419-T	E680	Monochlorobiphenyls, Total	0.097	ug/l	UJ	ps
EB-TUBE1-021419-T	E680	Trichlorobiphenyls, Total	0.097	ug/l	UJ	ps
EB-TUBE2-021419-T	E680	Monochlorobiphenyls, Total	0.098	ug/l	UJ	ps
EB-TUBE2-021419-T	E680	Trichlorobiphenyls, Total	0.098	ug/l	UJ	ps
FB-SW-021419-T	E680	Monochlorobiphenyls, Total	0.097	ug/l	UJ	ps
FB-SW-021419-T	E680	Trichlorobiphenyls, Total	0.097	ug/l	UJ	ps
MRC-SW13A-S-021419-T	E680	Monochlorobiphenyls, Total	0.098	ug/l	UJ	ps
MRC-SW13A-S-021419-T	E680	Trichlorobiphenyls, Total	0.098	ug/l	UJ	ps
MRC-SW15A-S-021419-T	E680	Monochlorobiphenyls, Total	0.098	ug/l	UJ	ps
MRC-SW15A-S-021419-T	E680	Trichlorobiphenyls, Total	0.098	ug/l	UJ	ps
MRC-SW30-021419-T	E680	Monochlorobiphenyls, Total	0.096	ug/l	UJ	ps
MRC-SW30-021419-T	E680	Trichlorobiphenyls, Total	0.096	ug/l	UJ	ps
MRC-SW31-021419-T	E680	Monochlorobiphenyls, Total	0.097	ug/l	UJ	ps
MRC-SW31-021419-T	E680	Trichlorobiphenyls, Total	0.097	ug/l	UJ	ps
MRC-SW32-021419-T	E680	Monochlorobiphenyls, Total	0.096	ug/l	UJ	ps
MRC-SW32-021419-T	E680	Trichlorobiphenyls, Total	0.096	ug/l	UJ	ps
MRC-SW33-021419-T	E680	Monochlorobiphenyls, Total	0.096	ug/l	UJ	ps
MRC-SW33-021419-T	E680	Trichlorobiphenyls, Total	0.096	ug/l	UJ	ps
MRC-SW40-021419-T	E680	Monochlorobiphenyls, Total	0.099	ug/l	UJ	ps
MRC-SW40-021419-T	E680	Trichlorobiphenyls, Total	0.099	ug/l	UJ	ps
MRC-SW5A1-S-021419-T	E680	Monochlorobiphenyls, Total	0.097	ug/l	UJ	ps
MRC-SW5A1-S-021419-T	E680	Trichlorobiphenyls, Total	0.097	ug/l	UJ	ps
MRC-SW5A2-S-021419-T	E680	Monochlorobiphenyls, Total	0.098	ug/l	UJ	ps
MRC-SW5A2-S-021419-T	E680	Trichlorobiphenyls, Total	0.098	ug/l	UJ	ps
MRC-SW7A-S-021419-T	E680	Dichlorobiphenyls, Total	0.096	ug/l	UJ	m
MRC-SW7A-S-021419-T	E680	Heptachlorobiphenyls, Total	0.29	ug/l	UJ	m
MRC-SW7A-S-021419-T	E680	Monochlorobiphenyls, Total	0.096	ug/l	UJ	m
MRC-SW7A-S-021419-T	E680	Tetrachlorobiphenyls, Total	0.19	ug/l	UJ	m
MRC-SW7A-S-021419-T	E680	Trichlorobiphenyls, Total	0.096	ug/l	UJ	m
MRC-SW7A-S-021419-T-DUP	E680	Monochlorobiphenyls, Total	0.096	ug/l	UJ	ps
MRC-SW7A-S-021419-T-DUP	E680	Trichlorobiphenyls, Total	0.096	ug/l	UJ	ps
MRC-SW8A-S-021419-T	E680	Monochlorobiphenyls, Total	0.098	ug/l	UJ	ps
MRC-SW8A-S-021419-T	E680	Trichlorobiphenyls, Total	0.098	ug/l	UJ	ps
MRC-SW8B-S-021419-T	E680	Monochlorobiphenyls, Total	0.099	ug/l	UJ	ps

	Field Sample ID	Analytical Method	Analyte	Result	Units	Qualifier	Reason Code
	MRC-SW8B-S-021419-T	E680	Trichlorobiphenyls, Total	0.099	ug/l	UJ	ps
	MRC-SW9A-S-021419-T	E680	Decachlorobiphenyl	0.49	ug/l	UJ	s
	MRC-SW9A-S-021419-T	E680	Dichlorobiphenyls, Total	0.099	ug/l	UJ	s
	MRC-SW9A-S-021419-T	E680	Heptachlorobiphenyls, Total	0.30	ug/l	UJ	s
	MRC-SW9A-S-021419-T	E680	Hexachlorobiphenyls, Total	0.20	ug/l	UJ	s
	MRC-SW9A-S-021419-T	E680	Monochlorobiphenyls, Total	0.099	ug/l	UJ	s
	MRC-SW9A-S-021419-T	E680	Nonachlorobiphenyls, Total	0.49	ug/l	UJ	s
	MRC-SW9A-S-021419-T	E680	Octachlorobiphenyls, Total	0.30	ug/l	UJ	s
	MRC-SW9A-S-021419-T	E680	Pentachlorobiphenyls, Total	0.20	ug/l	UJ	s
	MRC-SW9A-S-021419-T	E680	Tetrachlorobiphenyls, Total	0.20	ug/l	UJ	s
	MRC-SW9A-S-021419-T	E680	Trichlorobiphenyls, Total	0.099	ug/l	UJ	s
	MRC-SW9A-S-021419-T	E680	Decachlorobiphenyl	0.48	ug/l	UJ	h
	MRC-SW9A-S-021419-T	E680	Dichlorobiphenyls, Total	0.097	ug/l	UJ	h
	MRC-SW9A-S-021419-T	E680	Heptachlorobiphenyls, Total	0.29	ug/l	UJ	h
	MRC-SW9A-S-021419-T	E680	Hexachlorobiphenyls, Total	0.19	ug/l	UJ	h
	MRC-SW9A-S-021419-T	E680	Monochlorobiphenyls, Total	0.097	ug/l	UJ	h
	MRC-SW9A-S-021419-T	E680	Nonachlorobiphenyls, Total	0.48	ug/l	UJ	h
	MRC-SW9A-S-021419-T	E680	Octachlorobiphenyls, Total	0.29	ug/l	UJ	h
	MRC-SW9A-S-021419-T	E680	Pentachlorobiphenyls, Total	0.19	ug/l	UJ	h
	MRC-SW9A-S-021419-T	E680	Tetrachlorobiphenyls, Total	0.19	ug/l	UJ	h
	MRC-SW9A-S-021419-T	E680	Trichlorobiphenyls, Total	0.097	ug/l	UJ	h

Data Qualifying Codes

Two types of data qualifying codes or flags are applied in the course of the data review. The data validation flags indicate data that are not usable for decision-making, more than normally biased and/or variable, or not representative of field conditions. These codes and their definitions are presented below in the hierarchy stipulated in the USEPA Contract Laboratory Program National Functional Guidelines for Organic (August 2014) Data Review and the USEPA Region III Guidelines for Organic (September 1994) for blank qualifications only.

Data Validation Flags

Flag	Interpretation
R	The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
B	The analyte was analyzed for, but not detected at a level greater than or equal to the level of the adjusted Detection Limit (DL) for sample and method.
J+	Reported value may not be accurate or precise, but the result may be biased high.
J-	Reported value may not be accurate or precise, but the result may be biased low.
J	The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the Limit of Detection (LOD).
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated numerical value represents its approximate concentration.
UJ	The analyte was not detected at a level greater than or equal to the adjusted DL. However, the reported adjusted DL is approximate and may be inaccurate or imprecise.
C	This qualifier applies to pesticide and Aroclor results when the identification has been confirmed by gas Chromatograph/Mass Spectrometer (GC/MS)
X	This qualifier applies to pesticide and Aroclor results when GC/MS analysis was attempted but was unsuccessful.

The other type of code used by AECOM is a “Reason Code”. The reason code indicates the type of quality control failure that led to the application of the data validation flag.

Reason Codes

Code	*Description*
a	Tracer recovery (radiochemical data only)
be	Equipment blank contamination
bf	Field blank contamination
bl	Laboratory blank contamination
bm	Missing Blank Information
c	Calibration issue
cl	Clean-up standard recovery
cp	Insufficient in growth (radiochemical data only)
cr	Chromatographic resolution
d	Reporting limit raised due to chromatographic interference
e	Ether interference
fd	Field duplicate RPDs
g	Chromatographic pattern match issue
h	Holding times
i	Internal standard areas
ii	Injection internal standard area or retention time exceedance
k	Estimated Maximum Possible Concentrations
l	LCS recoveries
lc	Labeled compound recovery
ld	Laboratory duplicate RPDs (matrix duplicate, MSD, LCSD)
m	Matrix spike recovery
nb	Negative laboratory blank contamination
p	Chemical preservation issue
pe	Post Extraction Spike
q	Quantitation issue
r	Dual column RPD
rp	Re-extraction precision issue [PAHs only]

AECOM

Data Validation and Usability Report

February 2019 Dark Head Cove Interim PCB Homolog Surface Water Sampling
ALS Environmental – Rochester, New York

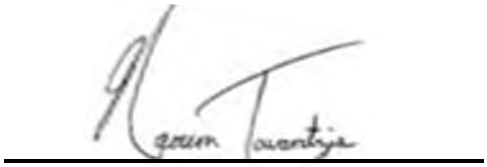
Lockheed Martin Corporation
Middle River Complex
Middle River, Maryland

April 2019

IDENTIFICATION FORM

Data Validation and Data Usability Review

Zachary Neigh
Data Validator
AECOM
03/29/2019



Naoum Tavantzis
Project Chemist
AECOM
03/29/2019

Table of Contents

I. Executive Summary

AECOM performed data validation on 100% of the surface water field investigative samples collected on February 14th, 2019 at the Lockheed Martin Middle River Complex located in Middle River, Maryland. Sample analysis was performed by ALS Environmental in Rochester, New York. The validation was performed to a United States Environmental Protection Agency (USEPA) Region III Organic Level 2 based on the specifics of the analytical methods referenced and qualified according to the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic/Inorganic (January 2017) Superfund Data Review, with the exception of blank detections which were qualified according to the USEPA Region III modifications to the National Functional Guidelines defining the use of the "B" flag.

The review was assisted through the use of an electronic data management tool that compiles batch-level quality control (QC) data submitted with the laboratory deliverables and identifies anomalies for verification and qualification by the data reviewer. This information is provided in the form of a structured workbook that includes field sample analytical results, QC sample results, batch associations, and QC criteria. Prior to validation, the quality assurance procedures applied to the process itself consist of reviewing the output for data completeness based on laboratory deliverables and chain of custody reports; verification of QC criteria based on the aforementioned data validation guidelines and project-specific Quality Assurance Project Plan (QAPP); and strict control of data management permissions. The resulting data validation workbooks were evaluated and validated using the AECOM automated validation assistant (AVA) tool. The specific data elements that were reviewed using AVA include:

- Holding times and sample preservation
- Blanks (Method, Trip, Field, and Equipment)
- Matrix spike (MS) and/or matrix spike duplicate (MSD) results
- Laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) results
- Surrogate spike results
- Field duplicates
- Laboratory duplicates
- Performance evaluation samples
- Sensitivity

Additionally, a manual review of the laboratory data packages was performed to evaluate the instrument-level QC data and compound quantification. The specific elements that were reviewed manually include:

- Relative standard deviation (RSD) of initial calibration
- Percent difference of initial and continuing calibration verifications (ICV/CCV)
- Instrument tune results
- Internal standard area count and percent recovery

- Relative response factor (RRF)
- Retention time
- Result recalculation

Data validation qualifiers were applied to results where a QC nonconformance required qualification per USEPA guidance. All QC anomalies were assessed for their impact on data quality in regards to precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) as discussed in **II: PARCCS Data Quality**. A detailed list of the QC non-conformances can be found in **III: Data Validation Findings**. The associated field sample results that required qualification are listed in **IV: Qualified Field Sample Results**.

II. PARCCS Data Quality

Precision

Precision is the degree of agreement among repeated measurements of the same characteristic on the same sample or on separate samples collected as close as possible in time and place. Field sampling precision is measured using the field duplicate relative percent differences; laboratory precision is measured using initial calibration relative standard deviations, relative response factors, instrument tuning data, internal standard area counts and relative retention times, laboratory duplicate relative percent differences and/or laboratory control spike and matrix spike duplicate relative percent differences. All quality control criteria impacting precision were met for the data reviewed.

Accuracy

Accuracy is a measure of confidence in a measurement. The smaller the difference between the measurement of a parameter and its "true" or expected value, the more accurate the measurement. Accuracy in the field was monitored through the use of negative controls that included laboratory-blind trip blanks, field blanks, and equipment rinsates, along with adherence to the standard operating procedures and sampling plans. Analytical accuracy was assessed through the measurement method blanks, percent differences in initial/continuing calibration verifications (ICV/CCV), as well as percent recoveries in the surrogate spikes, the laboratory control spike pair (LCS/LCSD), the matrix spike pair (MS/MSD), and the laboratory-blind performance evaluation sample.

The PCB homolog blanks in this data validation include laboratory-blind trip blanks, field blanks, equipment rinsate blanks, and method blanks. Laboratory-blind trip blanks were prepared by the laboratory filling sample bottles with deionized water and shipping them to the AECOM sampling team where they were stored with the sample bottleware order and remained sealed for the entire duration of AECOM's custody. After sample collection, these trip blanks were labeled as surface water investigative samples and shipped in the same coolers as the surface water investigative samples. Field blanks were prepared on the surface water sampling vessel by the field chemist. Deionized water was poured directly into sample bottleware from a laboratory-filled and sealed container, which remained unopen immediately preceding field blank collection. Equipment rinsate blanks were prepared on the surface water sampling vessel using a peristaltic pump with new, previously unhandled, tubing. Deionized water was pumped into sample bottles from a previously sealed container filled by the laboratory. Method blanks are prepared and analyzed in the laboratory alongside the surface water investigative samples at a frequency of one per sample preparation batch. All blanks reported non-detect results for all PCB homologs.

The closing CCV analyzed on 02/22/19 at 1102 displayed a percent difference outside the QC limit of ±20% for the surrogate 4,4'-DDT at -74.6%, with a negative bias. All field samples

displayed surrogate percent recoveries within QC limits. Therefore, no data qualifying action was taken based on the CCV surrogate percent difference anomaly.

A laboratory-blind performance evaluation sample was prepared by adding certified-concentrations of PCB homologs to one liter of laboratory-provided deionized water. The laboratory-blind performance evaluation sample displayed percent recoveries greater than the upper QC limit of 150% for monochlorobiphenyls (186%), dichlorobiphenyls (200%), and tetrachlorobiphenyls (213%). The performance evaluation sample was re-extracted and reanalyzed under the direction of AECOM, while retaining the laboratory-blind nature of the sample. The reanalyzed performance evaluation sample displayed a percent recovery for dichlorobiphenyls within QC limits at 92%, while percent recoveries for monochlorobiphenyls (179%) and tetrachlorobiphenyls (183%) remained greater than the upper QC limit of 150%. Based on professional judgement and the reanalyzed performance evaluation sample which displayed an acceptable percent recovery for dichlorobiphenyls, no data qualifying action was taken for the positive dichlorobiphenyls results. All field sample results for monochlorobiphenyls and tetrachlorobiphenyls were non-detect; no data qualifying action was required.

Representativeness

Representativeness qualitatively expresses the degree to which data accurately reflect site conditions. Factors that affect the representativeness of analytical data include appropriate sample population definitions, proper sample collection and preservation techniques, analytical holding times, use of standard analytical methods, and determination of matrix or analyte interferences.

Performance evaluation sample MRC-SW40-S-021419-A was re-extracted outside of the extraction holding time requirement of 7 days. However, it was analyzed within the 40-day total analytical holding time requirement. Based on professional judgement, taking into consideration that the performance evaluation sample was prepared in a “clean” aqueous matrix of deionized water, no data qualifying action was taken for the extraction holding time exceedance.

Comparability

Comparability is the extent to which data from one study can be compared directly to either past data from the current project or data from another study. Using standardized sampling and analytical methods, units of reporting, and site selection procedures helps ensure comparability. Standard field sampling methods and current CLP analytical methods by an accredited laboratory were used in this investigation.

Completeness

Completeness is a measure of the amount of valid data obtained from a measurement system compared to the amount of data expected under normal conditions. It is expected that laboratories will provide data meeting system quality control acceptance criteria for all samples

tested. Project completeness is determined by evaluating the planned versus actual quantities of usable data. A total of fifteen (15) field samples were validated, including eight (8) investigative surface water samples, one (1) field duplicate, one (1) performance evaluation sample, one (1) field blank, two (2) equipment rinsates, and two (2) trip blanks. All data are usable, as qualified, for their intended purpose based on the data reviewed.

Sensitivity

Sensitivity reflects the ability of the analytical method to detect analytes of interest below the level of concern. This goal is achieved by identifying the level of concern, choosing a method with appropriate method detection limits, and ensuring that the laboratory analyzes calibration standards at or below the level of concern. The laboratory was able to achieve the lowest reporting limits based on the analytical methods employed and the variety of matrices encountered. No field sample results were reported from dilutions. Any analytes detected below the reporting limit and above the method detection limit were reported and qualified "J" as estimated values by the laboratory.

Overall Impact on Data Usability

Overall data usability met the completeness requirement outlined in the QAPP at 100%. During the course of the data validation, a limited number of minor anomalies were noted which is to be anticipated based on statistical predictability of standard analytical procedures. No field sample results were qualified due to these minor anomalies. All data are considered usable as qualified, for their intended purpose based on the data reviewed.

III. Data Validation Findings

PCB Homologs

SW846-8270D-SIM	Description	Sample ID	Analyte	Value (Control Limit)
Holding Times	No Anomalies			
Method Blanks	No Anomalies			
Field/Equipment Blanks	No Anomalies			
LCS/LCSD	No Anomalies			
MS/MSD	No Anomalies			
Surrogate Spike	No Anomalies			
Laboratory Duplicates	No Anomalies			
Field Duplicates	No Anomalies			
PE Sample	High % Recovery	MRC-SW40-S-021419-A	Dichlorobiphenyls	200% (40-150%)
			Monochlorobiphenyls	186% (40-150%)
			Tetrachlorobiphenyls	213% (40-150%)
		MRC-SW40-S-021419-A (Re-extraction/Reanalysis)	Monochlorobiphenyls	179% (40-150%)
			Tetrachlorobiphenyls	183% (40-150%)
Initial Calibration	No Anomalies			
ICV/CCV	Surrogate % Difference	CCV 02/22/19 1102	4,4'-DDT	74.5% (±20%)
Internal Standards	No Anomalies			
Instrument Tune	No Anomalies			
RRF	No Anomalies			
Retention Time	No Anomalies			
Quantitation	No Anomalies			
Manual Recalculation	No Anomalies			

IV. Qualified Field Sample Results

Field Sample ID	Analytical Method	Analyte	Result	Units	Qualifier	Reason Code

No Qualified Field Sample Results

Data Qualifying Codes

Two types of data qualifying codes or flags are applied in the course of the data review. The data validation flags indicate data that are not usable for decision-making, more than normally biased and/or variable, or not representative of field conditions. These codes and their definitions are presented below in the hierarchy stipulated in the USEPA Contract Laboratory Program National Functional Guidelines for Organic (August 2014) Data Review and the USEPA Region III Guidelines for Organic (September 1994) for blank qualifications only.

Data Validation Flags

Flag	Interpretation
R	The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
B	The analyte was analyzed for, but not detected at a level greater than or equal to the level of the adjusted Detection Limit (DL) for sample and method.
J+	Reported value may not be accurate or precise, but the result may be biased high.
J-	Reported value may not be accurate or precise, but the result may be biased low.
J	The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the Limit of Detection (LOD).
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated numerical value represents its approximate concentration.
UJ	The analyte was not detected at a level greater than or equal to the adjusted DL. However, the reported adjusted DL is approximate and may be inaccurate or imprecise.
C	This qualifier applies to pesticide and Aroclor results when the identification has been confirmed by gas Chromatograph/Mass Spectrometer (GC/MS)
X	This qualifier applies to pesticide and Aroclor results when GC/MS analysis was attempted but was unsuccessful.

The other type of code used by AECOM is a “Reason Code”. The reason code indicates the type of quality control failure that led to the application of the data validation flag.

Reason Codes

Code	*Description*
a	Tracer recovery (radiochemical data only)
be	Equipment blank contamination
bf	Field blank contamination
bl	Laboratory blank contamination
bm	Missing Blank Information
c	Calibration issue
cl	Clean-up standard recovery
cp	Insufficient in growth (radiochemical data only)
cr	Chromatographic resolution
d	Reporting limit raised due to chromatographic interference
e	Ether interference
fd	Field duplicate RPDs
g	Chromatographic pattern match issue
h	Holding times
i	Internal standard areas
ii	Injection internal standard area or retention time exceedance
k	Estimated Maximum Possible Concentrations
l	LCS recoveries
lc	Labeled compound recovery
ld	Laboratory duplicate RPDs (matrix duplicate, MSD, LCSD)
m	Matrix spike recovery
nb	Negative laboratory blank contamination
p	Chemical preservation issue
pe	Post Extraction Spike
q	Quantitation issue
r	Dual column RPD
rp	Re-extraction precision issue [PAHs only]

AECOM

Data Validation and Usability Report

April 2019 – Triannual Surface Water Sampling

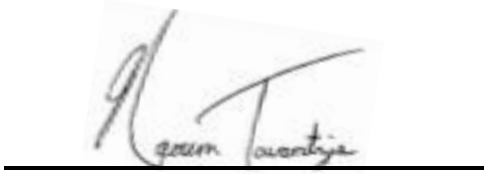
Lockheed Martin Corporation
Middle River Complex
Middle River, Maryland

June 2019

IDENTIFICATION FORM

Data Validation and Data Usability Review

Zachary Neigh
Data Validator
AECOM
06/19/2019



Naoum Tavantzis
Project Chemist
AECOM
06/20/2019

Table of Contents

I. Executive Summary

AECOM performed data validation on 100% of the surface water field investigative samples collected on April 24th, 2019 and April 25th, 2019 at the Lockheed Martin Middle River Complex located in Middle River, Maryland. The validation was performed to a United States Environmental Protection Agency (USEPA) Region III Inorganic Level I and Organic Level I based on the specifics of the analytical methods referenced and qualified according to the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic/Inorganic (January 2017) Superfund Data Review, with the exception of blank detections which were qualified according to the USEPA Region III modifications to the National Functional Guidelines defining the use of the "B" flag.

The review was assisted through the use of an electronic data management tool that compiles batch-level quality control (QC) data submitted with the laboratory deliverables and identifies anomalies for verification and qualification by the data reviewer. This information is provided in the form of a structured workbook that includes field sample analytical results, QC sample results, batch associations, and QC criteria. Prior to validation, the quality assurance procedures applied to the process itself consist of reviewing the output for data completeness based on laboratory deliverables and chain of custody reports; verification of QC criteria based on the aforementioned data validation guidelines and project-specific Quality Assurance Project Plan (QAPP); and strict control of data management permissions. The resulting data validation workbooks were evaluated and validated using the AECOM automated validation assistant (AVA) tool. The specific data elements that were reviewed include:

- Holding times and sample preservation
- Blanks (Method, Trip, Field, and Equipment)
- Matrix spike (MS) and/or matrix spike duplicate (MSD) results
- Laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) results
- Surrogate spike results
- Field duplicates
- Laboratory duplicates
- Sensitivity

Data validation qualifiers were applied to results where a QC nonconformance required qualification per USEPA guidance. All QC anomalies were assessed for their impact on data quality in regards to precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) as discussed in **II: PARCCS Data Quality**. A detailed list of the QC non-conformances can be found in **III: Data Validation Findings**. The associated field sample results that required qualification are listed in **IV: Qualified Field Sample Results**.

II. PARCCS Data Quality

Precision

Precision is the degree of agreement among repeated measurements of the same characteristic on the same sample or on separate samples collected as close as possible in time and place. Field sampling precision is measured using the field duplicate relative percent differences; laboratory precision is measured using laboratory duplicate relative percent differences and/or laboratory control spike and matrix spike duplicate relative percent differences. All quality control criteria impacting precision were met for the data reviewed.

Accuracy

Accuracy is a measure of confidence in a measurement. The smaller the difference between the measurement of a parameter and its "true" or expected value, the more accurate the measurement. Analytical accuracy was assessed through the measurement of percent recoveries in the surrogate spikes, laboratory control spike pairs (LCS/LCSD) and the matrix spike pairs (MS/MSD).

The LCS performed in analytical batch 510561 displayed percent recoveries greater than the upper QC limits for 2-chloroethylvinylether and tertiary-amyl methyl ether. The associated field sample results were non-detect; no data qualifying action was required. No impact on data quality is anticipated from these anomalies.

The MS/MSD performed on field sample MRC-SW8A-S-042419 and MRC-SW8B-S-042419 displayed percent recoveries less than the QC limits for naphthalene and 2-chlorovinylether, respectively. The associated field sample results were non-detect and were qualified UJ,m. anomalies are considered minor and the qualified field sample results should be considered usable as estimated values with a negative bias.

The surrogate spikes performed on samples MRC-SW11A-S-042419, MRC-SW18A-S-042419, MRC-SW12A-S-042419, MRC-SW15A-S-042419, and MRC-SW16A-S-042419 displayed percent recoveries less than the lower QC limit for 4,4-DDT. The positive associated field sample results were qualified J-,s, while non-detects were qualified UJ,s. These anomalies are considered minor and the qualified field sample results should be considered usable as estimated values with a negative bias. Additionally, the surrogate spike performed on field sample MRC-SW18A-S-042419 displayed a percent recovery greater than upper QC limit for 4-bromofluorobenzene. The positive associated field sample result was qualified J+,s. This anomaly is considered minor and the qualified field sample result should be considered usable as an estimated value with a positive bias.

A laboratory-blind performance evaluation sample, MRC-SW20-042519, was prepared by adding certified concentrations of PCB homologs to one-liter of laboratory-provided deionized water. The laboratory-blind performance evaluation sample displayed percent recoveries greater

than the upper QC limit of 150% for dichlorobiphenyls (162%), monochlorobiphenyls (171%) and tetrachlorobiphenyls (170%). The positive associated field sample results were qualified J+,ps, unless previously qualified due to surrogate percent recovery anomalies. These anomalies are considered minor and the qualified field sample results should be considered usable as estimated values with a positive bias.

Representativeness

Representativeness qualitatively expresses the degree to which data accurately reflect site conditions. Factors that affect the representativeness of analytical data include appropriate sample population definitions, proper sample collection and preservation techniques, analytical holding times, use of standard analytical methods, and determination of matrix or analyte interferences. Representativeness is also monitored through the use of negative controls such as trip blanks, field blanks, and equipment blanks, along with adherence to the standard operating procedures and sampling plans.

Eight trip blanks, eight method blanks, and one field blank were assessed for their effect on data quality. In six instances, method blanks displayed detections greater than the method detection limits. The affected analytes included bromomethane, 1,3-dichlorobenzene, 1,4-dichlorobenzene, and tetrachloroethene. The positive associated field sample results and field/trip blank results that were within five times the method blank concentrations were qualified B, bl. The qualified field sample results should be considered potential false positives. In 20 instances, trip blanks displayed detections greater than the method detection limit. The affected analytes included acetone, bromomethane, tert-butyl alcohol, and tetrachloroethane. All detections for tetrachloroethene and bromomethane were associated with method blank detections of the same analytes. Therefore, trip blank detections of those analytes were not used to qualify field sample results. The positive field sample results that were associated with the remaining trip blank detections and within five times the trip blank concentrations were qualified B, bt, unless previously qualified due to a method blank detection. The qualified field sample results should be considered potential false positives. The field blank, FB-042519-ZN, displayed a detection for bromomethane greater than the method detection limit. This field blank result was previously qualified due to a method blank detection for bromomethane; no further data qualifying action was taken.

Comparability

Comparability is the extent to which data from one study can be compared directly to either past data from the current project or data from another study. Using standardized sampling and analytical methods, units of reporting, and site selection procedures helps ensure comparability. Standard field sampling methods and current CLP analytical methods by an accredited laboratory were used in this investigation.

Completeness

Completeness is a measure of the amount of valid data obtained from a measurement system compared to the amount of data expected under normal conditions. It is expected that laboratories will provide data meeting system quality control acceptance criteria for all samples tested. Project completeness is determined by evaluating the planned versus actual quantities of usable data. A total of 19 field samples were validated, including 17 investigative surface water samples, one field duplicate, and one trip blank. All data are usable, as qualified, for their intended purpose based on the data reviewed.

Sensitivity

Sensitivity reflects the ability of the analytical method to detect analytes of interest below the level of concern. This goal is achieved by identifying the level of concern, choosing a method with appropriate method detection limits, and ensuring that the laboratory analyzes calibration standards at or below the level of concern. The laboratory was able to achieve the lowest reporting limits based on the analytical methods employed and the variety of matrices encountered. No field sample results were reported from dilutions. Any analytes detected below the reporting limit and above the method detection limit were reported and qualified “J” as estimated values by the laboratory.

Overall Impact on Data Usability

Overall data usability met the completeness requirement outlined in the QAPP at 100%. During the course of the data validation, several minor anomalies were noted which is to be anticipated based on statistical predictability of standard analytical procedures. Several field sample results were qualified due to these minor anomalies. All data are considered usable as qualified, for their intended purpose based on the data reviewed.

III. Data Validation Findings

Volatile Organic Compounds

SW846-8260B	Description	Sample ID	Analyte	Value (Control Limit)
Holding Times	*No Anomalies*			
Method Blanks	**Detection > MDL**	2937789	Bromomethane	0.43 ug/l (0.39 ug/l)
			Tetrachloroethene	0.69 ug/l (0.35 ug/l)
		2938012	1,2,4-Trichlorobenzene	0.88 ug/l (0.82 ug/l)
			1,2,4-Trimethylbenzene	0.32 ug/l (0.25 ug/l)
			1,2-Dichlorobenzene	0.52 ug/l (0.38 ug/l)
			1,3-Dichlorobenzene	0.64 ug/l (0.25 ug/l)
			1,4-Dichlorobenzene	0.74 ug/l (0.27 ug/l)
			4-Chlorotoluene	0.50 ug/l (0.33 ug/l)
			Bromobenzene	0.39 ug/l (0.32 ug/l)
			Chlorobenzene	0.35 ug/l (0.19 ug/l)
			Cymene	0.41 ug/l (0.32 ug/l)
			Naphthalene	5.0 ug/l (0.34 ug/l)
			N-Butylbenzene	0.69 ug/l (0.60 ug/l)
			N-Propylbenzene	0.37 ug/l (0.33 ug/l)
		2938016	Bromomethane	0.44 ug/l (0.39 ug/l)
		2938830	Bromomethane	0.81 ug/l (0.39 ug/l)
Field Blanks	**Detection > MDL**	FB-042519-ZN	Bromomethane	0.42 ug/L (0.39 ug/L)
Trip Blanks	**Detection > MDL**	TB-042419-1	Bromomethane	0.42 ug/l (0.39 ug/l)
			Tetrachloroethene	0.35 ug/l (0.35 ug/l)
		TB-042419-2	Acetone	6.8 ug/l (3.1 ug/l)
			Bromomethane	0.43 ug/l (0.39 ug/l)
		TB-042419-3	Acetone	5.0 ug/l (3.1 ug/l)
			Bromomethane	0.40 ug/l (0.39 ug/l)
			TERT-BUTYL ALCOHOL	3.0 ug/l (2.2 ug/l)
		TB-042519-1	Acetone	5.3 ug/l (3.1 ug/l)
			TERT-BUTYL ALCOHOL	2.3 ug/l (2.2 ug/l)
		TB-042519-2	Acetone	5.0 ug/l (3.1 ug/l)
			Bromomethane	0.55 ug/l (0.39 ug/l)
			TERT-BUTYL ALCOHOL	2.5 ug/l (2.2 ug/l)
		TB-042519-3	Acetone	7.7 ug/l (3.1 ug/l)
			Bromomethane	0.46 ug/l (0.39 ug/l)
			TERT-BUTYL ALCOHOL	2.9 ug/l (2.2 ug/l)
		TB-042519-4	Acetone	7.9 ug/l (3.1 ug/l)
			TERT-BUTYL ALCOHOL	2.3 ug/l (2.2 ug/l)

Volatile Organic Compounds

SW846-8260B	Description	Sample ID	Analyte	Value (Control Limit)
		TB-042519-5	Acetone	6.4 ug/l (3.1 ug/l)
			Bromomethane	0.51 ug/l (0.39 ug/l)
			TERT-BUTYL ALCOHOL	2.5 ug/l (2.2 ug/l)
LCS/LCSD	**LCS % Recovery**	2938013	2-Chloroethylvinylether	153% (1-150%)
			Tertiary-Amyl Methyl Ether	125% (75-121%)
MS/MSD	**MS/MSD % Recovery**	MRC-SW8B-S-042419	2-Chloroethylvinylether	0.4/0.38 % (1-150%)
		MRC-SW8A-S-042419	Naphthalene	51/51.5 % (56-134%)
Surrogate Spike	**% Recovery**	MRC-SW18A-S-042419	4-Bromofluorobenzene	116 % (79-114 %)
Laboratory Duplicates	No Anomalies			
Field Duplicates	No Anomalies			

1,4-Dioxane

SW846-8270D-SIM	Description	Sample ID	Analyte	Value (Control Limit)
Holding Times	*No Anomalies*			
Method Blanks	*No Anomalies*			
Field/Equipment Blanks	*No Anomalies*			
LCS/LCSD	*No Anomalies*			
MS/MSD	*No Anomalies*			
Surrogate Spike	*No Anomalies*			
Laboratory Duplicates	*No Anomalies*			
Field Duplicates	*No Anomalies*			

PCB Homologs

EPA 680	Description	Sample ID	Analyte	Value (Control Limit)
Holding Times	*No Anomalies*			
Method Blanks	*No Anomalies*			
Field/Equipment Blanks	*No Anomalies*			
LCS/LCSD	*No Anomalies*			
MS/MSD	*No Anomalies*			
Surrogate Spike	**% Recovery**	MRC-SW11A-S-042419	4,4-DDT (p,p)	29% (30-194%)
		MRC-SW18A-S-042419		26% (30-194%)
		MRC-SW12A-S-042419		27% (30-194%)
		MRC-SW15A-S-042419		16% (30-194%)
		MRC-SW16A-S-042419		23% (30-194%)

PCB Homologs

EPA 680	Description	Sample ID	Analyte	Value (Control Limit)
Laboratory Duplicates	*No Anomalies*			
Field Duplicates	*No Anomalies*			
Performance Sample	**% Recovery**	MRC-SW20-042519	Dichlorobiphyenyls	162% (40-150%)
			Monochlorobiphenyls	171% (40-150%)
			Tetrachlorobiphenyls	170% (40-150%)

IV. Qualified Field Sample Results

Field Sample ID	Analytical Method	Analyte	Result	Units	Qualifier	Reason Code
FB-042519-ZN	SW8260B	Bromomethane	0.42	ug/l	B	bl
MRC-SW11A-S-042419	E680	Decachlorobiphenyl	0.027	ug/l	UJ	s
MRC-SW11A-S-042419	E680	Dichlorobiphenyls, Total	0.0054	ug/l	J-	s
MRC-SW11A-S-042419	E680	Heptachlorobiphenyls, Total	0.016	ug/l	UJ	s
MRC-SW11A-S-042419	E680	Hexachlorobiphenyls, Total	0.011	ug/l	UJ	s
MRC-SW11A-S-042419	E680	Monochlorobiphenyls, Total	0.0054	ug/l	UJ	s
MRC-SW11A-S-042419	E680	Nonachlorobiphenyls, Total	0.022	ug/l	UJ	s
MRC-SW11A-S-042419	E680	Octachlorobiphenyls, Total	0.016	ug/l	UJ	s
MRC-SW11A-S-042419	E680	Pentachlorobiphenyls, Total	0.011	ug/l	UJ	s
MRC-SW11A-S-042419	E680	Tetrachlorobiphenyls, Total	0.011	ug/l	UJ	s
MRC-SW11A-S-042419	E680	Trichlorobiphenyls, Total	0.0054	ug/l	UJ	s
MRC-SW11A-S-042419	SW8260B	1,4-Dichlorobenzene	0.52	ug/l	B	bl
MRC-SW11A-S-042419	SW8260B	Acetone	8.4	ug/l	B	bt
MRC-SW11B-S-042419	E680	Dichlorobiphenyls, Total	0.0054	ug/l	J+	ps
MRC-SW11B-S-042419	SW8260B	Acetone	8.2	ug/l	B	bt
MRC-SW12A-S-042419	E680	Decachlorobiphenyl	0.026	ug/l	UJ	s
MRC-SW12A-S-042419	E680	Dichlorobiphenyls, Total	0.0052	ug/l	J-	s
MRC-SW12A-S-042419	E680	Heptachlorobiphenyls, Total	0.016	ug/l	UJ	s
MRC-SW12A-S-042419	E680	Hexachlorobiphenyls, Total	0.010	ug/l	UJ	s
MRC-SW12A-S-042419	E680	Monochlorobiphenyls, Total	0.0052	ug/l	UJ	s
MRC-SW12A-S-042419	E680	Nonachlorobiphenyls, Total	0.021	ug/l	UJ	s
MRC-SW12A-S-042419	E680	Octachlorobiphenyls, Total	0.016	ug/l	UJ	s
MRC-SW12A-S-042419	E680	Pentachlorobiphenyls, Total	0.010	ug/l	UJ	s
MRC-SW12A-S-042419	E680	Tetrachlorobiphenyls, Total	0.010	ug/l	UJ	s
MRC-SW12A-S-042419	E680	Trichlorobiphenyls, Total	0.0052	ug/l	UJ	s
MRC-SW12A-S-042419	SW8260B	Acetone	5.3	ug/l	B	bt
MRC-SW12A-S-042419	SW8260B	Bromomethane	0.64	ug/l	B	bl
MRC-SW13A-S-042419	E680	Dichlorobiphenyls, Total	0.0082	ug/l	J+	ps
MRC-SW13A-S-042419	SW8260B	Acetone	9.3	ug/l	B	bt
MRC-SW13A-S-042419	SW8260B	Bromomethane	0.60	ug/l	B	bl
MRC-SW15A-S-042419	E680	Decachlorobiphenyl	0.027	ug/l	UJ	s
MRC-SW15A-S-042419	E680	Dichlorobiphenyls, Total	0.0059	ug/l	J-	s
MRC-SW15A-S-042419	E680	Heptachlorobiphenyls, Total	0.016	ug/l	UJ	s
MRC-SW15A-S-042419	E680	Hexachlorobiphenyls, Total	0.011	ug/l	UJ	s

Field Sample ID	Analytical Method	Analyte	Result	Units	Qualifier	Reason Code
MRC-SW15A-S-042419	E680	Monochlorobiphenyls, Total	0.0054	ug/l	UJ	s
MRC-SW15A-S-042419	E680	Nonachlorobiphenyls, Total	0.022	ug/l	UJ	s
MRC-SW15A-S-042419	E680	Octachlorobiphenyls, Total	0.016	ug/l	UJ	s
MRC-SW15A-S-042419	E680	Pentachlorobiphenyls, Total	0.011	ug/l	UJ	s
MRC-SW15A-S-042419	E680	Tetrachlorobiphenyls, Total	0.011	ug/l	UJ	s
MRC-SW15A-S-042419	E680	Trichlorobiphenyls, Total	0.0054	ug/l	UJ	s
MRC-SW15A-S-042419	SW8260B	1,3-Dichlorobenzene	0.26	ug/l	B	bl
MRC-SW15A-S-042419	SW8260B	1,4-Dichlorobenzene	0.45	ug/l	B	bl
MRC-SW15A-S-042419	SW8260B	Acetone	10.6	ug/l	B	bt
MRC-SW16A-S-042419	E680	Decachlorobiphenyl	0.027	ug/l	UJ	s
MRC-SW16A-S-042419	E680	Dichlorobiphenyls, Total	0.0076	ug/l	J-	s
MRC-SW16A-S-042419	E680	Heptachlorobiphenyls, Total	0.016	ug/l	UJ	s
MRC-SW16A-S-042419	E680	Hexachlorobiphenyls, Total	0.011	ug/l	UJ	s
MRC-SW16A-S-042419	E680	Monochlorobiphenyls, Total	0.0054	ug/l	UJ	s
MRC-SW16A-S-042419	E680	Nonachlorobiphenyls, Total	0.022	ug/l	UJ	s
MRC-SW16A-S-042419	E680	Octachlorobiphenyls, Total	0.016	ug/l	UJ	s
MRC-SW16A-S-042419	E680	Pentachlorobiphenyls, Total	0.011	ug/l	UJ	s
MRC-SW16A-S-042419	E680	Tetrachlorobiphenyls, Total	0.011	ug/l	UJ	s
MRC-SW16A-S-042419	E680	Trichlorobiphenyls, Total	0.0054	ug/l	UJ	s
MRC-SW16A-S-042419	SW8260B	1,3-Dichlorobenzene	0.27	ug/l	B	bl
MRC-SW16A-S-042419	SW8260B	1,4-Dichlorobenzene	0.30	ug/l	B	bl
MRC-SW16A-S-042419	SW8260B	Acetone	6.5	ug/l	B	bt
MRC-SW17A-042519	SW8260B	Acetone	14.7	ug/l	B	bt
MRC-SW17A-042519	SW8260B	Bromomethane	0.51	ug/l	B	bl
MRC-SW18A-S-042419	E680	Decachlorobiphenyl	0.025	ug/l	UJ	s
MRC-SW18A-S-042419	E680	Dichlorobiphenyls, Total	0.0030	ug/l	J-	s
MRC-SW18A-S-042419	E680	Heptachlorobiphenyls, Total	0.015	ug/l	UJ	s
MRC-SW18A-S-042419	E680	Hexachlorobiphenyls, Total	0.010	ug/l	UJ	s
MRC-SW18A-S-042419	E680	Monochlorobiphenyls, Total	0.0050	ug/l	UJ	s
MRC-SW18A-S-042419	E680	Nonachlorobiphenyls, Total	0.020	ug/l	UJ	s
MRC-SW18A-S-042419	E680	Octachlorobiphenyls, Total	0.015	ug/l	UJ	s
MRC-SW18A-S-042419	E680	Pentachlorobiphenyls, Total	0.010	ug/l	UJ	s
MRC-SW18A-S-042419	E680	Tetrachlorobiphenyls, Total	0.010	ug/l	UJ	s
MRC-SW18A-S-042419	E680	Trichlorobiphenyls, Total	0.0050	ug/l	UJ	s
MRC-SW18A-S-042419	SW8260B	1,3-Dichlorobenzene	0.35	ug/l	B	bl
MRC-SW18A-S-042419	SW8260B	1,4-Dichlorobenzene	0.32	ug/l	B	bl

Field Sample ID	Analytical Method	Analyte	Result	Units	Qualifier	Reason Code
MRC-SW18A-S-042419	SW8260B	TRICHLOROETHENE	0.86	ug/l	J+	s
MRC-SW1A-042419	SW8260B	Tetrachloroethene	0.40	ug/l	B	bl
MRC-SW2A-042419	SW8260B	Bromomethane	0.40	ug/l	B	bl
MRC-SW2A-042419	SW8260B	Tetrachloroethene	0.42	ug/l	B	bl
MRC-SW5A1-S-042419	E680	Dichlorobiphenyls, Total	0.0035	ug/l	J+	ps
MRC-SW5A1-S-042419	SW8260B	Tetrachloroethene	0.40	ug/l	B	bl
MRC-SW5A2-S-042419	E680	Dichlorobiphenyls, Total	0.0070	ug/l	J+	ps
MRC-SW5A2-S-042419	SW8260B	Bromomethane	0.55	ug/l	B	bl
MRC-SW5B-S-042419	E680	Dichlorobiphenyls, Total	0.0043	ug/l	J+	ps
MRC-SW5B-S-042419	SW8260B	Tetrachloroethene	0.39	ug/l	B	bl
MRC-SW6A-S-042519	E680	Dichlorobiphenyls, Total	0.0047	ug/l	J+	ps
MRC-SW6A-S-042519	SW8260B	Acetone	5.3	ug/l	B	bt
MRC-SW6A-S-042519	SW8260B	Bromomethane	0.45	ug/l	B	bl
MRC-SW6A-S-042519	SW8260B	TERT-BUTYL ALCOHOL	3.7	ug/l	B	bt
MRC-SW6B-S-042519	E680	Dichlorobiphenyls, Total	0.0048	ug/l	J+	ps
MRC-SW6B-S-042519	SW8260B	Acetone	9.2	ug/l	B	bt
MRC-SW6B-S-042519	SW8260B	Bromomethane	0.67	ug/l	B	bl
MRC-SW7A-S-042519-A	E680	Dichlorobiphenyls, Total	0.0054	ug/l	J+	ps
MRC-SW7A-S-042519-A	SW8260B	Acetone	12.7	ug/l	B	bt
MRC-SW7A-S-042519-A	SW8260B	Bromomethane	0.61	ug/l	B	bl
MRC-SW7B-S-042519	E680	Dichlorobiphenyls, Total	0.0065	ug/l	J+	ps
MRC-SW8A-S-042419	E680	Dichlorobiphenyls, Total	0.0042	ug/l	J+	ps
MRC-SW8B-S-042419	SW8260B	2-Chloroethylvinylether	2.0	ug/l	UJ	m
MRC-SW8A-S-042419	SW8260B	Acetone	5.1	ug/l	B	bt
MRC-SW8A-S-042419	SW8260B	Naphthalene	2.0	ug/l	UJ	m
MRC-SW8A-S-DUP-042419	E680	Dichlorobiphenyls, Total	0.0048	ug/l	J+	ps
MRC-SW8B-S-042419	E680	Dichlorobiphenyls, Total	0.0068	ug/l	J+	ps
MRC-SW8B-S-042419	SW8260B	Acetone	8.7	ug/l	B	bt
MRC-SW8B-S-042419	SW8260B	Bromomethane	0.72	ug/l	B	bl
MRC-SW9A-S-042519	E680	Dichlorobiphenyls, Total	0.0032	ug/l	J+	ps
MRC-SW9A-S-042519	SW8260B	Acetone	8.0	ug/l	B	bt
MRC-SW9A-S-042519	SW8260B	Bromomethane	0.49	ug/l	B	bl
MRC-SW9B-S-042519	E680	Dichlorobiphenyls, Total	0.0042	ug/l	J+	ps
MRC-SW9B-S-042519	SW8260B	Acetone	21.6	ug/l	B	bt
MRC-SW9B-S-042519	SW8260B	Bromomethane	0.42	ug/l	B	bl
TB-042419-1	SW8260B	Bromomethane	0.42	ug/l	B	bl

Field Sample ID	Analytical Method	Analyte	Result	Units	Qualifier	Reason Code
TB-042419-1	SW8260B	Tetrachloroethene	0.35	ug/l	B	bl
TB-042419-2	SW8260B	Bromomethane	0.43	ug/l	B	bl
TB-042419-3	SW8260B	Bromomethane	0.40	ug/l	B	bl
TB-042519-2	SW8260B	Bromomethane	0.55	ug/l	B	bl
TB-042519-3	SW8260B	Bromomethane	0.46	ug/l	B	bl
TB-042519-5	SW8260B	Bromomethane	0.51	ug/l	B	bl

Appendix A
Performance Evaluation Sample Results

Appendix A
ALS-Rochester Performance Evaluation Sample Results
Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland

MRC-SW20-042519	True[1] (ug/L)	Measured (ug/L)	Lab Qualifier	MDL	RL	Percent Recovery (%)	Control Limit[2] (%)
Dichlorobiphenyls	0.013	0.021		0.0023	0.0048	162%	40-150%
Monochlorobiphenyls	0.014	0.024		0.0027	0.0048	171%	40-150%
Tetrachlorobiphenyls	0.023	0.039		0.0030	0.0096	170%	40-150%
Trichlorobiphenyls	0.013	0.015		0.0011	0.0048	115%	40-150%

1: Phenova provided concentrations on Certificate of Analysis
2: Control limits provided by Phenova

Abbreviations
MDL: method detection limit
RL: reporting limit
ug/L: micrograms per liter

Appendix B
Data Validation Qualifiers and Reason Codes

Data Qualifying Codes

Two types of data qualifying codes or flags are applied in the course of the data review. The data validation flags indicate data that are not usable for decision-making, more than normally biased and/or variable, or not representative of field conditions. These codes and their definitions are presented below in the hierarchy stipulated in the USEPA Contract Laboratory Program National Functional Guidelines for Organic (August 2014) Data Review and the USEPA Region III Guidelines for Organic (September 1994) for blank qualifications only.

Data Validation Flags

Flag	Interpretation
R	The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
B	The analyte was analyzed for, but not detected at a level greater than or equal to the level of the adjusted Detection Limit (DL) for sample and method.
J+	Reported value may not be accurate or precise, but the result may be biased high.
J-	Reported value may not be accurate or precise, but the result may be biased low.
J	The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the Limit of Detection (LOD).
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated numerical value represents its approximate concentration.
UJ	The analyte was not detected at a level greater than or equal to the adjusted DL. However, the reported adjusted DL is approximate and may be inaccurate or imprecise.
C	This qualifier applies to pesticide and Aroclor results when the identification has been confirmed by gas Chromatograph/Mass Spectrometer (GC/MS)
X	This qualifier applies to pesticide and Aroclor results when GC/MS analysis was attempted but was unsuccessful.

The other type of code used by AECOM is a "Reason Code". The reason code indicates the type of quality control failure that led to the application of the data validation flag.

Reason Codes

Code	*Description*	*Code*	*Description*
a	Tracer recovery (radiochemical data only)	**ld**	Laboratory duplicate RPDs (matrix duplicate, MSD, LCSD)
be	Equipment blank contamination	**lp**	Laboratory control sample/laboratory control sample duplicate RPDs
bf	Field blank contamination	**m**	Matrix spike recovery
bi	Bias indeterminate	**md**	Matrix spike/matrix spike duplicate RPD
bl	Laboratory blank contamination	**nb**	Negative laboratory blank contamination
bm	Missing Blank Information	**p**	Chemical preservation issue
bt	Trip Blank	**pe**	Post Extraction Spike
c	Calibration issue	**ps**	Performance Evaluation Sample
cl	Clean-up standard recovery	**q**	Quantitation issue
cp	Insufficient in growth (radiochemical data only)	**r**	Dual column RPD
cr	Chromatographic resolution	**rp**	Re-extraction precision issue [PAHs only]
d	Reporting limit raised due to chromatographic interference	**rt**	SIM ions not within + 2 seconds
dt	Dissolved result > total over limit	**s**	Surrogate recovery
e	Ether interference	**sc**	Sample collection issues
fd	Field duplicate RPDs	**sp**	Sample preparation issue
g	Chromatographic pattern match issue	**su**	Evidence of ion suppression
h	Holding times	**t**	Temperature Preservation Issue
i	Internal standard areas	**u**	High combined sample result uncertainty (radiochemical data only)
ii	Injection internal standard area or retention time exceedance	**v**	Compound identification issue
k	Estimated Maximum Possible Concentrations	**x**	Low % solids
l	LCS recoveries	**y**	Serial dilution results
lc	Labeled compound recovery	**z**	ICS results

Data Validation and Usability Report

June 2019 – Triannual Surface Water Sampling

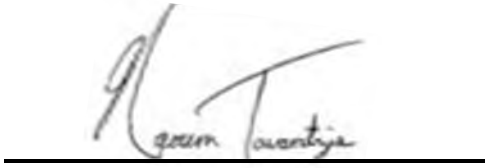
Lockheed Martin Corporation
Middle River Complex
Middle River, Maryland

August 2019

IDENTIFICATION FORM

Data Validation and Data Usability Review

Zachary Neigh
Data Validator
AECOM
08/08/2019



Naoum Tavantzis
Project Chemist
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08/08/2019

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I. Executive Summary

AECOM performed data validation on 100% of the surface water field investigative samples collected on June 12th, 2019 at the Lockheed Martin Middle River Complex located in Middle River, Maryland. The validation was performed to a United States Environmental Protection Agency (USEPA) Region III Inorganic Level I and Organic Level I based on the specifics of the analytical methods referenced and qualified according to the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic/Inorganic (January 2017) Superfund Data Review, with the exception of blank detections which were qualified according to the USEPA Region III modifications to the National Functional Guidelines defining the use of the "B" flag.

The review was assisted through the use of an electronic data management tool that compiles batch-level quality control (QC) data submitted with the laboratory deliverables and identifies anomalies for verification and qualification by the data reviewer. This information is provided in the form of a structured workbook that includes field sample analytical results, QC sample results, batch associations, and QC criteria. Prior to validation, the quality assurance procedures applied to the process itself consist of reviewing the output for data completeness based on laboratory deliverables and chain of custody reports; verification of QC criteria based on the aforementioned data validation guidelines and project-specific Quality Assurance Project Plan (QAPP); and strict control of data management permissions. The resulting data validation workbooks were evaluated and validated using the AECOM automated validation assistant (AVA) tool. The specific data elements that were reviewed include:

- Holding times and sample preservation
- Blanks (Method, Trip, Field, and Equipment)
- Matrix spike (MS) and/or matrix spike duplicate (MSD) results
- Laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) results
- Surrogate spike results
- Field duplicates
- Laboratory duplicates
- Sensitivity

Data validation qualifiers were applied to results where a QC nonconformance required qualification per USEPA guidance. All QC anomalies were assessed for their impact on data quality in regards to precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) as discussed in **II: PARCCS Data Quality**. A detailed list of the QC non-conformances can be found in **III: Data Validation Findings**. The associated field sample results that required qualification are listed in **IV: Qualified Field Sample Results**.

II. PARCCS Data Quality

Precision

Precision is the degree of agreement among repeated measurements of the same characteristic on the same sample or on separate samples collected as close as possible in time and place. Field sampling precision is measured using the field duplicate relative percent differences; laboratory precision is measured using laboratory duplicate relative percent differences (RPD) and/or laboratory control spike and matrix spike duplicate relative percent differences.

The MS/MSD performed on field sample MRC-SW8B-S-061219 and MRC-SW15A-S-061219 displayed several RPD greater than the upper QC limits. The positive associated parent sample result was previously qualified due to a method blank detection; no further data qualifying action was taken.

Accuracy

Accuracy is a measure of confidence in a measurement. The smaller the difference between the measurement of a parameter and its "true" or expected value, the more accurate the measurement. Analytical accuracy was assessed through the measurement of percent recoveries in the surrogate spikes, laboratory control spike pairs (LCS/LCSD) and the matrix spike pairs (MS/MSD).

Several LCS displayed percent recoveries outside the QC limits. The field sample results associated with percent recoveries greater than the upper QC limits were non-detect; no data qualifying action was required. The field sample result associated with the percent recovery less than the lower QC limit was non-detect and was qualified UJ,l. These anomalies are considered minor, and the qualified field sample result should be considered usable as an estimated value with a negative bias.

The MS/MSD performed on field sample MRC-SW8B-S-061219 and MRC-SW15A-S-061219 displayed percent recoveries less than the lower QC limits for bromomethane and 2-chlorovinylether. The positive associated field sample result was previously qualified due to a method blank detection; no further data qualifying action was taken. The associated non-detect field sample results were qualified UJ,m. These anomalies are considered minor and the qualified field sample results should be considered usable as estimated values with a negative bias.

Representativeness

Representativeness qualitatively expresses the degree to which data accurately reflect site conditions. Factors that affect the representativeness of analytical data include appropriate sample population definitions, proper sample collection and preservation techniques, analytical holding times, use of standard analytical methods, and determination of matrix or analyte interferences. Representativeness is also monitored using negative controls such as trip blanks, field blanks, and equipment blanks, along with adherence to the standard operating procedures and sampling plans.

Method blanks were prepared at a frequency of one per laboratory batch along with a collected field blank as negative controls to assess data quality. The laboratory did not provide trip blanks, so a field blank was prepared during sample collection in place of trip blanks. In six instances, method blanks displayed detections greater than the method detection limits. The affected analytes included bromomethane, chloromethane, and trichloroethene. The positive associated field sample results and field blank results that were within five times the method blank concentrations were qualified B, bl. The qualified field sample results should be considered potential false positives. The field blank, FB-061319, displayed detections for acetone and bromomethane greater than the method detection limit. The detection for bromomethane was associated with a method blank detection of the same analyte. Therefore, the field blank detection of bromomethane was not used to qualify field sample results. The positive field sample results that were associated with the remaining field blank detection and within five times the field blank concentration were qualified B,bf, unless previously qualified due to a method blank detection. The qualified field sample results should be considered potential false positives

Comparability

Comparability is the extent to which data from one study can be compared directly to either past data from the current project or data from another study. Using standardized sampling and analytical methods, units of reporting, and site selection procedures helps ensure comparability. Standard field sampling methods and current CLP analytical methods by an accredited laboratory were used in this investigation.

Completeness

Completeness is a measure of the amount of valid data obtained from a measurement system compared to the amount of data expected under normal conditions. It is expected that laboratories will provide data meeting system quality control acceptance criteria for all samples tested. Project completeness is determined by evaluating the planned versus actual quantities of usable data. A total of 23 field samples were validated, including 21 investigative surface water samples, one field duplicate, and one field blank. All data are usable, as qualified, for their intended purpose based on the data reviewed.

Sensitivity

Sensitivity reflects the ability of the analytical method to detect analytes of interest below the level of concern. This goal is achieved by identifying the level of concern, choosing a method with appropriate method detection limits, and ensuring that the laboratory analyzes calibration standards at or below the level of concern. The laboratory was able to achieve the lowest reporting limits based on the analytical methods employed and the variety of matrices encountered. No field sample results were reported from dilutions. Any analytes detected below the reporting limit and above the method detection limit were reported and qualified “J” as estimated values by the laboratory.

Overall Impact on Data Usability

Overall data usability met the completeness requirement outlined in the QAPP at 100%. During the course of the data validation, several minor anomalies were noted which is to be anticipated based on statistical predictability of standard analytical procedures. Several field sample results were qualified due to these minor anomalies. All data are considered usable as qualified, for their intended purpose based on the data reviewed.

III. Data Validation Findings

Volatile Organic Compounds

SW846-8260B	Description	Sample ID	Analyte	Value (Control Limit)
Holding Times	No Anomalies			
Method Blanks	Detection > MDL	2966475	Bromomethane	1.8 ug/l (0.39 ug/l)
			Chloromethane	0.77 ug/l (0.31 ug/l)
		2966920	Bromomethane	0.77 ug/l (0.39 ug/l)
			Chloromethane	0.42 ug/l (0.31 ug/l)
		2968376	Trichloroethene	0.62 ug/l (0.33 ug/l)
		2969611	Bromomethane	0.72 ug/l (0.39 ug/l)
Field Blanks	Detection > MDL	FB-061319	Acetone	3.9 ug/L (3.1 ug/L)
			Bromomethane	0.63 ug/L (0.39)
LCS/LCSD	LCS % Recovery	2966476	N-Propylbenzene	137% (74-122%)
			Methylene Chloride	136% (76-121%)
			Bromoform	145% (70-123%)
		2966921	N-Propylbenzene	131% (74-122%)
			4-Methyl-2-Pentanone	70.5% (71-146%)
			Bromoform	127% (70-123%)
		2969612	2,2-Dichloropropane	134% (64-129%)
MS/MSD	MS % Recovery	MRC-SW8B-S-061219	2-Chloroethylvinylether	0.59% (1-150%)
			Bromomethane	37.1% (45-148%)
		MRC-SW15A-S-061219	2-Chloroethylvinylether	0% (1-150%)
	RPD	MRC-SW8B-S-061219	Bromomethane	44% (26%)
Surrogate Spike	No Anomalies			
Laboratory Duplicates	No Anomalies			
Field Duplicates	No Anomalies			

1,4-Dioxane

SW846-8270D-SIM	Description	Sample ID	Analyte	Value (Control Limit)
Holding Times	No Anomalies			
Method Blanks	No Anomalies			
Field/Equipment Blanks	No Anomalies			
LCS/LCSD	No Anomalies			
MS/MSD	No Anomalies			
Surrogate Spike	No Anomalies			
Laboratory Duplicates	No Anomalies			
Field Duplicates	No Anomalies			

IV. Qualified Field Sample Results

	Field Sample ID	Analytical Method	Analyte	Result	Units	Qualifier	Reason Code
	FB-061319	SW8260B	Bromomethane	0.63	ug/l	B	bl
	MRC-SW11A-S-061219	SW8260B	Acetone	5.6	ug/l	B	bf
	MRC-SW11A-S-061219	SW8260B	TRICHLOROETHENE	2.4	ug/l	B	bl
	MRC-SW11B-S-061219	SW8260B	TRICHLOROETHENE	0.98	ug/l	B	bl
	MRC-SW12A-S-061219	SW8260B	Acetone	3.3	ug/l	B	bf
	MRC-SW12A-S-061219	SW8260B	TRICHLOROETHENE	2.1	ug/l	B	bl
	MRC-SW13A-S-061219	SW8260B	Acetone	3.3	ug/l	B	bf
	MRC-SW13A-S-061219	SW8260B	TRICHLOROETHENE	1.8	ug/l	B	bl
	MRC-SW15A-S-061219	SW8260B	2-Chloroethylvinylether	2.0	ug/l	UJ	m
	MRC-SW15A-S-061219	SW8260B	Acetone	6.3	ug/l	B	bf
	MRC-SW15A-S-061219	SW8260B	Bromomethane	1.6	ug/l	B	bl
	MRC-SW15A-S-061219	SW8260B	Chloromethane	0.69	ug/l	B	bl
	MRC-SW16A-S-061219	SW8260B	Acetone	3.8	ug/l	B	bf
	MRC-SW17A-S-061219	SW8260B	Acetone	9.5	ug/l	B	bf
	MRC-SW18A-S-061219	SW8260B	Acetone	3.2	ug/l	B	bf
	MRC-SW18A-S-061219	SW8260B	TRICHLOROETHENE	0.69	ug/l	B	bl
	MRC-SW1A-061219	SW8260B	4-Methyl-2-Pentanone	5.0	ug/l	UJ	l
	MRC-SW1A-061219	SW8260B	Acetone	14.9	ug/l	B	bf
	MRC-SW1A-061219	SW8260B	Bromomethane	0.80	ug/l	B	bl
	MRC-SW1A-061219	SW8260B	Chloromethane	0.35	ug/l	B	bl
	MRC-SW2A-061219	SW8260B	4-Methyl-2-Pentanone	5.0	ug/l	UJ	l
	MRC-SW2A-061219	SW8260B	Acetone	8.3	ug/l	B	bf
	MRC-SW2A-061219	SW8260B	Bromomethane	0.81	ug/l	B	bl
	MRC-SW2A-061219	SW8260B	Chloromethane	0.40	ug/l	B	bl
	MRC-SW5A1-S-061219	SW8260B	Acetone	3.2	ug/l	B	bf
	MRC-SW5B-S-061219	SW8260B	Acetone	3.3	ug/l	B	bf
	MRC-SW6A-S-061219	SW8260B	Acetone	9.0	ug/l	B	bf
	MRC-SW6B-S-061219	SW8260B	Acetone	5.7	ug/l	B	bf
	MRC-SW7A-S-061219	SW8260B	Acetone	5.3	ug/l	B	bf
	MRC-SW7B-S-061219	SW8260B	Acetone	7.8	ug/l	B	bf
	MRC-SW8A-S-061219	SW8260B	Acetone	6.5	ug/l	B	bf
	MRC-SW8B-S-061219	SW8260B	2-Chloroethylvinylether	2.0	ug/l	UJ	m
	MRC-SW8B-S-061219	SW8260B	Acetone	5.6	ug/l	B	bf
	MRC-SW8B-S-061219	SW8260B	Bromomethane	0.83	ug/l	B	bl

	Field Sample ID	Analytical Method	Analyte	Result	Units	Qualifier	Reason Code
	MRC-SW8B-S-DUP-061219	SW8260B	Acetone	9.4	ug/l	B	bf
	MRC-SW9A-S-061219	SW8260B	Acetone	7.1	ug/l	B	bf
	MRC-SW9B-S-S061219	SW8260B	Acetone	6.5	ug/l	B	bf

Appendix A
Data Validation Qualifiers and Reason Codes

Data Qualifying Codes

Two types of data qualifying codes or flags are applied in the course of the data review. The data validation flags indicate data that are not usable for decision-making, more than normally biased and/or variable, or not representative of field conditions. These codes and their definitions are presented below in the hierarchy stipulated in the USEPA Contract Laboratory Program National Functional Guidelines for Organic (August 2014) Data Review and the USEPA Region III Guidelines for Organic (September 1994) for blank qualifications only.

Data Validation Flags

Flag	Interpretation
R	The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
B	The analyte was analyzed for, but not detected at a level greater than or equal to the level of the adjusted Detection Limit (DL) for sample and method.
J+	Reported value may not be accurate or precise, but the result may be biased high.
J-	Reported value may not be accurate or precise, but the result may be biased low.
J	The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the Limit of Detection (LOD).
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated numerical value represents its approximate concentration.
UJ	The analyte was not detected at a level greater than or equal to the adjusted DL. However, the reported adjusted DL is approximate and may be inaccurate or imprecise.
C	This qualifier applies to pesticide and Aroclor results when the identification has been confirmed by gas Chromatograph/Mass Spectrometer (GC/MS)
X	This qualifier applies to pesticide and Aroclor results when GC/MS analysis was attempted but was unsuccessful.

The other type of code used by AECOM is a "Reason Code". The reason code indicates the type of quality control failure that led to the application of the data validation flag.

Reason Codes

Code	*Description*	*Code*	*Description*
a	Tracer recovery (radiochemical data only)	**ld**	Laboratory duplicate RPDs (matrix duplicate, MSD, LCSD)
be	Equipment blank contamination	**lp**	Laboratory control sample/laboratory control sample duplicate RPDs
bf	Field blank contamination	**m**	Matrix spike recovery
bi	Bias indeterminate	**md**	Matrix spike/matrix spike duplicate RPD
bl	Laboratory blank contamination	**nb**	Negative laboratory blank contamination
bm	Missing Blank Information	**p**	Chemical preservation issue
bt	Trip Blank	**pe**	Post Extraction Spike
c	Calibration issue	**ps**	Performance Evaluation Sample
cl	Clean-up standard recovery	**q**	Quantitation issue
cp	Insufficient in growth (radiochemical data only)	**r**	Dual column RPD
cr	Chromatographic resolution	**rp**	Re-extraction precision issue [PAHs only]
d	Reporting limit raised due to chromatographic interference	**rt**	SIM ions not within + 2 seconds
dt	Dissolved result > total over limit	**s**	Surrogate recovery
e	Ether interference	**sc**	Sample collection issues
fd	Field duplicate RPDs	**sp**	Sample preparation issue
g	Chromatographic pattern match issue	**su**	Evidence of ion suppression
h	Holding times	**t**	Temperature Preservation Issue
i	Internal standard areas	**u**	High combined sample result uncertainty (radiochemical data only)
ii	Injection internal standard area or retention time exceedance	**v**	Compound identification issue
k	Estimated Maximum Possible Concentrations	**x**	Low % solids
l	LCS recoveries	**y**	Serial dilution results
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September 2019 – Triannual Surface Water Sampling

Lockheed Martin Corporation
Middle River Complex
Middle River, Maryland

November 2019

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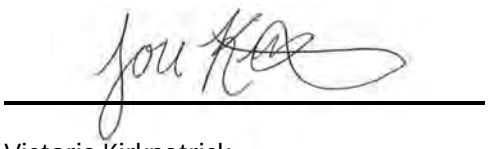

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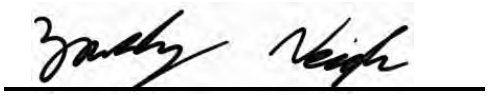

Zachary Neigh
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11/08/2019

Table of Contents

I. Executive Summary

AECOM performed data validation on 100% of the surface water field investigative samples collected on September 16th, 2019 at the Lockheed Martin Middle River Complex located in Middle River, Maryland. The validation was performed to a United States Environmental Protection Agency (USEPA) Region III Inorganic Level I and Organic Level I based on the specifics of the analytical methods referenced and qualified according to the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic/Inorganic (January 2017) Superfund Data Review, with the exception of blank detections which were qualified according to the USEPA Region III modifications to the National Functional Guidelines defining the use of the "B" flag.

The review was assisted through the use of an electronic data management tool that compiles batch-level quality control (QC) data submitted with the laboratory deliverables and identifies anomalies for verification and qualification by the data reviewer. This information is provided in the form of a structured workbook that includes field sample analytical results, QC sample results, batch associations, and QC criteria. Prior to validation, the quality assurance procedures applied to the process itself consist of reviewing the output for data completeness based on laboratory deliverables and chain of custody reports; verification of QC criteria based on the aforementioned data validation guidelines and project-specific Quality Assurance Project Plan (QAPP); and strict control of data management permissions. The resulting data validation workbooks were evaluated and validated using the AECOM automated validation assistant (AVA) tool. The specific data elements that were reviewed include:

- Holding times and sample preservation
- Blanks (Method, Trip, Field, and Equipment)
- Matrix spike (MS) and/or matrix spike duplicate (MSD) results
- Laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) results
- Surrogate spike results
- Field duplicates
- Laboratory duplicates
- Sensitivity

Data validation qualifiers were applied to results where a QC nonconformance required qualification per USEPA guidance. All QC anomalies were assessed for their impact on data quality in regards to precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) as discussed in **II: PARCCS Data Quality**. A detailed list of the QC non-conformances can be found in **III: Data Validation Findings**. The associated field sample results that required qualification are listed in **IV: Qualified Field Sample Results**.

I. PARCCS Data Quality

Precision

Precision is the degree of agreement among repeated measurements of the same characteristic on the same sample or on separate samples collected as close as possible in time and place. Field sampling precision is measured using the field duplicate relative percent differences; laboratory precision is measured using laboratory duplicate relative percent differences and/or laboratory control spike and matrix spike duplicate relative percent differences. All quality control criteria impacting precision were met for the data reviewed.

Accuracy

Accuracy is a measure of confidence in a measurement. The smaller the difference between the measurement of a parameter and its "true" or expected value, the more accurate the measurement. Analytical accuracy was assessed through the measurement of percent recoveries in the surrogate spikes, laboratory control spike pairs (LCS/LCSD) and the matrix spike pairs (MS/MSD).

During the volatile organic compound (VOC) analysis, several LCS displayed percent recoveries outside the QC limits. The field sample results associated with positive percent recoveries were non-detect, therefore, no data qualifying action was required. The field sample results associated with the negative bias for n-butylbenzene were qualified UJ,l. These anomalies are considered minor and the qualified field sample results should be considered usable as estimated values with a negative bias.

During the VOC analysis, the MS/MSD performed on parent sample MRC-SW8A-S-091619 displayed several percent recoveries outside the QC limits. The field sample results associated with positive percent recoveries were non-detect, therefore, no data qualifying action was required. The parent sample results associated with percent recoveries less than the lower QC limits were non-detect and were qualified UJ,m. These anomalies are considered minor and the qualified field sample results should be considered usable as estimated values with a negative bias.

Representativeness

Representativeness is the qualitative expression of the degree to which data accurately reflect site conditions. Factors that affect the representativeness of analytical data include appropriate sample population definitions, proper sample collection and preservation techniques, analytical holding times, use of standard analytical methods, and determination of matrix or analyte interferences. Representativeness is also monitored using negative controls such as trip blanks, field blanks, and equipment blanks, along with adherence to the standard operating procedures and sampling plans.

Method blanks were prepared at a frequency of one per laboratory QC batch and a total of one (1) trip blank was analyzed, at a rate of one per VOC sample cooler. These blanks were used as negative controls to assess data quality. In two instances, method blanks displayed detections

greater than the method detection limits. The affected analytes included bromomethane and methylene chloride. The positive field sample results that were within five times the associated bromomethane method blank concentrations were qualified B, bl. The qualified field sample results should be considered potential false positives. The field samples associated with the method blank detections for methylene chloride were non-detect, therefore, no data qualifying action was required.

Comparability

Comparability is the extent to which data from one study can be compared directly to either past data from the current project or data from another study. Using standardized sampling and analytical methods, units of reporting, and site selection procedures helps ensure comparability. Standard field sampling methods and current CLP analytical methods by an accredited laboratory were used in this investigation.

Completeness

Completeness is a measure of the amount of valid data obtained from a measurement system compared to the amount of data expected under normal conditions. It is expected that laboratories will provide data meeting system quality control acceptance criteria for all samples tested. Project completeness is determined by evaluating the planned versus actual quantities of usable data. A total of 23 field samples were validated, including 21 investigative surface water samples, one field duplicate, and one field blank. All data are usable, as qualified, for their intended purpose based on the data reviewed.

Sensitivity

Sensitivity reflects the ability of the analytical method to detect analytes of interest below the level of concern. This goal is achieved by identifying the level of concern, choosing a method with appropriate method detection limits, and ensuring that the laboratory analyzes calibration standards at or below the level of concern. The laboratory was able to achieve the lowest reporting limits based on the analytical methods employed and the variety of matrices encountered. No field sample results were reported from dilutions. Any analytes detected below the reporting limit and above the method detection limit were reported and qualified “J” as estimated values by the laboratory.

Overall Impact on Data Usability

Overall data usability met the completeness requirement outlined in the QAPP at 100%. During the course of the data validation, several minor anomalies were noted which is to be anticipated based on statistical predictability of standard analytical procedures. Several field sample results were qualified due to these minor anomalies. All data are considered usable as qualified, for their intended purpose based on the data reviewed.

II. Data Validation Findings

Volatile Organic Compounds

SW846-8260B	Description	Sample ID	Analyte	Value (Control Limit)
Holding Times	No Anomalies			
Method Blank	Detection > MDL	3014590	Bromomethane	0.68 ug/l (0.39 ug/l)
		3015219	Methylene chloride	0.49 ug/l (0.45 ug/l)
LCS/LCSD	LCS % Recovery	3014199	trans-1,2-Dichloroethene	123% (71-122%)
		3014591	Methyl acetate	131% (70-123%)
			Methyl-tert butyl ether	117% (69-115%)
			n-Butylbenzene	69.3% (71-130%)
		3016012	trans-1,2-Dichloroethene	124% (71-122%)
MS/MSD	MS/MSD % Recovery	3058438007	1,1,1-Trichloroethane	145%/122% (66-130%)
			1,1-Dichloeoethane	134%/117% (78-124%)
			1,1-Dichloroethene	142%/116% (63-128%)
			1,2,4-Trichlorobenzene	92.2%/61% (67-123%)
			1,2-Dichloeoethene (total)	137%/117% (78-125%)
			1,2-Dichloropropane	130%/118% (81-127%)
			2,2-Dichloropropane	131%/111% (64-129%)
			2-Chloroethylvinylether	0%/0% (1-150%)
			Benzene	133%/112% (80-124%)
			Bromobenzene	123%/115% (81-119%)
			Bromochloromethane	129%/121% (73-117%)
			Bromodichloromethane	128%/117% (79-126%)
			Carbon disulfide	132%/106% (57-131%)
			Carbon tetrachloride	138%/100% (62-132%)
			Chloroethane	153%/143% (51-142%)
			Chloroform	130%/114% (78-122%)
			Chloromethane	187%/153% (38-156%)
			cis-1,2-Dichloroethene	127%/113% (78-125%)
			Cyclohexane	141%/119% (66-130%)
			Dibromomethane	128%/119% (81-125%)
			Dichlorodifluoromethane	173%/167% (17-166%)
			Ethyl tert-butyl ether	130%/122% (75-123%)
			Freon-113	138%/114% (50-130%)
			Hexachlorobutadiene	82.3%/48.5% (55-128)
			Methyl tert-butyl ether	131%/124% (69-115%)
			Methylene chloride	131%/124% (69-115%)
			tert-Amyl methyl ether	129%/121% (75-121%)

Volatile Organic Compounds

SW846-8260B	Description	Sample ID	Analyte	Value (Control Limit)
MS/MSD	MS/MSD % Recovery	3058438007	trans-1,2-Dichloroethene	147%/121% (71-122%)
			Trichloroethene	132%/115% (77-124%)
			Trichlorofluoromethane	160%/156% (38-123%)
			Vinyl chloride	160%/152% (27-138%)
Surrogate Spike	No Anomalies			
Laboratory Duplicates	No Anomalies			
Field Duplicates	No Anomalies			

1,4-Dioxane

SW846-8270D-SIM	Description	Sample ID	Analyte	Value (Control Limit)
Holding Times	No Anomalies			
Method Blanks	No Anomalies			
Field/Equipment Blanks	No Anomalies			
LCS/LCSD	No Anomalies			
MS/MSD	No Anomalies			
Surrogate Spike	No Anomalies			
Laboratory Duplicates	No Anomalies			
Field Duplicates	No Anomalies			

III. Qualified Field Sample Results

	Field Sample ID	Analytical Method	Analyte	Result	Units	Qualifier	Reason Code
	MRC-SW11A-S-091619	SW8260B	N-Butylbenzene	<0.60	ug/l	UJ	l
	MRC-SW11B-S-091619	SW8260B	N-Butylbenzene	<0.60	ug/l	UJ	l
	MRC-SW12A-S-091619	SW8260B	N-Butylbenzene	<0.60	ug/l	UJ	l
	MRC-SW6B-S-091619	SW8260B	N-Butylbenzene	<0.60	ug/l	UJ	l
	MRC-SW7A-S-091619	SW8260B	N-Butylbenzene	<0.60	ug/l	UJ	l
	MRC-SW7A-S-091619	SW8260B	Bromomethane	0.42	ug/l	B	bl
	MRC-SW7B-S-091619	SW8260B	N-Butylbenzene	<0.60	ug/l	UJ	l
	MRC-SW17A-091619	SW8260B	N-Butylbenzene	<0.60	ug/l	UJ	l
	MRC-SW17A-091619	SW8260B	Bromomethane	0.46	ug/l	B	bl
	MRC-SW9A-S-091619	SW8260B	Bromomethane	0.67	ug/l	B	bl
	MRC-SW9B-S-091619	SW8260B	N-Butylbenzene	<0.60	ug/l	UJ	l
	MRC-SW18A-S-091619	SW8260B	N-Butylbenzene	<0.60	ug/l	UJ	l
	MRC-SW18A-S-091619	SW8260B	Bromomethane	0.44	ug/l	B	bl
	MRC-SW1A-091619	SW8260B	N-Butylbenzene	<0.60	ug/l	UJ	l
	MRC-SW2A-091619	SW8260B	N-Butylbenzene	<0.60	ug/l	UJ	l
	MRC-SW2A-091619	SW8260B	Bromomethane	0.49	ug/l	B	bl
	MRC-SW5A1-S-091619	SW8260B	N-Butylbenzene	<0.60	ug/l	UJ	l
	MRC-SW5A1-S-091619	SW8260B	Bromomethane	0.40	ug/l	B	bl
	MRC-SW5A2-S-091619	SW8260B	N-Butylbenzene	<0.60	ug/l	UJ	l
	MRC-SW5B-S-091619	SW8260B	N-Butylbenzene	<0.60	ug/l	UJ	l
	MRC-SW8A-S-091619	SW8260B	N-Butylbenzene	<0.60	ug/l	UJ	l
	MRC-SW8A-S-091619	SW8260B	2-Chloroethylvinylether	<0.38	ug/l	UJ	m
	MRC-SW8A-S-091619	SW8260B	1,2,4-Trichlorobenzene	<0.82	ug/l	UJ	m
	MRC-SW8A-S-091619	SW8260B	Hexachloro-1,3-Butadiene	<1.0	ug/l	UJ	m
	MRC-SW8B-S-091619	SW8260B	N-Butylbenzene	<0.60	ug/l	UJ	l
	MRC-SW8B-S-091619	SW8260B	Bromomethane	0.50	ug/l	B	bl
	MRC-SW9A-S-091619	SW8260B	N-Butylbenzene	<0.60	ug/l	UJ	l

Appendix A
Data Validation Qualifiers and Reason Codes

Data Qualifying Codes

Two types of data qualifying codes or flags are applied in the course of the data review. The data validation flags indicate data that are not usable for decision-making, more than normally biased and/or variable, or not representative of field conditions. These codes and their definitions are presented below in the hierarchy stipulated in the USEPA Contract Laboratory Program National Functional Guidelines for Organic (August 2014) Data Review and the USEPA Region III Guidelines for Organic (September 1994) for blank qualifications only.

Data Validation Flags

Flag	Interpretation
R	The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
B	The analyte was analyzed for, but not detected at a level greater than or equal to the level of the adjusted Detection Limit (DL) for sample and method.
J+	Reported value may not be accurate or precise, but the result may be biased high.
J-	Reported value may not be accurate or precise, but the result may be biased low.
J	The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the Limit of Detection (LOD).
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated numerical value represents its approximate concentration.
UJ	The analyte was not detected at a level greater than or equal to the adjusted DL. However, the reported adjusted DL is approximate and may be inaccurate or imprecise.
C	This qualifier applies to pesticide and Aroclor results when the identification has been confirmed by gas Chromatograph/Mass Spectrometer (GC/MS)
X	This qualifier applies to pesticide and Aroclor results when GC/MS analysis was attempted but was unsuccessful.

The other type of code used by AECOM is a "Reason Code". The reason code indicates the type of quality control failure that led to the application of the data validation flag.

Reason Codes

Code	*Description*	*Code*	*Description*
a	Tracer recovery (radiochemical data only)	**ld**	Laboratory duplicate RPDs (matrix duplicate, MSD, LCSD)
be	Equipment blank contamination	**lp**	Laboratory control sample/laboratory control sample duplicate RPDs
bf	Field blank contamination	**m**	Matrix spike recovery
bi	Bias indeterminate	**md**	Matrix spike/matrix spike duplicate RPD
bl	Laboratory blank contamination	**nb**	Negative laboratory blank contamination
bm	Missing Blank Information	**p**	Chemical preservation issue
bt	Trip Blank	**pe**	Post Extraction Spike
c	Calibration issue	**ps**	Performance Evaluation Sample
cl	Clean-up standard recovery	**q**	Quantitation issue
cp	Insufficient in growth (radiochemical data only)	**r**	Dual column RPD
cr	Chromatographic resolution	**rp**	Re-extraction precision issue [PAHs only]
d	Reporting limit raised due to chromatographic interference	**rt**	SIM ions not within + 2 seconds
dt	Dissolved result > total over limit	**s**	Surrogate recovery
e	Ether interference	**sc**	Sample collection issues
fd	Field duplicate RPDs	**sp**	Sample preparation issue
g	Chromatographic pattern match issue	**su**	Evidence of ion suppression
h	Holding times	**t**	Temperature Preservation Issue
i	Internal standard areas	**u**	High combined sample result uncertainty (radiochemical data only)
ii	Injection internal standard area or retention time exceedance	**v**	Compound identification issue
k	Estimated Maximum Possible Concentrations	**x**	Low % solids
l	LCS recoveries	**y**	Serial dilution results
lc	Labeled compound recovery	**z**	ICS results

APPENDIX D

Laboratory Analytical Reports

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 680-164605-1

Job Description: MRC Surface Water Sampling

Contract Number: No Number Assigned

For:
AECOM
1600 Perimeter Park Drive
Suite 400
Morrisville, NC 27560

Attention: Mr. Naoum Tavantzis

Approved for release.
Eddie T Barnett
Project Manager I
2/28/2019 12:16 PM

Eddie T Barnett, Project Manager I
5102 LaRoche Avenue, Savannah, GA, 31404
(912)250-0280
eddie.barnett@testamericainc.com
02/28/2019

Savannah Certifications and ID #s: A2LA: 0399.01; AL: 41450; ARDEQ: 88-0692; ARDOH; AZ: AZ0741; CA: 03217CA; CO; CT: PH0161; DE; FL: E87052; GA: 803; Guam; HI; IL: 200022; IN: C-GA-02; IA: 353; KS: E-10322; KY EPPC: 90084; KY UST; LA DEQ: 30690; LA DHH: LA080008; ME: 2008022; MD: 250; MA: M-GA006; MI: 9925; MS; NFESC: 249; NV: GA00006; NJ: GA769; NM; NY: 10842; NC DWQ: 269; NC DHHS: 13701; PA: 68-00474; PR: GA00006; RI: LAO00244; SC: 98001001; TN: TN0296; TX: T104704185; USEPA: GA00006; VT: VT-87052; VA: 00302; WA; WV DEP: 094; WV DHHR: 9950 C; WI DNR: 999819810; WY/EPAR8: 8TMS-Q

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Table of Contents

Definitions/Glossary

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-164605-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE
Client: AECOM
Project: MRC Surface Water Sampling

Report Number: 680-164605-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 02/15/2019; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 3.5º C, 3.5º C, 3.8º C and 3.9º C.

The following sample was submitted for analysis; however, it was not listed on the Chain-of-Custody (COC): MRC-SW31-021419-T (680-164605-17).

POLYCHLORINATED BIPHENYLS (PCBS)

Samples MRC-SW5A1-S-021419-T (680-164605-1), MRC-SW5A2-S-021419-T (680-164605-2), MRC-SW13A-S-021419-T (680-164605-3), MRC-SW8B-S-021419-T (680-164605-4), MRC-SW8A-S-021419-T (680-164605-5), MRC-SW9A-S-021419-T (680-164605-6), MRC-SW33-021419-T (680-164605-7), MRC-SW40-021419-T (680-164605-8), MRC-SW7A-S-021419-T (680-164605-9), MRC-SW7A-S-021419-T-DUP (680-164605-10), MRC-SW30-021419-T (680-164605-11), MRC-SW15A-S-021419-T (680-164605-12), EB-tube1-021419-T (680-164605-13), EB-tube2-021419-T (680-164605-14), MRC-SW32-021419-T (680-164605-15), FB-SW-021419-T (680-164605-16) and MRC-SW31-021419-T (680-164605-17) were analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA Method 680. The samples were prepared on 02/19/2019 and 02/26/2019 and analyzed on 02/20/2019, 02/21/2019 and 02/27/2019.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 680-559624.

The SOP for the 680 Method allows that for soils the CCVIS has a limit of <30%D for each analyte and for liquids <20%D for each analyte . It also allows that the capping CCV for soils has the limit of <30% average %D with no analyte >60%D and for liquids <20% average D with no analyte >40%D. Due to software limitations for this method, the limits are set at <20%D.

Surrogate recovery for the following sample was outside control limits: MRC-SW9A-S-021419-T (680-164605-6). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results. Refer to the QC report for details.

Several analytes recovered low for the MSD of sample MRC-SW7A-S-021419-TMSD (680-164605-9) in batch 680-559058. Total Pentachlorobiphenyls exceeded the RPD limit. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-164605-1

Client Sample ID: MRC-SW5A1-S-021419-T — Lab Sample ID: 680-164605-1

No Detections.

Client Sample ID: MRC-SW5A2-S-021419-T — Lab Sample ID: 680-164605-2

No Detections.

Client Sample ID: MRC-SW13A-S-021419-T — Lab Sample ID: 680-164605-3

No Detections.

Client Sample ID: MRC-SW8B-S-021419-T — Lab Sample ID: 680-164605-4

No Detections.

Client Sample ID: MRC-SW8A-S-021419-T — Lab Sample ID: 680-164605-5

No Detections.

Client Sample ID: MRC-SW9A-S-021419-T — Lab Sample ID: 680-164605-6

No Detections.

Client Sample ID: MRC-SW33-021419-T — Lab Sample ID: 680-164605-7

No Detections.

Client Sample ID: MRC-SW40-021419-T — Lab Sample ID: 680-164605-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dichlorobiphenyls	0.016	J	0.099	0.0053	ug/L	1		680	Total/NA
Total Tetrachlorobiphenyls	0.017	J	0.20	0.013	ug/L	1		680	Total/NA

Client Sample ID: MRC-SW7A-S-021419-T — Lab Sample ID: 680-164605-9

No Detections.

Client Sample ID: MRC-SW7A-S-021419-T-DUP — Lab Sample ID: 680-164605-10

No Detections.

Client Sample ID: MRC-SW30-021419-T — Lab Sample ID: 680-164605-11

No Detections.

Client Sample ID: MRC-SW15A-S-021419-T — Lab Sample ID: 680-164605-12

No Detections.

Client Sample ID: EB-tube1-021419-T — Lab Sample ID: 680-164605-13

No Detections.

Client Sample ID: EB-tube2-021419-T — Lab Sample ID: 680-164605-14

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-164605-1

Client Sample ID: MRC-SW32-021419-T — Lab Sample ID: 680-164605-15

No Detections.

Client Sample ID: FB-SW-021419-T — Lab Sample ID: 680-164605-16

No Detections.

Client Sample ID: MRC-SW31-021419-T — Lab Sample ID: 680-164605-17

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-164605-1

Client Sample ID: MRC-SW5A1-S-021419-T

Lab Sample ID: 680-164605-1
Date Collected: 02/14/19 11:07
Matrix: Water
Date Received: 02/15/19 07:30

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlorobiphenyl	ND		0.29	0.029	ug/L		02/19/19 13:42	02/20/19 20:39	1
Hexachlorobiphenyl	ND		0.19	0.015	ug/L		02/19/19 13:42	02/20/19 20:39	1
Nonachlorobiphenyl	ND		0.49	0.048	ug/L		02/19/19 13:42	02/20/19 20:39	1
Octachlorobiphenyl	ND		0.29	0.037	ug/L		02/19/19 13:42	02/20/19 20:39	1
Monochlorobiphenyl	ND		0.097	0.0055	ug/L		02/19/19 13:42	02/20/19 20:39	1
DCB Decachlorobiphenyl	ND		0.49	0.068	ug/L		02/19/19 13:42	02/20/19 20:39	1
Total Dichlorobiphenyls	ND		0.097	0.0053	ug/L		02/19/19 13:42	02/20/19 20:39	1
Total Pentachlorobiphenyls	ND		0.19	0.014	ug/L		02/19/19 13:42	02/20/19 20:39	1
Total Tetrachlorobiphenyls	ND		0.19	0.013	ug/L		02/19/19 13:42	02/20/19 20:39	1
Total Trichlorobiphenyls	ND		0.097	0.0063	ug/L		02/19/19 13:42	02/20/19 20:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl-13C12	*60*		*25 - 113*	*02/19/19 13:42*	*02/20/19 20:39*	*1*

Client Sample ID: MRC-SW5A2-S-021419-T

Lab Sample ID: 680-164605-2
Date Collected: 02/14/19 11:24
Matrix: Water
Date Received: 02/15/19 07:30

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlorobiphenyl	ND		0.29	0.029	ug/L		02/19/19 13:42	02/20/19 21:07	1
Hexachlorobiphenyl	ND		0.20	0.015	ug/L		02/19/19 13:42	02/20/19 21:07	1
Nonachlorobiphenyl	ND		0.49	0.048	ug/L		02/19/19 13:42	02/20/19 21:07	1
Octachlorobiphenyl	ND		0.29	0.037	ug/L		02/19/19 13:42	02/20/19 21:07	1
Monochlorobiphenyl	ND		0.098	0.0055	ug/L		02/19/19 13:42	02/20/19 21:07	1
DCB Decachlorobiphenyl	ND		0.49	0.069	ug/L		02/19/19 13:42	02/20/19 21:07	1
Total Dichlorobiphenyls	ND		0.098	0.0053	ug/L		02/19/19 13:42	02/20/19 21:07	1
Total Pentachlorobiphenyls	ND		0.20	0.014	ug/L		02/19/19 13:42	02/20/19 21:07	1
Total Tetrachlorobiphenyls	ND		0.20	0.013	ug/L		02/19/19 13:42	02/20/19 21:07	1
Total Trichlorobiphenyls	ND		0.098	0.0064	ug/L		02/19/19 13:42	02/20/19 21:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl-13C12	*59*		*25 - 113*	*02/19/19 13:42*	*02/20/19 21:07*	*1*

Client Sample ID: MRC-SW13A-S-021419-T

Lab Sample ID: 680-164605-3
Date Collected: 02/14/19 11:44
Matrix: Water
Date Received: 02/15/19 07:30

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlorobiphenyl	ND		0.29	0.029	ug/L		02/19/19 13:42	02/20/19 21:36	1
Hexachlorobiphenyl	ND		0.20	0.015	ug/L		02/19/19 13:42	02/20/19 21:36	1
Nonachlorobiphenyl	ND		0.49	0.048	ug/L		02/19/19 13:42	02/20/19 21:36	1
Octachlorobiphenyl	ND		0.29	0.037	ug/L		02/19/19 13:42	02/20/19 21:36	1
Monochlorobiphenyl	ND		0.098	0.0055	ug/L		02/19/19 13:42	02/20/19 21:36	1
DCB Decachlorobiphenyl	ND		0.49	0.069	ug/L		02/19/19 13:42	02/20/19 21:36	1
Total Dichlorobiphenyls	ND		0.098	0.0053	ug/L		02/19/19 13:42	02/20/19 21:36	1
Total Pentachlorobiphenyls	ND		0.20	0.014	ug/L		02/19/19 13:42	02/20/19 21:36	1
Total Tetrachlorobiphenyls	ND		0.20	0.013	ug/L		02/19/19 13:42	02/20/19 21:36	1
Total Trichlorobiphenyls	ND		0.098	0.0064	ug/L		02/19/19 13:42	02/20/19 21:36	1

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-164605-1

Client Sample ID: MRC-SW13A-S-021419-T
Lab Sample ID: 680-164605-3
Date Collected: 02/14/19 11:44
Matrix: Water
Date Received: 02/15/19 07:30

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Decachlorobiphenyl-13C12	31		25 - 113	02/19/19 13:42	02/20/19 21:36	1

Client Sample ID: MRC-SW8B-S-021419-T
Lab Sample ID: 680-164605-4
Date Collected: 02/14/19 12:54
Matrix: Water
Date Received: 02/15/19 07:30

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlorobiphenyl	ND		0.30	0.030	ug/L		02/19/19 13:42	02/20/19 22:04	1
Hexachlorobiphenyl	ND		0.20	0.015	ug/L		02/19/19 13:42	02/20/19 22:04	1
Nonachlorobiphenyl	ND		0.50	0.049	ug/L		02/19/19 13:42	02/20/19 22:04	1
Octachlorobiphenyl	ND		0.30	0.038	ug/L		02/19/19 13:42	02/20/19 22:04	1
Monochlorobiphenyl	ND		0.099	0.0055	ug/L		02/19/19 13:42	02/20/19 22:04	1
DCB Decachlorobiphenyl	ND		0.50	0.069	ug/L		02/19/19 13:42	02/20/19 22:04	1
Total Dichlorobiphenyls	ND		0.099	0.0054	ug/L		02/19/19 13:42	02/20/19 22:04	1
Total Pentachlorobiphenyls	ND		0.20	0.014	ug/L		02/19/19 13:42	02/20/19 22:04	1
Total Tetrachlorobiphenyls	ND		0.20	0.013	ug/L		02/19/19 13:42	02/20/19 22:04	1
Total Trichlorobiphenyls	ND		0.099	0.0064	ug/L		02/19/19 13:42	02/20/19 22:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Decachlorobiphenyl-13C12	36		25 - 113	02/19/19 13:42	02/20/19 22:04	1

Client Sample ID: MRC-SW8A-S-021419-T
Lab Sample ID: 680-164605-5
Date Collected: 02/14/19 12:32
Matrix: Water
Date Received: 02/15/19 07:30

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlorobiphenyl	ND		0.29	0.029	ug/L		02/19/19 13:42	02/20/19 22:33	1
Hexachlorobiphenyl	ND		0.20	0.015	ug/L		02/19/19 13:42	02/20/19 22:33	1
Nonachlorobiphenyl	ND		0.49	0.048	ug/L		02/19/19 13:42	02/20/19 22:33	1
Octachlorobiphenyl	ND		0.29	0.037	ug/L		02/19/19 13:42	02/20/19 22:33	1
Monochlorobiphenyl	ND		0.098	0.0055	ug/L		02/19/19 13:42	02/20/19 22:33	1
DCB Decachlorobiphenyl	ND		0.49	0.069	ug/L		02/19/19 13:42	02/20/19 22:33	1
Total Dichlorobiphenyls	ND		0.098	0.0053	ug/L		02/19/19 13:42	02/20/19 22:33	1
Total Pentachlorobiphenyls	ND		0.20	0.014	ug/L		02/19/19 13:42	02/20/19 22:33	1
Total Tetrachlorobiphenyls	ND		0.20	0.013	ug/L		02/19/19 13:42	02/20/19 22:33	1
Total Trichlorobiphenyls	ND		0.098	0.0064	ug/L		02/19/19 13:42	02/20/19 22:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Decachlorobiphenyl-13C12	53		25 - 113	02/19/19 13:42	02/20/19 22:33	1

Client Sample ID: MRC-SW9A-S-021419-T
Lab Sample ID: 680-164605-6
Date Collected: 02/14/19 13:14
Matrix: Water
Date Received: 02/15/19 07:30

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlorobiphenyl	ND		0.30	0.030	ug/L		02/19/19 13:42	02/20/19 23:02	1
Hexachlorobiphenyl	ND		0.20	0.015	ug/L		02/19/19 13:42	02/20/19 23:02	1
Nonachlorobiphenyl	ND		0.49	0.048	ug/L		02/19/19 13:42	02/20/19 23:02	1

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-164605-1

Client Sample ID: MRC-SW9A-S-021419-T

Lab Sample ID: 680-164605-6

Date Collected: 02/14/19 13:14
Matrix: Water
Date Received: 02/15/19 07:30

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Octachlorobiphenyl	ND		0.30	0.038	ug/L		02/19/19 13:42	02/20/19 23:02	1
Monochlorobiphenyl	ND		0.099	0.0055	ug/L		02/19/19 13:42	02/20/19 23:02	1
DCB Decachlorobiphenyl	ND		0.49	0.069	ug/L		02/19/19 13:42	02/20/19 23:02	1
Total Dichlorobiphenyls	ND		0.099	0.0053	ug/L		02/19/19 13:42	02/20/19 23:02	1
Total Pentachlorobiphenyls	ND		0.20	0.014	ug/L		02/19/19 13:42	02/20/19 23:02	1
Total Tetrachlorobiphenyls	ND		0.20	0.013	ug/L		02/19/19 13:42	02/20/19 23:02	1
Total Trichlorobiphenyls	ND		0.099	0.0064	ug/L		02/19/19 13:42	02/20/19 23:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl-13C12	*20*	*X*	*25 - 113*	*02/19/19 13:42*	*02/20/19 23:02*	*1*

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlorobiphenyl	ND	H	0.29	0.029	ug/L		02/26/19 13:54	02/27/19 18:15	1
Hexachlorobiphenyl	ND	H	0.19	0.014	ug/L		02/26/19 13:54	02/27/19 18:15	1
Nonachlorobiphenyl	ND	H	0.48	0.047	ug/L		02/26/19 13:54	02/27/19 18:15	1
Octachlorobiphenyl	ND	H	0.29	0.037	ug/L		02/26/19 13:54	02/27/19 18:15	1
Monochlorobiphenyl	ND	H	0.097	0.0054	ug/L		02/26/19 13:54	02/27/19 18:15	1
DCB Decachlorobiphenyl	ND	H	0.48	0.068	ug/L		02/26/19 13:54	02/27/19 18:15	1
Total Dichlorobiphenyls	ND	H	0.097	0.0052	ug/L		02/26/19 13:54	02/27/19 18:15	1
Total Pentachlorobiphenyls	ND	H	0.19	0.014	ug/L		02/26/19 13:54	02/27/19 18:15	1
Total Tetrachlorobiphenyls	ND	H	0.19	0.013	ug/L		02/26/19 13:54	02/27/19 18:15	1
Total Trichlorobiphenyls	ND	H	0.097	0.0063	ug/L		02/26/19 13:54	02/27/19 18:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl-13C12	*69*		*25 - 113*	*02/26/19 13:54*	*02/27/19 18:15*	*1*

Client Sample ID: MRC-SW33-021419-T

Lab Sample ID: 680-164605-7

Date Collected: 02/14/19 17:30
Matrix: Water
Date Received: 02/15/19 07:30

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlorobiphenyl	ND		0.29	0.029	ug/L		02/19/19 13:42	02/20/19 23:30	1
Hexachlorobiphenyl	ND		0.19	0.014	ug/L		02/19/19 13:42	02/20/19 23:30	1
Nonachlorobiphenyl	ND		0.48	0.047	ug/L		02/19/19 13:42	02/20/19 23:30	1
Octachlorobiphenyl	ND		0.29	0.036	ug/L		02/19/19 13:42	02/20/19 23:30	1
Monochlorobiphenyl	ND		0.096	0.0054	ug/L		02/19/19 13:42	02/20/19 23:30	1
DCB Decachlorobiphenyl	ND		0.48	0.067	ug/L		02/19/19 13:42	02/20/19 23:30	1
Total Dichlorobiphenyls	ND		0.096	0.0052	ug/L		02/19/19 13:42	02/20/19 23:30	1
Total Pentachlorobiphenyls	ND		0.19	0.013	ug/L		02/19/19 13:42	02/20/19 23:30	1
Total Tetrachlorobiphenyls	ND		0.19	0.012	ug/L		02/19/19 13:42	02/20/19 23:30	1
Total Trichlorobiphenyls	ND		0.096	0.0062	ug/L		02/19/19 13:42	02/20/19 23:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl-13C12	*64*		*25 - 113*	*02/19/19 13:42*	*02/20/19 23:30*	*1*

Client Sample ID: MRC-SW40-021419-T
Lab Sample ID: 680-164605-8
Date Collected: 02/14/19 16:00
Matrix: Water
Date Received: 02/15/19 07:30

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlorobiphenyl	ND		0.30	0.030	ug/L		02/19/19 13:42	02/20/19 23:59	1
Hexachlorobiphenyl	ND		0.20	0.015	ug/L		02/19/19 13:42	02/20/19 23:59	1
Nonachlorobiphenyl	ND		0.49	0.048	ug/L		02/19/19 13:42	02/20/19 23:59	1
Octachlorobiphenyl	ND		0.30	0.037	ug/L		02/19/19 13:42	02/20/19 23:59	1
Monochlorobiphenyl	ND		0.099	0.0055	ug/L		02/19/19 13:42	02/20/19 23:59	1
DCB Decachlorobiphenyl	ND		0.49	0.069	ug/L		02/19/19 13:42	02/20/19 23:59	1
Total Dichlorobiphenyls	**0.016**	**J**	0.099	0.0053	ug/L		02/19/19 13:42	02/20/19 23:59	1
Total Pentachlorobiphenyls	ND		0.20	0.014	ug/L		02/19/19 13:42	02/20/19 23:59	1
Total Tetrachlorobiphenyls	**0.017**	**J**	0.20	0.013	ug/L		02/19/19 13:42	02/20/19 23:59	1
Total Trichlorobiphenyls	ND		0.099	0.0064	ug/L		02/19/19 13:42	02/20/19 23:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl-13C12	*68*		*25 - 113*	*02/19/19 13:42*	*02/20/19 23:59*	*1*

Client Sample ID: MRC-SW7A-S-021419-T
Lab Sample ID: 680-164605-9
Date Collected: 02/14/19 13:42
Matrix: Water
Date Received: 02/15/19 07:30

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlorobiphenyl	ND	F1	0.29	0.029	ug/L		02/19/19 13:42	02/21/19 00:27	1
Hexachlorobiphenyl	ND		0.19	0.014	ug/L		02/19/19 13:42	02/21/19 00:27	1
Nonachlorobiphenyl	ND		0.48	0.047	ug/L		02/19/19 13:42	02/21/19 00:27	1
Octachlorobiphenyl	ND		0.29	0.037	ug/L		02/19/19 13:42	02/21/19 00:27	1
Monochlorobiphenyl	ND	F1	0.096	0.0054	ug/L		02/19/19 13:42	02/21/19 00:27	1
DCB Decachlorobiphenyl	ND		0.48	0.067	ug/L		02/19/19 13:42	02/21/19 00:27	1
Total Dichlorobiphenyls	ND	F1	0.096	0.0052	ug/L		02/19/19 13:42	02/21/19 00:27	1
Total Pentachlorobiphenyls	ND	F2	0.19	0.013	ug/L		02/19/19 13:42	02/21/19 00:27	1
Total Tetrachlorobiphenyls	ND	F1	0.19	0.013	ug/L		02/19/19 13:42	02/21/19 00:27	1
Total Trichlorobiphenyls	ND	F1	0.096	0.0063	ug/L		02/19/19 13:42	02/21/19 00:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl-13C12	*60*		*25 - 113*	*02/19/19 13:42*	*02/21/19 00:27*	*1*

Client Sample ID: MRC-SW7A-S-021419-T-DUP
Lab Sample ID: 680-164605-10
Date Collected: 02/14/19 13:44
Matrix: Water
Date Received: 02/15/19 07:30

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlorobiphenyl	ND		0.29	0.029	ug/L		02/19/19 13:42	02/21/19 08:38	1
Hexachlorobiphenyl	ND		0.19	0.014	ug/L		02/19/19 13:42	02/21/19 08:38	1
Nonachlorobiphenyl	ND		0.48	0.047	ug/L		02/19/19 13:42	02/21/19 08:38	1
Octachlorobiphenyl	ND		0.29	0.037	ug/L		02/19/19 13:42	02/21/19 08:38	1
Monochlorobiphenyl	ND		0.096	0.0054	ug/L		02/19/19 13:42	02/21/19 08:38	1
DCB Decachlorobiphenyl	ND		0.48	0.067	ug/L		02/19/19 13:42	02/21/19 08:38	1
Total Dichlorobiphenyls	ND		0.096	0.0052	ug/L		02/19/19 13:42	02/21/19 08:38	1
Total Pentachlorobiphenyls	ND		0.19	0.013	ug/L		02/19/19 13:42	02/21/19 08:38	1
Total Tetrachlorobiphenyls	ND		0.19	0.013	ug/L		02/19/19 13:42	02/21/19 08:38	1
Total Trichlorobiphenyls	ND		0.096	0.0063	ug/L		02/19/19 13:42	02/21/19 08:38	1

Client Sample Results

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-164605-1

Client Sample ID: MRC-SW7A-S-021419-T-DUP
Lab Sample ID: 680-164605-10
Date Collected: 02/14/19 13:44
Matrix: Water
Date Received: 02/15/19 07:30

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Decachlorobiphenyl-13C12	56		25 - 113	02/19/19 13:42	02/21/19 08:38	1

Client Sample ID: MRC-SW30-021419-T
Lab Sample ID: 680-164605-11
Date Collected: 02/14/19 16:30
Matrix: Water
Date Received: 02/15/19 07:30

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlorobiphenyl	ND		0.29	0.029	ug/L		02/19/19 13:42	02/21/19 01:24	1
Hexachlorobiphenyl	ND		0.19	0.014	ug/L		02/19/19 13:42	02/21/19 01:24	1
Nonachlorobiphenyl	ND		0.48	0.047	ug/L		02/19/19 13:42	02/21/19 01:24	1
Octachlorobiphenyl	ND		0.29	0.036	ug/L		02/19/19 13:42	02/21/19 01:24	1
Monochlorobiphenyl	ND		0.096	0.0054	ug/L		02/19/19 13:42	02/21/19 01:24	1
DCB Decachlorobiphenyl	ND		0.48	0.067	ug/L		02/19/19 13:42	02/21/19 01:24	1
Total Dichlorobiphenyls	ND		0.096	0.0052	ug/L		02/19/19 13:42	02/21/19 01:24	1
Total Pentachlorobiphenyls	ND		0.19	0.013	ug/L		02/19/19 13:42	02/21/19 01:24	1
Total Tetrachlorobiphenyls	ND		0.19	0.012	ug/L		02/19/19 13:42	02/21/19 01:24	1
Total Trichlorobiphenyls	ND		0.096	0.0062	ug/L		02/19/19 13:42	02/21/19 01:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Decachlorobiphenyl-13C12	56		25 - 113	02/19/19 13:42	02/21/19 01:24	1

Client Sample ID: MRC-SW15A-S-021419-T
Lab Sample ID: 680-164605-12
Date Collected: 02/14/19 12:14
Matrix: Water
Date Received: 02/15/19 07:30

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlorobiphenyl	ND		0.29	0.029	ug/L		02/19/19 13:42	02/21/19 01:53	1
Hexachlorobiphenyl	ND		0.20	0.015	ug/L		02/19/19 13:42	02/21/19 01:53	1
Nonachlorobiphenyl	ND		0.49	0.048	ug/L		02/19/19 13:42	02/21/19 01:53	1
Octachlorobiphenyl	ND		0.29	0.037	ug/L		02/19/19 13:42	02/21/19 01:53	1
Monochlorobiphenyl	ND		0.098	0.0055	ug/L		02/19/19 13:42	02/21/19 01:53	1
DCB Decachlorobiphenyl	ND		0.49	0.068	ug/L		02/19/19 13:42	02/21/19 01:53	1
Total Dichlorobiphenyls	ND		0.098	0.0053	ug/L		02/19/19 13:42	02/21/19 01:53	1
Total Pentachlorobiphenyls	ND		0.20	0.014	ug/L		02/19/19 13:42	02/21/19 01:53	1
Total Tetrachlorobiphenyls	ND		0.20	0.013	ug/L		02/19/19 13:42	02/21/19 01:53	1
Total Trichlorobiphenyls	ND		0.098	0.0063	ug/L		02/19/19 13:42	02/21/19 01:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Decachlorobiphenyl-13C12	56		25 - 113	02/19/19 13:42	02/21/19 01:53	1

Client Sample ID: EB-tube1-021419-T
Lab Sample ID: 680-164605-13
Date Collected: 02/14/19 14:35
Matrix: Water
Date Received: 02/15/19 07:30

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlorobiphenyl	ND		0.29	0.029	ug/L		02/19/19 13:42	02/21/19 09:07	1
Hexachlorobiphenyl	ND		0.19	0.014	ug/L		02/19/19 13:42	02/21/19 09:07	1
Nonachlorobiphenyl	ND		0.48	0.047	ug/L		02/19/19 13:42	02/21/19 09:07	1

Client Sample ID: EB-tube1-021419-T
Lab Sample ID: 680-164605-13
Date Collected: 02/14/19 14:35
Matrix: Water
Date Received: 02/15/19 07:30

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Octachlorobiphenyl	ND		0.29	0.037	ug/L		02/19/19 13:42	02/21/19 09:07	1
Monochlorobiphenyl	ND		0.097	0.0054	ug/L		02/19/19 13:42	02/21/19 09:07	1
DCB Decachlorobiphenyl	ND		0.48	0.068	ug/L		02/19/19 13:42	02/21/19 09:07	1
Total Dichlorobiphenyls	ND		0.097	0.0052	ug/L		02/19/19 13:42	02/21/19 09:07	1
Total Pentachlorobiphenyls	ND		0.19	0.014	ug/L		02/19/19 13:42	02/21/19 09:07	1
Total Tetrachlorobiphenyls	ND		0.19	0.013	ug/L		02/19/19 13:42	02/21/19 09:07	1
Total Trichlorobiphenyls	ND		0.097	0.0063	ug/L		02/19/19 13:42	02/21/19 09:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl-13C12	*60*		*25 - 113*	*02/19/19 13:42*	*02/21/19 09:07*	*1*

Client Sample ID: EB-tube2-021419-T
Lab Sample ID: 680-164605-14
Date Collected: 02/14/19 14:50
Matrix: Water
Date Received: 02/15/19 07:30

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlorobiphenyl	ND		0.29	0.029	ug/L		02/19/19 13:42	02/21/19 02:50	1
Hexachlorobiphenyl	ND		0.20	0.015	ug/L		02/19/19 13:42	02/21/19 02:50	1
Nonachlorobiphenyl	ND		0.49	0.048	ug/L		02/19/19 13:42	02/21/19 02:50	1
Octachlorobiphenyl	ND		0.29	0.037	ug/L		02/19/19 13:42	02/21/19 02:50	1
Monochlorobiphenyl	ND		0.098	0.0055	ug/L		02/19/19 13:42	02/21/19 02:50	1
DCB Decachlorobiphenyl	ND		0.49	0.068	ug/L		02/19/19 13:42	02/21/19 02:50	1
Total Dichlorobiphenyls	ND		0.098	0.0053	ug/L		02/19/19 13:42	02/21/19 02:50	1
Total Pentachlorobiphenyls	ND		0.20	0.014	ug/L		02/19/19 13:42	02/21/19 02:50	1
Total Tetrachlorobiphenyls	ND		0.20	0.013	ug/L		02/19/19 13:42	02/21/19 02:50	1
Total Trichlorobiphenyls	ND		0.098	0.0064	ug/L		02/19/19 13:42	02/21/19 02:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl-13C12	*71*		*25 - 113*	*02/19/19 13:42*	*02/21/19 02:50*	*1*

Client Sample ID: MRC-SW32-021419-T
Lab Sample ID: 680-164605-15
Date Collected: 02/14/19 17:15
Matrix: Water
Date Received: 02/15/19 07:30

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlorobiphenyl	ND		0.29	0.029	ug/L		02/19/19 13:42	02/21/19 03:18	1
Hexachlorobiphenyl	ND		0.19	0.014	ug/L		02/19/19 13:42	02/21/19 03:18	1
Nonachlorobiphenyl	ND		0.48	0.047	ug/L		02/19/19 13:42	02/21/19 03:18	1
Octachlorobiphenyl	ND		0.29	0.037	ug/L		02/19/19 13:42	02/21/19 03:18	1
Monochlorobiphenyl	ND		0.096	0.0054	ug/L		02/19/19 13:42	02/21/19 03:18	1
DCB Decachlorobiphenyl	ND		0.48	0.067	ug/L		02/19/19 13:42	02/21/19 03:18	1
Total Dichlorobiphenyls	ND		0.096	0.0052	ug/L		02/19/19 13:42	02/21/19 03:18	1
Total Pentachlorobiphenyls	ND		0.19	0.013	ug/L		02/19/19 13:42	02/21/19 03:18	1
Total Tetrachlorobiphenyls	ND		0.19	0.013	ug/L		02/19/19 13:42	02/21/19 03:18	1
Total Trichlorobiphenyls	ND		0.096	0.0063	ug/L		02/19/19 13:42	02/21/19 03:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl-13C12	*64*		*25 - 113*	*02/19/19 13:42*	*02/21/19 03:18*	*1*

Client Sample Results

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-164605-1

Client Sample ID: FB-SW-021419-T

Lab Sample ID: 680-164605-16

Date Collected: 02/14/19 14:30
Matrix: Water
Date Received: 02/15/19 07:30

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlorobiphenyl	ND		0.29	0.029	ug/L		02/19/19 13:42	02/21/19 03:47	1
Hexachlorobiphenyl	ND		0.19	0.015	ug/L		02/19/19 13:42	02/21/19 03:47	1
Nonachlorobiphenyl	ND		0.49	0.048	ug/L		02/19/19 13:42	02/21/19 03:47	1
Octachlorobiphenyl	ND		0.29	0.037	ug/L		02/19/19 13:42	02/21/19 03:47	1
Monochlorobiphenyl	ND		0.097	0.0055	ug/L		02/19/19 13:42	02/21/19 03:47	1
DCB Decachlorobiphenyl	ND		0.49	0.068	ug/L		02/19/19 13:42	02/21/19 03:47	1
Total Dichlorobiphenyls	ND		0.097	0.0053	ug/L		02/19/19 13:42	02/21/19 03:47	1
Total Pentachlorobiphenyls	ND		0.19	0.014	ug/L		02/19/19 13:42	02/21/19 03:47	1
Total Tetrachlorobiphenyls	ND		0.19	0.013	ug/L		02/19/19 13:42	02/21/19 03:47	1
Total Trichlorobiphenyls	ND		0.097	0.0063	ug/L		02/19/19 13:42	02/21/19 03:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl-13C12	*52*		*25 - 113*	*02/19/19 13:42*	*02/21/19 03:47*	*1*

Client Sample ID: MRC-SW31-021419-T

Lab Sample ID: 680-164605-17

Date Collected: 02/14/19 16:35
Matrix: Water
Date Received: 02/15/19 07:30

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlorobiphenyl	ND		0.29	0.029	ug/L		02/19/19 13:42	02/21/19 04:16	1
Hexachlorobiphenyl	ND		0.19	0.015	ug/L		02/19/19 13:42	02/21/19 04:16	1
Nonachlorobiphenyl	ND		0.48	0.047	ug/L		02/19/19 13:42	02/21/19 04:16	1
Octachlorobiphenyl	ND		0.29	0.037	ug/L		02/19/19 13:42	02/21/19 04:16	1
Monochlorobiphenyl	ND		0.097	0.0054	ug/L		02/19/19 13:42	02/21/19 04:16	1
DCB Decachlorobiphenyl	ND		0.48	0.068	ug/L		02/19/19 13:42	02/21/19 04:16	1
Total Dichlorobiphenyls	ND		0.097	0.0052	ug/L		02/19/19 13:42	02/21/19 04:16	1
Total Pentachlorobiphenyls	ND		0.19	0.014	ug/L		02/19/19 13:42	02/21/19 04:16	1
Total Tetrachlorobiphenyls	ND		0.19	0.013	ug/L		02/19/19 13:42	02/21/19 04:16	1
Total Trichlorobiphenyls	ND		0.097	0.0063	ug/L		02/19/19 13:42	02/21/19 04:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl-13C12	*50*		*25 - 113*	*02/19/19 13:42*	*02/21/19 04:16*	*1*

Default Detection Limits

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-164605-1

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Prep: 680

Analyte	RL	MDL	Units	Method
DCB Decachlorobiphenyl	0.50	0.070	ug/L	680
Heptachlorobiphenyl	0.30	0.030	ug/L	680
Hexachlorobiphenyl	0.20	0.015	ug/L	680
Monochlorobiphenyl	0.10	0.0056	ug/L	680
Nonachlorobiphenyl	0.50	0.049	ug/L	680
Octachlorobiphenyl	0.30	0.038	ug/L	680
Total Dichlorobiphenyls	0.10	0.0054	ug/L	680
Total Pentachlorobiphenyls	0.20	0.014	ug/L	680
Total Tetrachlorobiphenyls	0.20	0.013	ug/L	680
Total Trichlorobiphenyls	0.10	0.0065	ug/L	680

Surrogate Summary

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-164605-1

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	13CDCB (25-113)								
680-164605-1	MRC-SW5A1-S-021419-T	60								
680-164605-2	MRC-SW5A2-S-021419-T	59								
680-164605-3	MRC-SW13A-S-021419-T	31								
680-164605-4	MRC-SW8B-S-021419-T	36								
680-164605-5	MRC-SW8A-S-021419-T	53								
680-164605-6	MRC-SW9A-S-021419-T	20 X								
680-164605-6 - RE	MRC-SW9A-S-021419-T	69								
680-164605-7	MRC-SW33-021419-T	64								
680-164605-8	MRC-SW40-021419-T	68								
680-164605-9	MRC-SW7A-S-021419-T	60								
680-164605-9 MS	MRC-SW7A-S-021419-T	65								
680-164605-9 MSD	MRC-SW7A-S-021419-T	61								
680-164605-10	MRC-SW7A-S-021419-T-DUP	56								
680-164605-11	MRC-SW30-021419-T	56								
680-164605-12	MRC-SW15A-S-021419-T	56								
680-164605-13	EB-tube1-021419-T	60								
680-164605-14	EB-tube2-021419-T	71								
680-164605-15	MRC-SW32-021419-T	64								
680-164605-16	FB-SW-021419-T	52								
680-164605-17	MRC-SW31-021419-T	50								
LCS 680-558724/19-A	Lab Control Sample	73								
LCS 680-559624/4-A	Lab Control Sample	82								
LCSD 680-559624/5-A	Lab Control Sample Dup	85								
MB 680-558724/18-A	Method Blank	64								
MB 680-559624/3-A	Method Blank	65								

Surrogate Legend

13CDCB = Decachlorobiphenyl-13C12

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Lab Sample ID: MB 680-558724/18-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 559058 — **Prep Batch: 558724**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlorobiphenyl	ND		0.30	0.030	ug/L		02/19/19 13:42	02/20/19 18:45	1
Hexachlorobiphenyl	ND		0.20	0.015	ug/L		02/19/19 13:42	02/20/19 18:45	1
Nonachlorobiphenyl	ND		0.50	0.049	ug/L		02/19/19 13:42	02/20/19 18:45	1
Octachlorobiphenyl	ND		0.30	0.038	ug/L		02/19/19 13:42	02/20/19 18:45	1
Monochlorobiphenyl	ND		0.10	0.0056	ug/L		02/19/19 13:42	02/20/19 18:45	1
DCB Decachlorobiphenyl	ND		0.50	0.070	ug/L		02/19/19 13:42	02/20/19 18:45	1
Total Dichlorobiphenyls	ND		0.10	0.0054	ug/L		02/19/19 13:42	02/20/19 18:45	1
Total Pentachlorobiphenyls	ND		0.20	0.014	ug/L		02/19/19 13:42	02/20/19 18:45	1
Total Tetrachlorobiphenyls	ND		0.20	0.013	ug/L		02/19/19 13:42	02/20/19 18:45	1
Total Trichlorobiphenyls	ND		0.10	0.0065	ug/L		02/19/19 13:42	02/20/19 18:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl-13C12	*64*		*25 - 113*	*02/19/19 13:42*	*02/20/19 18:45*	*1*

Lab Sample ID: LCS 680-558724/19-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 559058 — **Prep Batch: 558724**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Heptachlorobiphenyl	6.00	4.56		ug/L		76	62 - 130
Hexachlorobiphenyl	4.00	3.28		ug/L		82	62 - 130
Nonachlorobiphenyl	10.0	14.1		ug/L		141	70 - 195
Octachlorobiphenyl	6.00	4.96		ug/L		83	64 - 130
Monochlorobiphenyl	2.00	1.33		ug/L		67	42 - 130
DCB Decachlorobiphenyl	10.0	7.57		ug/L		76	59 - 130
Total Dichlorobiphenyls	2.00	1.43		ug/L		71	49 - 130
Total Pentachlorobiphenyls	4.00	3.27		ug/L		82	63 - 130
Total Tetrachlorobiphenyls	4.00	3.10		ug/L		77	54 - 130
Total Trichlorobiphenyls	2.00	1.52		ug/L		76	51 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Decachlorobiphenyl-13C12	*73*		*25 - 113*

Lab Sample ID: 680-164605-9 MS — **Client Sample ID: MRC-SW7A-S-021419-T**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 559058 — **Prep Batch: 558724**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Heptachlorobiphenyl	ND	F1	5.86	3.76		ug/L		64	62 - 130
Hexachlorobiphenyl	ND		3.91	2.67		ug/L		68	62 - 130
Nonachlorobiphenyl	ND		9.77	11.9		ug/L		122	70 - 195
Octachlorobiphenyl	ND		5.86	4.19		ug/L		72	64 - 130
Monochlorobiphenyl	ND	F1	1.95	0.829		ug/L		42	42 - 130
DCB Decachlorobiphenyl	ND		9.77	6.46		ug/L		66	59 - 130
Total Dichlorobiphenyls	ND	F1	1.95	0.965		ug/L		49	49 - 130
Total Pentachlorobiphenyls	ND	F2	3.91	4.30		ug/L		110	63 - 130
Total Tetrachlorobiphenyls	ND	F1	3.91	2.13		ug/L		54	54 - 130

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS) (Continued)

Lab Sample ID: 680-164605-9 MS — **Client Sample ID: MRC-SW7A-S-021419-T**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 559058 — **Prep Batch: 558724**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Trichlorobiphenyls	ND	F1	1.95	1.06		ug/L		54	51 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Decachlorobiphenyl-13C12	*65*		*25 - 113*

Lab Sample ID: 680-164605-9 MSD — **Client Sample ID: MRC-SW7A-S-021419-T**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 559058 — **Prep Batch: 558724**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Heptachlorobiphenyl	ND	F1	5.80	3.46	F1	ug/L		60	62 - 130	8	40
Hexachlorobiphenyl	ND		3.87	2.44		ug/L		63	62 - 130	9	40
Nonachlorobiphenyl	ND		9.67	11.4		ug/L		118	70 - 195	4	40
Octachlorobiphenyl	ND		5.80	3.92		ug/L		68	64 - 130	7	40
Monochlorobiphenyl	ND	F1	1.93	0.726	F1	ug/L		38	42 - 130	13	40
DCB Decachlorobiphenyl	ND		9.67	6.19		ug/L		64	59 - 130	4	40
Total Dichlorobiphenyls	ND	F1	1.93	0.859	F1	ug/L		44	49 - 130	12	40
Total Pentachlorobiphenyls	ND	F2	3.87	2.54	F2	ug/L		66	63 - 130	52	40
Total Tetrachlorobiphenyls	ND	F1	3.87	1.91	F1	ug/L		49	54 - 130	11	40
Total Trichlorobiphenyls	ND	F1	1.93	0.954	F1	ug/L		49	51 - 130	11	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Decachlorobiphenyl-13C12	*61*		*25 - 113*

Lab Sample ID: MB 680-559624/3-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 559821 — **Prep Batch: 559624**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlorobiphenyl	ND		0.30	0.030	ug/L		02/26/19 13:54	02/27/19 16:20	1
Hexachlorobiphenyl	ND		0.20	0.015	ug/L		02/26/19 13:54	02/27/19 16:20	1
Nonachlorobiphenyl	ND		0.50	0.049	ug/L		02/26/19 13:54	02/27/19 16:20	1
Octachlorobiphenyl	ND		0.30	0.038	ug/L		02/26/19 13:54	02/27/19 16:20	1
Monochlorobiphenyl	ND		0.10	0.0056	ug/L		02/26/19 13:54	02/27/19 16:20	1
DCB Decachlorobiphenyl	ND		0.50	0.070	ug/L		02/26/19 13:54	02/27/19 16:20	1
Total Dichlorobiphenyls	ND		0.10	0.0054	ug/L		02/26/19 13:54	02/27/19 16:20	1
Total Pentachlorobiphenyls	ND		0.20	0.014	ug/L		02/26/19 13:54	02/27/19 16:20	1
Total Tetrachlorobiphenyls	ND		0.20	0.013	ug/L		02/26/19 13:54	02/27/19 16:20	1
Total Trichlorobiphenyls	ND		0.10	0.0065	ug/L		02/26/19 13:54	02/27/19 16:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl-13C12	*65*		*25 - 113*	*02/26/19 13:54*	*02/27/19 16:20*	*1*

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-164605-1

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS) (Continued)

Lab Sample ID: LCS 680-559624/4-A
Matrix: Water
Analysis Batch: 559821

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 559624

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Heptachlorobiphenyl			6.00	4.59		ug/L		77	62 - 130		
Hexachlorobiphenyl			4.00	3.25		ug/L		81	62 - 130		
Nonachlorobiphenyl			10.0	15.2		ug/L		152	70 - 195		
Octachlorobiphenyl			6.00	4.98		ug/L		83	64 - 130		
Monochlorobiphenyl			2.00	1.29		ug/L		65	42 - 130		
DCB Decachlorobiphenyl			10.0	8.61		ug/L		86	59 - 130		
Total Dichlorobiphenyls			2.00	1.41		ug/L		70	49 - 130		
Total Pentachlorobiphenyls			4.00	3.26		ug/L		81	63 - 130		
Total Tetrachlorobiphenyls			4.00	2.94		ug/L		74	54 - 130		
Total Trichlorobiphenyls			2.00	1.46		ug/L		73	51 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Decachlorobiphenyl-13C12	*82*		*25 - 113*

Lab Sample ID: LCSD 680-559624/5-A
Matrix: Water
Analysis Batch: 559821

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 559624

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Heptachlorobiphenyl			6.00	4.93		ug/L		82	62 - 130	7	40
Hexachlorobiphenyl			4.00	3.53		ug/L		88	62 - 130	8	40
Nonachlorobiphenyl			10.0	16.1		ug/L		161	70 - 195	6	40
Octachlorobiphenyl			6.00	5.33		ug/L		89	64 - 130	7	40
Monochlorobiphenyl			2.00	1.43		ug/L		71	42 - 130	10	40
DCB Decachlorobiphenyl			10.0	9.10		ug/L		91	59 - 130	5	40
Total Dichlorobiphenyls			2.00	1.56		ug/L		78	49 - 130	10	40
Total Pentachlorobiphenyls			4.00	3.51		ug/L		88	63 - 130	7	40
Total Tetrachlorobiphenyls			4.00	3.25		ug/L		81	54 - 130	10	40
Total Trichlorobiphenyls			2.00	1.59		ug/L		79	51 - 130	9	40

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Decachlorobiphenyl-13C12	*85*		*25 - 113*

QC Association Summary

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-164605-1

GC/MS Semi VOA

Prep Batch: 558724

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-164605-1	MRC-SW5A1-S-021419-T	Total/NA	Water	680	
680-164605-2	MRC-SW5A2-S-021419-T	Total/NA	Water	680	
680-164605-3	MRC-SW13A-S-021419-T	Total/NA	Water	680	
680-164605-4	MRC-SW8B-S-021419-T	Total/NA	Water	680	
680-164605-5	MRC-SW8A-S-021419-T	Total/NA	Water	680	
680-164605-6	MRC-SW9A-S-021419-T	Total/NA	Water	680	
680-164605-7	MRC-SW33-021419-T	Total/NA	Water	680	
680-164605-8	MRC-SW40-021419-T	Total/NA	Water	680	
680-164605-9	MRC-SW7A-S-021419-T	Total/NA	Water	680	
680-164605-10	MRC-SW7A-S-021419-T-DUP	Total/NA	Water	680	
680-164605-11	MRC-SW30-021419-T	Total/NA	Water	680	
680-164605-12	MRC-SW15A-S-021419-T	Total/NA	Water	680	
680-164605-13	EB-tube1-021419-T	Total/NA	Water	680	
680-164605-14	EB-tube2-021419-T	Total/NA	Water	680	
680-164605-15	MRC-SW32-021419-T	Total/NA	Water	680	
680-164605-16	FB-SW-021419-T	Total/NA	Water	680	
680-164605-17	MRC-SW31-021419-T	Total/NA	Water	680	
MB 680-558724/18-A	Method Blank	Total/NA	Water	680	
LCS 680-558724/19-A	Lab Control Sample	Total/NA	Water	680	
680-164605-9 MS	MRC-SW7A-S-021419-T	Total/NA	Water	680	
680-164605-9 MSD	MRC-SW7A-S-021419-T	Total/NA	Water	680	

Analysis Batch: 559058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-164605-1	MRC-SW5A1-S-021419-T	Total/NA	Water	680	558724
680-164605-2	MRC-SW5A2-S-021419-T	Total/NA	Water	680	558724
680-164605-3	MRC-SW13A-S-021419-T	Total/NA	Water	680	558724
680-164605-4	MRC-SW8B-S-021419-T	Total/NA	Water	680	558724
680-164605-5	MRC-SW8A-S-021419-T	Total/NA	Water	680	558724
680-164605-6	MRC-SW9A-S-021419-T	Total/NA	Water	680	558724
680-164605-7	MRC-SW33-021419-T	Total/NA	Water	680	558724
680-164605-8	MRC-SW40-021419-T	Total/NA	Water	680	558724
680-164605-9	MRC-SW7A-S-021419-T	Total/NA	Water	680	558724
680-164605-11	MRC-SW30-021419-T	Total/NA	Water	680	558724
680-164605-12	MRC-SW15A-S-021419-T	Total/NA	Water	680	558724
680-164605-14	EB-tube2-021419-T	Total/NA	Water	680	558724
680-164605-15	MRC-SW32-021419-T	Total/NA	Water	680	558724
680-164605-16	FB-SW-021419-T	Total/NA	Water	680	558724
680-164605-17	MRC-SW31-021419-T	Total/NA	Water	680	558724
MB 680-558724/18-A	Method Blank	Total/NA	Water	680	558724
LCS 680-558724/19-A	Lab Control Sample	Total/NA	Water	680	558724
680-164605-9 MS	MRC-SW7A-S-021419-T	Total/NA	Water	680	558724
680-164605-9 MSD	MRC-SW7A-S-021419-T	Total/NA	Water	680	558724

Analysis Batch: 559059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-164605-10	MRC-SW7A-S-021419-T-DUP	Total/NA	Water	680	558724
680-164605-13	EB-tube1-021419-T	Total/NA	Water	680	558724

QC Association Summary

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-164605-1

GC/MS Semi VOA (Continued)

Prep Batch: 559624

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-164605-6 - RE	MRC-SW9A-S-021419-T	Total/NA	Water	680	
MB 680-559624/3-A	Method Blank	Total/NA	Water	680	
LCS 680-559624/4-A	Lab Control Sample	Total/NA	Water	680	
LCSD 680-559624/5-A	Lab Control Sample Dup	Total/NA	Water	680	

Analysis Batch: 559821

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-164605-6 - RE	MRC-SW9A-S-021419-T	Total/NA	Water	680	559624
MB 680-559624/3-A	Method Blank	Total/NA	Water	680	559624
LCS 680-559624/4-A	Lab Control Sample	Total/NA	Water	680	559624
LCSD 680-559624/5-A	Lab Control Sample Dup	Total/NA	Water	680	559624

Client Sample ID: MRC-SW5A1-S-021419-T
Lab Sample ID: 680-164605-1
Date Collected: 02/14/19 11:07
Matrix: Water
Date Received: 02/15/19 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	680			558724	02/19/19 13:42	CEW	TAL SAV
Total/NA	Analysis	680		1	559058	02/20/19 20:39	NED	TAL SAV

Client Sample ID: MRC-SW5A2-S-021419-T
Lab Sample ID: 680-164605-2
Date Collected: 02/14/19 11:24
Matrix: Water
Date Received: 02/15/19 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	680			558724	02/19/19 13:42	CEW	TAL SAV
Total/NA	Analysis	680		1	559058	02/20/19 21:07	NED	TAL SAV

Client Sample ID: MRC-SW13A-S-021419-T
Lab Sample ID: 680-164605-3
Date Collected: 02/14/19 11:44
Matrix: Water
Date Received: 02/15/19 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	680			558724	02/19/19 13:42	CEW	TAL SAV
Total/NA	Analysis	680		1	559058	02/20/19 21:36	NED	TAL SAV

Client Sample ID: MRC-SW8B-S-021419-T
Lab Sample ID: 680-164605-4
Date Collected: 02/14/19 12:54
Matrix: Water
Date Received: 02/15/19 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	680			558724	02/19/19 13:42	CEW	TAL SAV
Total/NA	Analysis	680		1	559058	02/20/19 22:04	NED	TAL SAV

Client Sample ID: MRC-SW8A-S-021419-T
Lab Sample ID: 680-164605-5
Date Collected: 02/14/19 12:32
Matrix: Water
Date Received: 02/15/19 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	680			558724	02/19/19 13:42	CEW	TAL SAV
Total/NA	Analysis	680		1	559058	02/20/19 22:33	NED	TAL SAV

Client Sample ID: MRC-SW9A-S-021419-T
Lab Sample ID: 680-164605-6
Date Collected: 02/14/19 13:14
Matrix: Water
Date Received: 02/15/19 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	680			558724	02/19/19 13:42	CEW	TAL SAV
Total/NA	Analysis	680		1	559058	02/20/19 23:02	NED	TAL SAV

Client Sample ID: MRC-SW9A-S-021419-T
Lab Sample ID: 680-164605-6
Date Collected: 02/14/19 13:14
Matrix: Water
Date Received: 02/15/19 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	680	RE		559624	02/26/19 13:54	CEW	TAL SAV
Total/NA	Analysis	680	RE	1	559821	02/27/19 18:15	NED	TAL SAV

Client Sample ID: MRC-SW33-021419-T
Lab Sample ID: 680-164605-7
Date Collected: 02/14/19 17:30
Matrix: Water
Date Received: 02/15/19 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	680			558724	02/19/19 13:42	CEW	TAL SAV
Total/NA	Analysis	680		1	559058	02/20/19 23:30	NED	TAL SAV

Client Sample ID: MRC-SW40-021419-T
Lab Sample ID: 680-164605-8
Date Collected: 02/14/19 16:00
Matrix: Water
Date Received: 02/15/19 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	680			558724	02/19/19 13:42	CEW	TAL SAV
Total/NA	Analysis	680		1	559058	02/20/19 23:59	NED	TAL SAV

Client Sample ID: MRC-SW7A-S-021419-T
Lab Sample ID: 680-164605-9
Date Collected: 02/14/19 13:42
Matrix: Water
Date Received: 02/15/19 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	680			558724	02/19/19 13:42	CEW	TAL SAV
Total/NA	Analysis	680		1	559058	02/21/19 00:27	NED	TAL SAV

Client Sample ID: MRC-SW7A-S-021419-T-DUP
Lab Sample ID: 680-164605-10
Date Collected: 02/14/19 13:44
Matrix: Water
Date Received: 02/15/19 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	680			558724	02/19/19 13:42	CEW	TAL SAV
Total/NA	Analysis	680		1	559059	02/21/19 08:38	NED	TAL SAV

Client Sample ID: MRC-SW30-021419-T
Lab Sample ID: 680-164605-11
Date Collected: 02/14/19 16:30
Matrix: Water
Date Received: 02/15/19 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	680			558724	02/19/19 13:42	CEW	TAL SAV
Total/NA	Analysis	680		1	559058	02/21/19 01:24	NED	TAL SAV

Client Sample ID: MRC-SW15A-S-021419-T
Lab Sample ID: 680-164605-12
Date Collected: 02/14/19 12:14
Matrix: Water
Date Received: 02/15/19 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	680			558724	02/19/19 13:42	CEW	TAL SAV
Total/NA	Analysis	680		1	559058	02/21/19 01:53	NED	TAL SAV

Client Sample ID: EB-tube1-021419-T
Lab Sample ID: 680-164605-13
Date Collected: 02/14/19 14:35
Matrix: Water
Date Received: 02/15/19 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	680			558724	02/19/19 13:42	CEW	TAL SAV
Total/NA	Analysis	680		1	559059	02/21/19 09:07	NED	TAL SAV

Client Sample ID: EB-tube2-021419-T
Lab Sample ID: 680-164605-14
Date Collected: 02/14/19 14:50
Matrix: Water
Date Received: 02/15/19 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	680			558724	02/19/19 13:42	CEW	TAL SAV
Total/NA	Analysis	680		1	559058	02/21/19 02:50	NED	TAL SAV

Client Sample ID: MRC-SW32-021419-T
Lab Sample ID: 680-164605-15
Date Collected: 02/14/19 17:15
Matrix: Water
Date Received: 02/15/19 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	680			558724	02/19/19 13:42	CEW	TAL SAV
Total/NA	Analysis	680		1	559058	02/21/19 03:18	NED	TAL SAV

Client Sample ID: FB-SW-021419-T
Lab Sample ID: 680-164605-16
Date Collected: 02/14/19 14:30
Matrix: Water
Date Received: 02/15/19 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	680			558724	02/19/19 13:42	CEW	TAL SAV
Total/NA	Analysis	680		1	559058	02/21/19 03:47	NED	TAL SAV

Client Sample ID: MRC-SW31-021419-T
Lab Sample ID: 680-164605-17
Date Collected: 02/14/19 16:35
Matrix: Water
Date Received: 02/15/19 07:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	680			558724	02/19/19 13:42	CEW	TAL SAV
Total/NA	Analysis	680		1	559058	02/21/19 04:16	NED	TAL SAV

Lab Chronicle

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-164605-1

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Accreditation/Certification Summary

Client: AECOM
TestAmerica Job ID: 680-164605-1
Project/Site: MRC Surface Water Sampling

Laboratory: TestAmerica Savannah

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Maryland	State Program	3	250	12-31-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
680	680	Water	DCB Decachlorobiphenyl
680	680	Water	Heptachlorobiphenyl
680	680	Water	Hexachlorobiphenyl
680	680	Water	Monochlorobiphenyl
680	680	Water	Nonachlorobiphenyl
680	680	Water	Octachlorobiphenyl
680	680	Water	Total Dichlorobiphenyls
680	680	Water	Total Pentachlorobiphenyls
680	680	Water	Total Tetrachlorobiphenyls
680	680	Water	Total Trichlorobiphenyls

Method Summary

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-164605-1

Method	Method Description	Protocol	Laboratory
680	Polychlorinated Biphenyls (PCBs) (GC/MS)	EPA	TAL SAV
680	Liquid-Liquid Extraction (Separatory Funnel)	EPA	TAL SAV

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Sample Summary

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-164605-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-164605-1	MRC-SW5A1-S-021419-T	Water	02/14/19 11:07	02/15/19 07:30
680-164605-2	MRC-SW5A2-S-021419-T	Water	02/14/19 11:24	02/15/19 07:30
680-164605-3	MRC-SW13A-S-021419-T	Water	02/14/19 11:44	02/15/19 07:30
680-164605-4	MRC-SW8B-S-021419-T	Water	02/14/19 12:54	02/15/19 07:30
680-164605-5	MRC-SW8A-S-021419-T	Water	02/14/19 12:32	02/15/19 07:30
680-164605-6	MRC-SW9A-S-021419-T	Water	02/14/19 13:14	02/15/19 07:30
680-164605-7	MRC-SW33-021419-T	Water	02/14/19 17:30	02/15/19 07:30
680-164605-8	MRC-SW40-021419-T	Water	02/14/19 16:00	02/15/19 07:30
680-164605-9	MRC-SW7A-S-021419-T	Water	02/14/19 13:42	02/15/19 07:30
680-164605-10	MRC-SW7A-S-021419-T-DUP	Water	02/14/19 13:44	02/15/19 07:30
680-164605-11	MRC-SW30-021419-T	Water	02/14/19 16:30	02/15/19 07:30
680-164605-12	MRC-SW15A-S-021419-T	Water	02/14/19 12:14	02/15/19 07:30
680-164605-13	EB-tube1-021419-T	Water	02/14/19 14:35	02/15/19 07:30
680-164605-14	EB-tube2-021419-T	Water	02/14/19 14:50	02/15/19 07:30
680-164605-15	MRC-SW32-021419-T	Water	02/14/19 17:15	02/15/19 07:30
680-164605-16	FB-SW-021419-T	Water	02/14/19 14:30	02/15/19 07:30
680-164605-17	MRC-SW31-021419-T	Water	02/14/19 16:35	02/15/19 07:30

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Instrument ID: CMSX Analysis Batch Number: 554469

Lab Sample ID: ICISAV 680-554469/3 Client Sample ID:

Date Analyzed: 01/08/19 15:11 Lab File ID: xa0807.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.67	Peak assignment corrected	davisn	01/09/19 11:18
DCB Decachlorobiphenyl	21.80	Peak assignment corrected	davisn	01/09/19 11:19
Decachlorobiphenyl-13C12	21.80	Peak assignment corrected	davisn	01/09/19 11:19

Lab Sample ID: IC 680-554469/5 Client Sample ID:

Date Analyzed: 01/08/19 16:08 Lab File ID: xa0809.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.67	Peak assignment corrected	davisn	01/08/19 16:41
DCB Decachlorobiphenyl	21.80	Peak assignment corrected	davisn	01/08/19 16:41
Decachlorobiphenyl-13C12	21.80	Peak assignment corrected	davisn	01/08/19 16:41

Lab Sample ID: IC 680-554469/27 Client Sample ID:

Date Analyzed: 01/08/19 17:05 Lab File ID: xa0850.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.67	Peak assignment corrected	davisn	01/08/19 17:37
DCB Decachlorobiphenyl	21.82	Peak assignment corrected	davisn	01/08/19 17:38
Decachlorobiphenyl-13C12	21.82	Peak assignment corrected	davisn	01/08/19 17:38

Lab Sample ID: IC 680-554469/7 Client Sample ID:

Date Analyzed: 01/08/19 17:34 Lab File ID: xa0811.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.67	Peak assignment corrected	davisn	01/09/19 11:21
DCB Decachlorobiphenyl	21.79	Peak assignment corrected	davisn	01/09/19 11:21
Decachlorobiphenyl-13C12	21.79	Peak assignment corrected	davisn	01/09/19 11:21

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Instrument ID: CMSX Analysis Batch Number: 554469

Lab Sample ID: IC 680-554469/8 Client Sample ID:

Date Analyzed: 01/08/19 18:02 Lab File ID: xa0812.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.67	Peak assignment corrected	davisn	01/09/19 11:23

Lab Sample ID: ICV 680-554469/9 Client Sample ID:

Date Analyzed: 01/08/19 18:31 Lab File ID: xa0813.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	21.79	Peak assignment corrected	davisn	01/09/19 11:25
Decachlorobiphenyl-13C12	21.79	Peak assignment corrected	davisn	01/09/19 11:25

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Instrument ID: CMSX Analysis Batch Number: 559058

Lab Sample ID: WDM 680-559058/2 Client Sample ID:

Date Analyzed: 02/20/19 17:46 Lab File ID: xb2003.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	21.80	Peak assignment corrected	davisn	02/21/19 08:13

Lab Sample ID: CCVIS 680-559058/3 Client Sample ID:

Date Analyzed: 02/20/19 18:16 Lab File ID: xb2004.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.67	Peak assignment corrected	davisn	02/22/19 08:59

Lab Sample ID: LCS 680-558724/19-A Client Sample ID:

Date Analyzed: 02/20/19 19:13 Lab File ID: xb2006.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.67	Peak assignment corrected	davisn	02/22/19 09:02

Lab Sample ID: 680-164605-2 Client Sample ID: MRC-SW5A2-S-021419-T

Date Analyzed: 02/20/19 21:07 Lab File ID: xb2010.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nonachlorobiphenyl		Unspecified		
Decachlorobiphenyl-13C12	21.80	Peak assignment corrected	davisn	02/22/19 09:13

Lab Sample ID: 680-164605-6 Client Sample ID: MRC-SW9A-S-021419-T

Date Analyzed: 02/20/19 23:02 Lab File ID: xb2014.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Monochlorobiphenyl		Unspecified		

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Instrument ID: CMSX Analysis Batch Number: 559058

Lab Sample ID: 680-164605-8 Client Sample ID: MRC-SW40-021419-T

Date Analyzed: 02/20/19 23:59 Lab File ID: xb2016.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Total Trichlorobiphenyls		Unspecified		

Lab Sample ID: 680-164605-12 Client Sample ID: MRC-SW15A-S-021419-T

Date Analyzed: 02/21/19 01:53 Lab File ID: xb2020.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Monochlorobiphenyl		Unspecified		
Nonachlorobiphenyl		Unspecified		
Total Pentachlorobiphenyls		Unspecified		

Lab Sample ID: 680-164605-15 Client Sample ID: MRC-SW32-021419-T

Date Analyzed: 02/21/19 03:18 Lab File ID: xb2023.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Monochlorobiphenyl		Unspecified		

Lab Sample ID: 680-164605-16 Client Sample ID:

Date Analyzed: 02/21/19 03:47 Lab File ID: xb2024.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Phenanthrene-d10	12.41	Peak assignment corrected	davisn	02/22/19 09:20

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Instrument ID: CMSX Analysis Batch Number: 559059

Lab Sample ID: WDM 680-559059/2 Client Sample ID:

Date Analyzed: 02/21/19 06:14 Lab File ID: xb2029.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	21.80	Peak assignment corrected	davisn	02/21/19 08:15

Lab Sample ID: CCVIS 680-559059/3 Client Sample ID:

Date Analyzed: 02/21/19 06:44 Lab File ID: xb2030.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.67	Peak assignment corrected	davisn	02/22/19 09:34

Lab Sample ID: 680-164605-13 Client Sample ID: EB-tube1-021419-T

Date Analyzed: 02/21/19 09:07 Lab File ID: xb2035.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Monochlorobiphenyl		Unspecified		

Lab Sample ID: CCV 680-559059/21 Client Sample ID:

Date Analyzed: 02/21/19 16:43 Lab File ID: xb2051.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	21.80	Peak assignment corrected	davisn	02/22/19 09:51
Decachlorobiphenyl-13C12	21.80	Peak assignment corrected	davisn	02/22/19 09:51

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Instrument ID: CMSX Analysis Batch Number: 559536

Lab Sample ID: ICISAV 680-559536/3 Client Sample ID:

Date Analyzed: 02/25/19 13:07 Lab File ID: xb2504.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.63	Peak assignment corrected	davisn	02/26/19 09:23
Decachlorobiphenyl-13C12	21.76	Peak assignment corrected	davisn	02/26/19 09:23
DCB Decachlorobiphenyl	21.78	Peak assignment corrected	davisn	02/26/19 09:23

Lab Sample ID: IC 680-559536/4 Client Sample ID:

Date Analyzed: 02/25/19 14:04 Lab File ID: xb2507.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.63	Peak assignment corrected	davisn	02/26/19 09:25
DCB Decachlorobiphenyl	21.77	Peak assignment corrected	davisn	02/26/19 09:25
Decachlorobiphenyl-13C12	21.77	Peak assignment corrected	davisn	02/26/19 09:25

Lab Sample ID: IC 680-559536/8 Client Sample ID:

Date Analyzed: 02/25/19 14:33 Lab File ID: xb2508.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.63	Peak assignment corrected	davisn	02/26/19 09:26
DCB Decachlorobiphenyl	21.77	Peak assignment corrected	davisn	02/26/19 09:26
Decachlorobiphenyl-13C12	21.77	Peak assignment corrected	davisn	02/26/19 09:26

Lab Sample ID: IC 680-559536/9 Client Sample ID:

Date Analyzed: 02/25/19 15:02 Lab File ID: xb2509.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	21.77	Peak assignment corrected	davisn	02/26/19 09:27
Decachlorobiphenyl-13C12	21.77	Peak assignment corrected	davisn	02/26/19 09:27

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Instrument ID: CMSX Analysis Batch Number: 559536

Lab Sample ID: IC 680-559536/10 Client Sample ID:

Date Analyzed: 02/25/19 15:30 Lab File ID: xb2510.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.63	Peak assignment corrected	davisn	02/26/19 09:28
DCB Decachlorobiphenyl	21.77	Peak assignment corrected	davisn	02/26/19 09:28
Decachlorobiphenyl-13C12	21.77	Peak assignment corrected	davisn	02/26/19 09:28

Lab Sample ID: IC 680-559536/11 Client Sample ID:

Date Analyzed: 02/25/19 15:59 Lab File ID: xb2511.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.63	Peak assignment corrected	davisn	02/26/19 09:33
DCB Decachlorobiphenyl	21.77	Peak assignment corrected	davisn	02/26/19 09:33
Decachlorobiphenyl-13C12	21.77	Peak assignment corrected	davisn	02/26/19 09:33

Lab Sample ID: ICV 680-559536/12 Client Sample ID:

Date Analyzed: 02/25/19 16:27 Lab File ID: xb2512.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.63	Peak assignment corrected	davisn	02/26/19 09:34
DCB Decachlorobiphenyl	21.77	Peak assignment corrected	davisn	02/26/19 09:34
Decachlorobiphenyl-13C12	21.77	Peak assignment corrected	davisn	02/26/19 09:34

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Instrument ID: CMSX Analysis Batch Number: 559821

Lab Sample ID: WDM 680-559821/2 Client Sample ID:

Date Analyzed: 02/27/19 14:53 Lab File ID: xb2703.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	21.77	Peak assignment corrected	davisn	02/27/19 15:23

Lab Sample ID: CCVIS 680-559821/3 Client Sample ID:

Date Analyzed: 02/27/19 15:23 Lab File ID: xb2704.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	21.77	Peak assignment corrected	davisn	02/27/19 15:52
Decachlorobiphenyl-13C12	21.77	Peak assignment corrected	davisn	02/27/19 15:52

Lab Sample ID: LCS 680-559624/4-A Client Sample ID:

Date Analyzed: 02/27/19 16:49 Lab File ID: xb2707.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.63	Peak assignment corrected	davisn	02/28/19 08:57

Lab Sample ID: LCSD 680-559624/5-A Client Sample ID:

Date Analyzed: 02/27/19 17:18 Lab File ID: xb2708.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.63	Peak assignment corrected	davisn	02/28/19 08:58
DCB Decachlorobiphenyl	21.77	Peak assignment corrected	davisn	02/28/19 08:59
Decachlorobiphenyl-13C12	21.77	Peak assignment corrected	davisn	02/28/19 08:59

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Instrument ID: CMSX Analysis Batch Number: 559821

Lab Sample ID: 680-164605-6 RE Client Sample ID: MRC-SW9A-S-021419-T RE

Date Analyzed: 02/27/19 18:15 Lab File ID: xb2710.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Monochlorobiphenyl		Unspecified		

Lab Sample ID: CCV 680-559821/13 Client Sample ID:

Date Analyzed: 02/27/19 20:09 Lab File ID: xb2714.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	21.77	Peak assignment corrected	davisn	02/28/19 09:05
Decachlorobiphenyl-13C12	21.77	Peak assignment corrected	davisn	02/28/19 09:05

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
680cal3ICV_00054	10/13/19	10/13/18	Hexane, Lot K29E01	2 mL	SM-680istd_00045	60 uL	Chrysene-d12	0.75 ug/mL
							Phenanthrene-d10	0.75 ug/mL
.SM-680istd_00045	10/13/19	10/13/18	Hexane, Lot 135581	10 mL	Chrys-12_00030	125 uL	Chrysene-d12	25 ug/mL
					Phenan-d10_00038	250 uL	Phenanthrene-d10	25 ug/mL
..Chrys-12_00030	10/13/19	ultra, Lot cs-2540			(Purchased Reagent)		Chrysene-d12	2000 ug/mL
..Phenan-d10_00038	10/13/19	ultra, Lot CM-4742			(Purchased Reagent)		Phenanthrene-d10	1000 ug/mL
680cal3ICV_00054	10/13/19	10/13/18	Hexane, Lot K29E01	2 mL	680conCALa_00037	40 uL	DCB Decachlorobiphenyl	5 ug/mL
							Heptachlorobiphenyl	3 ug/mL
							Hexachlorobiphenyl	2 ug/mL
							Monochlorobiphenyl	1 ug/mL
							Octachlorobiphenyl	3 ug/mL
							Total Dichlorobiphenyls	1 ug/mL
							Total Pentachlorobiphenyls	2 ug/mL
							Total Tetrachlorobiphenyls	2 ug/mL
							Total Trichlorobiphenyls	1 ug/mL
					DB(680)SUR_00339	250 uL	Decachlorobiphenyl-13C12	5 ug/mL
					PCB RTmixa_00030	40 uL	Nonachlorobiphenyl	4 ug/mL
.680conCALa_00037	10/13/19	AccuStandard, Lot 215031273			(Purchased Reagent)		DCB Decachlorobiphenyl	250 ug/mL
							Heptachlorobiphenyl	150 ug/mL
							Hexachlorobiphenyl	100 ug/mL
							Monochlorobiphenyl	50 ug/mL
							Octachlorobiphenyl	150 ug/mL
							Total Dichlorobiphenyls	50 ug/mL
							Total Pentachlorobiphenyls	100 ug/mL
							Total Tetrachlorobiphenyls	100 ug/mL
							Total Trichlorobiphenyls	50 ug/mL
.DB(680)SUR_00339	10/13/19	Cambridge, Lot SDFB-007			(Purchased Reagent)		Decachlorobiphenyl-13C12	40 ug/mL
.PCB RTmixa_00030	10/13/19	AccuStandard, Lot 215031484			(Purchased Reagent)		Nonachlorobiphenyl	200 ug/mL
680isomerCal1_00021	02/28/19	10/13/18	Hexane, Lot 00207	2 mL	680conCAL_00154	4 uL	DCB Decachlorobiphenyl	0.5 ug/mL
							Heptachlorobiphenyl	0.3 ug/mL
							Hexachlorobiphenyl	0.2 ug/mL
							Monochlorobiphenyl	0.1 ug/mL
							Octachlorobiphenyl	0.3 ug/mL
							Total Dichlorobiphenyls	0.1 ug/mL
							Total Pentachlorobiphenyls	0.2 ug/mL
							Total Tetrachlorobiphenyls	0.2 ug/mL
							Total Trichlorobiphenyls	0.1 ug/mL
					DB(680)SUR_00339	25 uL	Decachlorobiphenyl-13C12	0.5 ug/mL
					SM-680istd_00045	60 uL	Chrysene-d12	0.75 ug/mL
							Phenanthrene-d10	0.75 ug/mL
.680conCAL_00154	10/13/19	ULTRA, Lot CM-5140			(Purchased Reagent)		DCB Decachlorobiphenyl	250 ug/mL
							Heptachlorobiphenyl	150 ug/mL
							Hexachlorobiphenyl	100 ug/mL
							Monochlorobiphenyl	50 ug/mL
							Octachlorobiphenyl	150 ug/mL
							Total Dichlorobiphenyls	50 ug/mL
							Total Pentachlorobiphenyls	100 ug/mL

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Total Tetrachlorobiphenyls	100 ug/mL
							Total Trichlorobiphenyls	50 ug/mL
.DB(680)SUR_00339	10/13/19		Cambridge, Lot SDFB-007		(Purchased Reagent)		Decachlorobiphenyl-13C12	40 ug/mL
.SM-680istd_00045	10/13/19	10/13/18	Hexane, Lot 135581	10 mL	Chrys-12_00030	125 uL	Chrysene-d12	25 ug/mL
					Phenan-d10_00038	250 uL	Phenanthrene-d10	25 ug/mL
..Chrys-12_00030	10/13/19		ultra, Lot cs-2540		(Purchased Reagent)		Chrysene-d12	2000 ug/mL
..Phenan-d10_00038	10/13/19		ultra, Lot CM-4742		(Purchased Reagent)		Phenanthrene-d10	1000 ug/mL
680isomerCal2_00019	02/28/19	10/13/18	Hexane, Lot 00207	2 mL	680conCAL_00154	20 uL	DCB Decachlorobiphenyl	2.5 ug/mL
							Heptachlorobiphenyl	1.5 ug/mL
							Hexachlorobiphenyl	1 ug/mL
							Monochlorobiphenyl	0.5 ug/mL
							Octachlorobiphenyl	1.5 ug/mL
							Total Dichlorobiphenyls	0.5 ug/mL
							Total Pentachlorobiphenyls	1 ug/mL
							Total Tetrachlorobiphenyls	1 ug/mL
							Total Trichlorobiphenyls	0.5 ug/mL
					DB(680)SUR_00339	125 uL	Decachlorobiphenyl-13C12	2.5 ug/mL
					SM-680istd_00045	60 uL	Chrysene-d12	0.75 ug/mL
							Phenanthrene-d10	0.75 ug/mL
.680conCAL_00154	10/13/19		ULTRA, Lot CM-5140		(Purchased Reagent)		DCB Decachlorobiphenyl	250 ug/mL
							Heptachlorobiphenyl	150 ug/mL
							Hexachlorobiphenyl	100 ug/mL
							Monochlorobiphenyl	50 ug/mL
							Octachlorobiphenyl	150 ug/mL
							Total Dichlorobiphenyls	50 ug/mL
							Total Pentachlorobiphenyls	100 ug/mL
							Total Tetrachlorobiphenyls	100 ug/mL
							Total Trichlorobiphenyls	50 ug/mL
.DB(680)SUR_00339	10/13/19		Cambridge, Lot SDFB-007		(Purchased Reagent)		Decachlorobiphenyl-13C12	40 ug/mL
.SM-680istd_00045	10/13/19	10/13/18	Hexane, Lot 135581	10 mL	Chrys-12_00030	125 uL	Chrysene-d12	25 ug/mL
					Phenan-d10_00038	250 uL	Phenanthrene-d10	25 ug/mL
..Chrys-12_00030	10/13/19		ultra, Lot cs-2540		(Purchased Reagent)		Chrysene-d12	2000 ug/mL
..Phenan-d10_00038	10/13/19		ultra, Lot CM-4742		(Purchased Reagent)		Phenanthrene-d10	1000 ug/mL
680isomerCal3_00045	02/28/19	01/08/19	Hexane, Lot 00207	2 mL	680conCAL_00154	40 uL	DCB Decachlorobiphenyl	5 ug/mL
							Heptachlorobiphenyl	3 ug/mL
							Hexachlorobiphenyl	2 ug/mL
							Monochlorobiphenyl	1 ug/mL
							Octachlorobiphenyl	3 ug/mL
							Total Dichlorobiphenyls	1 ug/mL
							Total Pentachlorobiphenyls	2 ug/mL
							Total Tetrachlorobiphenyls	2 ug/mL
							Total Trichlorobiphenyls	1 ug/mL
					DB(680)SUR_00358	250 uL	Decachlorobiphenyl-13C12	5 ug/mL
					PCB RTmix_00013	40 uL	Nonachlorobiphenyl	4 ug/mL
							PCB-104	2 ug/mL
							PCB-208	4 ug/mL
							PCB-77	2 ug/mL

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					SM-680istd_00045	60 uL	Chrysene-d12	0.75 ug/mL
							Phenanthrene-d10	0.75 ug/mL
.680conCAL_00154	10/13/19		ULTRA, Lot CM-5140		(Purchased Reagent)		DCB Decachlorobiphenyl	250 ug/mL
							Heptachlorobiphenyl	150 ug/mL
							Hexachlorobiphenyl	100 ug/mL
							Monochlorobiphenyl	50 ug/mL
							Octachlorobiphenyl	150 ug/mL
							Total Dichlorobiphenyls	50 ug/mL
							Total Pentachlorobiphenyls	100 ug/mL
							Total Tetrachlorobiphenyls	100 ug/mL
							Total Trichlorobiphenyls	50 ug/mL
.DB(680)SUR_00358	01/08/20		Cambridge, Lot SDgf-025		(Purchased Reagent)		Decachlorobiphenyl-13C12	40 ug/mL
.PCB RTmix_00013	02/28/19		Ultra Scientific, Lot cm-0434		(Purchased Reagent)		Nonachlorobiphenyl	200 ug/mL
							PCB-104	100 ug/mL
							PCB-208	200 ug/mL
							PCB-77	100 ug/mL
.SM-680istd_00045	10/13/19	10/13/18	Hexane, Lot 135581	10 mL	Chrys-12_00030	125 uL	Chrysene-d12	25 ug/mL
					Phenan-d10_00038	250 uL	Phenanthrene-d10	25 ug/mL
..Chrys-12_00030	10/13/19		ultra, Lot cs-2540		(Purchased Reagent)		Chrysene-d12	2000 ug/mL
..Phenan-d10_00038	10/13/19		ultra, Lot CM-4742		(Purchased Reagent)		Phenanthrene-d10	1000 ug/mL
680isomerCal4_00019	02/28/19	10/13/18	Hexane, Lot 00207	2 mL	680conCAL_00154	80 uL	DCB Decachlorobiphenyl	10 ug/mL
							Heptachlorobiphenyl	6 ug/mL
							Hexachlorobiphenyl	4 ug/mL
							Monochlorobiphenyl	2 ug/mL
							Octachlorobiphenyl	6 ug/mL
							Total Dichlorobiphenyls	2 ug/mL
							Total Pentachlorobiphenyls	4 ug/mL
							Total Tetrachlorobiphenyls	4 ug/mL
							Total Trichlorobiphenyls	2 ug/mL
					DB(680)SUR_00339	500 uL	Decachlorobiphenyl-13C12	10 ug/mL
					SM-680istd_00045	60 uL	Chrysene-d12	0.75 ug/mL
							Phenanthrene-d10	0.75 ug/mL
.680conCAL_00154	10/13/19		ULTRA, Lot CM-5140		(Purchased Reagent)		DCB Decachlorobiphenyl	250 ug/mL
							Heptachlorobiphenyl	150 ug/mL
							Hexachlorobiphenyl	100 ug/mL
							Monochlorobiphenyl	50 ug/mL
							Octachlorobiphenyl	150 ug/mL
							Total Dichlorobiphenyls	50 ug/mL
							Total Pentachlorobiphenyls	100 ug/mL
							Total Tetrachlorobiphenyls	100 ug/mL
							Total Trichlorobiphenyls	50 ug/mL
.DB(680)SUR_00339	10/13/19		Cambridge, Lot SDFB-007		(Purchased Reagent)		Decachlorobiphenyl-13C12	40 ug/mL
.SM-680istd_00045	10/13/19	10/13/18	Hexane, Lot 135581	10 mL	Chrys-12_00030	125 uL	Chrysene-d12	25 ug/mL
					Phenan-d10_00038	250 uL	Phenanthrene-d10	25 ug/mL
..Chrys-12_00030	10/13/19		ultra, Lot cs-2540		(Purchased Reagent)		Chrysene-d12	2000 ug/mL
..Phenan-d10_00038	10/13/19		ultra, Lot CM-4742		(Purchased Reagent)		Phenanthrene-d10	1000 ug/mL
680isomerCal5_00020	02/28/19	10/13/18	Hexane, Lot 00207	2 mL	680conCAL_00154	200 uL	DCB Decachlorobiphenyl	25 ug/mL

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Heptachlorobiphenyl	15 ug/mL
							Hexachlorobiphenyl	10 ug/mL
							Monochlorobiphenyl	5 ug/mL
							Octachlorobiphenyl	15 ug/mL
							Total Dichlorobiphenyls	5 ug/mL
							Total Pentachlorobiphenyls	10 ug/mL
							Total Tetrachlorobiphenyls	10 ug/mL
							Total Trichlorobiphenyls	5 ug/mL
					DB(680)SUR_00339	1000 uL	Decachlorobiphenyl-13C12	20 ug/mL
					SM-680istd_00045	60 uL	Chrysene-d12	0.75 ug/mL
							Phenanthrene-d10	0.75 ug/mL
.680conCAL_00154	10/13/19		ULTRA, Lot CM-5140		(Purchased Reagent)		DCB Decachlorobiphenyl	250 ug/mL
							Heptachlorobiphenyl	150 ug/mL
							Hexachlorobiphenyl	100 ug/mL
							Monochlorobiphenyl	50 ug/mL
							Octachlorobiphenyl	150 ug/mL
							Total Dichlorobiphenyls	50 ug/mL
							Total Pentachlorobiphenyls	100 ug/mL
							Total Tetrachlorobiphenyls	100 ug/mL
							Total Trichlorobiphenyls	50 ug/mL
.DB(680)SUR_00339	10/13/19		Cambridge, Lot SDFB-007		(Purchased Reagent)		Decachlorobiphenyl-13C12	40 ug/mL
.SM-680istd_00045	10/13/19	10/13/18	Hexane, Lot 135581	10 mL	Chrys-12_00030	125 uL	Chrysene-d12	25 ug/mL
					Phenan-d10_00038	250 uL	Phenanthrene-d10	25 ug/mL
..Chrys-12_00030	10/13/19		ultra, Lot cs-2540		(Purchased Reagent)		Chrysene-d12	2000 ug/mL
..Phenan-d10_00038	10/13/19		ultra, Lot CM-4742		(Purchased Reagent)		Phenanthrene-d10	1000 ug/mL
680isomerCal5_00021	10/13/19	01/08/19	Hexane, Lot 00207	2 mL	680conCAL_00154	200 uL	DCB Decachlorobiphenyl	25 ug/mL
							Heptachlorobiphenyl	15 ug/mL
							Hexachlorobiphenyl	10 ug/mL
							Monochlorobiphenyl	5 ug/mL
							Octachlorobiphenyl	15 ug/mL
							Total Dichlorobiphenyls	5 ug/mL
							Total Pentachlorobiphenyls	10 ug/mL
							Total Tetrachlorobiphenyls	10 ug/mL
							Total Trichlorobiphenyls	5 ug/mL
					DB(680)SUR_00358	1000 uL	Decachlorobiphenyl-13C12	20 ug/mL
					SM-680istd_00045	60 uL	Chrysene-d12	0.75 ug/mL
							Phenanthrene-d10	0.75 ug/mL
.680conCAL_00154	10/13/19		ULTRA, Lot CM-5140		(Purchased Reagent)		DCB Decachlorobiphenyl	250 ug/mL
							Heptachlorobiphenyl	150 ug/mL
							Hexachlorobiphenyl	100 ug/mL
							Monochlorobiphenyl	50 ug/mL
							Octachlorobiphenyl	150 ug/mL
							Total Dichlorobiphenyls	50 ug/mL
							Total Pentachlorobiphenyls	100 ug/mL
							Total Tetrachlorobiphenyls	100 ug/mL
							Total Trichlorobiphenyls	50 ug/mL
.DB(680)SUR_00358	01/08/20		Cambridge, Lot SDgf-025		(Purchased Reagent)		Decachlorobiphenyl-13C12	40 ug/mL

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.SM-680istd_00045	10/13/19	10/13/18	Hexane, Lot 135581	10 mL	Chrys-12_00030	125 uL	Chrysene-d12	25 ug/mL
					Phenan-d10_00038	250 uL	Phenanthrene-d10	25 ug/mL
..Chrys-12_00030	10/13/19		ultra, Lot cs-2540		(Purchased Reagent)		Chrysene-d12	2000 ug/mL
..Phenan-d10_00038	10/13/19		ultra, Lot CM-4742		(Purchased Reagent)		Phenanthrene-d10	1000 ug/mL
680isomerCal6_00002	02/28/19	10/13/18	Hexane, Lot 00207	2 mL	680conCAL_00154	2 uL	DCB Decachlorobiphenyl	0.25 ug/mL
							Heptachlorobiphenyl	0.15 ug/mL
							Hexachlorobiphenyl	0.1 ug/mL
							Monochlorobiphenyl	0.05 ug/mL
							Octachlorobiphenyl	0.15 ug/mL
							Total Dichlorobiphenyls	0.05 ug/mL
							Total Pentachlorobiphenyls	0.1 ug/mL
							Total Tetrachlorobiphenyls	0.1 ug/mL
							Total Trichlorobiphenyls	0.05 ug/mL
					DB(680)SUR_00339	12.5 uL	Decachlorobiphenyl-13C12	0.25 ug/mL
					SM-680istd_00045	60 uL	Chrysene-d12	0.75 ug/mL
							Phenanthrene-d10	0.75 ug/mL
.680conCAL_00154	10/13/19		ULTRA, Lot CM-5140		(Purchased Reagent)		DCB Decachlorobiphenyl	250 ug/mL
							Heptachlorobiphenyl	150 ug/mL
							Hexachlorobiphenyl	100 ug/mL
							Monochlorobiphenyl	50 ug/mL
							Octachlorobiphenyl	150 ug/mL
							Total Dichlorobiphenyls	50 ug/mL
							Total Pentachlorobiphenyls	100 ug/mL
							Total Tetrachlorobiphenyls	100 ug/mL
							Total Trichlorobiphenyls	50 ug/mL
.DB(680)SUR_00339	10/13/19		Cambridge, Lot SDFB-007		(Purchased Reagent)		Decachlorobiphenyl-13C12	40 ug/mL
.SM-680istd_00045	10/13/19	10/13/18	Hexane, Lot 135581	10 mL	Chrys-12_00030	125 uL	Chrysene-d12	25 ug/mL
					Phenan-d10_00038	250 uL	Phenanthrene-d10	25 ug/mL
..Chrys-12_00030	10/13/19		ultra, Lot cs-2540		(Purchased Reagent)		Chrysene-d12	2000 ug/mL
..Phenan-d10_00038	10/13/19		ultra, Lot CM-4742		(Purchased Reagent)		Phenanthrene-d10	1000 ug/mL
680wkSPIKE_00120	04/17/19	01/17/19	ACETONE, Lot 5707478	10 mL	680conCAL_00147	400 uL	DCB Decachlorobiphenyl	10 ug/mL
							Heptachlorobiphenyl	6 ug/mL
							Hexachlorobiphenyl	4 ug/mL
							Monochlorobiphenyl	2 ug/mL
							Octachlorobiphenyl	6 ug/mL
							Total Dichlorobiphenyls	2 ug/mL
							Total Pentachlorobiphenyls	4 ug/mL
							Total Tetrachlorobiphenyls	4 ug/mL
							Total Trichlorobiphenyls	2 ug/mL
					EX-NONA(208)_00069	1 mL	Nonachlorobiphenyl	10 ug/mL
							Nonachlorobiphenyl range	10 ug/mL
							PCB-208	10 ug/mL
.680conCAL_00147	10/31/19		ULTRA, Lot CM-5140		(Purchased Reagent)		DCB Decachlorobiphenyl	250 ug/mL
							Heptachlorobiphenyl	150 ug/mL
							Hexachlorobiphenyl	100 ug/mL
							Monochlorobiphenyl	50 ug/mL
							Octachlorobiphenyl	150 ug/mL

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Total Dichlorobiphenyls	50 ug/mL
							Total Pentachlorobiphenyls	100 ug/mL
							Total Tetrachlorobiphenyls	100 ug/mL
							Total Trichlorobiphenyls	50 ug/mL
.EX-NONA(208)_00069	04/17/19		ULTRA, Lot CP-5808		(Purchased Reagent)		Nonachlorobiphenyl	100 ug/mL
							Nonachlorobiphenyl range	100 ug/mL
							PCB-208	100 ug/mL
680wkSPIKE_00121	04/17/19	02/25/19	ACETONE, Lot 5707478	10 mL	680conCAL_00147	400 uL	DCB Decachlorobiphenyl	10 ug/mL
							Heptachlorobiphenyl	6 ug/mL
							Hexachlorobiphenyl	4 ug/mL
							Monochlorobiphenyl	2 ug/mL
							Octachlorobiphenyl	6 ug/mL
							Total Dichlorobiphenyls	2 ug/mL
							Total Pentachlorobiphenyls	4 ug/mL
							Total Tetrachlorobiphenyls	4 ug/mL
							Total Trichlorobiphenyls	2 ug/mL
					EX-NONA(208)_00069	1 mL	Nonachlorobiphenyl	10 ug/mL
							Nonachlorobiphenyl range	10 ug/mL
							PCB-208	10 ug/mL
.680conCAL_00147	10/31/19		ULTRA, Lot CM-5140		(Purchased Reagent)		DCB Decachlorobiphenyl	250 ug/mL
							Heptachlorobiphenyl	150 ug/mL
							Hexachlorobiphenyl	100 ug/mL
							Monochlorobiphenyl	50 ug/mL
							Octachlorobiphenyl	150 ug/mL
							Total Dichlorobiphenyls	50 ug/mL
							Total Pentachlorobiphenyls	100 ug/mL
							Total Tetrachlorobiphenyls	100 ug/mL
							Total Trichlorobiphenyls	50 ug/mL
.EX-NONA(208)_00069	04/17/19		ULTRA, Lot CP-5808		(Purchased Reagent)		Nonachlorobiphenyl	100 ug/mL
							Nonachlorobiphenyl range	100 ug/mL
							PCB-208	100 ug/mL
680wkSURR-NEW_00034	03/03/19	12/27/18	ACETONE, Lot 5315641	50 mL	DB(680)SUR_00356	125 uL	Decachlorobiphenyl-13C12	2.5 ug/mL
					DB(680)SUR_00357	3 mL	Decachlorobiphenyl-13C12	2.5 ug/mL
.DB(680)SUR_00356	03/03/19		Cambridge, Lot SDGF-025		(Purchased Reagent)		Decachlorobiphenyl-13C12	40 ug/mL
.DB(680)SUR_00357	03/27/19		Cambridge, Lot SDGF-025		(Purchased Reagent)		Decachlorobiphenyl-13C12	40 ug/mL
680wkSURR-NEW_00035	05/18/19	02/18/19	ACETONE, Lot 5315641	50 mL	DB(680)SUR_00359	3 mL	Decachlorobiphenyl-13C12	2.5 ug/mL
					DB(680)SUR_00360	125 uL	Decachlorobiphenyl-13C12	2.5 ug/mL
.DB(680)SUR_00359	08/18/19		Cambridge, Lot SDGF-025		(Purchased Reagent)		Decachlorobiphenyl-13C12	40 ug/mL
.DB(680)SUR_00360	08/18/19		Cambridge, Lot SDGF-025		(Purchased Reagent)		Decachlorobiphenyl-13C12	40 ug/mL
SM-680istd_00045	10/13/19	10/13/18	Hexane, Lot 135581	10 mL	Chrys-12_00030	125 uL	Chrysene-d12	25 ug/mL
					Phenan-d10_00038	250 uL	Phenanthrene-d10	25 ug/mL
.Chrys-12_00030	10/13/19		ultra, Lot cs-2540		(Purchased Reagent)		Chrysene-d12	2000 ug/mL
.Phenan-d10_00038	10/13/19		ultra, Lot CM-4742		(Purchased Reagent)		Phenanthrene-d10	1000 ug/mL
SM680dftpp_00038							Polychlorinated biphenyls, Total	
					8270TUNE_00216	50 uL	DFTPP	10 ug/mL

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.8270TUNE_00216	02/28/19	restek, Lot a0138460			(Purchased Reagent)		DFTPP	1000 ug/mL
SM680WDM_00031	10/13/19	10/13/18	Hexane, Lot EX HEXANE00007	10 mL	PCB Elut_00103	100 uL	DCB Decachlorobiphenyl	1 ug/mL
.PCB Elut_00103	09/21/18	ULTRA SCIENTIFIC, Lot cr-2703			(Purchased Reagent)		DCB Decachlorobiphenyl	100 ug/mL

Reagent

680conCAL_00147

Certificate of Analysis

ULTRA SCIENTIFIC
Analytical Solutions

Concentration Calibration Standard Mixture

Product Number: CB-681MN **Page:** 1 of 1

Lot Number: CM-5140 **Lot Issue Date:** 29-Sep-2015 **Expiration Date:** 31-Oct-2019

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
2-chlorobiphenyl (BZ # 1)	002051-60-7	RM00451	50.2 ± 0.3 µg/mL
2,3-dichlorobiphenyl (BZ # 5)	016605-91-7	NT00011	50.0 ± 0.3 µg/mL
2,4,5-trichlorobiphenyl (BZ # 29)	015862-07-4	RM07168	50.2 ± 0.3 µg/mL
2,2',4,6-tetrachlorobiphenyl (BZ # 50)	062796-65-0	NT00017	100.4 ± 0.5 µg/mL
2,2',3,4,5'-pentachlorobiphenyl (BZ # 87)	038380-02-8	NT00062	99.7 ± 0.5 µg/mL
2,2',4,4',5,6'-hexachlorobiphenyl (BZ # 154)	060145-22-4	NT00031	99.8 ± 0.5 µg/mL
2,2',3,4',5,6,6'-heptachlorobiphenyl (BZ # 188)	074487-85-7	NT00067	150.5 ± 0.8 µg/mL
2,2',3,3',4,5',6,6'-octachlorobiphenyl (BZ # 200)	040186-71-8	RM00694	150.7 ± 0.8 µg/mL
decachlorobiphenyl (BZ # 209)	002051-24-3	RM01256	251.0 ± 1.3 µg/mL

Matrix: hexane

Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

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William J. Leary
Quality Assurance Manager

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Reagent

680conCAL_00154

Certificate of Analysis

ULTRA SCIENTIFIC
Analytical Solutions

Concentration Calibration Standard Mixture

Product Number: CB-681MN **Page:** 1 of 1

Lot Number: CM-5140 **Lot Issue Date:** 29-Sep-2015 **Expiration Date:** 31-Oct-2019

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
2-chlorobiphenyl (BZ # 1)	002051-60-7	RM00451	50.2 ± 0.3 µg/mL
2,3-dichlorobiphenyl (BZ # 5)	016605-91-7	NT00011	50.0 ± 0.3 µg/mL
2,4,5-trichlorobiphenyl (BZ # 29)	015862-07-4	RM07168	50.2 ± 0.3 µg/mL
2,2',4,6-tetrachlorobiphenyl (BZ # 50)	062796-65-0	NT00017	100.4 ± 0.5 µg/mL
2,2',3,4,5'-pentachlorobiphenyl (BZ # 87)	038380-02-8	NT00062	99.7 ± 0.5 µg/mL
2,2',4,4',5,6'-hexachlorobiphenyl (BZ # 154)	060145-22-4	NT00031	99.8 ± 0.5 µg/mL
2,2',3,4',5,6,6'-heptachlorobiphenyl (BZ # 188)	074487-85-7	NT00067	150.5 ± 0.8 µg/mL
2,2',3,3',4,5',6,6'-octachlorobiphenyl (BZ # 200)	040186-71-8	RM00694	150.7 ± 0.8 µg/mL
decachlorobiphenyl (BZ # 209)	002051-24-3	RM01256	251.0 ± 1.3 µg/mL

Matrix: hexane

Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

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Quality Assurance Manager

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Reagent

8270TUNE_00216

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31615 **Lot No.:** A0138460

Description : GC/MS Tuning Mixture

GC/MS Tuning Mixture 1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2021 **Storage:** 10°C or colder

Handling: Contains carcinogen/reproductive toxin.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Pentachlorophenol	1,005.5 µg/mL	+/- 5.9007 µg/mL	Gravimetric
	CAS # 87-86-5 (Lot 170717KJA)		+/- 45.7988 µg/mL	Unstressed
	Purity 99%		+/- 66.1273 µg/mL	Stressed
2	DFTPP (Decafluorotriphenylphosphine)	1,005.4 µg/mL	+/- 5.9003 µg/mL	Gravimetric
	CAS # 5074-71-5 (Lot Q15B005)		+/- 45.7952 µg/mL	Unstressed
	Purity 99%		+/- 66.1220 µg/mL	Stressed
3	Benzidine	1,006.5 µg/mL	+/- 5.9068 µg/mL	Gravimetric
	CAS # 92-87-5 (Lot 180406JNA)		+/- 45.8462 µg/mL	Unstressed
	Purity 99%		+/- 66.1957 µg/mL	Stressed
4	4,4'-DDT	1,005.4 µg/mL	+/- 5.9000 µg/mL	Gravimetric
	CAS # 50-29-3 (Lot S37912V)		+/- 45.7934 µg/mL	Unstressed
	Purity 99%		+/- 66.1194 µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

Chrys-12_00030

Certificate of Analysis

Agilent

Chrysene-d12 Solution

Product Number: ATS-120 **Page:** 1 of 1

Lot Number: CS-2540 **Lot Issue Date:** 11-May-2018 **Expiration Date:** 30-Jun-2022

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
chrysene-d12	001719-03-5	RM11825	2006 ± 10 µg/mL

Matrix: methylene chloride (dichloromethane)

Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

ANAB ACCREDITED TESTING LABORATORY

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Reagent

DB(680)SUR_00339

Cambridge Isotope Laboratories, Inc.

Certificate of Analysis

Quality Standards:
ISO Guide 34 • ISO/IEC 17025 • ISO 13485 • cGMP

Product Description: DecaCB (PCB-209) ($^{13}C_{12}$, 99%)
Catalog Number: EC-1410-1.2 (1.2 mL size)
Catalog Number: EC-1410-3 (3 mL size)
Lot Number: SDFB-007
Solvent: n-Nonane
Volume per Ampoule: 1.2 mL or 3 mL
Storage Conditions: Store at room temperature, protect from light.
Intended Use: For laboratory use only.
Release Date: April 23, 2015
Expiration Date: April 23, 2025

Component	PCB #	Purity	Target Concentration (µg/mL)	Concentration by Gravimetry (µg/mL)	Analyzed Concentration ± Uncertainty, k=2 (µg/mL)
DecaCB ($^{13}C_{12}$, 99%)	209	99.9%	40 ± 2	40.2	39.6 ± 1.5

Notes:

- CB = chlorobiphenyl. Enriched isotope abundances are given as the atom percent.
- For more information regarding this numbering system see K. Ballschmiter and M. Zell, "Analysis of Polychlorinated Biphenyls by Capillary Gas Chromatography," Fresenius Z. Analytical Chemistry, 302, 20-31 (1980).
- Chemical Purity was determined using a Shimadzu GC-17A gas chromatograph with electron capture detection or a Hewlett Packard 5973 GC/MS system.
- The analyzed concentration was determined by comparison of the isotope-labeled solution to an equivalent, gravimetrically prepared, unlabeled standard.
- The uncertainty value reported for the concentration is the expanded uncertainty, coverage factor (k) = 2.
- The calculation and reporting of uncertainty conforms to the practices outlined in the Eurachem/CITAC Guide. "Quantifying Uncertainty in Analytical Measurement", Second Edition.

Cambridge Isotope Laboratories certifies that this product meets the concentration specification stated above. Volumetric measurements were made with Class A glassware. Gravimetry is traceable to the NIST through calibrated balances and certified, calibrated, standard weights. The calibrations are traceable to the NIST under Test No. 822/270236-04. The calibrations also meet specifications outlined in ISO 9001, ISO/IEC 17025, ANSI/NSCLZ540-1-1994, NCR Document 10CFR50 Appendix B, and applicable subdocuments. For further information see Daniel L. Bolt and Joel C. Bradley "The Preparation and Validation of Isotope Dilution Standards: A Case Study in PCBs", Reference Material for Environmental Analysis, Chap. 2, p. 15-23 (1997).

Authorized Signature: Thomas Dorsey
Quality Review

Product Description:	DecaCB (PCB-209) ($^{13}C_{12}$, 99%)
Catalog Number:	EC-1410-1.2 (1.2 mL size)
Catalog Number:	EC-1410-3 (3 mL size)
Lot Number:	SDFB-007
Solvent:	n-Nonane
Volume per Ampoule:	1.2 mL or 3 mL
Storage Conditions:	Store at room temperature, protect from light.
Intended Use:	For laboratory use only.
Release Date:	April 23, 2015
Expiration Date:	April 23, 2025

Component	PCB #	Purity	Target Concentration (µg/mL)	Concentration by Gravimetry (µg/mL)	Analyzed Concentration ± Uncertainty, k=2 (µg/mL)
DecaCB ($^{13}C_{12}$, 99%)	209	99.9%	40 ± 2	40.2	39.6 ± 1.5

Notes:

- CB = chlorobiphenyl. Enriched isotope abundances are given as the atom percent.
- For more information regarding this numbering system see K. Ballschmiter and M. Zell, "Analysis of Polychlorinated Biphenyls by Capillary Gas Chromatography," Fresenius Z. Analytical Chemistry, 302, 20-31 (1980).
- Chemical Purity was determined using a Shimadzu GC-17A gas chromatograph with electron capture detection or a Hewlett Packard 5973 GC/MS system.
- The analyzed concentration was determined by comparison of the isotope-labeled solution to an equivalent, gravimetrically prepared, unlabeled standard.
- The uncertainty value reported for the concentration is the expanded uncertainty, coverage factor (k) = 2.
- The calculation and reporting of uncertainty conforms to the practices outlined in the Eurachem/CITAC Guide. "Quantifying Uncertainty in Analytical Measurement", Second Edition.

Cambridge Isotope Laboratories certifies that this product meets the concentration specification stated above. Volumetric measurements were made with Class A glassware. Gravimetry is traceable to the NIST through calibrated balances and certified, calibrated, standard weights. The calibrations are traceable to the NIST under Test No. 822/270236-04. The calibrations also meet specifications outlined in ISO 9001, ISO/IEC 17025, ANSI/NSCLZ540-1-1994, NCR Document 10CFR50 Appendix B, and applicable subdocuments. For further information see Daniel L. Bolt and Joel C. Bradley "The Preparation and Validation of Isotope Dilution Standards: A Case Study in PCBs", Reference Material for Environmental Analysis, Chap. 2, p. 15-23 (1997).

Authorized Signature: Thomas Dorsey
Quality Review

Reagent

DB(680)SUR_00358

Cambridge Isotope Laboratories, Inc.

Certificate of Analysis

10/23

Product Description:	DecaCB (PCB-209) ($^{13}C_{12}$, 99%)
Catalog Number:	EC-1410-1.2 (1.2 mL size)
Catalog Number:	EC-1410-3 (3 mL size)
Lot Number:	SDGF-025
Solvent:	n-Nonane
Volume per Ampoule:	1.2 mL or 3 mL
Storage Conditions:	Store at room temperature away from light and moisture.
Intended Use:	For laboratory use only.
Release Date:	August 3, 2016
Expiration Date:	August 3, 2026

Component	PCB #	Purity	Target Concentration (µg/mL)	Concentration by Gravimetry ± Uncertainty, (k=2) (µg/mL)	Analyzed Concentration ± Uncertainty, (k=2) (µg/mL)
DecaCB ($^{13}C_{12}$, 99%)	209	99.9%	40.0	40.0 ± 0.4	40.4 ± 2.0

Notes:

- CB = chlorobiphenyl. Enriched isotope abundances are given as the atom percent.
- For more information regarding this numbering system see K. Ballschmiter and M. Zell, "Analysis of Polychlorinated Biphenyls by Capillary Gas Chromatography," Fresenius Z. Analytical Chemistry, 302, 20-31 (1980).
- Chemical Purity was determined using a Shimadzu GC-17A gas chromatograph with electron capture detection or a Hewlett Packard 5973 GC/MS system.
- The analyzed concentration was determined by comparison of the isotope-labeled solution to an equivalent, gravimetrically prepared, unlabeled standard.
- The uncertainty value reported for the concentration is the expanded uncertainty, coverage factor (k) = 2.
- The calculation and reporting of uncertainty conforms to the practices outlined in the Eurachem/CITAC Guide. "Quantifying Uncertainty in Analytical Measurement", Second Edition.

Cambridge Isotope Laboratories certifies that this product meets the concentration specification stated above. Volumetric measurements were made with Class A glassware. Gravimetry is traceable to the NIST through calibrated balances and certified, calibrated, standard weights. The calibrations are traceable to the NIST under Test No. 822/270236-04. The calibrations also meet specifications outlined in ISO 9001, ISO/IEC 17025, ANSI/NSCLZ540-1-1994, NCR Document 10CFR50 Appendix B, and applicable subdocuments. For further information see Daniel L. Bolt and Joel C. Bradley "The Preparation and Validation of Isotope Dilution Standards: A Case Study in PCBs", Reference Material for Environmental Analysis, Chap. 2, p. 15-23 (1997).

Authorized Signature: Sashi Sivendran-Basak

Quality Review

Reagent

PCB Elut_00103

Certificate of Analysis

PCB Elution Window Mixture

Product Number: RPCW-110 **Page:** 1 of 1

Lot Number: CR-2703 **Lot Issue Date:** 16-Jun-2017 **Expiration Date:** 31-Jul-2025

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
decachlorobiphenyl (BZ # 209)	002051-24-3	RM01256	100.0 ± 0.5 µg/mL

Matrix: hexane

Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

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Reagent

PCB RTmix_00013

Certificate of Analysis

Retention Time Calibration Standard Mixture

Product Number CB-682MN **Page:** 1 of 1

Lot Number: CM-0434 **Lot Issue Date:** 02-Feb-2015 **Expiration Date:** 28-Feb-2019

This certified Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
3,3',4,4'-tetrachlorobiphenyl (BZ # 77)	032598-13-3	RM09725	100.3 ± 0.5 µg/mL
2,2',4,6,6'-pentachlorobiphenyl (BZ # 104)	056558-16-8	NT00027	100.4 ± 0.5 µg/mL
2,2',3,3',4,5,5',6,6'-nonachlorobiphenyl (BZ # 208)	052663-77-1	RM00313	200.6 ± 1.0 µg/mL

Matrix: hexane

Storage: Store at Room Temperature (15-30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

ISO 9001
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TUV USA, Inc.

William J Leahy
Quality Assurance Manager

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Reagent

PCB RTmixa_00030

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CERTIFICATE OF ANALYSIS

Catalog No: M-680-RT
Description: Retention Time Calibration Standard
Lot: 215031484
Solvent: Hexane
Hazards: **HIGHLY FLAMMABLE** - *Refer to SDS for safety info*

Danger 2

Date Certified: Apr 6, 2015
Expiration: Apr 6, 2025
Sample Size: 1 mL
Components: 3
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
3,3',4,4'-Tetrachlorobiphenyl	32598-13-3	99.5	100.1	99.6
2,2',4,6,6'-Pentachlorobiphenyl	56558-16-8	99.1	100.5	99.6
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	52663-77-1	99.1	200.3	198.5

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. The CRM Uncertainty calculated for this product is ±5%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values:
A comma (,) is used to separate units of one-thousand or greater.
A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By: Larry Decker, Organic QC Manager

Page 1 of 1

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/INO-001
Rev. 7/11

CERTIFICATION REPORT

1. **Quality Documentation:** This certificate is designed in accordance with ISO Guide 31 (Reference Materials - Contents of Certificates and Labels) and ISO Guide 35 (Reference Materials – General and Statistical Principles for Certification).

2. **Quality Standards:**

   ISO Guide 34 - General Requirements for the Competence of Reference Material Producers ACLASS Certificate Number AR-1463

   AR-1463

   ISO/IEC 17025:2005 - General Requirements for the Competence of Testing and Calibration Laboratories ACLASS Certificate Number AT-1339

   AT-1339

   ISO 9001:2008 Quality Management System - Requirements Eagle Registrations Certificate Number 3774

3. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 11. If dilution is required, use only Class A glassware and diluent compatible with all certified analytes in this preparation. All solutions should be thoroughly mixed prior to use.

4. **Raw Materials:** Reference standards are prepared from the highest quality starting materials with defined purities. All analytes and solvents are obtained from pre-qualified vendors and then analyzed or evaluated prior to use.

5. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this CRM.

6. **Homogeneity Assessment:** Homogeneity of the finished product is assessed by analyzing sample batches or by other methods consistent with the intended use of the product and by procedures that comply with the appropriate Quality System requirements, and ISO Guide 35.

7. **Stability Assessment:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label. To ensure a uniform solution, mix the contents of the sealed container thoroughly prior to use. Care should be taken not to contaminate the contents of the original container.

8. **Analytical Quality Control:** Products are tested by validated analytical methods specified in the manufacturer's quality system.

9. **Uncertainty Statistics and Confidence Limits:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide (Quantifying Uncertainty in Analytical Measurement). We have evaluated both Type A (based on a series of observations) and Type B (manufacturers specifications and calibration data) factors and report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_{\mathrm{m}} = \sqrt{(u(\mathrm{P}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{V}))^2}$. The expanded uncertainty, U, assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level. Laboratories accredited to ISO/IEC 17025 and ISO Guide 34 are required to estimate uncertainty budgets associated with the measurements they make. However, for analysis, the certified value should be used as the actual value.

10. **Warranties:** The manufacturer warrants that its products shall conform to the description of such products as provided in its catalog or on the specific product label. This warranty is exclusive, and the manufacturer makes no other warranty, express or implied, including any implied warranty of merchantability or fitness for any particular purpose.

11. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. Due to the hazardous nature, only trained personnel should handle this product. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

Reagent

Phenan-d10_00038

Certificate of Analysis

Phenanthrene-d10 Solution

Product Number: IST-230 **Page:** 1 of 1

Lot Number: CM-4742 **Lot Issue Date:** 11-Sep-2015 **Expiration Date:** 31-Oct-2019

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
phenanthrene-d10	001517-22-2	RM09918	1004 ± 5 µg/mL

Matrix: methylene chloride (dichloromethane)

Storage: Store at Room Temperature (15-30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

ISO 9001
Registered
TUV USA, Inc.

William J. Leary
Quality Assurance Manager

250 SMITH STREET ▪ NORTH KINGSTOWN, RHODE ISLAND 02852 ▪ WWW.ULTRASCI.COM

Method 680

Polychlorinated Biphenyls (PCBs) (GC/MS) by Method 680

FORM II

PCBS SURROGATE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): HP-5MS ID: 0.25(mm)

Client Sample ID	Lab Sample ID	13CDCB #	
MRC-SW5A1-S-021419-T	680-164605-1	60	
MRC-SW5A2-S-021419-T	680-164605-2	59	
MRC-SW13A-S-021419-T	680-164605-3	31	
MRC-SW8B-S-021419-T	680-164605-4	36	
MRC-SW8A-S-021419-T	680-164605-5	53	
MRC-SW9A-S-021419-T	680-164605-6	20	X
MRC-SW9A-S-021419-T RE	680-164605-6 RE	69	
MRC-SW33-021419-T	680-164605-7	64	
MRC-SW40-021419-T	680-164605-8	68	
MRC-SW7A-S-021419-T	680-164605-9	60	
MRC-SW7A-S-021419-T-DUP	680-164605-10	56	
MRC-SW30-021419-T	680-164605-11	56	
MRC-SW15A-S-021419-T	680-164605-12	56	
EB-tube1-021419-T	680-164605-13	60	
EB-tube2-021419-T	680-164605-14	71	
MRC-SW32-021419-T	680-164605-15	64	
FB-SW-021419-T	680-164605-16	52	
MRC-SW31-021419-T	680-164605-17	50	
	MB 680-558724/18-A	64	
	MB 680-559624/3-A	65	
	LCS 680-558724/19-A	73	
	LCS 680-559624/4-A	82	
	LCSD 680-559624/5-A	85	
MRC-SW7A-S-021419-T MS	680-164605-9 MS	65	
MRC-SW7A-S-021419-T MSD	680-164605-9 MSD	61	

	QC LIMITS
13CDCB = Decachlorobiphenyl-13C12	25-113

Column to be used to flag recovery values

FORM II 680

FORM III

PCBS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Matrix: Water Level: Low Lab File ID: xb2006.D

Lab ID: LCS 680-558724/19-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Heptachlorobiphenyl	6.00	4.56	76	62-130	
Hexachlorobiphenyl	4.00	3.28	82	62-130	
Nonachlorobiphenyl	10.0	14.1	141	70-195	
Octachlorobiphenyl	6.00	4.96	83	64-130	
Monochlorobiphenyl	2.00	1.33	67	42-130	
DCB Decachlorobiphenyl	10.0	7.57	76	59-130	
Total Dichlorobiphenyls	2.00	1.43	71	49-130	
Total Pentachlorobiphenyls	4.00	3.27	82	63-130	
Total Tetrachlorobiphenyls	4.00	3.10	77	54-130	
Total Trichlorobiphenyls	2.00	1.52	76	51-130	

Column to be used to flag recovery and RPD values

FORM III 680

FORM III

PCBS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Matrix: Water Level: Low Lab File ID: xb2707.D

Lab ID: LCS 680-559624/4-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Heptachlorobiphenyl	6.00	4.59	77	62-130	
Hexachlorobiphenyl	4.00	3.25	81	62-130	
Nonachlorobiphenyl	10.0	15.2	152	70-195	
Octachlorobiphenyl	6.00	4.98	83	64-130	
Monochlorobiphenyl	2.00	1.29	65	42-130	
DCB Decachlorobiphenyl	10.0	8.61	86	59-130	
Total Dichlorobiphenyls	2.00	1.41	70	49-130	
Total Pentachlorobiphenyls	4.00	3.26	81	63-130	
Total Tetrachlorobiphenyls	4.00	2.94	74	54-130	
Total Trichlorobiphenyls	2.00	1.46	73	51-130	

Column to be used to flag recovery and RPD values

FORM III 680

FORM III

PCBS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Matrix: Water Level: Low Lab File ID: xb2708.D

Lab ID: LCSD 680-559624/5-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Heptachlorobiphenyl	6.00	4.93	82	7	40	62-130	
Hexachlorobiphenyl	4.00	3.53	88	8	40	62-130	
Nonachlorobiphenyl	10.0	16.1	161	6	40	70-195	
Octachlorobiphenyl	6.00	5.33	89	7	40	64-130	
Monochlorobiphenyl	2.00	1.43	71	10	40	42-130	
DCB Decachlorobiphenyl	10.0	9.10	91	5	40	59-130	
Total Dichlorobiphenyls	2.00	1.56	78	10	40	49-130	
Total Pentachlorobiphenyls	4.00	3.51	88	7	40	63-130	
Total Tetrachlorobiphenyls	4.00	3.25	81	10	40	54-130	
Total Trichlorobiphenyls	2.00	1.59	79	9	40	51-130	

Column to be used to flag recovery and RPD values

FORM III 680

FORM III

PCBS MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Matrix: Water Level: Low Lab File ID: xb2007.D

Lab ID: 680-164605-9 MS Client ID: MRC-SW7A-S-021419-T MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Heptachlorobiphenyl	5.86	ND	3.76	64	62-130	
Hexachlorobiphenyl	3.91	ND	2.67	68	62-130	
Nonachlorobiphenyl	9.77	ND	11.9	122	70-195	
Octachlorobiphenyl	5.86	ND	4.19	72	64-130	
Monochlorobiphenyl	1.95	ND	0.829	42	42-130	
DCB Decachlorobiphenyl	9.77	ND	6.46	66	59-130	
Total Dichlorobiphenyls	1.95	ND	0.965	49	49-130	
Total Pentachlorobiphenyls	3.91	ND	4.30	110	63-130	
Total Tetrachlorobiphenyls	3.91	ND	2.13	54	54-130	
Total Trichlorobiphenyls	1.95	ND	1.06	54	51-130	

Column to be used to flag recovery and RPD values

FORM III 680

FORM III

PCBS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Matrix: Water Level: Low Lab File ID: xb2008.D

Lab ID: 680-164605-9 MSD Client ID: MRC-SW7A-S-021419-T MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Heptachlorobiphenyl	5.80	3.46	60	8	40	62-130	F1
Hexachlorobiphenyl	3.87	2.44	63	9	40	62-130	
Nonachlorobiphenyl	9.67	11.4	118	4	40	70-195	
Octachlorobiphenyl	5.80	3.92	68	7	40	64-130	
Monochlorobiphenyl	1.93	0.726	38	13	40	42-130	F1
DCB Decachlorobiphenyl	9.67	6.19	64	4	40	59-130	
Total Dichlorobiphenyls	1.93	0.859	44	12	40	49-130	F1
Total Pentachlorobiphenyls	3.87	2.54	66	52	40	63-130	F2
Total Tetrachlorobiphenyls	3.87	1.91	49	11	40	54-130	F1
Total Trichlorobiphenyls	1.93	0.954	49	11	40	51-130	F1

Column to be used to flag recovery and RPD values

FORM III 680

FORM IV

PCBS METHOD BLANK SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Lab File ID: xb2005.D Lab Sample ID: MB 680-558724/18-A

Matrix: Water Date Extracted: 02/19/2019 13:42

Instrument ID: CMSX Date Analyzed: 02/20/2019 18:45

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 680-558724/19-A	xb2006.D	02/20/2019 19:13
MRC-SW7A-S-021419-T MS	680-164605-9 MS	xb2007.D	02/20/2019 19:42
MRC-SW7A-S-021419-T MSD	680-164605-9 MSD	xb2008.D	02/20/2019 20:10
MRC-SW5A1-S-021419-T	680-164605-1	xb2009.D	02/20/2019 20:39
MRC-SW5A2-S-021419-T	680-164605-2	xb2010.D	02/20/2019 21:07
MRC-SW13A-S-021419-T	680-164605-3	xb2011.D	02/20/2019 21:36
MRC-SW8B-S-021419-T	680-164605-4	xb2012.D	02/20/2019 22:04
MRC-SW8A-S-021419-T	680-164605-5	xb2013.D	02/20/2019 22:33
MRC-SW9A-S-021419-T	680-164605-6	xb2014.D	02/20/2019 23:02
MRC-SW33-021419-T	680-164605-7	xb2015.D	02/20/2019 23:30
MRC-SW40-021419-T	680-164605-8	xb2016.D	02/20/2019 23:59
MRC-SW7A-S-021419-T	680-164605-9	xb2017.D	02/21/2019 00:27
MRC-SW30-021419-T	680-164605-11	xb2019.D	02/21/2019 01:24
MRC-SW15A-S-021419-T	680-164605-12	xb2020.D	02/21/2019 01:53
EB-tube2-021419-T	680-164605-14	xb2022.D	02/21/2019 02:50
MRC-SW32-021419-T	680-164605-15	xb2023.D	02/21/2019 03:18
FB-SW-021419-T	680-164605-16	xb2024.D	02/21/2019 03:47
MRC-SW31-021419-T	680-164605-17	xb2025.D	02/21/2019 04:16
MRC-SW7A-S-021419-T-DUP	680-164605-10	xb2034.D	02/21/2019 08:38
EB-tube1-021419-T	680-164605-13	xb2035.D	02/21/2019 09:07

FORM IV

PCBS METHOD BLANK SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Lab File ID: xb2706.D Lab Sample ID: MB 680-559624/3-A

Matrix: Water Date Extracted: 02/26/2019 13:54

Instrument ID: CMSX Date Analyzed: 02/27/2019 16:20

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 680-559624/4-A	xb2707.D	02/27/2019 16:49
	LCSD 680-559624/5-A	xb2708.D	02/27/2019 17:18
MRC-SW9A-S-021419-T RE	680-164605-6 RE	xb2710.D	02/27/2019 18:15

FORM V

PCBS INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Lab File ID: xa0805.D DFTPP Injection Date: 01/08/2019

Instrument ID: CMSX DFTPP Injection Time: 14:10

Analysis Batch No.: 554469

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
127	40 - 60 % of mass 198	55.9
197	Less than 1 % of mass 198	1.0
198	Base peak, 100 % Relative abundance	100.0
199	5 - 9 % of mass 198	6.5
275	10 - 30% of mass 198	25.1
365	Greater than 1% of mass 198	3.8
441	Present but less than mass 443	13.7 (87.5) 2
442	Greater than 40% of mass 198	85.3
443	17 - 23% of mass 442	15.6 (18.3) 1

1-Value is % mass 442 2-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	ICISAV 680-554469/3	xa0807.D	01/08/2019	15:11
	IC 680-554469/5	xa0809.D	01/08/2019	16:08
	IC 680-554469/6	xa0810.D	01/08/2019	16:37
	IC 680-554469/27	xa0850.D	01/08/2019	17:05
	IC 680-554469/7	xa0811.D	01/08/2019	17:34
	IC 680-554469/8	xa0812.D	01/08/2019	18:02
	ICV 680-554469/9	xa0813.D	01/08/2019	18:31

FORM V

PCBS INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Lab File ID: xb2002.D DFTPP Injection Date: 02/20/2019

Instrument ID: CMSX DFTPP Injection Time: 17:15

Analysis Batch No.: 559058

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
127	40 - 60 % of mass 198	59.0
197	Less than 1 % of mass 198	0.7
198	Base peak, 100 % Relative abundance	100.0
199	5 - 9 % of mass 198	7.0
275	10 - 30% of mass 198	24.7
365	Greater than 1% of mass 198	3.8
441	Present but less than mass 443	13.5 (83.5) 2
442	Greater than 40% of mass 198	85.7
443	17 - 23% of mass 442	16.2 (18.9) 1

1-Value is % mass 442 2-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	WDM 680-559058/2	xb2003.D	02/20/2019	17:46
	CCVIS 680-559058/3	xb2004.D	02/20/2019	18:16
	MB 680-558724/18-A	xb2005.D	02/20/2019	18:45
	LCS 680-558724/19-A	xb2006.D	02/20/2019	19:13
MRC-SW7A-S-021419-T MS	680-164605-9 MS	xb2007.D	02/20/2019	19:42
MRC-SW7A-S-021419-T MSD	680-164605-9 MSD	xb2008.D	02/20/2019	20:10
MRC-SW5A1-S-021419-T	680-164605-1	xb2009.D	02/20/2019	20:39
MRC-SW5A2-S-021419-T	680-164605-2	xb2010.D	02/20/2019	21:07
MRC-SW13A-S-021419-T	680-164605-3	xb2011.D	02/20/2019	21:36
MRC-SW8B-S-021419-T	680-164605-4	xb2012.D	02/20/2019	22:04
MRC-SW8A-S-021419-T	680-164605-5	xb2013.D	02/20/2019	22:33
MRC-SW9A-S-021419-T	680-164605-6	xb2014.D	02/20/2019	23:02
MRC-SW33-021419-T	680-164605-7	xb2015.D	02/20/2019	23:30
MRC-SW40-021419-T	680-164605-8	xb2016.D	02/20/2019	23:59
MRC-SW7A-S-021419-T	680-164605-9	xb2017.D	02/21/2019	00:27
MRC-SW30-021419-T	680-164605-11	xb2019.D	02/21/2019	01:24
MRC-SW15A-S-021419-T	680-164605-12	xb2020.D	02/21/2019	01:53
EB-tube2-021419-T	680-164605-14	xb2022.D	02/21/2019	02:50
MRC-SW32-021419-T	680-164605-15	xb2023.D	02/21/2019	03:18
FB-SW-021419-T	680-164605-16	xb2024.D	02/21/2019	03:47
MRC-SW31-021419-T	680-164605-17	xb2025.D	02/21/2019	04:16
	CCV 680-559058/25	xb2026.D	02/21/2019	04:44

FORM V

PCBS INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Lab File ID: xb2028.D DFTPP Injection Date: 02/21/2019

Instrument ID: CMSX DFTPP Injection Time: 05:43

Analysis Batch No.: 559059

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
127	40 - 60 % of mass 198	59.5
197	Less than 1 % of mass 198	0.9
198	Base peak, 100 % Relative abundance	100.0
199	5 - 9 % of mass 198	6.2
275	10 - 30% of mass 198	28.0
365	Greater than 1% of mass 198	3.5
441	Present but less than mass 443	15.1 (86.3) 2
442	Greater than 40% of mass 198	96.2
443	17 - 23% of mass 442	17.5 (18.2) 1

1-Value is % mass 442 2-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	WDM 680-559059/2	xb2029.D	02/21/2019	06:14
	CCVIS 680-559059/3	xb2030.D	02/21/2019	06:44
MRC-SW7A-S-021419-T-DUP	680-164605-10	xb2034.D	02/21/2019	08:38
EB-tube1-021419-T	680-164605-13	xb2035.D	02/21/2019	09:07
	CCV 680-559059/21	xb2051.D	02/21/2019	16:43

FORM V

PCBS INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Lab File ID: xb2502.D DFTPP Injection Date: 02/25/2019

Instrument ID: CMSX DFTPP Injection Time: 11:57

Analysis Batch No.: 559536

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
127	40 - 60 % of mass 198	57.2
197	Less than 1 % of mass 198	0.6
198	Base peak, 100 % Relative abundance	100.0
199	5 - 9 % of mass 198	7.2
275	10 - 30% of mass 198	25.4
365	Greater than 1% of mass 198	3.9
441	Present but less than mass 443	12.6 (74.1) 2
442	Greater than 40% of mass 198	85.2
443	17 - 23% of mass 442	17.0 (20.0) 1

1-Value is % mass 442 2-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	ICISAV 680-559536/3	xb2504.D	02/25/2019	13:07
	IC 680-559536/4	xb2507.D	02/25/2019	14:04
	IC 680-559536/8	xb2508.D	02/25/2019	14:33
	IC 680-559536/9	xb2509.D	02/25/2019	15:02
	IC 680-559536/10	xb2510.D	02/25/2019	15:30
	IC 680-559536/11	xb2511.D	02/25/2019	15:59
	ICV 680-559536/12	xb2512.D	02/25/2019	16:27

FORM V

PCBS INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Lab File ID: xb2702.D DFTPP Injection Date: 02/27/2019

Instrument ID: CMSX DFTPP Injection Time: 14:22

Analysis Batch No.: 559821

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
127	40 - 60 % of mass 198	58.6
197	Less than 1 % of mass 198	1.0
198	Base peak, 100 % Relative abundance	100.0
199	5 - 9 % of mass 198	6.1
275	10 - 30% of mass 198	25.6
365	Greater than 1% of mass 198	3.1
441	Present but less than mass 443	14.7 (90.3) 2
442	Greater than 40% of mass 198	87.5
443	17 - 23% of mass 442	16.3 (18.6) 1

1-Value is % mass 442 2-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	WDM 680-559821/2	xb2703.D	02/27/2019	14:53
	CCVIS 680-559821/3	xb2704.D	02/27/2019	15:23
	MB 680-559624/3-A	xb2706.D	02/27/2019	16:20
	LCS 680-559624/4-A	xb2707.D	02/27/2019	16:49
	LCSD 680-559624/5-A	xb2708.D	02/27/2019	17:18
MRC-SW9A-S-021419-T RE	680-164605-6 RE	xb2710.D	02/27/2019	18:15
	CCV 680-559821/13	xb2714.D	02/27/2019	20:09

FORM VIII

PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Instrument ID: CMSX Calibration Start Date: 01/08/2019 15:11

GC Column: HP-5MS ID: 0.25(mm) Calibration End Date: 01/08/2019 18:02

Calibration ID: 63054

		PHN		CRY			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MEAN AREA AND MEAN RT		157039	12.41	141248	18.67		
UPPER LIMIT		235559	12.91	211872	19.17		
LOWER LIMIT		78520	11.91	70624	18.17		
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCVIS 680-559058/3		146684	12.41	128592	18.67		
MB 680-558724/18-A		153674	12.41	131750	18.67		
LCS 680-558724/19-A		145226	12.41	137759	18.67		
680-164605-9 MS	MRC-SW7A-S-021419-T MS	174301	12.41	196762*	18.67		
680-164605-9 MSD	MRC-SW7A-S-021419-T MSD	162822	12.41	193533*	18.67		
680-164605-1	MRC-SW5A1-S-021419-T	163991	12.41	186001*	18.67		
680-164605-2	MRC-SW5A2-S-021419-T	169416	12.41	195828*	18.67		
680-164605-3	MRC-SW13A-S-021419-T	154575	12.41	177708*	18.67		
680-164605-4	MRC-SW8B-S-021419-T	160766	12.41	188156*	18.67		
680-164605-5	MRC-SW8A-S-021419-T	166500	12.41	192092*	18.67		
680-164605-6	MRC-SW9A-S-021419-T	154340	12.41	176166*	18.67		
680-164605-7	MRC-SW33-021419-T	146344	12.41	144444	18.67		
680-164605-8	MRC-SW40-021419-T	155071	12.41	166894	18.67		
680-164605-9	MRC-SW7A-S-021419-T	167399	12.41	190320*	18.67		
680-164605-11	MRC-SW30-021419-T	158762	12.41	169561*	18.67		
680-164605-12	MRC-SW15A-S-021419-T	169897	12.41	200513*	18.67		
680-164605-14	EB-tube2-021419-T	163475	12.41	169969*	18.67		
680-164605-15	MRC-SW32-021419-T	161310	12.41	163756	18.67		
680-164605-16	FB-SW-021419-T	156590	12.41	150927	18.67		
680-164605-17	MRC-SW31-021419-T	159266	12.41	155580	18.67		
CCV 680-559058/25		175208	12.41	179773*	18.67		
CCVIS 680-559059/3		170892	12.41	169663	18.67		
680-164605-10	MRC-SW7A-S-021419-T-DUP	186606	12.41	208081	18.67		
680-164605-13	EB-tube1-021419-T	176447	12.41	195421	18.67		
CCV 680-559059/21		159076	12.41	142687	18.67		

PHN = Phenanthrene-d10
CRY = Chrysene-d12

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 680

FORM VIII

PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Sample No.: CCVIS 680-559058/3 Date Analyzed: 02/20/2019 18:16

Instrument ID: CMSX GC Column: HP-5MS ID: 0.25(mm)

Lab File ID (Standard): xb2004.D Heated Purge: (Y/N) N

Calibration ID: 63054

		PHN		CRY			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		146684	12.41	128592	18.67		
UPPER LIMIT		190689	12.91	167170	19.17		
LOWER LIMIT		102679	11.91	90014	18.17		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 680-558724/18-A		153674	12.41	131750	18.67		
LCS 680-558724/19-A		145226	12.41	137759	18.67		
680-164605-9 MS	MRC-SW7A-S-021419-T MS	174301	12.41	196762*	18.67		
680-164605-9 MSD	MRC-SW7A-S-021419-T MSD	162822	12.41	193533*	18.67		
680-164605-1	MRC-SW5A1-S-021419-T	163991	12.41	186001*	18.67		
680-164605-2	MRC-SW5A2-S-021419-T	169416	12.41	195828*	18.67		
680-164605-3	MRC-SW13A-S-021419-T	154575	12.41	177708*	18.67		
680-164605-4	MRC-SW8B-S-021419-T	160766	12.41	188156*	18.67		
680-164605-5	MRC-SW8A-S-021419-T	166500	12.41	192092*	18.67		
680-164605-6	MRC-SW9A-S-021419-T	154340	12.41	176166*	18.67		
680-164605-7	MRC-SW33-021419-T	146344	12.41	144444	18.67		
680-164605-8	MRC-SW40-021419-T	155071	12.41	166894	18.67		
680-164605-9	MRC-SW7A-S-021419-T	167399	12.41	190320*	18.67		
680-164605-11	MRC-SW30-021419-T	158762	12.41	169561*	18.67		
680-164605-12	MRC-SW15A-S-021419-T	169897	12.41	200513*	18.67		
680-164605-14	EB-tube2-021419-T	163475	12.41	169969*	18.67		
680-164605-15	MRC-SW32-021419-T	161310	12.41	163756	18.67		
680-164605-16	FB-SW-021419-T	156590	12.41	150927	18.67		
680-164605-17	MRC-SW31-021419-T	159266	12.41	155580	18.67		
CCV 680-559058/25		175208	12.41	179773*	18.67		

PHN = Phenanthrene-d10
CRY = Chrysene-d12

Area Limit = 70%-130% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 680

FORM VIII

PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Sample No.: CCVIS 680-559059/3 Date Analyzed: 02/21/2019 06:44

Instrument ID: CMSX GC Column: HP-5MS ID: 0.25(mm)

Lab File ID (Standard): xb2030.D Heated Purge: (Y/N) N

Calibration ID: 63054

		PHN		CRY			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		170892	12.41	169663	18.67		
UPPER LIMIT		222160	12.91	220562	19.17		
LOWER LIMIT		119624	11.91	118764	18.17		
LAB SAMPLE ID	CLIENT SAMPLE ID						
680-164605-10	MRC-SW7A-S-021419-T-DUP	186606	12.41	208081	18.67		
680-164605-13	EB-tube1-021419-T	176447	12.41	195421	18.67		
CCV 680-559059/21		159076	12.41	142687	18.67		

PHN = Phenanthrene-d10
CRY = Chrysene-d12

Area Limit = 70%-130% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 680

FORM VIII

PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Instrument ID: CMSX Calibration Start Date: 02/25/2019 13:07

GC Column: HP-5MS ID: 0.25(mm) Calibration End Date: 02/25/2019 15:59

Calibration ID: 63879

		PHN		CRY			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MEAN AREA AND MEAN RT		161613	12.38	155674	18.63		
UPPER LIMIT		242420	12.88	233511	19.13		
LOWER LIMIT		80807	11.88	77837	18.13		
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 680-559536/12		159287	12.38	149107	18.63		
CCVIS 680-559821/3		174833	12.38	172131	18.63		
MB 680-559624/3-A		157619	12.38	166079	18.63		
LCS 680-559624/4-A		189494	12.38	201227	18.63		
LCSD 680-559624/5-A		142733	12.38	147833	18.63		
680-164605-6 RE	MRC-SW9A-S-021419-TRE	149092	12.38	171530	18.63		
CCV 680-559821/13		174038	12.38	179097	18.63		

PHN = Phenanthrene-d10
CRY = Chrysene-d12

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 680

FORM VIII

PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Sample No.: CCVIS 680-559821/3 Date Analyzed: 02/27/2019 15:23

Instrument ID: CMSX GC Column: HP-5MS ID: 0.25(mm)

Lab File ID (Standard): xb2704.D Heated Purge: (Y/N) N

Calibration ID: 63879

		PHN		CRY			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		174833	12.38	172131	18.63		
UPPER LIMIT		227283	12.88	223770	19.13		
LOWER LIMIT		122383	11.88	120492	18.13		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 680-559624/3-A		157619	12.38	166079	18.63		
LCS 680-559624/4-A		189494	12.38	201227	18.63		
LCSD 680-559624/5-A		142733	12.38	147833	18.63		
680-164605-6 RE	MRC-SW9A-S-021419-TRE	149092	12.38	171530	18.63		
CCV 680-559821/13		174038	12.38	179097	18.63		

PHN = Phenanthrene-d10
CRY = Chrysene-d12

Area Limit = 70%-130% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 680

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: MRC-SW5A1-S-021419-T | Lab Sample ID: 680-164605-1

Matrix: Water | Lab File ID: xb2009.D

Analysis Method: 680 | Date Collected: 02/14/2019 11:07

Extract. Method: 680 | Date Extracted: 02/19/2019 13:42

Sample wt/vol: 1026(mL) | Date Analyzed: 02/20/2019 20:39

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559058 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	ND		0.29	0.029
26601-64-9	Hexachlorobiphenyl	ND		0.19	0.015
53742-07-7	Nonachlorobiphenyl	ND		0.49	0.048
55722-26-4	Octachlorobiphenyl	ND		0.29	0.037
27323-18-8	Monochlorobiphenyl	ND		0.097	0.0055
2051-24-3	DCB Decachlorobiphenyl	ND		0.49	0.068
25512-42-9	Total Dichlorobiphenyls	ND		0.097	0.0053
25429-29-2	Total Pentachlorobiphenyls	ND		0.19	0.014
26914-33-0	Total Tetrachlorobiphenyls	ND		0.19	0.013
25323-68-6	Total Trichlorobiphenyls	ND		0.097	0.0063

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	60		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2009.D				
Lims ID:	680-164605-A-1-A				
Client ID:	MRC-SW5A1-S-021419-T				
Sample Type:	Client				
Inject. Date:	20-Feb-2019 20:39:30	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-A-1-A				
Misc. Info.:	680-0053931-008				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:13:04	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:13:04		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	163991	0.7500	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	186001	0.7500	s
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	34	19957	1.49	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 22-Feb-2019 09:13:04 Chrom Revision: 2.3 11-Feb-2019 16:31:10
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2009.D

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	163991	0.7500			
189	12.409	12.409	0.0		24616		5.9- 7.5	6.7	
* 15 Chrysene-d12									s
240	18.668	18.668	0.0	100	186001	0.7500			
241	18.668	18.668	0.0		35583		4.3- 5.9	5.2	
$ 22 Decachlorobiphenyl-13C12									
510	21.796	21.796	0.0	34	19957	1.49			
512	21.796	21.796	0.0		15304		0.9- 1.3	1.3	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Reagents:

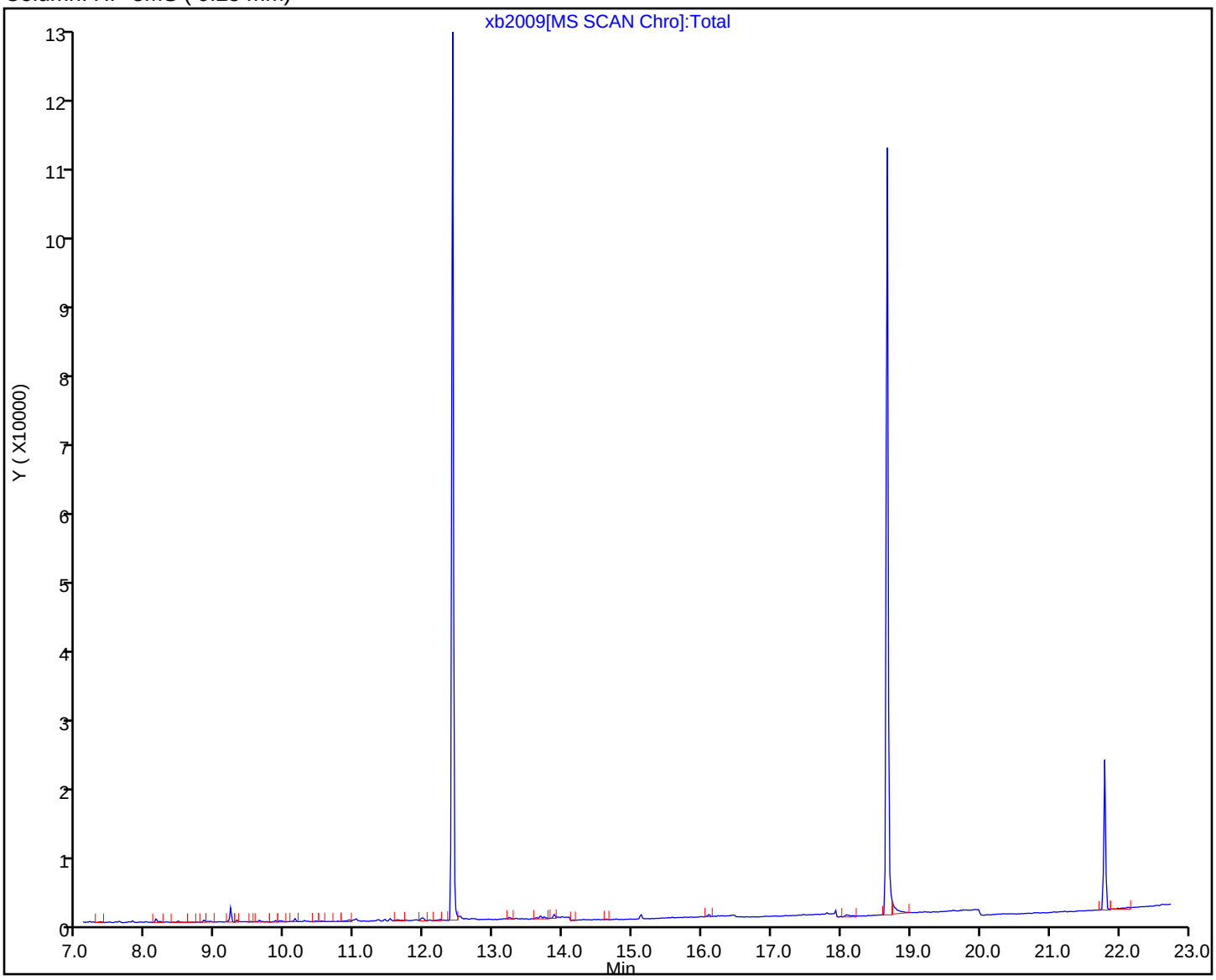
SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 22-Feb-2019 09:13:04 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2009.D				
Injection Date:	20-Feb-2019 20:39:30	Instrument ID:	CMSX		
Lims ID:	680-164605-A-1-A	Lab Sample ID:	680-164605-1		
Client ID:	MRC-SW5A1-S-021419-T				
Operator ID:		ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2009.D				
Lims ID:	680-164605-A-1-A				
Client ID:	MRC-SW5A1-S-021419-T				
Sample Type:	Client				
Inject. Date:	20-Feb-2019 20:39:30	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-A-1-A				
Misc. Info.:	680-0053931-008				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:13:04	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				

First Level Reviewer: davisn Date: 22-Feb-2019 09:13:04

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	1.49	59.73

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: MRC-SW5A2-S-021419-T | Lab Sample ID: 680-164605-2

Matrix: Water | Lab File ID: xb2010.D

Analysis Method: 680 | Date Collected: 02/14/2019 11:24

Extract. Method: 680 | Date Extracted: 02/19/2019 13:42

Sample wt/vol: 1020.5(mL) | Date Analyzed: 02/20/2019 21:07

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559058 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	ND		0.29	0.029
26601-64-9	Hexachlorobiphenyl	ND		0.20	0.015
53742-07-7	Nonachlorobiphenyl	ND		0.49	0.048
55722-26-4	Octachlorobiphenyl	ND		0.29	0.037
27323-18-8	Monochlorobiphenyl	ND		0.098	0.0055
2051-24-3	DCB Decachlorobiphenyl	ND		0.49	0.069
25512-42-9	Total Dichlorobiphenyls	ND		0.098	0.0053
25429-29-2	Total Pentachlorobiphenyls	ND		0.20	0.014
26914-33-0	Total Tetrachlorobiphenyls	ND		0.20	0.013
25323-68-6	Total Trichlorobiphenyls	ND		0.098	0.0064

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	59		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2010.D				
Lims ID:	680-164605-A-2-A				
Client ID:	MRC-SW5A2-S-021419-T				
Sample Type:	Client				
Inject. Date:	20-Feb-2019 21:07:30	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-A-2-A				
Misc. Info.:	680-0053931-009				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:14:04	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:14:04		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	169416	0.7500	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	195828	0.7500	s
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	34	20852	1.48	a

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Review Flags

a - User Assigned ID

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 22-Feb-2019 09:14:04 Chrom Revision: 2.3 11-Feb-2019 16:31:10
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2010.D

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	169416	0.7500			
189	12.409	12.409	0.0		25147		5.9- 7.5	6.7	
* 15 Chrysene-d12									s
240	18.668	18.668	0.0	100	195828	0.7500			
241	18.668	18.668	0.0		37655		4.3- 5.9	5.2	
$ 22 Decachlorobiphenyl-13C12									a
510	21.796	21.796	0.0	34	20852	1.48			a
512	21.796	21.796	0.0		16022		0.9- 1.3	1.3	

QC Flag Legend

Processing Flags
s - Failed ISTD Recovery Test
Review Flags
a - User Assigned ID

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

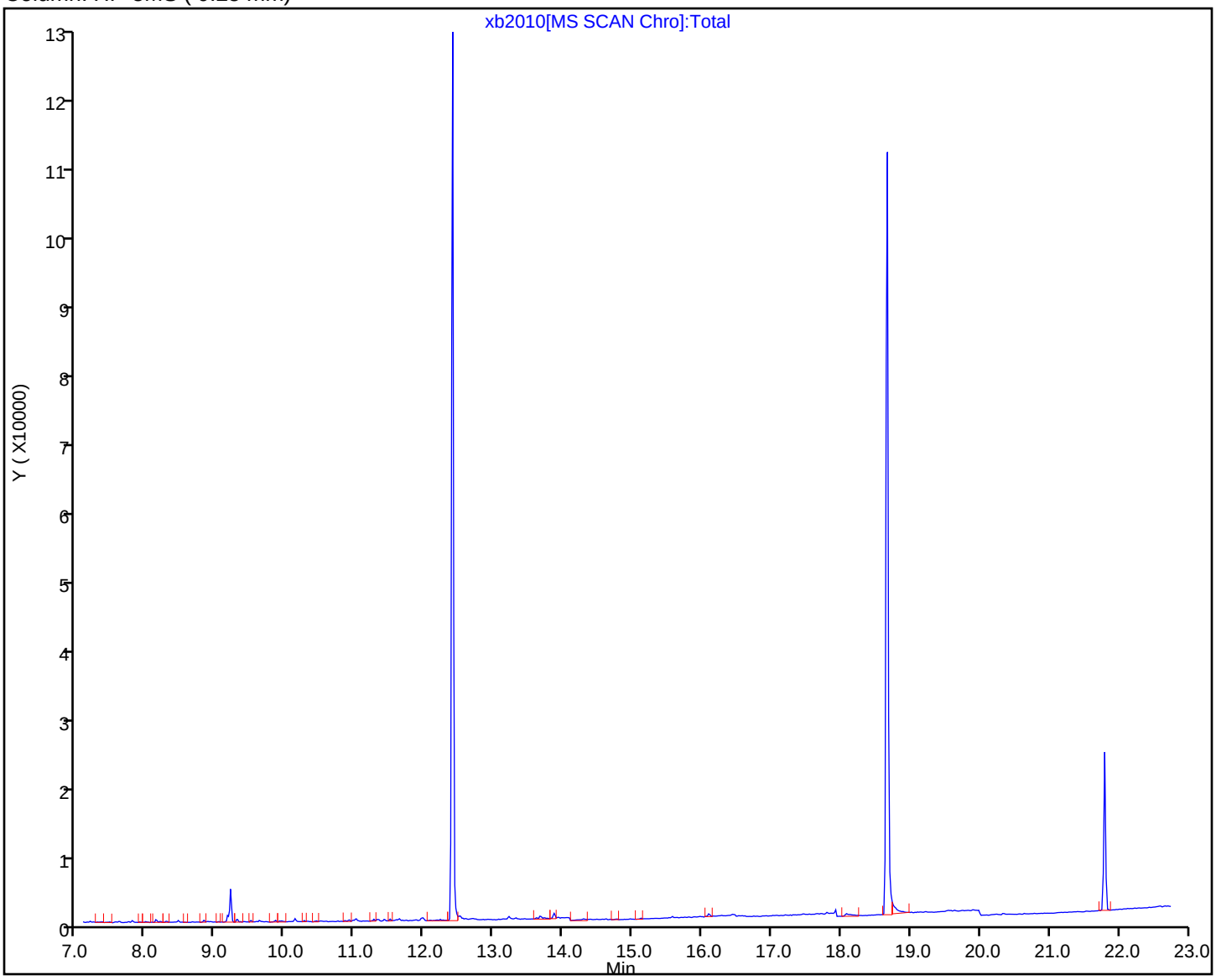
Report Date: 22-Feb-2019 09:14:04 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2010.D

Injection Date:	20-Feb-2019 21:07:30	Instrument ID:	CMSX		
Lims ID:	680-164605-A-2-A	Lab Sample ID:	680-164605-2		
Client ID:	MRC-SW5A2-S-021419-T				
Operator ID:		ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2010.D				
Lims ID:	680-164605-A-2-A				
Client ID:	MRC-SW5A2-S-021419-T				
Sample Type:	Client				
Inject. Date:	20-Feb-2019 21:07:30	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-A-2-A				
Misc. Info.:	680-0053931-009				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:14:04	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				

First Level Reviewer: davisn Date: 22-Feb-2019 09:14:04

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	1.48	59.27

TestAmerica Savannah

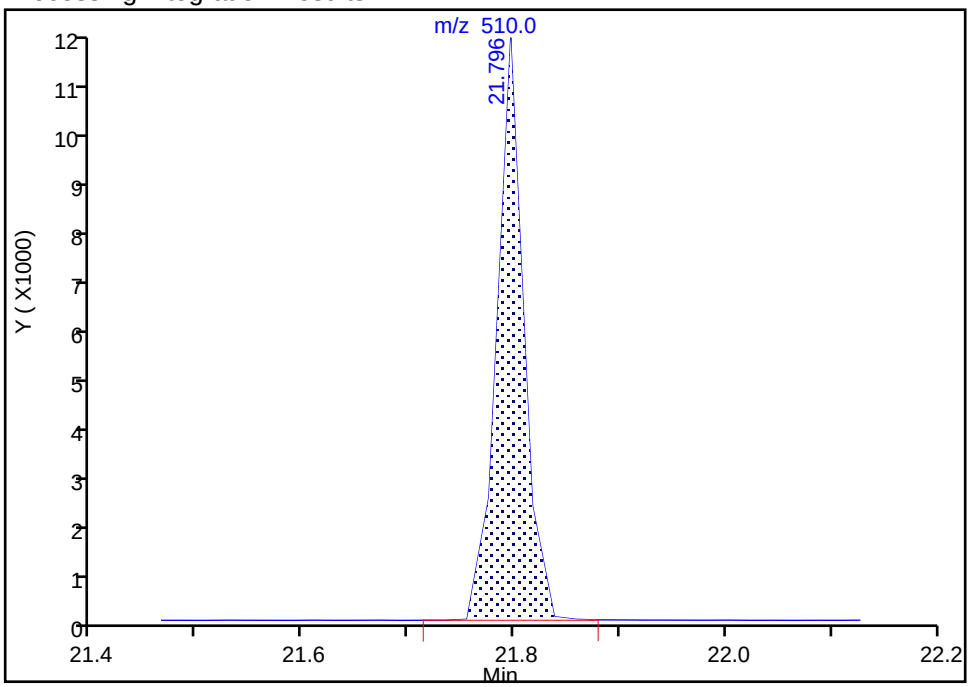
Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2010.D				
Injection Date:	20-Feb-2019 21:07:30	Instrument ID:	CMSX		
Lims ID:	680-164605-A-2-A	Lab Sample ID:	680-164605-2		
Client ID:	MRC-SW5A2-S-021419-T				
Operator ID:		ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

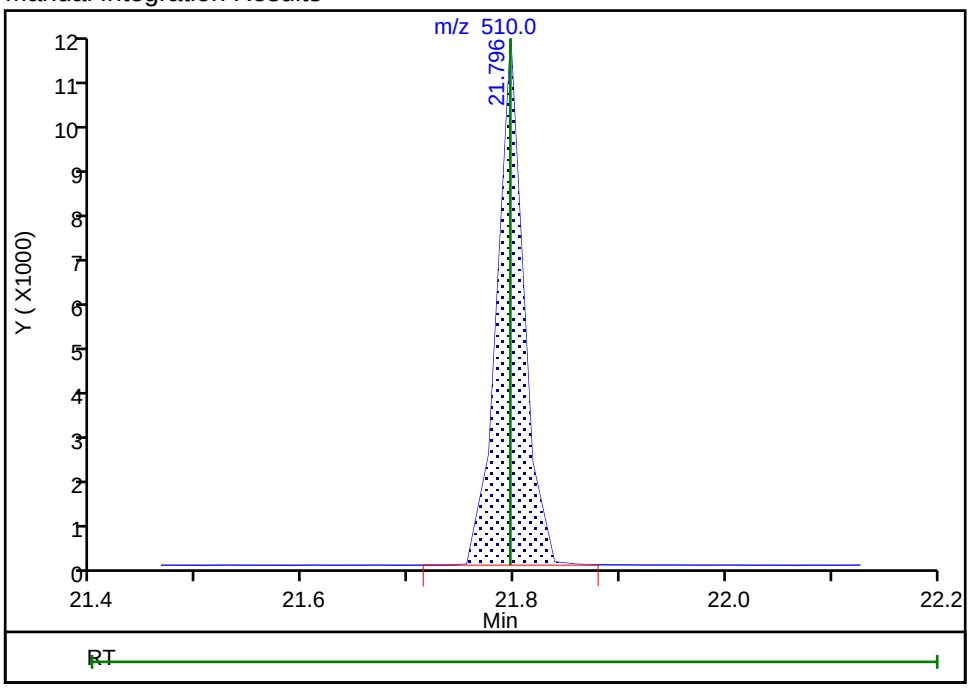
Processing Integration Results

RT: 21.80
Area: 20852
Amount: 1.481868
Amount Units: ug/ml



Manual Integration Results

RT: 21.80
Area: 20852
Amount: 1.481868
Amount Units: ug/ml



Reviewer: davisn, 22-Feb-2019 09:13:41
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: MRC-SW13A-S-021419-T | Lab Sample ID: 680-164605-3

Matrix: Water | Lab File ID: xb2011.D

Analysis Method: 680 | Date Collected: 02/14/2019 11:44

Extract. Method: 680 | Date Extracted: 02/19/2019 13:42

Sample wt/vol: 1019.3(mL) | Date Analyzed: 02/20/2019 21:36

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559058 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	ND		0.29	0.029
26601-64-9	Hexachlorobiphenyl	ND		0.20	0.015
53742-07-7	Nonachlorobiphenyl	ND		0.49	0.048
55722-26-4	Octachlorobiphenyl	ND		0.29	0.037
27323-18-8	Monochlorobiphenyl	ND		0.098	0.0055
2051-24-3	DCB Decachlorobiphenyl	ND		0.49	0.069
25512-42-9	Total Dichlorobiphenyls	ND		0.098	0.0053
25429-29-2	Total Pentachlorobiphenyls	ND		0.20	0.014
26914-33-0	Total Tetrachlorobiphenyls	ND		0.20	0.013
25323-68-6	Total Trichlorobiphenyls	ND		0.098	0.0064

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	31		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2011.D				
Lims ID:	680-164605-A-3-A				
Client ID:	MRC-SW13A-S-021419-T				
Sample Type:	Client				
Inject. Date:	20-Feb-2019 21:36:30	ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-A-3-A				
Misc. Info.:	680-0053931-010				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:14:04	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:14:13		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	154575	0.7500	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	177708	0.7500	s
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	35	9955	0.7796	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 22-Feb-2019 09:14:13 Chrom Revision: 2.3 11-Feb-2019 16:31:10
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2011.D

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	154575	0.7500			
189	12.409	12.409	0.0		23001		5.9- 7.5	6.7	
* 15 Chrysene-d12									s
240	18.668	18.668	0.0	100	177708	0.7500			
241	18.668	18.668	0.0		34198		4.3- 5.9	5.2	
$ 22 Decachlorobiphenyl-13C12									
510	21.796	21.796	0.0	35	9955	0.7796			
512	21.796	21.796	0.0		7717		0.9- 1.3	1.3	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

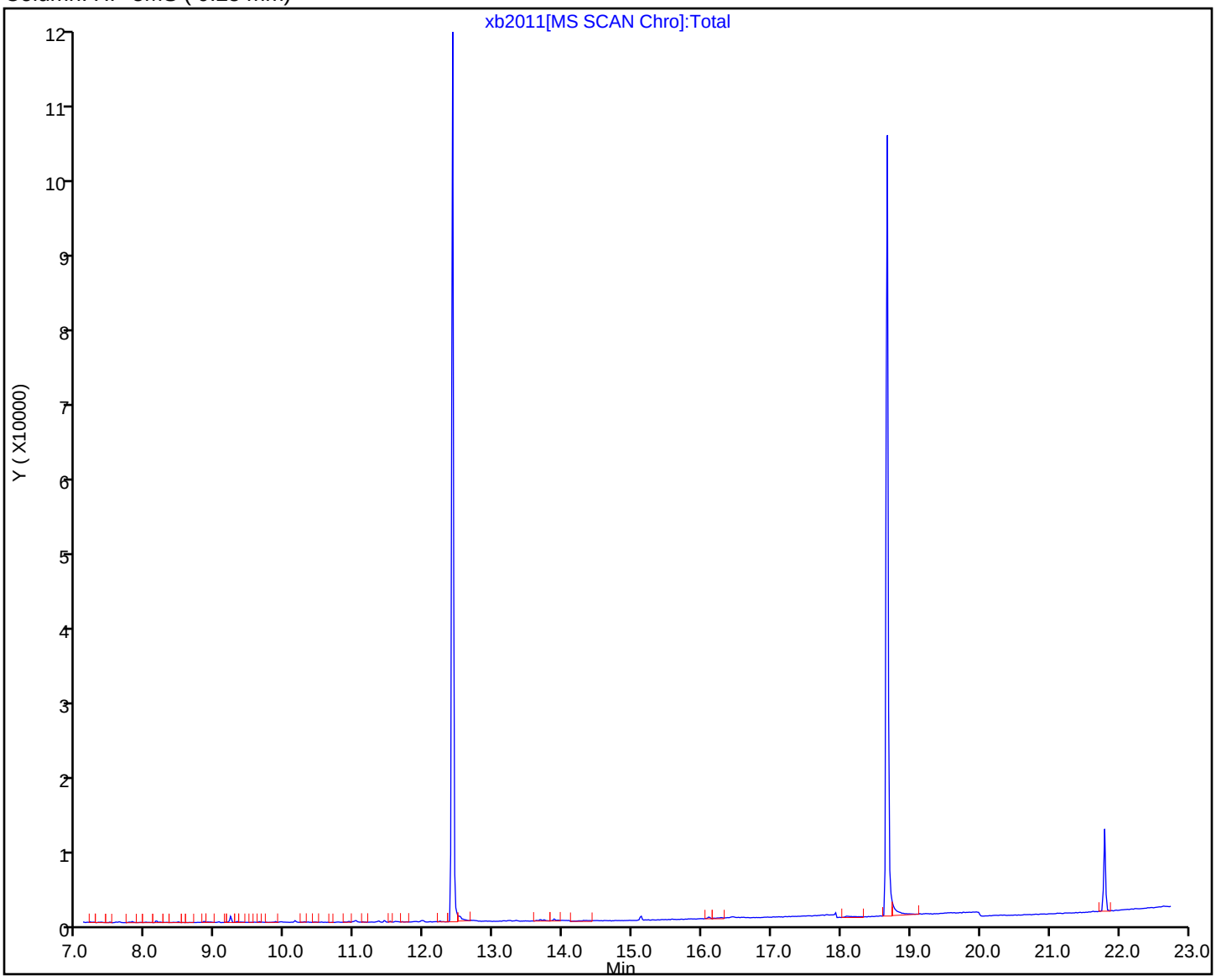
Report Date: 22-Feb-2019 09:14:13 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2011.D

Injection Date:	20-Feb-2019 21:36:30	Instrument ID:	CMSX		
Lims ID:	680-164605-A-3-A	Lab Sample ID:	680-164605-3		
Client ID:	MRC-SW13A-S-021419-T				
Operator ID:		ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2011.D				
Lims ID:	680-164605-A-3-A				
Client ID:	MRC-SW13A-S-021419-T				
Sample Type:	Client				
Inject. Date:	20-Feb-2019 21:36:30	ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-A-3-A				
Misc. Info.:	680-0053931-010				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:14:04	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:14:13		

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	0.7796	31.18

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: MRC-SW8B-S-021419-T | Lab Sample ID: 680-164605-4

Matrix: Water | Lab File ID: xb2012.D

Analysis Method: 680 | Date Collected: 02/14/2019 12:54

Extract. Method: 680 | Date Extracted: 02/19/2019 13:42

Sample wt/vol: 1009.3(mL) | Date Analyzed: 02/20/2019 22:04

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559058 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	ND		0.30	0.030
26601-64-9	Hexachlorobiphenyl	ND		0.20	0.015
53742-07-7	Nonachlorobiphenyl	ND		0.50	0.049
55722-26-4	Octachlorobiphenyl	ND		0.30	0.038
27323-18-8	Monochlorobiphenyl	ND		0.099	0.0055
2051-24-3	DCB Decachlorobiphenyl	ND		0.50	0.069
25512-42-9	Total Dichlorobiphenyls	ND		0.099	0.0054
25429-29-2	Total Pentachlorobiphenyls	ND		0.20	0.014
26914-33-0	Total Tetrachlorobiphenyls	ND		0.20	0.013
25323-68-6	Total Trichlorobiphenyls	ND		0.099	0.0064

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	36		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2012.D				
Lims ID:	680-164605-A-4-A				
Client ID:	MRC-SW8B-S-021419-T				
Sample Type:	Client				
Inject. Date:	20-Feb-2019 22:04:30	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-A-4-A				
Misc. Info.:	680-0053931-011				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:14:04	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:14:48		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	160766	0.7500	
* 15 Chrysene-d12	240	18.667	18.668	-0.001	100	188156	0.7500	s
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	35	12298	0.9096	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 22-Feb-2019 09:14:48 Chrom Revision: 2.3 11-Feb-2019 16:31:10
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2012.D

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	160766	0.7500			
189	12.409	12.409	0.0		23903		5.9- 7.5	6.7	
* 15 Chrysene-d12									s
240	18.667	18.668	-0.001	100	188156	0.7500			
241	18.667	18.668	-0.001		35693		4.3- 5.9	5.3	
$ 22 Decachlorobiphenyl-13C12									
510	21.796	21.796	0.0	35	12298	0.9096			
512	21.796	21.796	0.0		9449		0.9- 1.3	1.3	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

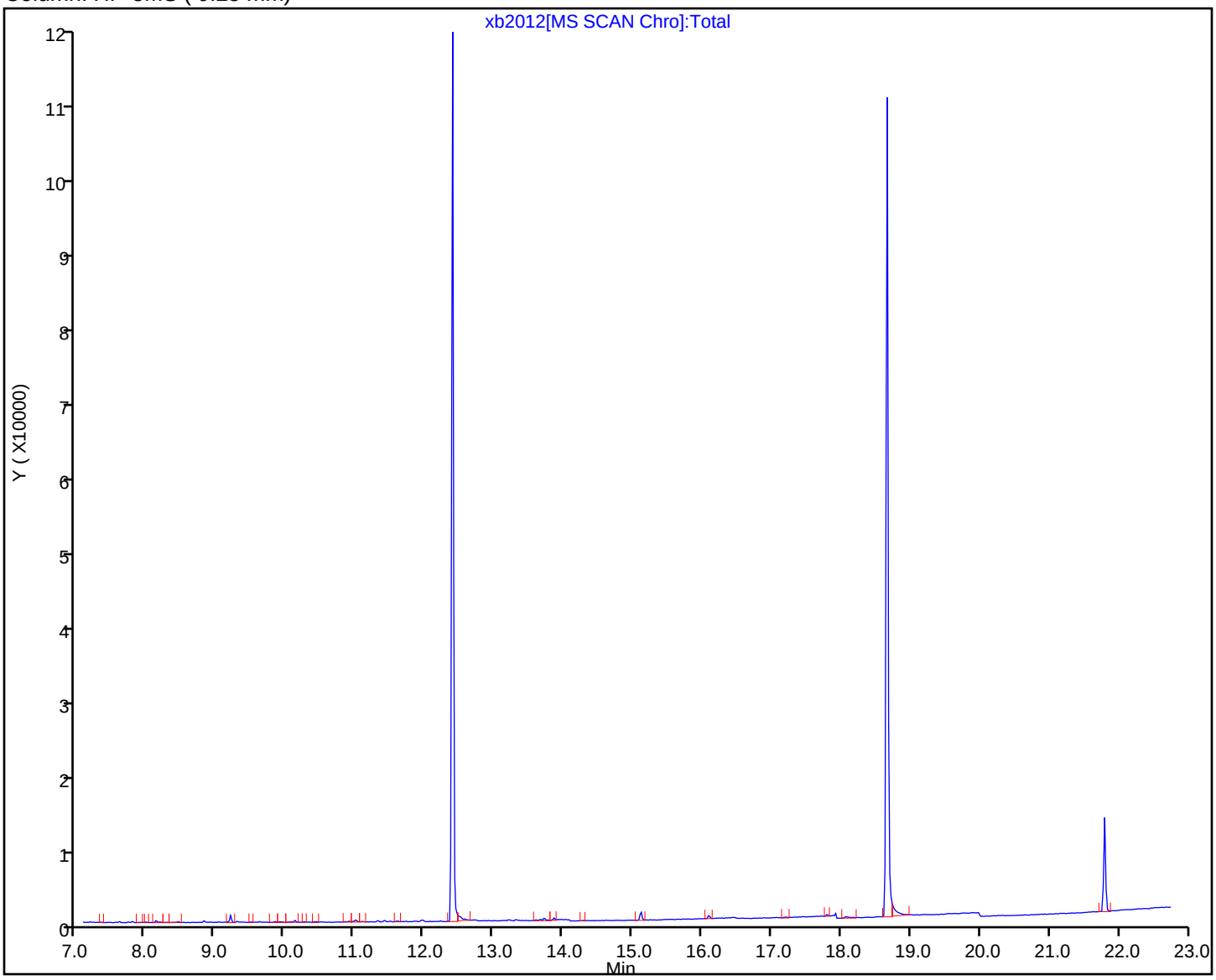
Report Date: 22-Feb-2019 09:14:48 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2012.D

Injection Date:	20-Feb-2019 22:04:30	Instrument ID:	CMSX		
Lims ID:	680-164605-A-4-A	Lab Sample ID:	680-164605-4		
Client ID:	MRC-SW8B-S-021419-T				
Operator ID:		ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2012.D				
Lims ID:	680-164605-A-4-A				
Client ID:	MRC-SW8B-S-021419-T				
Sample Type:	Client				
Inject. Date:	20-Feb-2019 22:04:30	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-A-4-A				
Misc. Info.:	680-0053931-011				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:14:04	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				

First Level Reviewer: davisn Date: 22-Feb-2019 09:14:48

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	0.9096	36.38

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: MRC-SW8A-S-021419-T | Lab Sample ID: 680-164605-5

Matrix: Water | Lab File ID: xb2013.D

Analysis Method: 680 | Date Collected: 02/14/2019 12:32

Extract. Method: 680 | Date Extracted: 02/19/2019 13:42

Sample wt/vol: 1020.5(mL) | Date Analyzed: 02/20/2019 22:33

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559058 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	ND		0.29	0.029
26601-64-9	Hexachlorobiphenyl	ND		0.20	0.015
53742-07-7	Nonachlorobiphenyl	ND		0.49	0.048
55722-26-4	Octachlorobiphenyl	ND		0.29	0.037
27323-18-8	Monochlorobiphenyl	ND		0.098	0.0055
2051-24-3	DCB Decachlorobiphenyl	ND		0.49	0.069
25512-42-9	Total Dichlorobiphenyls	ND		0.098	0.0053
25429-29-2	Total Pentachlorobiphenyls	ND		0.20	0.014
26914-33-0	Total Tetrachlorobiphenyls	ND		0.20	0.013
25323-68-6	Total Trichlorobiphenyls	ND		0.098	0.0064

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	53		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2013.D				
Lims ID:	680-164605-B-5-A				
Client ID:	MRC-SW8A-S-021419-T				
Sample Type:	Client				
Inject. Date:	20-Feb-2019 22:33:30	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-B-5-A				
Misc. Info.:	680-0053931-012				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:14:04	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:15:00		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	166500	0.7500	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	192092	0.7500	s
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	34	18258	1.32	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 22-Feb-2019 09:15:00 Chrom Revision: 2.3 11-Feb-2019 16:31:10
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2013.D

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	166500	0.7500			
189	12.409	12.409	0.0		25166		5.9- 7.5	6.6	
* 15 Chrysene-d12									s
240	18.668	18.668	0.0	100	192092	0.7500			
241	18.668	18.668	0.0		36801		4.3- 5.9	5.2	
$ 22 Decachlorobiphenyl-13C12									
510	21.796	21.796	0.0	34	18258	1.32			
512	21.796	21.796	0.0		14227		0.9- 1.3	1.3	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Reagents:

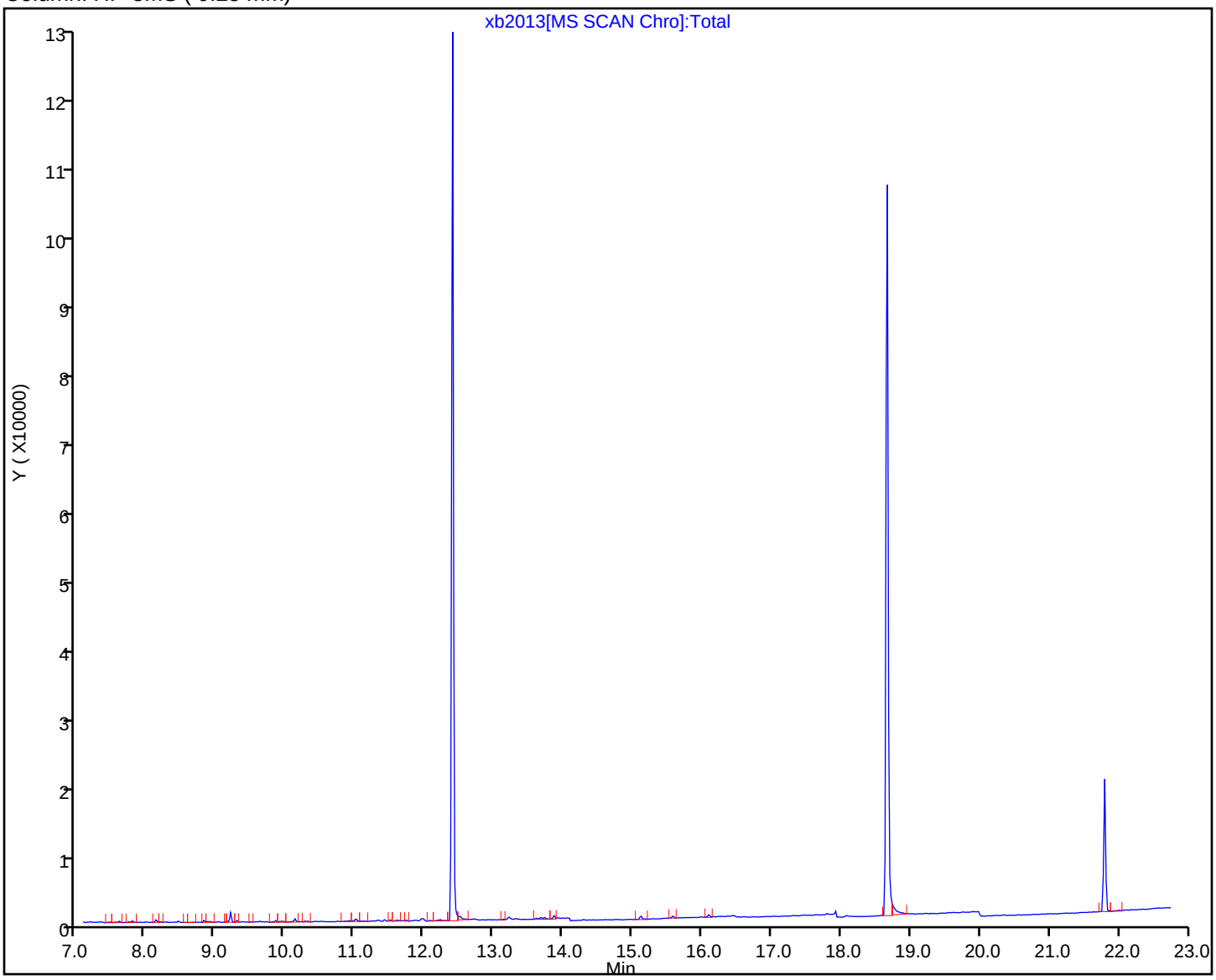
SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 22-Feb-2019 09:15:00 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2013.D				
Injection Date:	20-Feb-2019 22:33:30	Instrument ID:	CMSX		
Lims ID:	680-164605-B-5-A	Lab Sample ID:	680-164605-5		
Client ID:	MRC-SW8A-S-021419-T				
Operator ID:		ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2013.D				
Lims ID:	680-164605-B-5-A				
Client ID:	MRC-SW8A-S-021419-T				
Sample Type:	Client				
Inject. Date:	20-Feb-2019 22:33:30	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-B-5-A				
Misc. Info.:	680-0053931-012				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:14:04	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:15:00		

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	1.32	52.91

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: MRC-SW9A-S-021419-T | Lab Sample ID: 680-164605-6

Matrix: Water | Lab File ID: xb2014.D

Analysis Method: 680 | Date Collected: 02/14/2019 13:14

Extract. Method: 680 | Date Extracted: 02/19/2019 13:42

Sample wt/vol: 1012.1(mL) | Date Analyzed: 02/20/2019 23:02

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559058 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	ND		0.30	0.030
26601-64-9	Hexachlorobiphenyl	ND		0.20	0.015
53742-07-7	Nonachlorobiphenyl	ND		0.49	0.048
55722-26-4	Octachlorobiphenyl	ND		0.30	0.038
27323-18-8	Monochlorobiphenyl	ND		0.099	0.0055
2051-24-3	DCB Decachlorobiphenyl	ND		0.49	0.069
25512-42-9	Total Dichlorobiphenyls	ND		0.099	0.0053
25429-29-2	Total Pentachlorobiphenyls	ND		0.20	0.014
26914-33-0	Total Tetrachlorobiphenyls	ND		0.20	0.013
25323-68-6	Total Trichlorobiphenyls	ND		0.099	0.0064

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	20	X	25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2014.D				
Lims ID:	680-164605-B-6-A				
Client ID:	MRC-SW9A-S-021419-T				
Sample Type:	Client				
Inject. Date:	20-Feb-2019 23:02:30	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-B-6-A				
Misc. Info.:	680-0053931-013				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:15:28	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:15:28		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	154340	0.7500	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	176166	0.7500	s
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	36	6271	0.4954	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	154340	0.7500			
189	12.409	12.409	0.0		23039		5.9- 7.5	6.7	
* 15 Chrysene-d12									s
240	18.668	18.668	0.0	100	176166	0.7500			
241	18.668	18.668	0.0		33437		4.3- 5.9	5.3	
$ 22 Decachlorobiphenyl-13C12									
510	21.796	21.796	0.0	36	6271	0.4954			
512	21.796	21.796	0.0		4916		0.9- 1.3	1.3	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

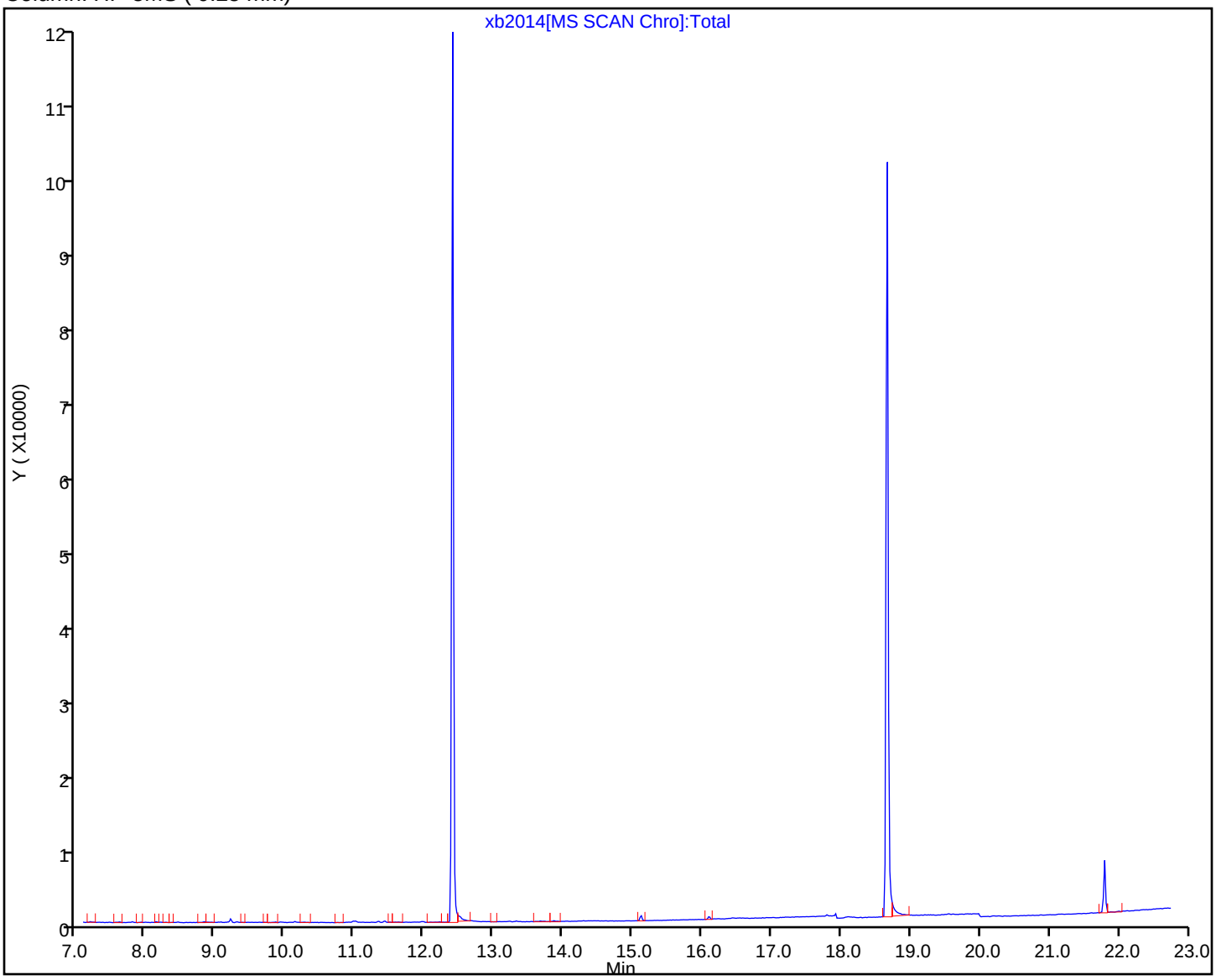
Report Date: 22-Feb-2019 09:15:29 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2014.D

Injection Date:	20-Feb-2019 23:02:30	Instrument ID:	CMSX		
Lims ID:	680-164605-B-6-A	Lab Sample ID:	680-164605-6		
Client ID:	MRC-SW9A-S-021419-T				
Operator ID:		ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2014.D				
Lims ID:	680-164605-B-6-A				
Client ID:	MRC-SW9A-S-021419-T				
Sample Type:	Client				
Inject. Date:	20-Feb-2019 23:02:30	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-B-6-A				
Misc. Info.:	680-0053931-013				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:15:28	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:15:28		

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	0.4954	19.82

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: MRC-SW9A-S-021419-T RE | Lab Sample ID: 680-164605-6 RE

Matrix: Water | Lab File ID: xb2710.D

Analysis Method: 680 | Date Collected: 02/14/2019 13:14

Extract. Method: 680 | Date Extracted: 02/26/2019 13:54

Sample wt/vol: 1034.5(mL) | Date Analyzed: 02/27/2019 18:15

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559821 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	*Heptachlorobiphenyl*	*ND*	*H*	*0.29*	*0.029*
26601-64-9	*Hexachlorobiphenyl*	*ND*	*H*	*0.19*	*0.014*
53742-07-7	*Nonachlorobiphenyl*	*ND*	*H*	*0.48*	*0.047*
55722-26-4	*Octachlorobiphenyl*	*ND*	*H*	*0.29*	*0.037*
27323-18-8	*Monochlorobiphenyl*	*ND*	*H*	*0.097*	*0.0054*
2051-24-3	*DCB Decachlorobiphenyl*	*ND*	*H*	*0.48*	*0.068*
25512-42-9	*Total Dichlorobiphenyls*	*ND*	*H*	*0.097*	*0.0052*
25429-29-2	*Total Pentachlorobiphenyls*	*ND*	*H*	*0.19*	*0.014*
26914-33-0	*Total Tetrachlorobiphenyls*	*ND*	*H*	*0.19*	*0.013*
25323-68-6	*Total Trichlorobiphenyls*	*ND*	*H*	*0.097*	*0.0063*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	69		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2710.D				
Lims ID:	680-164605-A-6-A				
Client ID:	MRC-SW9A-S-021419-T				
Sample Type:	Client				
Inject. Date:	27-Feb-2019 18:15:30	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-A-6-A				
Misc. Info.:	680-0054053-009				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190227-54053.b\680_CMSX.m				
Limit Group:	680				
Last Update:	28-Feb-2019 09:00:45	Calib Date:	25-Feb-2019 15:59:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0311				
First Level Reviewer: davisn		Date:	28-Feb-2019 09:00:45		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
* 5 Phenanthrene-d10	188	12.379	12.380	-0.001	100	149092	0.7500	
* 15 Chrysene-d12	240	18.630	18.629	0.001	100	171530	0.7500	
$ 22 Decachlorobiphenyl-13C12	510	21.773	21.772	0.001	34	16671	1.73	

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 28-Feb-2019 09:00:45 Chrom Revision: 2.3 11-Feb-2019 16:31:10
Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2710.D

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
* 5 Phenanthrene-d10									
188	12.379	12.380	-0.001	100	149092	0.7500			
189	12.379	12.380	-0.001		22318		5.9- 7.5	6.7	
* 15 Chrysene-d12									
240	18.630	18.629	0.001	100	171530	0.7500			
241	18.630	18.629	0.001		33046		4.3- 5.9	5.2	
$ 22 Decachlorobiphenyl-13C12									
510	21.773	21.772	0.001	34	16671	1.73			
512	21.773	21.772	0.001		12930		0.9- 1.3	1.3	

Reagents:

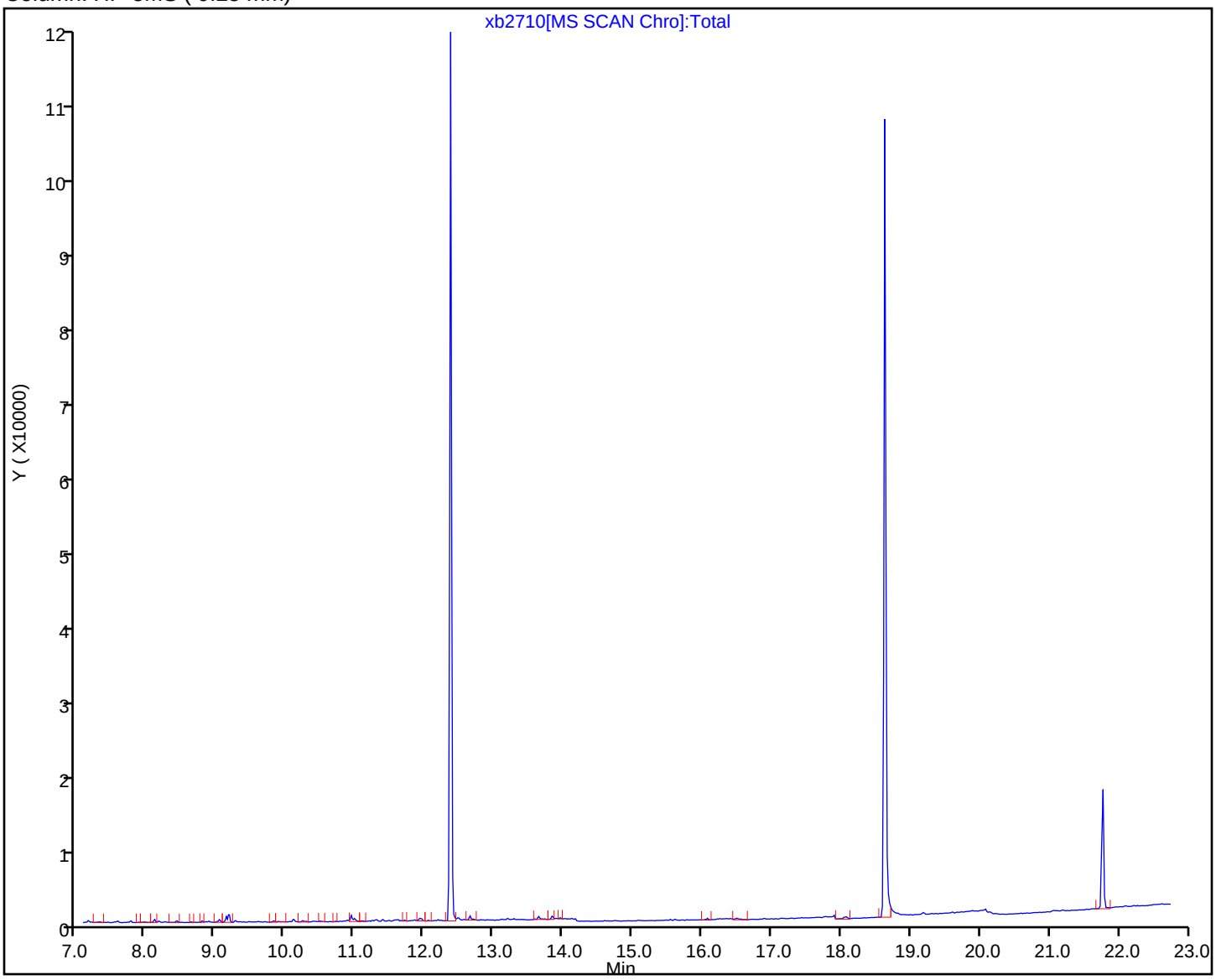
SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 28-Feb-2019 09:00:46 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File:	\\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2710.D				
Injection Date:	27-Feb-2019 18:15:30	Instrument ID:	CMSX		
Lims ID:	680-164605-A-6-A	Lab Sample ID:	680-164605-6		
Client ID:	MRC-SW9A-S-021419-T				
Operator ID:		ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2710.D				
Lims ID:	680-164605-A-6-A				
Client ID:	MRC-SW9A-S-021419-T				
Sample Type:	Client				
Inject. Date:	27-Feb-2019 18:15:30	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-A-6-A				
Misc. Info.:	680-0054053-009				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190227-54053.b\680_CMSX.m				
Limit Group:	680				
Last Update:	28-Feb-2019 09:00:45	Calib Date:	25-Feb-2019 15:59:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0311				

First Level Reviewer: davisn Date: 28-Feb-2019 09:00:45

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	1.73	69.13

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: MRC-SW33-021419-T | Lab Sample ID: 680-164605-7

Matrix: Water | Lab File ID: xb2015.D

Analysis Method: 680 | Date Collected: 02/14/2019 17:30

Extract. Method: 680 | Date Extracted: 02/19/2019 13:42

Sample wt/vol: 1042.6(mL) | Date Analyzed: 02/20/2019 23:30

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559058 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	ND		0.29	0.029
26601-64-9	Hexachlorobiphenyl	ND		0.19	0.014
53742-07-7	Nonachlorobiphenyl	ND		0.48	0.047
55722-26-4	Octachlorobiphenyl	ND		0.29	0.036
27323-18-8	Monochlorobiphenyl	ND		0.096	0.0054
2051-24-3	DCB Decachlorobiphenyl	ND		0.48	0.067
25512-42-9	Total Dichlorobiphenyls	ND		0.096	0.0052
25429-29-2	Total Pentachlorobiphenyls	ND		0.19	0.013
26914-33-0	Total Tetrachlorobiphenyls	ND		0.19	0.012
25323-68-6	Total Trichlorobiphenyls	ND		0.096	0.0062

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	64		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2015.D				
Lims ID:	680-164605-A-7-A				
Client ID:	MRC-SW33-021419-T				
Sample Type:	Client				
Inject. Date:	20-Feb-2019 23:30:30	ALS Bottle#:	14	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-A-7-A				
Misc. Info.:	680-0053931-014				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:15:28	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:15:38		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	146344	0.7500	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	144444	0.7500	
$ 22 Decachlorobiphenyl-13C12	510	21.793	21.796	-0.003	34	16601	1.60	

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	146344	0.7500			
189	12.409	12.409	0.0		21901		5.9- 7.5	6.7	
* 15 Chrysene-d12									
240	18.668	18.668	0.0	100	144444	0.7500			
241	18.668	18.668	0.0		27569		4.3- 5.9	5.2	
$ 22 Decachlorobiphenyl-13C12									
510	21.793	21.796	-0.003	34	16601	1.60			
512	21.793	21.796	-0.003		12858		0.9- 1.3	1.3	

Reagents:

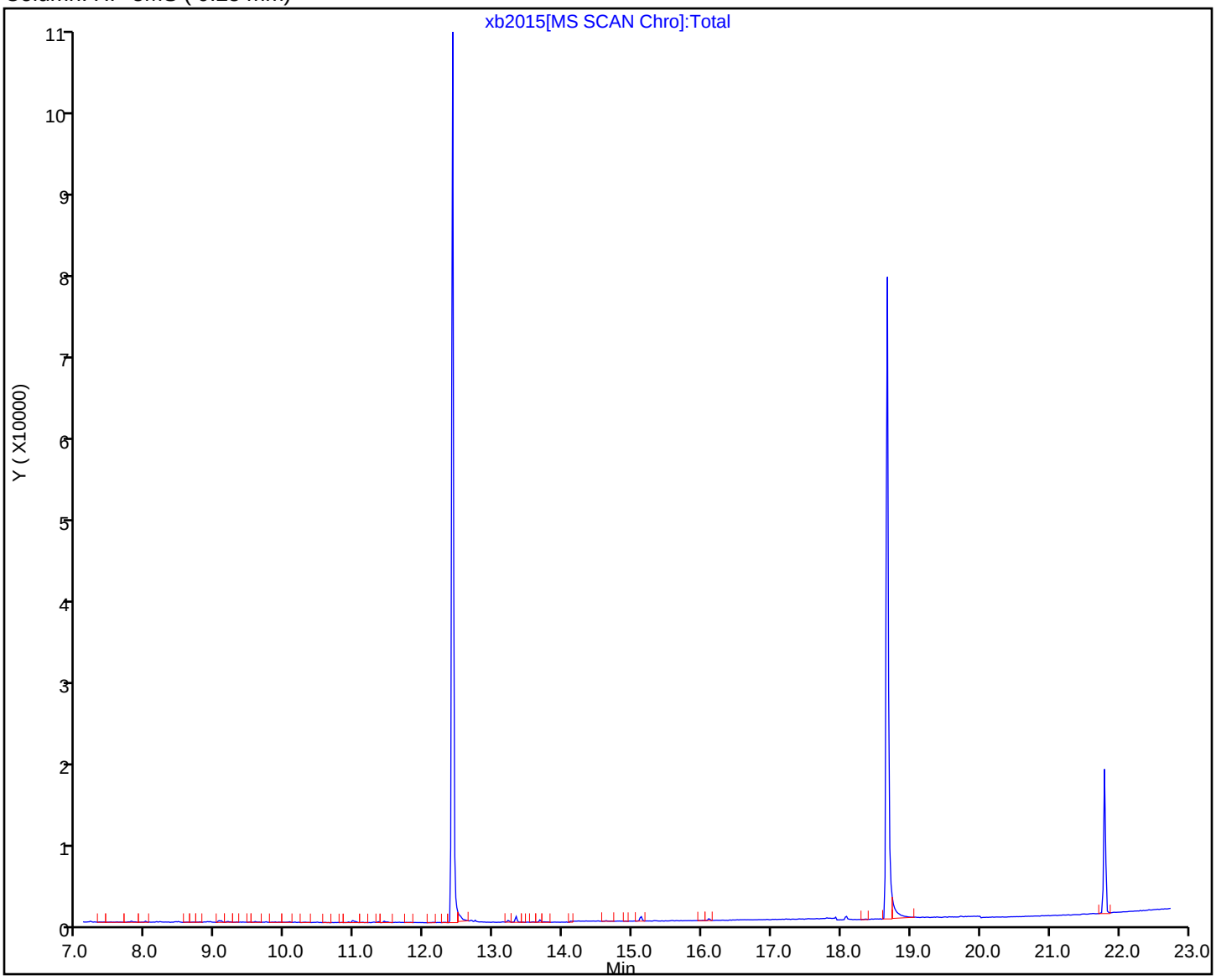
SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 22-Feb-2019 09:15:39 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2015.D				
Injection Date:	20-Feb-2019 23:30:30	Instrument ID:	CMSX		
Lims ID:	680-164605-A-7-A	Lab Sample ID:	680-164605-7		
Client ID:	MRC-SW33-021419-T				
Operator ID:		ALS Bottle#:	14	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2015.D				
Lims ID:	680-164605-A-7-A				
Client ID:	MRC-SW33-021419-T				
Sample Type:	Client				
Inject. Date:	20-Feb-2019 23:30:30	ALS Bottle#:	14	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-A-7-A				
Misc. Info.:	680-0053931-014				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:15:28	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:15:38		

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	1.60	63.98

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: MRC-SW40-021419-T | Lab Sample ID: 680-164605-8

Matrix: Water | Lab File ID: xb2016.D

Analysis Method: 680 | Date Collected: 02/14/2019 16:00

Extract. Method: 680 | Date Extracted: 02/19/2019 13:42

Sample wt/vol: 1015(mL) | Date Analyzed: 02/20/2019 23:59

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559058 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	ND		0.30	0.030
26601-64-9	Hexachlorobiphenyl	ND		0.20	0.015
53742-07-7	Nonachlorobiphenyl	ND		0.49	0.048
55722-26-4	Octachlorobiphenyl	ND		0.30	0.037
27323-18-8	Monochlorobiphenyl	ND		0.099	0.0055
2051-24-3	DCB Decachlorobiphenyl	ND		0.49	0.069
25512-42-9	Total Dichlorobiphenyls	0.016	J	0.099	0.0053
25429-29-2	Total Pentachlorobiphenyls	ND		0.20	0.014
26914-33-0	Total Tetrachlorobiphenyls	0.017	J	0.20	0.013
25323-68-6	Total Trichlorobiphenyls	ND		0.099	0.0064

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	68		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2016.D				
Lims ID:	680-164605-A-8-A				
Client ID:	MRC-SW40-021419-T				
Sample Type:	Client				
Inject. Date:	20-Feb-2019 23:59:30	ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-A-8-A				
Misc. Info.:	680-0053931-015				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:16:44	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:16:44		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 24 Total Dichlorobiphenyls	222	11.569	10.603	-12.535	0	2084	0.0160	
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	155071	0.7500	
A 26 Total Tetrachlorobiphenyls	292	14.773	13.047	-16.499	0	1137	0.0173	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	166894	0.7500	
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	33	20302	1.69	

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 22-Feb-2019 09:16:44 Chrom Revision: 2.3 11-Feb-2019 16:31:10
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2016.D

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 24 Total Dichlorobiphenyls									
222	11.421	10.603	-12.535	38	813	0.006248			
224	11.421				526		1.3- 1.7	1.5	
152	11.407				613		31.7- 111.7	0.9	
153	11.407				218		0.0- 49.1	2.4	
188	11.421				185		0.0- 43.3	2.8	
222	12.483	10.603	-12.535	36	1271	0.009768			
224	12.483				782		1.3- 1.7	1.6	
152	12.468				952		31.7- 111.7	0.8	
188	12.483				6241		0.0- 43.3	0.1	
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	155071	0.7500			
189	12.409	12.409	0.0		23103		5.9- 7.5	6.7	
A 26 Total Tetrachlorobiphenyls									
292	14.692	13.047	-16.499	0	1137	0.0173			
290	14.675				910		1.1- 1.5	1.2	
220	14.675				765		58.1- 138.1	1.2	
222	14.675				476		22.9- 102.9	1.9	
* 15 Chrysene-d12									
240	18.668	18.668	0.0	100	166894	0.7500			
241	18.668	18.668	0.0		32078		4.3- 5.9	5.2	
$ 22 Decachlorobiphenyl-13C12									
510	21.796	21.796	0.0	33	20302	1.69			
512	21.796	21.796	0.0		15731		0.9- 1.3	1.3	

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

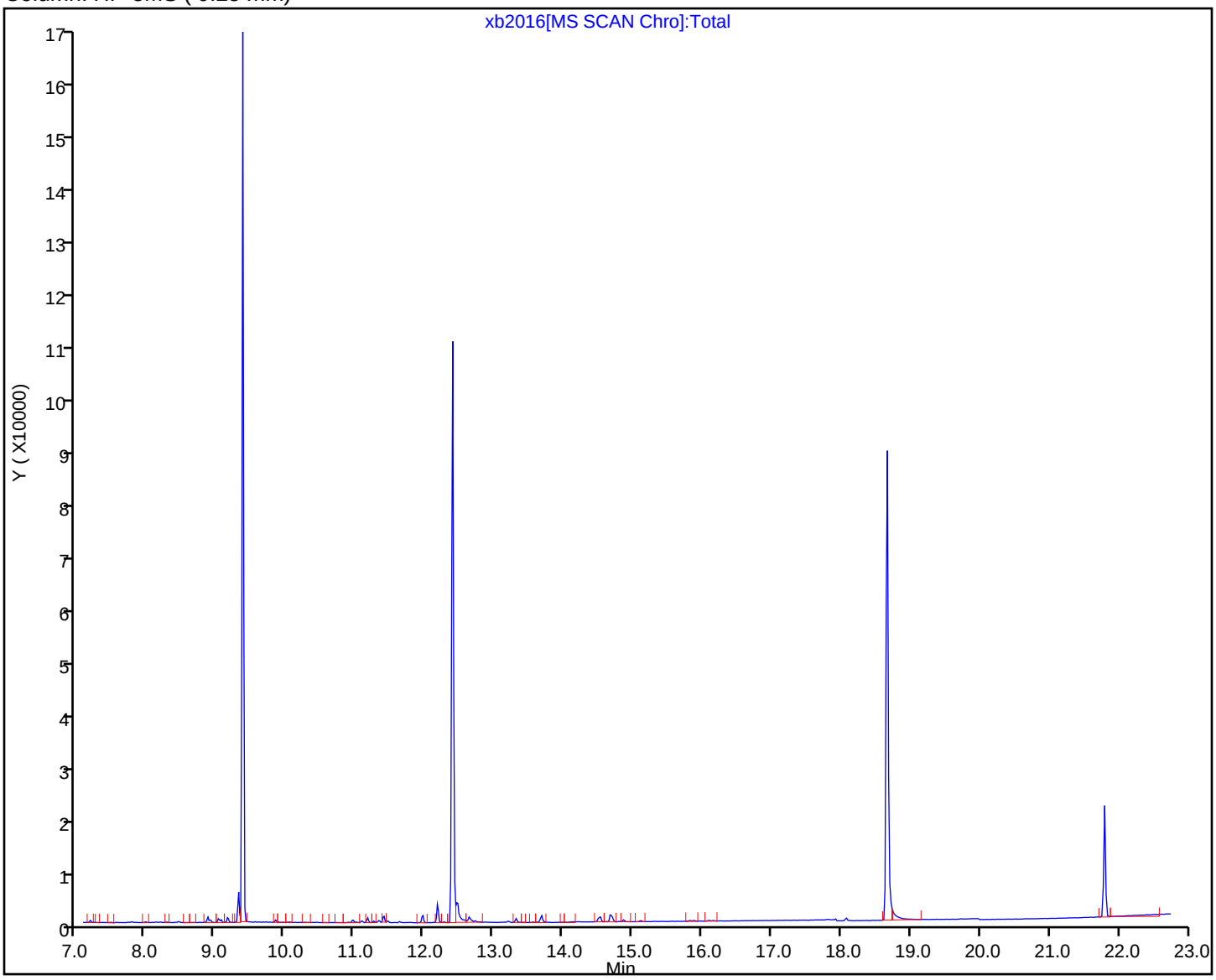
Report Date: 22-Feb-2019 09:16:44 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2016.D

Injection Date:	20-Feb-2019 23:59:30	Instrument ID:	CMSX		
Lims ID:	680-164605-A-8-A	Lab Sample ID:	680-164605-8		
Client ID:	MRC-SW40-021419-T				
Operator ID:		ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2016.D				
Lims ID:	680-164605-A-8-A				
Client ID:	MRC-SW40-021419-T				
Sample Type:	Client				
Inject. Date:	20-Feb-2019 23:59:30	ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-A-8-A				
Misc. Info.:	680-0053931-015				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:16:44	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:16:44		

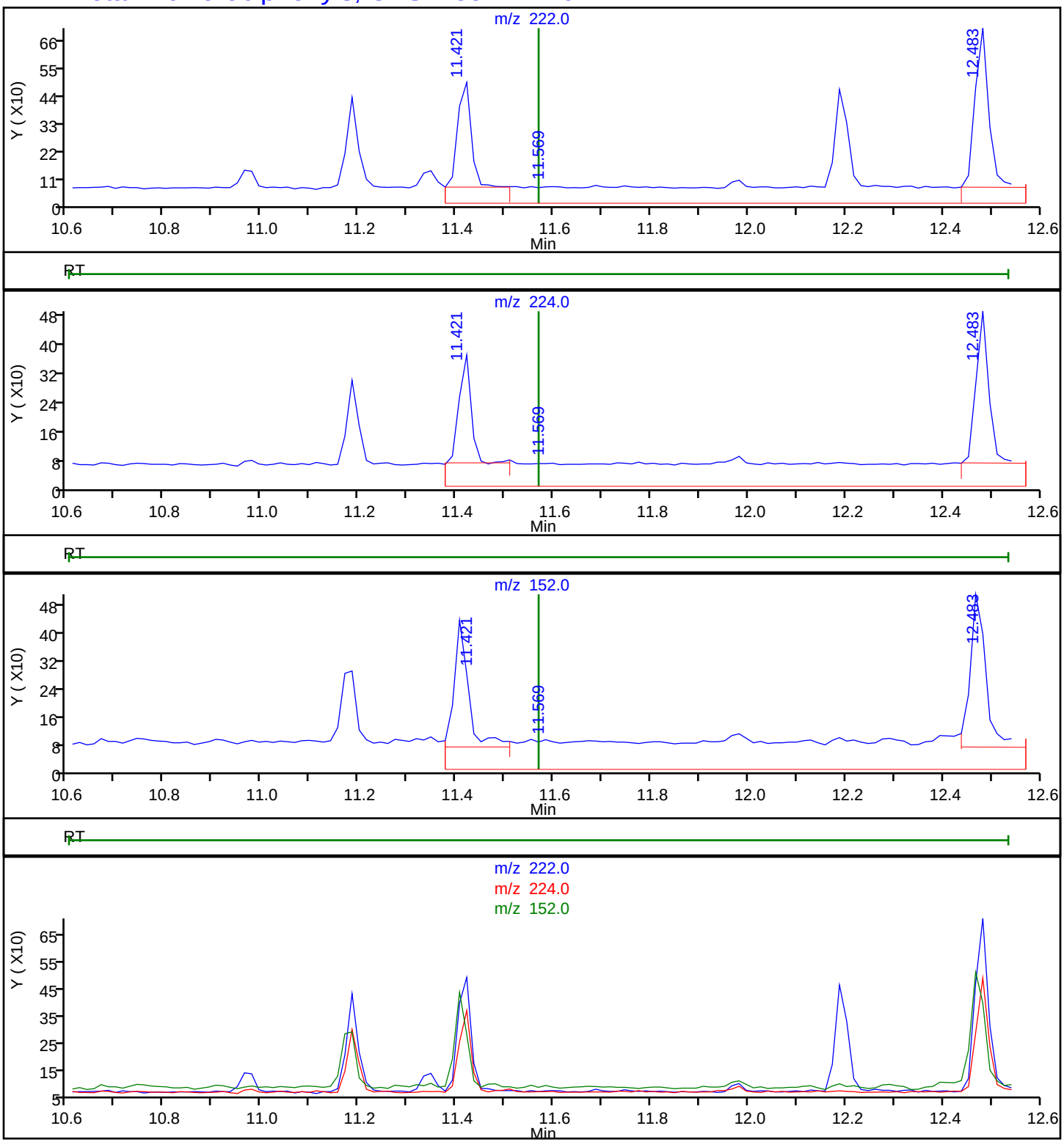
Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	1.69	67.72

Report Date: 22-Feb-2019 09:16:44 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

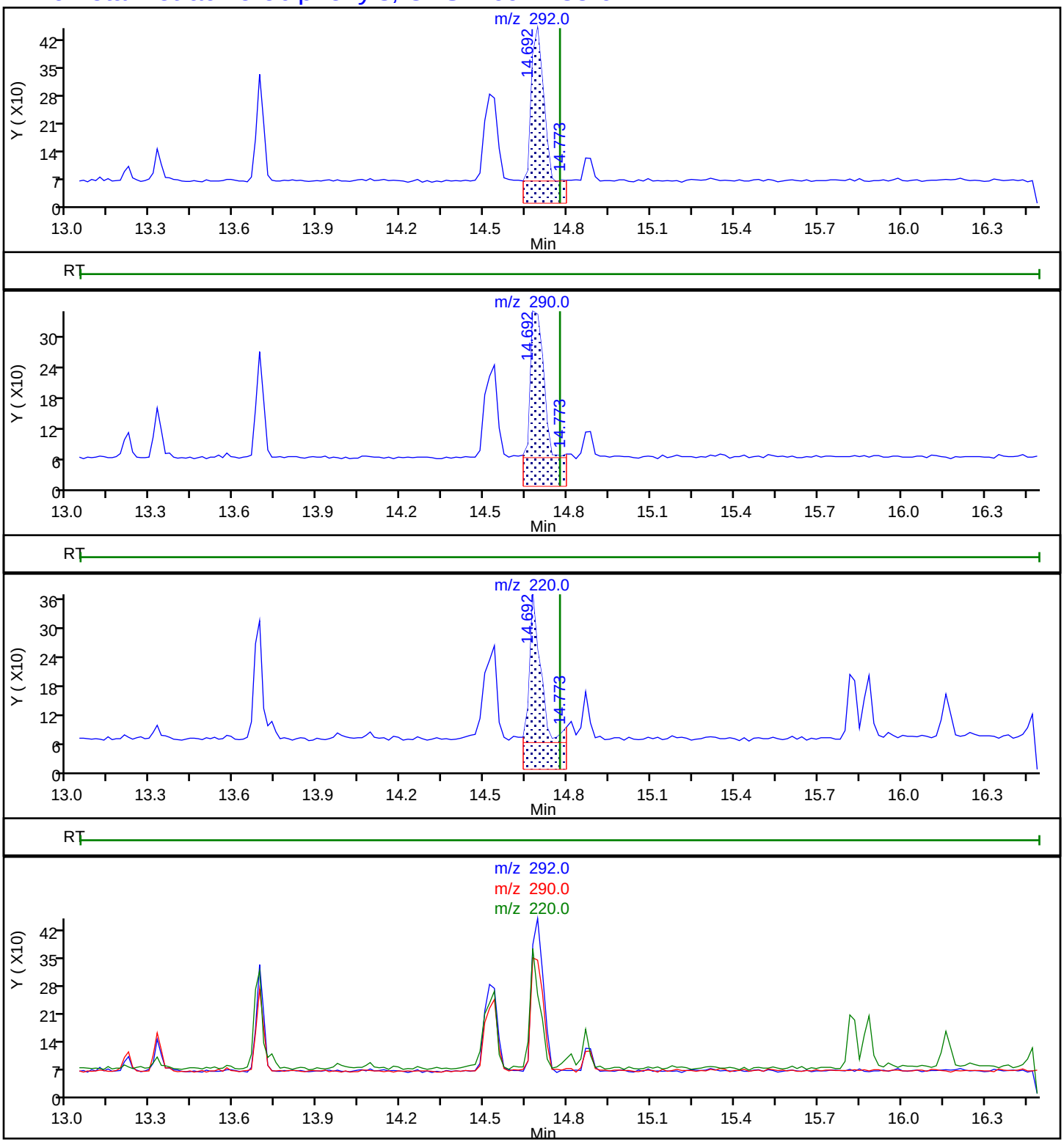
Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2016.D				
Injection Date:	20-Feb-2019 23:59:30	Instrument ID:	CMSX		
Lims ID:	680-164605-A-8-A	Lab Sample ID:	680-164605-8		
Client ID:	MRC-SW40-021419-T				
Operator ID:		ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

A 24 Total Dichlorobiphenyls, CAS: 25512-42-9



Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2016.D
Injection Date: 20-Feb-2019 23:59:30 Instrument ID: CMSX
Lims ID: 680-164605-A-8-A Lab Sample ID: 680-164605-8
Client ID: MRC-SW40-021419-T
Operator ID: ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

A 26 Total Tetrachlorobiphenyls, CAS: 26914-33-0



FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: MRC-SW7A-S-021419-T | Lab Sample ID: 680-164605-9

Matrix: Water | Lab File ID: xb2017.D

Analysis Method: 680 | Date Collected: 02/14/2019 13:42

Extract. Method: 680 | Date Extracted: 02/19/2019 13:42

Sample wt/vol: 1038.7(mL) | Date Analyzed: 02/21/2019 00:27

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559058 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	ND	F1	0.29	0.029
26601-64-9	Hexachlorobiphenyl	ND		0.19	0.014
53742-07-7	Nonachlorobiphenyl	ND		0.48	0.047
55722-26-4	Octachlorobiphenyl	ND		0.29	0.037
27323-18-8	Monochlorobiphenyl	ND	F1	0.096	0.0054
2051-24-3	DCB Decachlorobiphenyl	ND		0.48	0.067
25512-42-9	Total Dichlorobiphenyls	ND	F1	0.096	0.0052
25429-29-2	Total Pentachlorobiphenyls	ND	F2	0.19	0.013
26914-33-0	Total Tetrachlorobiphenyls	ND	F1	0.19	0.013
25323-68-6	Total Trichlorobiphenyls	ND	F1	0.096	0.0063

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	60		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2017.D				
Lims ID:	680-164605-B-9-A				
Client ID:	MRC-SW7A-S-021419-T				
Sample Type:	Client				
Inject. Date:	21-Feb-2019 00:27:30	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-B-9-A				
Misc. Info.:	680-0053931-016				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:16:44	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:17:00		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	167399	0.7500	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	190320	0.7500	s
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	34	20502	1.50	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 22-Feb-2019 09:17:00 Chrom Revision: 2.3 11-Feb-2019 16:31:10
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2017.D

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	167399	0.7500			
189	12.409	12.409	0.0		25262		5.9- 7.5	6.6	
* 15 Chrysene-d12									s
240	18.668	18.668	0.0	100	190320	0.7500			
241	18.668	18.668	0.0		36342		4.3- 5.9	5.2	
$ 22 Decachlorobiphenyl-13C12									
510	21.796	21.796	0.0	34	20502	1.50			
512	21.796	21.796	0.0		15826		0.9- 1.3	1.3	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Reagents:

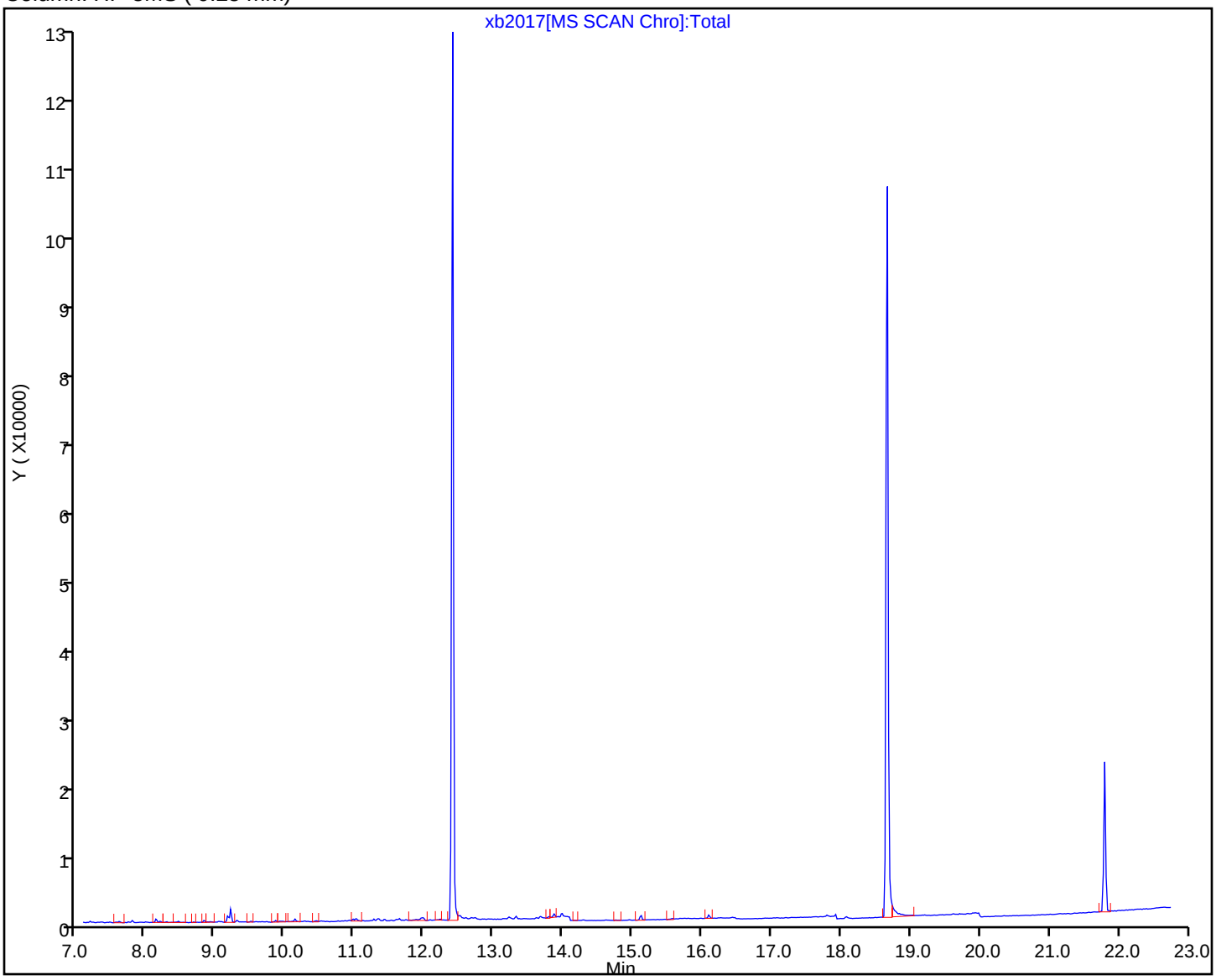
SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 22-Feb-2019 09:17:00 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2017.D				
Injection Date:	21-Feb-2019 00:27:30	Instrument ID:	CMSX		
Lims ID:	680-164605-B-9-A	Lab Sample ID:	680-164605-9		
Client ID:	MRC-SW7A-S-021419-T				
Operator ID:		ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2017.D				
Lims ID:	680-164605-B-9-A				
Client ID:	MRC-SW7A-S-021419-T				
Sample Type:	Client				
Inject. Date:	21-Feb-2019 00:27:30	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-B-9-A				
Misc. Info.:	680-0053931-016				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:16:44	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:17:00		

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	1.50	59.97

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: MRC-SW7A-S-021419-T-DUP | Lab Sample ID: 680-164605-10

Matrix: Water | Lab File ID: xb2034.D

Analysis Method: 680 | Date Collected: 02/14/2019 13:44

Extract. Method: 680 | Date Extracted: 02/19/2019 13:42

Sample wt/vol: 1038.9(mL) | Date Analyzed: 02/21/2019 08:38

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559059 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	ND		0.29	0.029
26601-64-9	Hexachlorobiphenyl	ND		0.19	0.014
53742-07-7	Nonachlorobiphenyl	ND		0.48	0.047
55722-26-4	Octachlorobiphenyl	ND		0.29	0.037
27323-18-8	Monochlorobiphenyl	ND		0.096	0.0054
2051-24-3	DCB Decachlorobiphenyl	ND		0.48	0.067
25512-42-9	Total Dichlorobiphenyls	ND		0.096	0.0052
25429-29-2	Total Pentachlorobiphenyls	ND		0.19	0.013
26914-33-0	Total Tetrachlorobiphenyls	ND		0.19	0.013
25323-68-6	Total Trichlorobiphenyls	ND		0.096	0.0063

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	56		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2034.D				
Lims ID:	680-164605-A-10-A				
Client ID:	MRC-SW7A-S-021419-T-DUP				
Sample Type:	Client				
Inject. Date:	21-Feb-2019 08:38:30	ALS Bottle#:	17	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-A-10-A				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53932.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:39:37	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:39:59		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	186606	0.7500	
* 15 Chrysene-d12	240	18.667	18.668	-0.001	100	208081	0.7500	
$ 22 Decachlorobiphenyl-13C12	510	21.793	21.796	-0.003	34	21042	1.41	

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 22-Feb-2019 09:39:59 Chrom Revision: 2.3 11-Feb-2019 16:31:10
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2034.D

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	186606	0.7500			
189	12.409	12.409	0.0		27898		5.9- 7.5	6.7	
* 15 Chrysene-d12									
240	18.667	18.668	-0.001	100	208081	0.7500			
241	18.667	18.668	-0.001		39456		4.3- 5.9	5.3	
$ 22 Decachlorobiphenyl-13C12									
510	21.793	21.796	-0.003	34	21042	1.41			
512	21.793	21.796	-0.003		16314		0.9- 1.3	1.3	

Reagents:

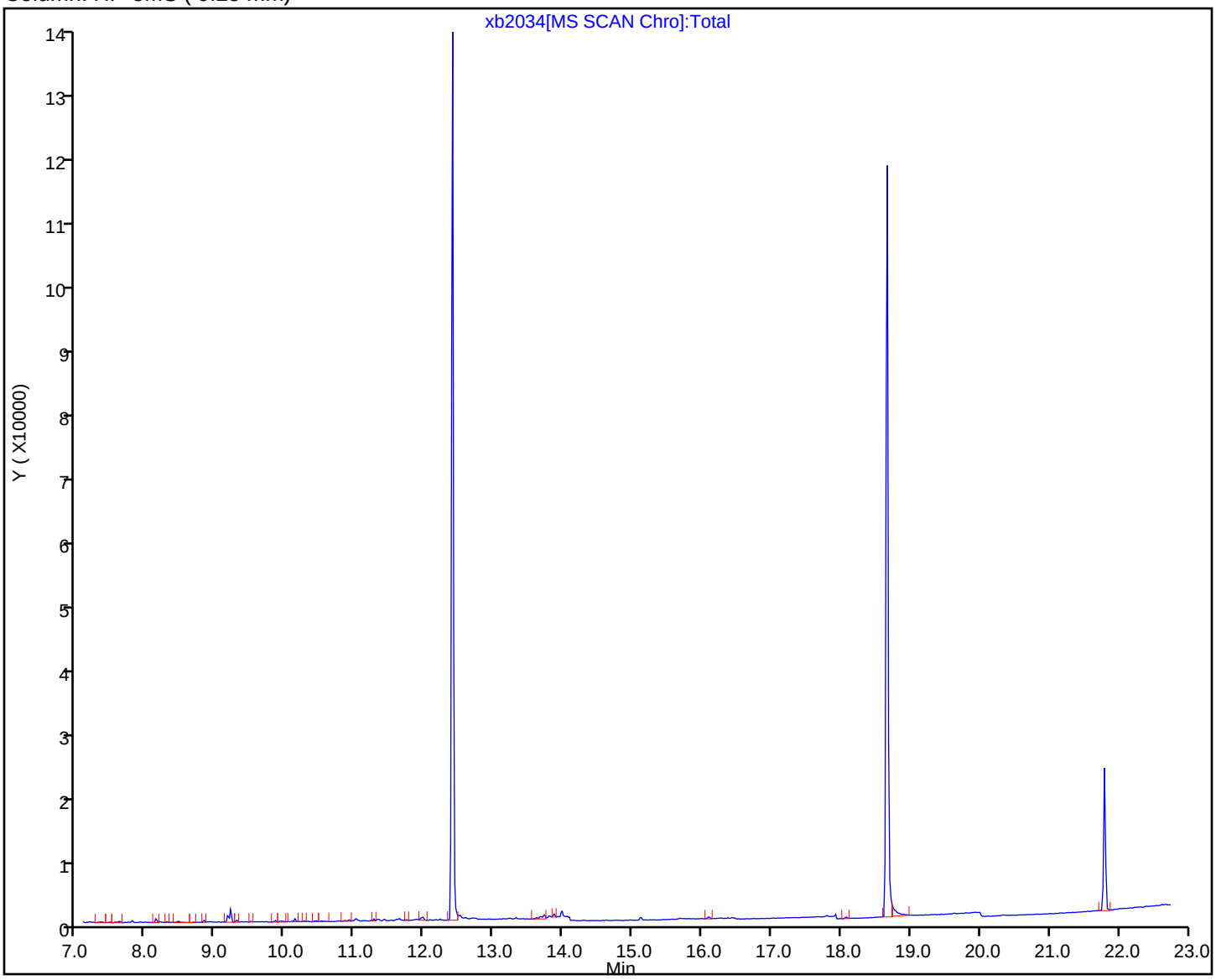
SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 22-Feb-2019 09:39:59 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2034.D				
Injection Date:	21-Feb-2019 08:38:30	Instrument ID:	CMSX		
Lims ID:	680-164605-A-10-A	Lab Sample ID:	680-164605-10		
Client ID:	MRC-SW7A-S-021419-T-DUP				
Operator ID:		ALS Bottle#:	17	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2034.D				
Lims ID:	680-164605-A-10-A				
Client ID:	MRC-SW7A-S-021419-T-DUP				
Sample Type:	Client				
Inject. Date:	21-Feb-2019 08:38:30	ALS Bottle#:	17	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-A-10-A				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53932.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:39:37	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:39:59		

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	1.41	56.29

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: MRC-SW30-021419-T | Lab Sample ID: 680-164605-11

Matrix: Water | Lab File ID: xb2019.D

Analysis Method: 680 | Date Collected: 02/14/2019 16:30

Extract. Method: 680 | Date Extracted: 02/19/2019 13:42

Sample wt/vol: 1045.4(mL) | Date Analyzed: 02/21/2019 01:24

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559058 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	ND		0.29	0.029
26601-64-9	Hexachlorobiphenyl	ND		0.19	0.014
53742-07-7	Nonachlorobiphenyl	ND		0.48	0.047
55722-26-4	Octachlorobiphenyl	ND		0.29	0.036
27323-18-8	Monochlorobiphenyl	ND		0.096	0.0054
2051-24-3	DCB Decachlorobiphenyl	ND		0.48	0.067
25512-42-9	Total Dichlorobiphenyls	ND		0.096	0.0052
25429-29-2	Total Pentachlorobiphenyls	ND		0.19	0.013
26914-33-0	Total Tetrachlorobiphenyls	ND		0.19	0.012
25323-68-6	Total Trichlorobiphenyls	ND		0.096	0.0062

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	56		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2019.D				
Lims ID:	680-164605-A-11-A				
Client ID:	MRC-SW30-021419-T				
Sample Type:	Client				
Inject. Date:	21-Feb-2019 01:24:30	ALS Bottle#:	18	Worklist Smp#:	18
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-A-11-A				
Misc. Info.:	680-0053931-018				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:18:35	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:18:35		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	158762	0.7500	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	169561	0.7500	s
$ 22 Decachlorobiphenyl-13C12	510	21.793	21.796	-0.003	34	16926	1.39	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 22-Feb-2019 09:18:35 Chrom Revision: 2.3 11-Feb-2019 16:31:10
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2019.D

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	158762	0.7500			
189	12.409	12.409	0.0		23501		5.9- 7.5	6.8	
* 15 Chrysene-d12									s
240	18.668	18.668	0.0	100	169561	0.7500			
241	18.668	18.668	0.0		32174		4.3- 5.9	5.3	
$ 22 Decachlorobiphenyl-13C12									
510	21.793	21.796	-0.003	34	16926	1.39			
512	21.793	21.796	-0.003		12945		0.9- 1.3	1.3	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

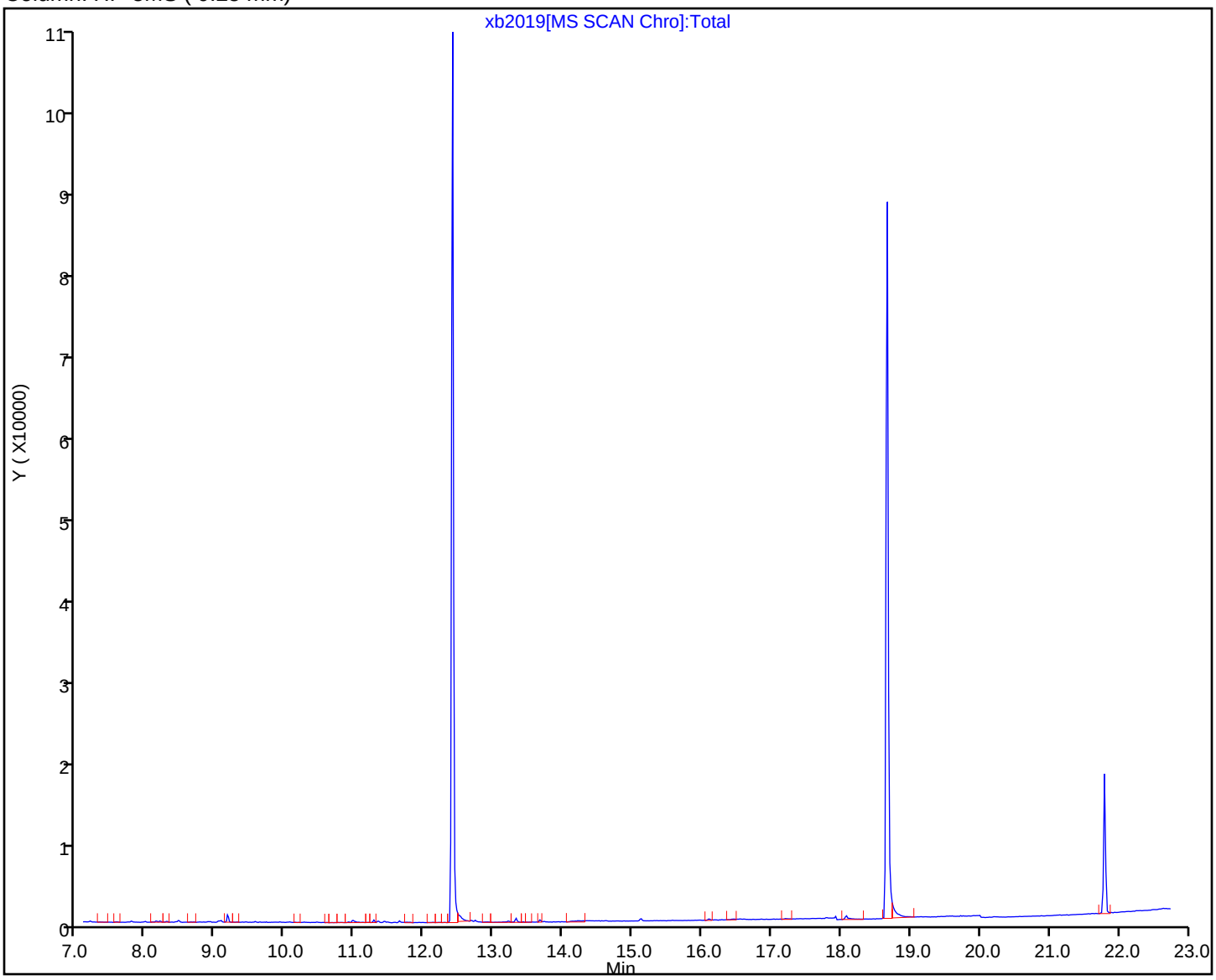
Report Date: 22-Feb-2019 09:18:36 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2019.D

Injection Date:	21-Feb-2019 01:24:30	Instrument ID:	CMSX		
Lims ID:	680-164605-A-11-A	Lab Sample ID:	680-164605-11		
Client ID:	MRC-SW30-021419-T				
Operator ID:		ALS Bottle#:	18	Worklist Smp#:	18
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2019.D				
Lims ID:	680-164605-A-11-A				
Client ID:	MRC-SW30-021419-T				
Sample Type:	Client				
Inject. Date:	21-Feb-2019 01:24:30	ALS Bottle#:	18	Worklist Smp#:	18
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-A-11-A				
Misc. Info.:	680-0053931-018				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:18:35	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				

First Level Reviewer: davisn Date: 22-Feb-2019 09:18:35

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	1.39	55.57

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: MRC-SW15A-S-021419-T | Lab Sample ID: 680-164605-12

Matrix: Water | Lab File ID: xb2020.D

Analysis Method: 680 | Date Collected: 02/14/2019 12:14

Extract. Method: 680 | Date Extracted: 02/19/2019 13:42

Sample wt/vol: 1024.1(mL) | Date Analyzed: 02/21/2019 01:53

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559058 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	ND		0.29	0.029
26601-64-9	Hexachlorobiphenyl	ND		0.20	0.015
53742-07-7	Nonachlorobiphenyl	ND		0.49	0.048
55722-26-4	Octachlorobiphenyl	ND		0.29	0.037
27323-18-8	Monochlorobiphenyl	ND		0.098	0.0055
2051-24-3	DCB Decachlorobiphenyl	ND		0.49	0.068
25512-42-9	Total Dichlorobiphenyls	ND		0.098	0.0053
25429-29-2	Total Pentachlorobiphenyls	ND		0.20	0.014
26914-33-0	Total Tetrachlorobiphenyls	ND		0.20	0.013
25323-68-6	Total Trichlorobiphenyls	ND		0.098	0.0063

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	56		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2020.D				
Lims ID:	680-164605-B-12-A				
Client ID:	MRC-SW15A-S-021419-T				
Sample Type:	Client				
Inject. Date:	21-Feb-2019 01:53:30	ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-B-12-A				
Misc. Info.:	680-0053931-019				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:19:43	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:19:43		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	169897	0.7500	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	200513	0.7500	s
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	34	20159	1.40	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	169897	0.7500			
189	12.409	12.409	0.0		25227		5.9- 7.5	6.7	
* 15 Chrysene-d12									s
240	18.668	18.668	0.0	100	200513	0.7500			
241	18.668	18.668	0.0		38557		4.3- 5.9	5.2	
$ 22 Decachlorobiphenyl-13C12									
510	21.796	21.796	0.0	34	20159	1.40			
512	21.796	21.796	0.0		15592		0.9- 1.3	1.3	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Reagents:

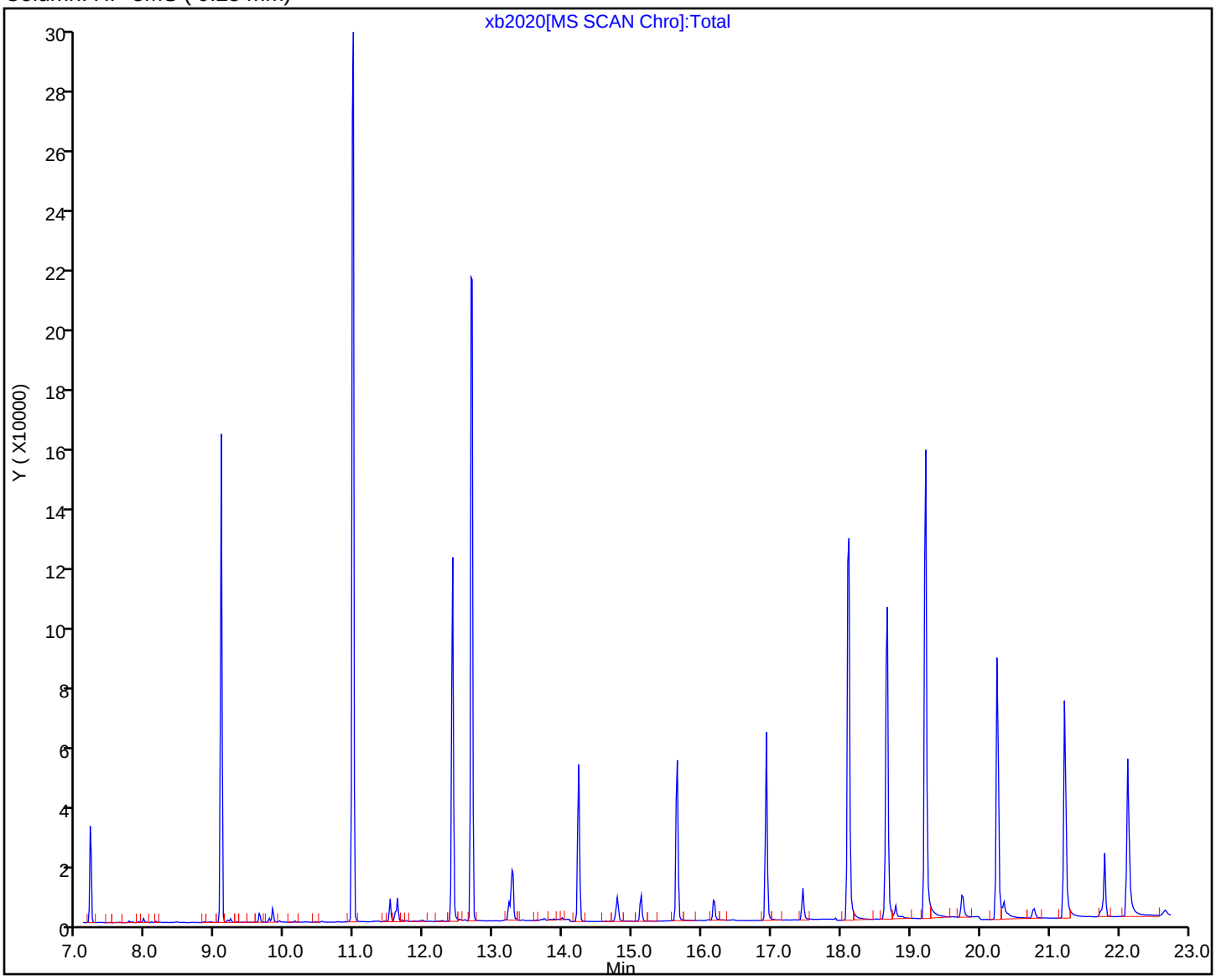
SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 22-Feb-2019 09:19:43 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2020.D				
Injection Date:	21-Feb-2019 01:53:30	Instrument ID:	CMSX		
Lims ID:	680-164605-B-12-A	Lab Sample ID:	680-164605-12		
Client ID:	MRC-SW15A-S-021419-T				
Operator ID:		ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2020.D				
Lims ID:	680-164605-B-12-A				
Client ID:	MRC-SW15A-S-021419-T				
Sample Type:	Client				
Inject. Date:	21-Feb-2019 01:53:30	ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-B-12-A				
Misc. Info.:	680-0053931-019				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:19:43	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:19:43		

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	1.40	55.97

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: EB-tube1-021419-T | Lab Sample ID: 680-164605-13

Matrix: Water | Lab File ID: xb2035.D

Analysis Method: 680 | Date Collected: 02/14/2019 14:35

Extract. Method: 680 | Date Extracted: 02/19/2019 13:42

Sample wt/vol: 1034.6(mL) | Date Analyzed: 02/21/2019 09:07

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559059 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	ND		0.29	0.029
26601-64-9	Hexachlorobiphenyl	ND		0.19	0.014
53742-07-7	Nonachlorobiphenyl	ND		0.48	0.047
55722-26-4	Octachlorobiphenyl	ND		0.29	0.037
27323-18-8	Monochlorobiphenyl	ND		0.097	0.0054
2051-24-3	DCB Decachlorobiphenyl	ND		0.48	0.068
25512-42-9	Total Dichlorobiphenyls	ND		0.097	0.0052
25429-29-2	Total Pentachlorobiphenyls	ND		0.19	0.014
26914-33-0	Total Tetrachlorobiphenyls	ND		0.19	0.013
25323-68-6	Total Trichlorobiphenyls	ND		0.097	0.0063

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	60		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2035.D				
Lims ID:	680-164605-B-13-A				
Client ID:	EB-tube1-021419-T				
Sample Type:	Client				
Inject. Date:	21-Feb-2019 09:07:30	ALS Bottle#:	20	Worklist Smp#:	23
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-B-13-A				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53932.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:40:13	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:40:13		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	176447	0.7500	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	195421	0.7500	
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	34	20947	1.49	

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	176447	0.7500			
189	12.409	12.409	0.0		26395		5.9- 7.5	6.7	
* 15 Chrysene-d12									
240	18.668	18.668	0.0	100	195421	0.7500			
241	18.668	18.668	0.0		37636		4.3- 5.9	5.2	
$ 22 Decachlorobiphenyl-13C12									
510	21.796	21.796	0.0	34	20947	1.49			
512	21.796	21.796	0.0		16206		0.9- 1.3	1.3	

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

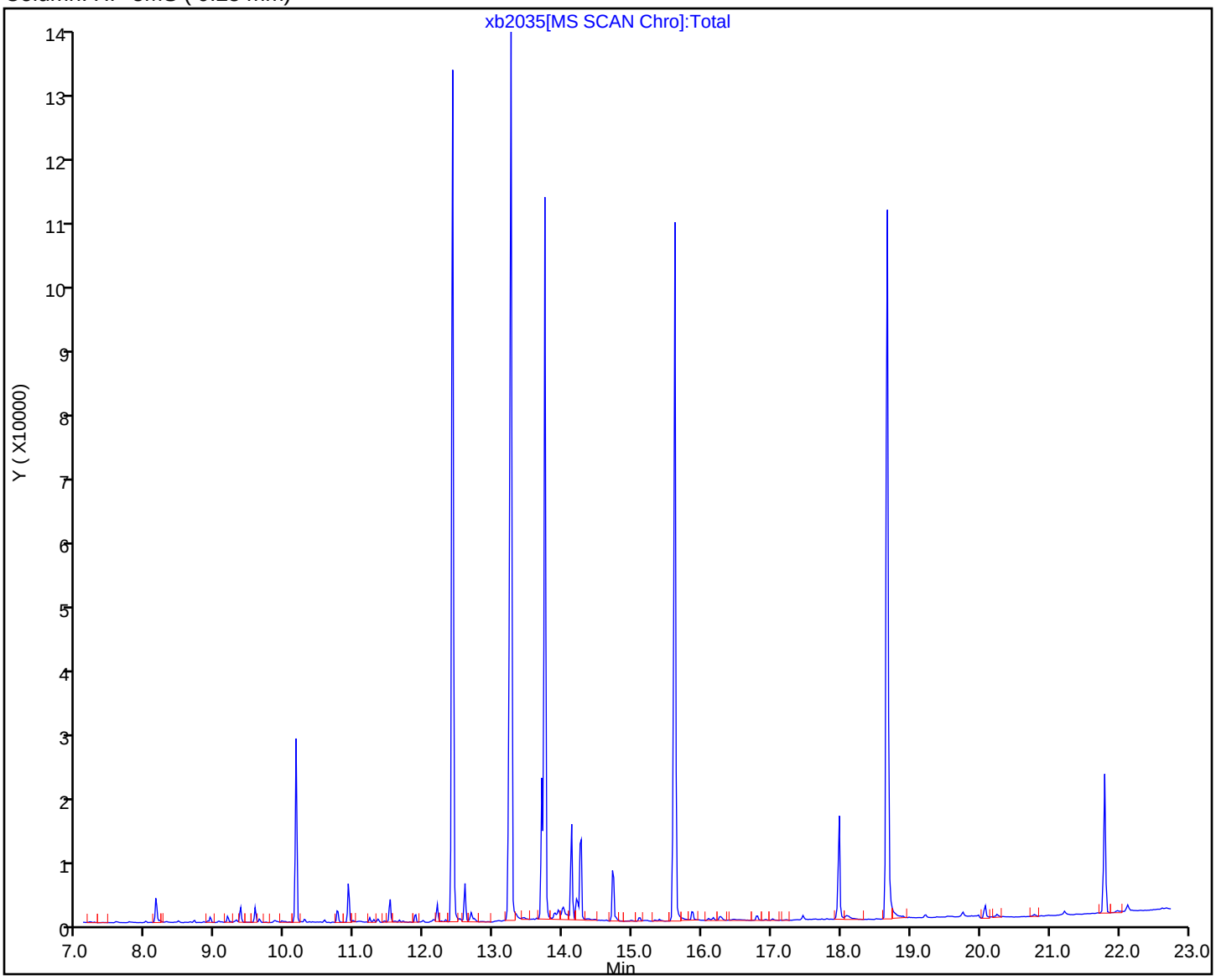
Report Date: 22-Feb-2019 09:40:13 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2035.D

Injection Date:	21-Feb-2019 09:07:30	Instrument ID:	CMSX		
Lims ID:	680-164605-B-13-A	Lab Sample ID:	680-164605-13		
Client ID:	EB-tube1-021419-T				
Operator ID:		ALS Bottle#:	20	Worklist Smp#:	23
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2035.D				
Lims ID:	680-164605-B-13-A				
Client ID:	EB-tube1-021419-T				
Sample Type:	Client				
Inject. Date:	21-Feb-2019 09:07:30	ALS Bottle#:	20	Worklist Smp#:	23
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-B-13-A				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53932.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:40:13	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				

First Level Reviewer: davisn Date: 22-Feb-2019 09:40:13

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	1.49	59.67

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: EB-tube2-021419-T | Lab Sample ID: 680-164605-14

Matrix: Water | Lab File ID: xb2022.D

Analysis Method: 680 | Date Collected: 02/14/2019 14:50

Extract. Method: 680 | Date Extracted: 02/19/2019 13:42

Sample wt/vol: 1023.5(mL) | Date Analyzed: 02/21/2019 02:50

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559058 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	ND		0.29	0.029
26601-64-9	Hexachlorobiphenyl	ND		0.20	0.015
53742-07-7	Nonachlorobiphenyl	ND		0.49	0.048
55722-26-4	Octachlorobiphenyl	ND		0.29	0.037
27323-18-8	Monochlorobiphenyl	ND		0.098	0.0055
2051-24-3	DCB Decachlorobiphenyl	ND		0.49	0.068
25512-42-9	Total Dichlorobiphenyls	ND		0.098	0.0053
25429-29-2	Total Pentachlorobiphenyls	ND		0.20	0.014
26914-33-0	Total Tetrachlorobiphenyls	ND		0.20	0.013
25323-68-6	Total Trichlorobiphenyls	ND		0.098	0.0064

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	71		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2022.D				
Lims ID:	680-164605-B-14-A				
Client ID:	EB-tube2-021419-T				
Sample Type:	Client				
Inject. Date:	21-Feb-2019 02:50:30	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-B-14-A				
Misc. Info.:	680-0053931-021				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:19:43	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:20:11		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	163475	0.7500	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	169969	0.7500	s
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	34	21668	1.77	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 22-Feb-2019 09:20:12 Chrom Revision: 2.3 11-Feb-2019 16:31:10
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2022.D

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	163475	0.7500			
189	12.409	12.409	0.0		24367		5.9- 7.5	6.7	
* 15 Chrysene-d12									s
240	18.668	18.668	0.0	100	169969	0.7500			
241	18.668	18.668	0.0		32749		4.3- 5.9	5.2	
$ 22 Decachlorobiphenyl-13C12									
510	21.796	21.796	0.0	34	21668	1.77			
512	21.796	21.796	0.0		16665		0.9- 1.3	1.3	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

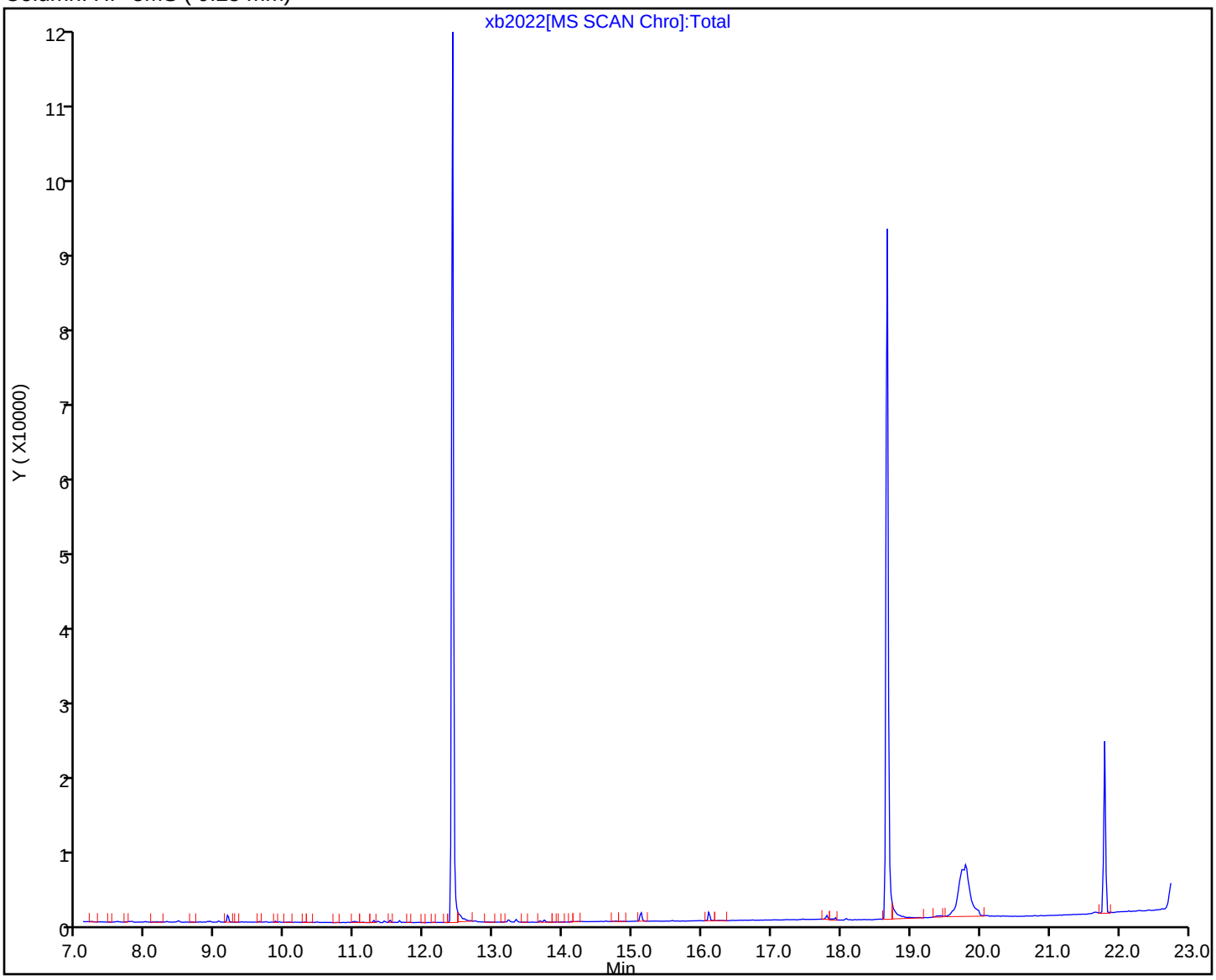
Report Date: 22-Feb-2019 09:20:12 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2022.D

Injection Date:	21-Feb-2019 02:50:30	Instrument ID:	CMSX		
Lims ID:	680-164605-B-14-A	Lab Sample ID:	680-164605-14		
Client ID:	EB-tube2-021419-T				
Operator ID:		ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2022.D				
Lims ID:	680-164605-B-14-A				
Client ID:	EB-tube2-021419-T				
Sample Type:	Client				
Inject. Date:	21-Feb-2019 02:50:30	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-B-14-A				
Misc. Info.:	680-0053931-021				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:19:43	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:20:11		

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	1.77	70.97

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: MRC-SW32-021419-T | Lab Sample ID: 680-164605-15

Matrix: Water | Lab File ID: xb2023.D

Analysis Method: 680 | Date Collected: 02/14/2019 17:15

Extract. Method: 680 | Date Extracted: 02/19/2019 13:42

Sample wt/vol: 1037.8(mL) | Date Analyzed: 02/21/2019 03:18

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559058 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	ND		0.29	0.029
26601-64-9	Hexachlorobiphenyl	ND		0.19	0.014
53742-07-7	Nonachlorobiphenyl	ND		0.48	0.047
55722-26-4	Octachlorobiphenyl	ND		0.29	0.037
27323-18-8	Monochlorobiphenyl	ND		0.096	0.0054
2051-24-3	DCB Decachlorobiphenyl	ND		0.48	0.067
25512-42-9	Total Dichlorobiphenyls	ND		0.096	0.0052
25429-29-2	Total Pentachlorobiphenyls	ND		0.19	0.013
26914-33-0	Total Tetrachlorobiphenyls	ND		0.19	0.013
25323-68-6	Total Trichlorobiphenyls	ND		0.096	0.0063

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	64		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2023.D				
Lims ID:	680-164605-B-15-A				
Client ID:	MRC-SW32-021419-T				
Sample Type:	Client				
Inject. Date:	21-Feb-2019 03:18:30	ALS Bottle#:	22	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-B-15-A				
Misc. Info.:	680-0053931-022				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:20:45	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:20:45		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	161310	0.7500	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	163756	0.7500	
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	34	18891	1.61	

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	161310	0.7500			
189	12.409	12.409	0.0		24172		5.9- 7.5	6.7	
* 15 Chrysene-d12									
240	18.668	18.668	0.0	100	163756	0.7500			
241	18.668	18.668	0.0		31561		4.3- 5.9	5.2	
$ 22 Decachlorobiphenyl-13C12									
510	21.796	21.796	0.0	34	18891	1.61			
512	21.796	21.796	0.0		14473		0.9- 1.3	1.3	

Reagents:

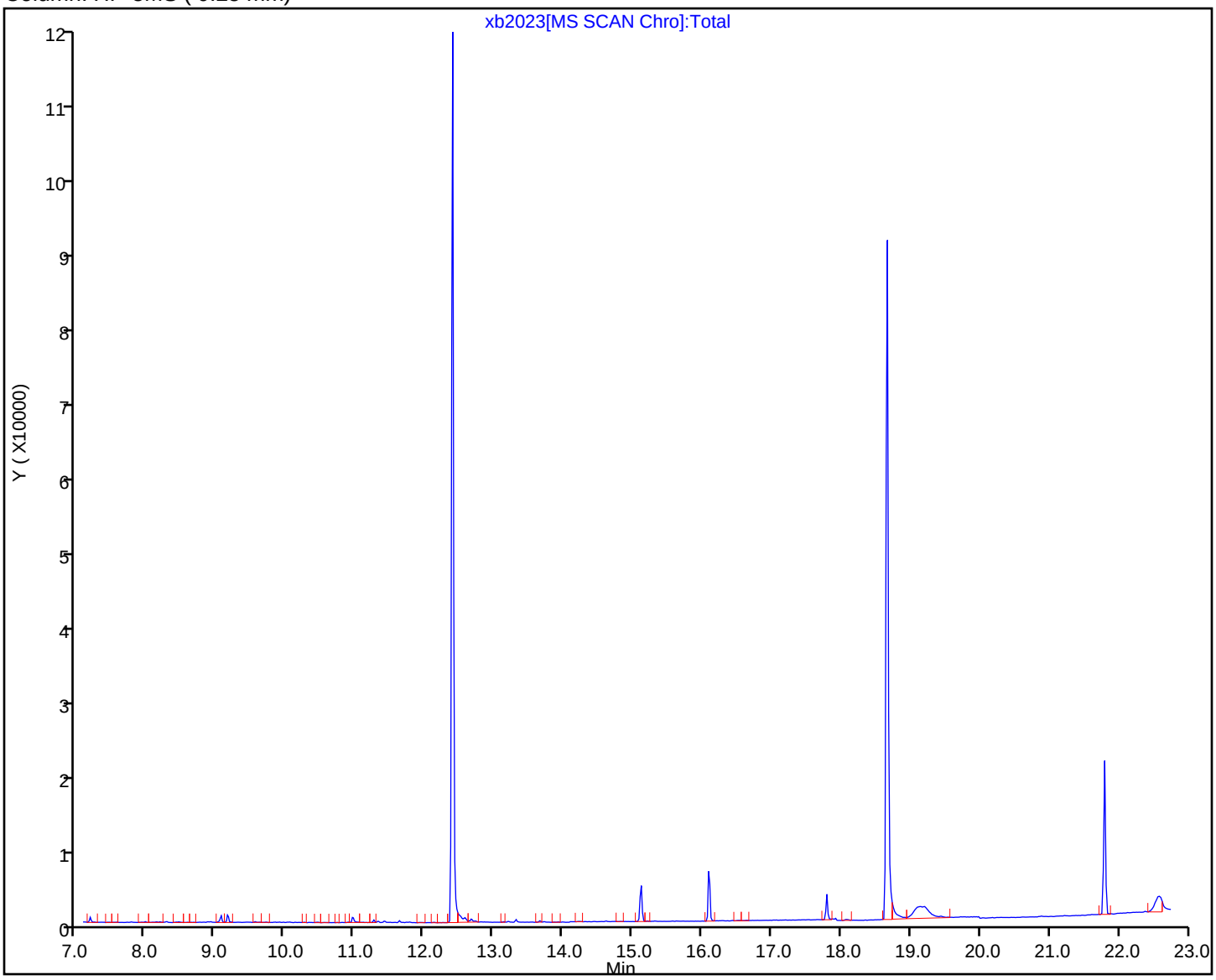
SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 22-Feb-2019 09:20:45 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2023.D				
Injection Date:	21-Feb-2019 03:18:30	Instrument ID:	CMSX		
Lims ID:	680-164605-B-15-A	Lab Sample ID:	680-164605-15		
Client ID:	MRC-SW32-021419-T				
Operator ID:		ALS Bottle#:	22	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2023.D				
Lims ID:	680-164605-B-15-A				
Client ID:	MRC-SW32-021419-T				
Sample Type:	Client				
Inject. Date:	21-Feb-2019 03:18:30	ALS Bottle#:	22	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-B-15-A				
Misc. Info.:	680-0053931-022				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:20:45	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:20:45		

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	1.61	64.22

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: FB-SW-021419-T | Lab Sample ID: 680-164605-16

Matrix: Water | Lab File ID: xb2024.D

Analysis Method: 680 | Date Collected: 02/14/2019 14:30

Extract. Method: 680 | Date Extracted: 02/19/2019 13:42

Sample wt/vol: 1027.5(mL) | Date Analyzed: 02/21/2019 03:47

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559058 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	ND		0.29	0.029
26601-64-9	Hexachlorobiphenyl	ND		0.19	0.015
53742-07-7	Nonachlorobiphenyl	ND		0.49	0.048
55722-26-4	Octachlorobiphenyl	ND		0.29	0.037
27323-18-8	Monochlorobiphenyl	ND		0.097	0.0055
2051-24-3	DCB Decachlorobiphenyl	ND		0.49	0.068
25512-42-9	Total Dichlorobiphenyls	ND		0.097	0.0053
25429-29-2	Total Pentachlorobiphenyls	ND		0.19	0.014
26914-33-0	Total Tetrachlorobiphenyls	ND		0.19	0.013
25323-68-6	Total Trichlorobiphenyls	ND		0.097	0.0063

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	52		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2024.D				
Lims ID:	680-164605-B-16-A				
Client ID:	FB-SW-021419-T				
Sample Type:	Client				
Inject. Date:	21-Feb-2019 03:47:30	ALS Bottle#:	23	Worklist Smp#:	23
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-B-16-A				
Misc. Info.:	680-0053931-023				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:21:06	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:21:06		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	156590	0.7500	a
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	150927	0.7500	
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	34	13976	1.29	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
* 5 Phenanthrene-d10									a
188	12.409	12.409	0.0	100	156590	0.7500			a
189	12.409	12.409	0.0		23542		5.9- 7.5	6.7	
* 15 Chrysene-d12									
240	18.668	18.668	0.0	100	150927	0.7500			
241	18.668	18.668	0.0		28920		4.3- 5.9	5.2	
$ 22 Decachlorobiphenyl-13C12									
510	21.796	21.796	0.0	34	13976	1.29			
512	21.796	21.796	0.0		10658		0.9- 1.3	1.3	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

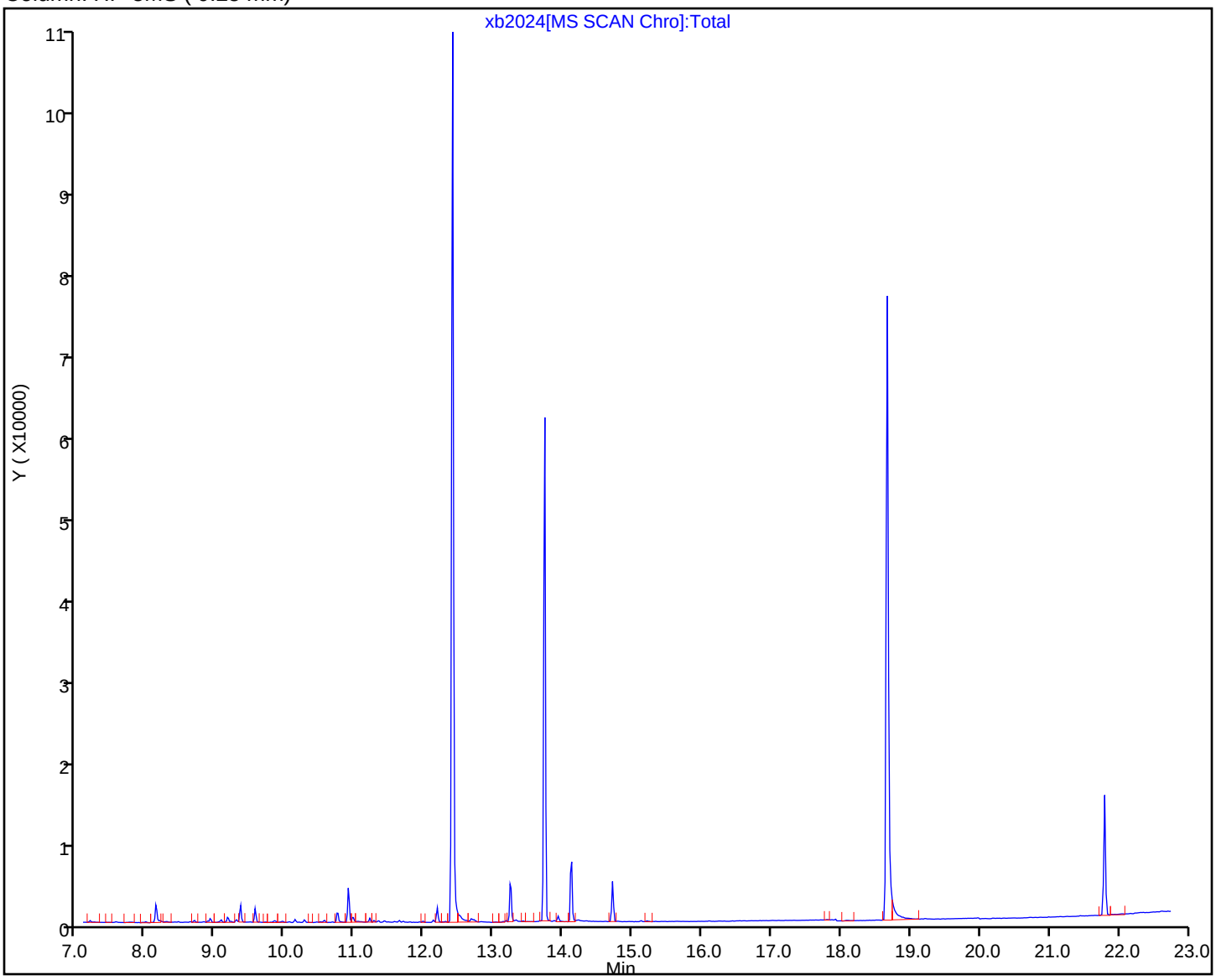
SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 22-Feb-2019 09:21:06 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2024.D				
Injection Date:	21-Feb-2019 03:47:30	Instrument ID:	CMSX		
Lims ID:	680-164605-B-16-A	Lab Sample ID:	680-164605-16		
Client ID:	FB-SW-021419-T				
Operator ID:		ALS Bottle#:	23	Worklist Smp#:	23
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2024.D				
Lims ID:	680-164605-B-16-A				
Client ID:	FB-SW-021419-T				
Sample Type:	Client				
Inject. Date:	21-Feb-2019 03:47:30	ALS Bottle#:	23	Worklist Smp#:	23
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-B-16-A				
Misc. Info.:	680-0053931-023				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:21:06	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:21:06		

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	1.29	51.55

TestAmerica Savannah

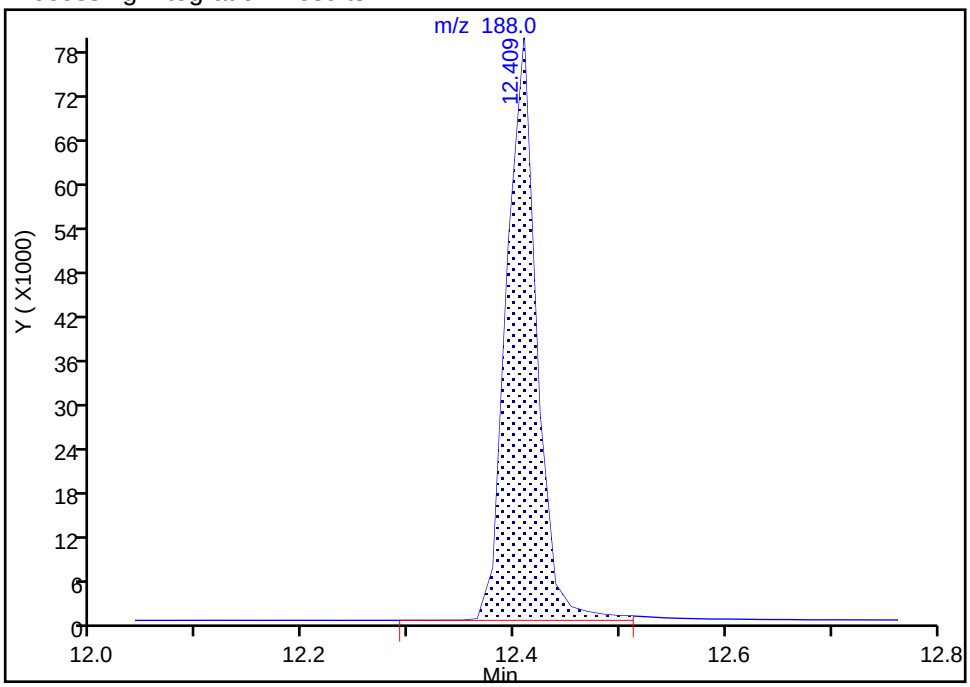
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2024.D
Injection Date: 21-Feb-2019 03:47:30 Instrument ID: CMSX
Lims ID: 680-164605-B-16-A Lab Sample ID: 680-164605-16
Client ID: FB-SW-021419-T
Operator ID: ALS Bottle#: 23 Worklist Smp#: 23
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

* 5 Phenanthrene-d10, CAS: 1517-22-2

Signal: 1

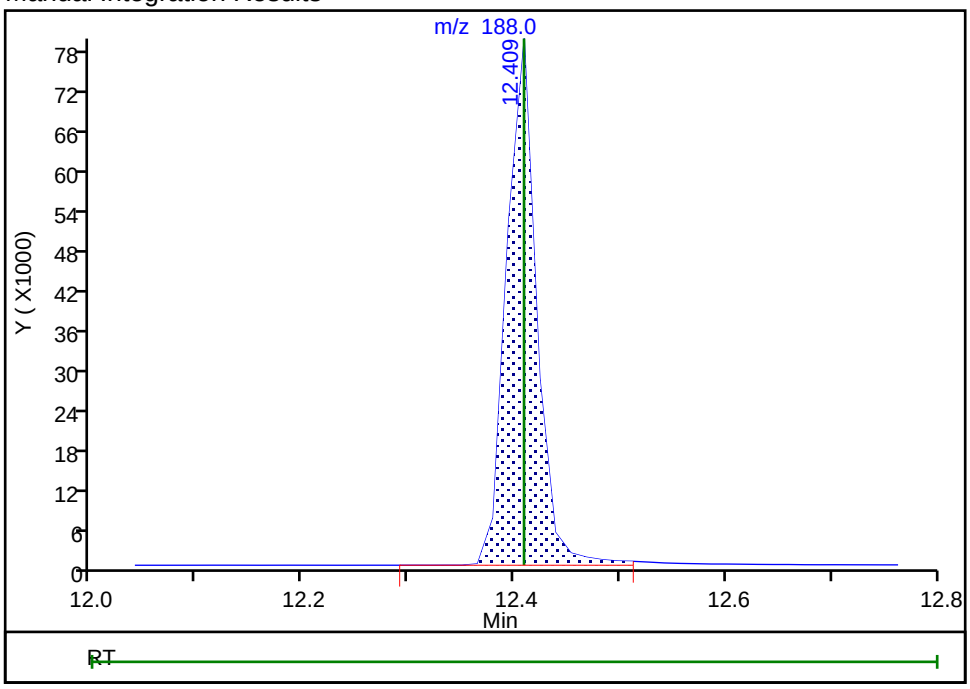
Processing Integration Results

RT: 12.41
Area: 156590
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 12.41
Area: 156590
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 22-Feb-2019 09:20:54
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: MRC-SW31-021419-T | Lab Sample ID: 680-164605-17

Matrix: Water | Lab File ID: xb2025.D

Analysis Method: 680 | Date Collected: 02/14/2019 16:35

Extract. Method: 680 | Date Extracted: 02/19/2019 13:42

Sample wt/vol: 1031.8(mL) | Date Analyzed: 02/21/2019 04:16

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559058 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	ND		0.29	0.029
26601-64-9	Hexachlorobiphenyl	ND		0.19	0.015
53742-07-7	Nonachlorobiphenyl	ND		0.48	0.047
55722-26-4	Octachlorobiphenyl	ND		0.29	0.037
27323-18-8	Monochlorobiphenyl	ND		0.097	0.0054
2051-24-3	DCB Decachlorobiphenyl	ND		0.48	0.068
25512-42-9	Total Dichlorobiphenyls	ND		0.097	0.0052
25429-29-2	Total Pentachlorobiphenyls	ND		0.19	0.014
26914-33-0	Total Tetrachlorobiphenyls	ND		0.19	0.013
25323-68-6	Total Trichlorobiphenyls	ND		0.097	0.0063

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	50		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2025.D				
Lims ID:	680-164605-A-17-A				
Client ID:	MRC-SW31-021419-T				
Sample Type:	Client				
Inject. Date:	21-Feb-2019 04:16:30	ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-A-17-A				
Misc. Info.:	680-0053931-024				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:21:06	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:21:16		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	159266	0.7500	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	155580	0.7500	
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	34	14078	1.26	

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	159266	0.7500			
189	12.409	12.409	0.0		23589		5.9- 7.5	6.8	
* 15 Chrysene-d12									
240	18.668	18.668	0.0	100	155580	0.7500			
241	18.668	18.668	0.0		29593		4.3- 5.9	5.3	
$ 22 Decachlorobiphenyl-13C12									
510	21.796	21.796	0.0	34	14078	1.26			
512	21.796	21.796	0.0		11057		0.9- 1.3	1.3	

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

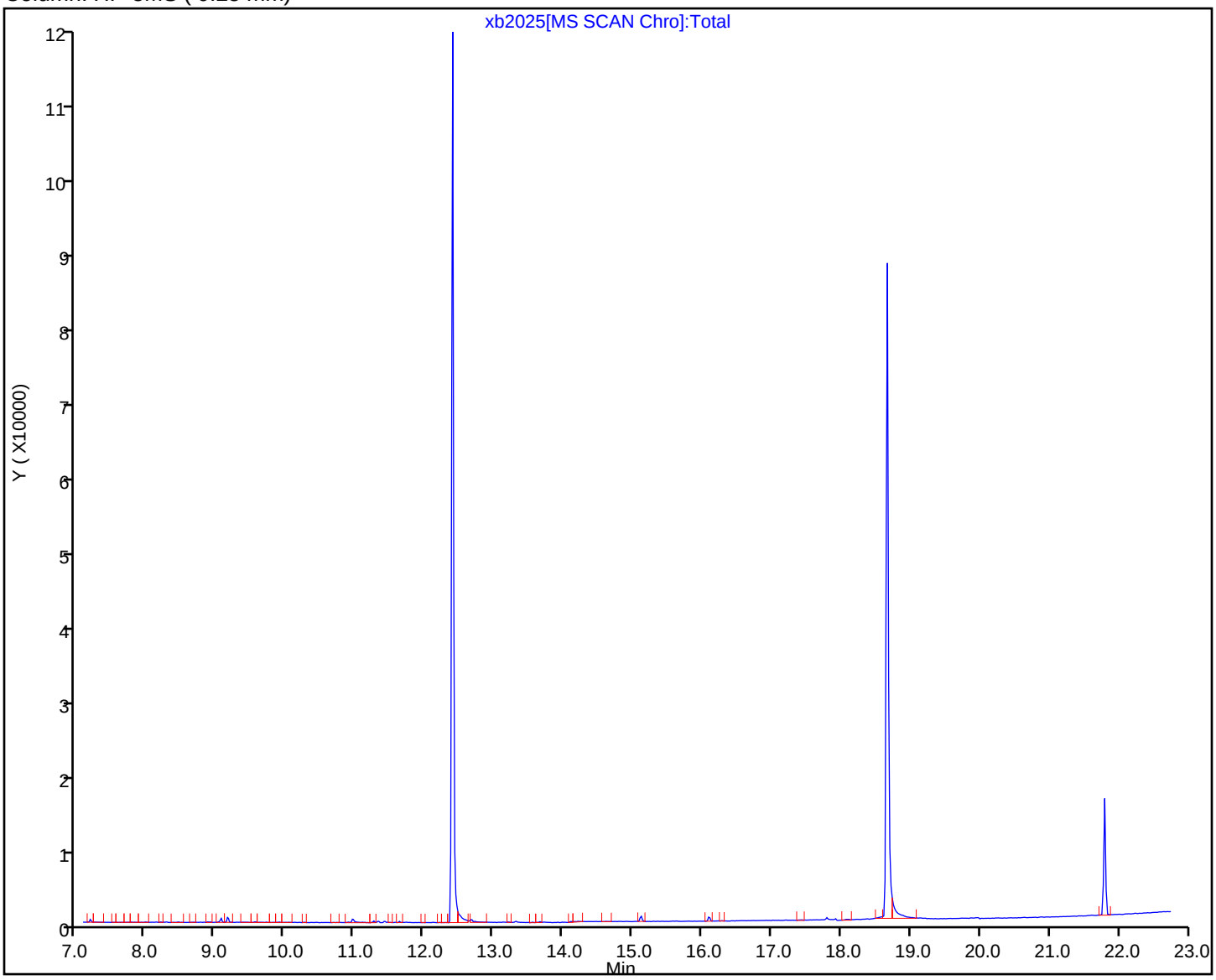
Report Date: 22-Feb-2019 09:21:16 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2025.D

Injection Date:	21-Feb-2019 04:16:30	Instrument ID:	CMSX		
Lims ID:	680-164605-A-17-A	Lab Sample ID:	680-164605-17		
Client ID:	MRC-SW31-021419-T				
Operator ID:		ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2025.D				
Lims ID:	680-164605-A-17-A				
Client ID:	MRC-SW31-021419-T				
Sample Type:	Client				
Inject. Date:	21-Feb-2019 04:16:30	ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-A-17-A				
Misc. Info.:	680-0053931-024				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:21:06	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:21:16		

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	1.26	50.37

FORM VI

PCBS BY INTERNAL STANDARD AND EXTERNAL CALIBRATION DATA

CURVE EVALUATION

Lab Name: TestAmerica Savannah Job No.: 680-164605-1 Analy Batch No.: 554469

SDG No.:

Instrument ID: CMSX GC Column: HP-5MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/08/2019 15:11 Calibration End Date: 01/08/2019 18:02 Calibration ID: 63054

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-554469/8	xa0812.D
Level 2	IC 680-554469/7	xa0811.D
Level 3	IC 680-554469/6	xa0810.D
Level 4	ICISAV 680-554469/3	xa0807.D
Level 5	IC 680-554469/5	xa0809.D
Level 6	IC 680-554469/27	xa0850.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Monochlorobiphenyl	0.8996 0.7328	0.9591	0.8421	0.7511	0.7982	Ave		0.8305				10.5		20.0			
Total Dichlorobiphenyls	0.6149 0.5403	0.6640	0.5816	0.5345	0.5729	Ave		0.5847				8.3		20.0			
Total Trichlorobiphenyls	0.4352 0.3978	0.4678	0.4198	0.3862	0.4119	Ave		0.4198				6.9		20.0			
Total Tetrachlorobiphenyls	0.3042 0.2774	0.3307	0.3000	0.2694	0.2890	Ave		0.2951				7.4		20.0			
Total Pentachlorobiphenyls	0.2418 0.2366	0.2574	0.2399	0.2254	0.2389	Ave		0.2400				4.3		20.0			
Hexachlorobiphenyl	0.2406 0.2321	0.2514	0.2371	0.2285	0.2407	Ave		0.2384				3.3		20.0			
Heptachlorobiphenyl	0.2942 0.2138	0.2738	0.2182	0.2060	0.2195	Ave		0.2376				15.5		20.0			
Octachlorobiphenyl	0.2066 0.1990	0.2174	0.2088	0.1909	0.2095	Ave		0.2054				4.5		20.0			
Nonachlorobiphenyl				0.0526		Ave		0.0420				4.1		20.0			
DCB Decachlorobiphenyl	0.0399 0.0439	0.0422	0.0420	0.0400	0.0437	Ave		0.0420				4.1		20.0			
Decachlorobiphenyl-13C12	0.0517 0.0529	0.0512	0.0597	0.0527	0.0552	Ave		0.0539				5.8		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI

PCBS BY INTERNAL STANDARD AND EXTERNAL CALIBRATION DATA

RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Savannah Job No.: 680-164605-1 Analy Batch No.: 554469

SDG No.:

Instrument ID: CMSX GC Column: HP-5MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/08/2019 15:11 Calibration End Date: 01/08/2019 18:02 Calibration ID: 63054

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-554469/8	xa0812.D
Level 2	IC 680-554469/7	xa0811.D
Level 3	IC 680-554469/6	xa0810.D
Level 4	ICISAV 680-554469/3	xa0807.D
Level 5	IC 680-554469/5	xa0809.D
Level 6	IC 680-554469/27	xa0850.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Monochlorobiphenyl	CRY	Ave	8242 813481	15382	70279	157619	299489	0.0500 5.00	0.100	0.500	1.00	2.00
Total Dichlorobiphenyls	CRY	Ave	5634 599778	10649	48537	112170	214973	0.0500 5.00	0.100	0.500	1.00	2.00
Total Trichlorobiphenyls	CRY	Ave	3987 441580	7502	35031	81047	154555	0.0500 5.00	0.100	0.500	1.00	2.00
Total Tetrachlorobiphenyls	CRY	Ave	5574 615833	10606	50081	113059	216849	0.100 10.0	0.200	1.00	2.00	4.00
Total Pentachlorobiphenyls	CRY	Ave	4430 525344	8255	40050	94602	179296	0.100 10.0	0.200	1.00	2.00	4.00
Hexachlorobiphenyl	CRY	Ave	4409 515192	8063	39570	95892	180616	0.100 10.0	0.200	1.00	2.00	4.00
Heptachlorobiphenyl	CRY	Ave	8087 711849	13173	54642	129695	247124	0.150 15.0	0.300	1.50	3.00	6.00
Octachlorobiphenyl	CRY	Ave	5679 662783	10462	52287	120191	235791	0.150 15.0	0.300	1.50	3.00	6.00
Nonachlorobiphenyl	CRY	Ave				55196					5.00	
DCB Decachlorobiphenyl	CRY	Ave	1830 243534	3384	17538	42007	81970	0.250 25.0	0.500	2.50	5.00	10.0
Decachlorobiphenyl-13C12	CRY	Ave	2369 234805	4106	24902	55313	103476	0.250 20.0	0.500	2.50	5.00	10.0

Curve Type Legend:

Ave = Average ISTD

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0807.D				
Lims ID:	icis				
Client ID:					
Sample Type:	ICIS	Calib Level:	3		
Inject. Date:	08-Jan-2019 15:11:30	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	ICIS				
Misc. Info.:	680-0053107-003				
Operator ID:		Instrument ID:	CMSX		
Sublist:	chrom-680_CMSX*sub13				
Method:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\680_CMSX.m				
Limit Group:	680				
Last Update:	09-Jan-2019 11:34:08	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0310				
First Level Reviewer: davisn		Date:	08-Jan-2019 15:42:19		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.636	9.139 - 10.133		0	157619	0.9044	
A 24 Total Dichlorobiphenyls	222	11.432	10.466 - 12.398		0	112170	0.9142	
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	165277	0.7500	
A 25 Total Trichlorobiphenyls	256	13.118	11.773 - 14.463		0	81047	0.9201	
9 PCB-104	326	14.399	14.399	0.0	80	139802	2.00	a
A 26 Total Tetrachlorobiphenyls	292	14.705	12.911 - 16.499		0	113059	1.83	
A 27 Total Pentachlorobiphenyls	326	16.124	14.339 - 17.908		0	94602	1.88	
12 PCB-77	292	16.439	16.439	0.0	96	178765	2.00	a
A 28 Total Hexachlorobiphenyls	360	17.343	15.365 - 19.320		0	95892	1.92	
A 29 Total Heptachlorobiphenyls	394	18.481	16.998 - 19.963		0	129695	2.60	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	157383	0.7500	a
A 30 Total Octachlorobiphenyls	430	19.582	18.505 - 20.658		0	120191	2.79	
A 31 Total Nonachlorobiphenyls	464	20.250	18.500 - 22.000		0	55196	6.27	
19 PCB-208	464	20.286	20.286	0.0	97	55462	4.00	a
32 DCB Decachlorobiphenyl	498	21.796	21.796	0.0	94	42007	4.77	a
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	94	55313	4.89	a

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal3_00045 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	S/N	Flags
A 23 Total Monochlorobiphenyls										
188	9.328	9.139 -	10.133	22	157619	0.9044				
190	9.328				51511		2.5- 3.5	3.1		
152	9.328				88402		50.7- 50.7	0.6		
153	9.328				37791		23.2- 23.2	1.4		
A 24 Total Dichlorobiphenyls										
222	11.569	10.466 -	12.398	23	112170	0.9142				
224	11.569				72227		1.3- 1.7	1.6		
152	11.554				85944		31.7- 111.7	0.8		
153	11.554				10916		0.0- 49.1	6.6		
186	11.554				10439		0.0- 48.9	6.9		
188	11.569				3906		0.0- 43.3	18.5		
* 5 Phenanthrene-d10										
188	12.409	12.409	0.0	100	165277	0.7500				
189	12.409	12.409	0.0		24571		5.9- 7.5	6.7		
A 25 Total Trichlorobiphenyls										
256	13.087	11.773 -	14.463	97	81047	0.9201				
258	13.087				78072		0.8- 1.2	1.0		
186	13.087				54656		26.5- 106.5	1.4		
188	13.087				17656		0.0- 61.5	4.4		
A 26 Total Tetrachlorobiphenyls										
292	13.367	12.911 -	16.499	0	113059	1.83				
290	13.367				88812		1.1- 1.5	1.3		
220	13.353				108880		58.1- 138.1	0.8		
222	13.353				70373		22.9- 102.9	1.3		
A 27 Total Pentachlorobiphenyls										
326	16.249	14.339 -	17.908	87	94602	1.88				
324	16.249				58803		1.4- 1.8	1.6		
254	16.249				69456		41.9- 121.9	0.8		
256	16.249				66091		38.2- 118.2	0.9		
258	16.249				21944		0.0- 65.4	2.7		
A 28 Total Hexachlorobiphenyls										
360	16.439	15.365 -	19.320	89	95892	1.92				
362	16.439				76218		1.0- 1.4	1.3		
288	16.439				54677		61.3- 61.3	1.4		
290	16.439				187141		220.6- 220.6	0.4		
292	16.439				179676		0.0- 0.0	0.4		
A 29 Total Heptachlorobiphenyls										
394	17.216	16.998 -	19.963	93	129695	2.60				
396	17.216				122550		0.8- 1.2	1.1		
322	17.198				55231		48.3- 48.3	2.2		
324	17.198				86578		77.4- 77.4	1.4		
* 15 Chrysene-d12										a
240	18.668	18.668	0.0	100	157383	0.7500			376	a
241	18.668	18.668	0.0		29912		4.3- 5.9	5.3		

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	S/N	Flags
A 30 Total Octachlorobiphenyls										
430	18.858	18.505	-20.658	90	120191	2.79				
428	18.858				108999		0.9- 1.3	1.1		
356	18.841				43254		39.6- 39.6	2.5		
358	18.841				82773		75.2- 75.2	1.3		
360	18.841				65862		59.6- 59.6	1.7		
A 31 Total Nonachlorobiphenyls										
464	20.286	18.500	-22.000	54	55196	6.27				
466	20.286				40008		1.1- 1.5	1.4		
390	20.286				27893		0.0- 0.0	1.4		
392	20.286				60934		0.0- 0.0	0.7		
394	20.286				57993		0.0- 0.0	0.7		
32 DCB Decachlorobiphenyl										a
498	21.796	21.796	0.0	94	42007	4.77			20216	a
500	21.796	21.796	0.0		33916		0.9- 1.3	1.2		
424	21.796	21.796	0.0		18141		0.0- 0.0	1.0		
426	21.796	21.796	0.0		44323		0.0- 0.0	1.0		
428	21.796	21.796	0.0		47295		0.0- 0.0	1.0		
430	21.796	21.796	0.0		29383		0.0- 0.0	1.0		
$ 22 Decachlorobiphenyl-13C12										a
510	21.796	21.796	0.0	94	55313	4.89				a
512	21.796	21.796	0.0		43194		0.9- 1.3	1.3		

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal3_00045 Amount Added: 1.00 Units: mL

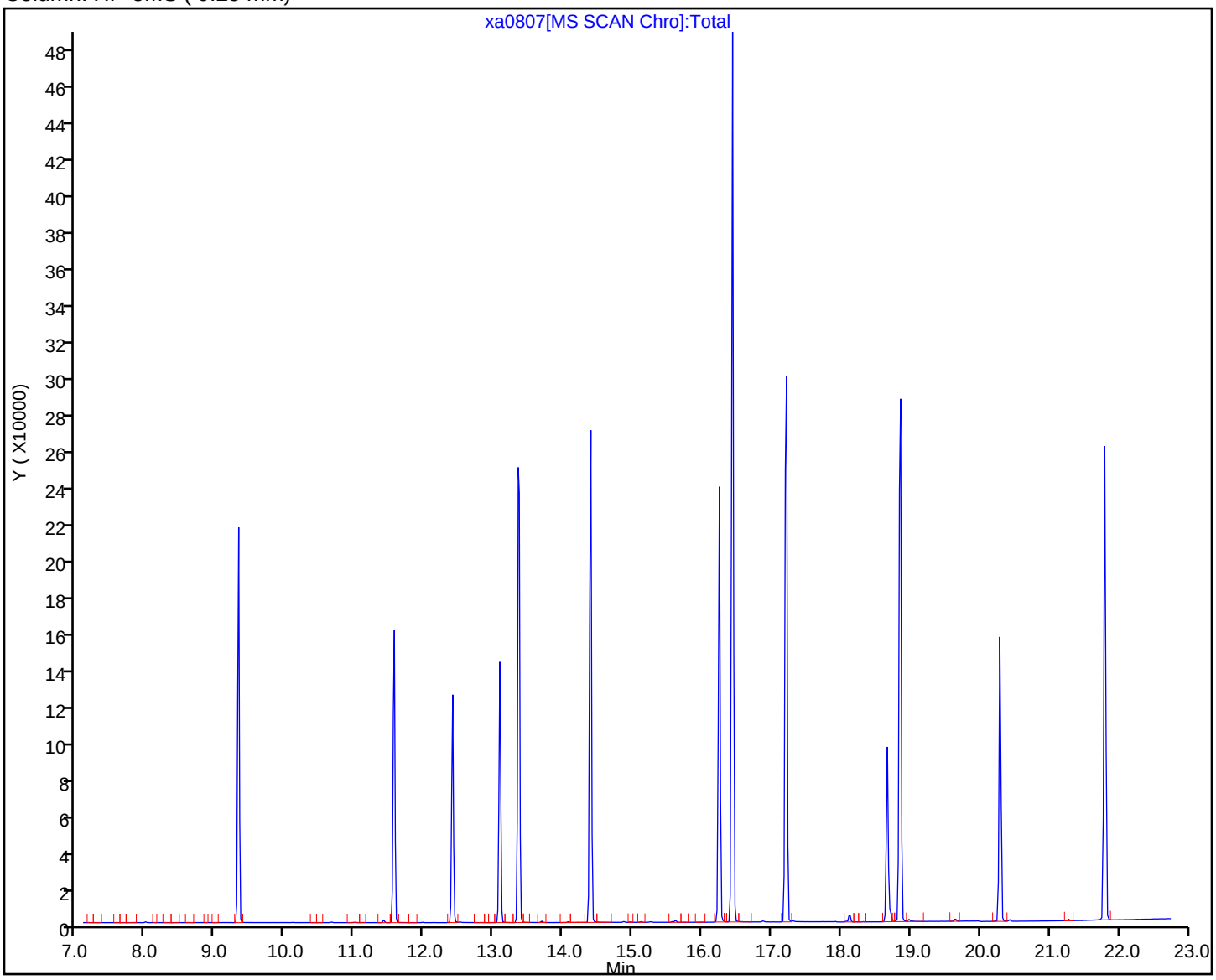
Report Date: 09-Jan-2019 11:34:09 Chrom Revision: 2.3 13-Dec-2018 17:23:12

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0807.D

Injection Date:	08-Jan-2019 15:11:30	Instrument ID:	CMSX		
Lims ID:	icis				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

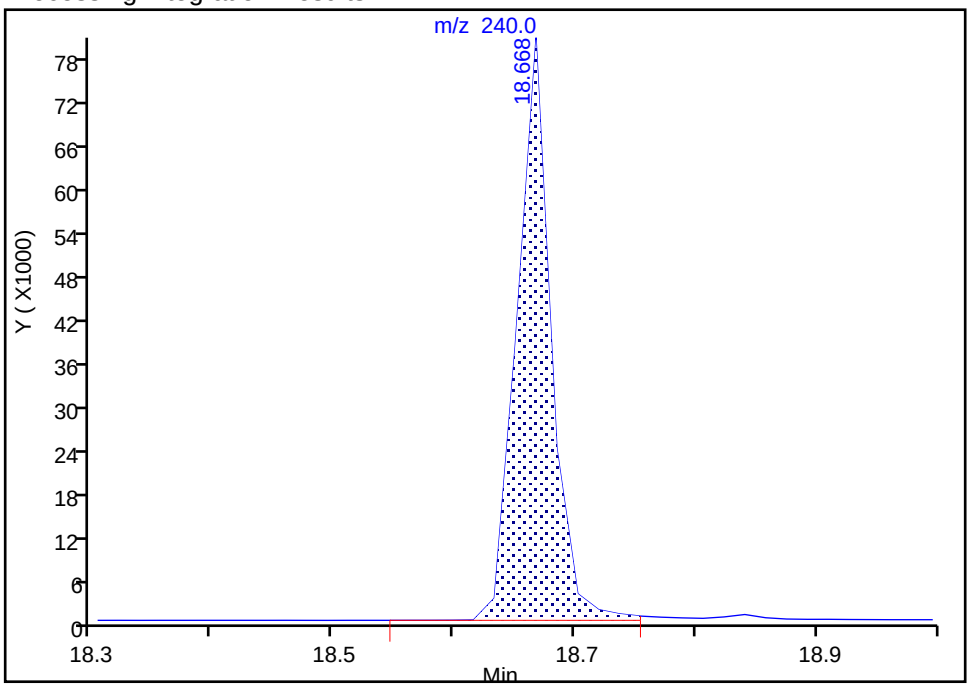
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0807.D
Injection Date: 08-Jan-2019 15:11:30 Instrument ID: CMSX
Lims ID: icis
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

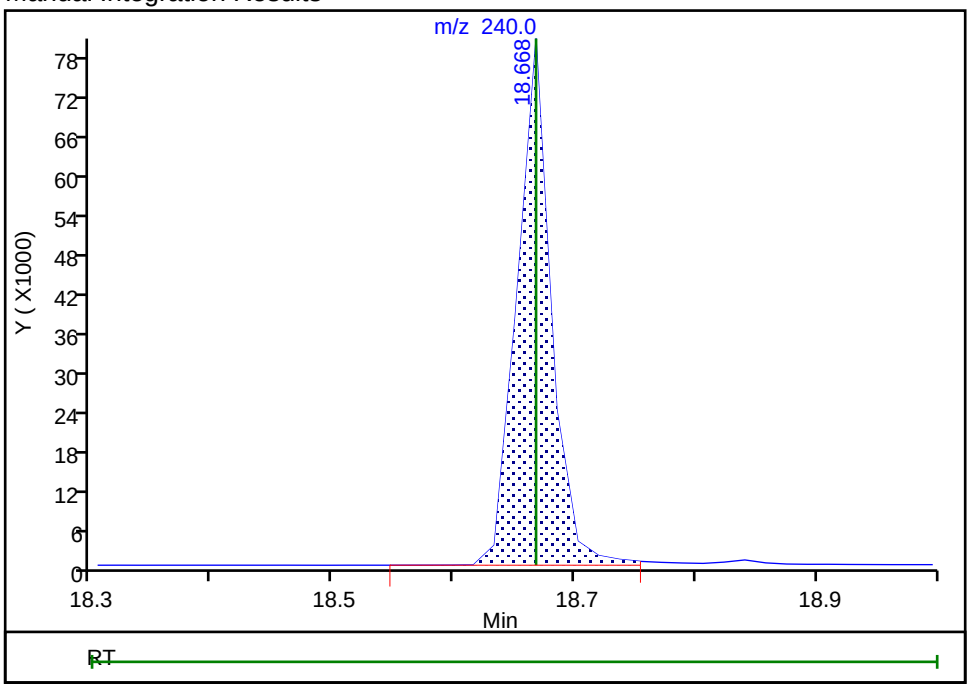
Processing Integration Results

RT: 18.67
Area: 157383
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.67
Area: 157383
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 09-Jan-2019 11:18:51
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

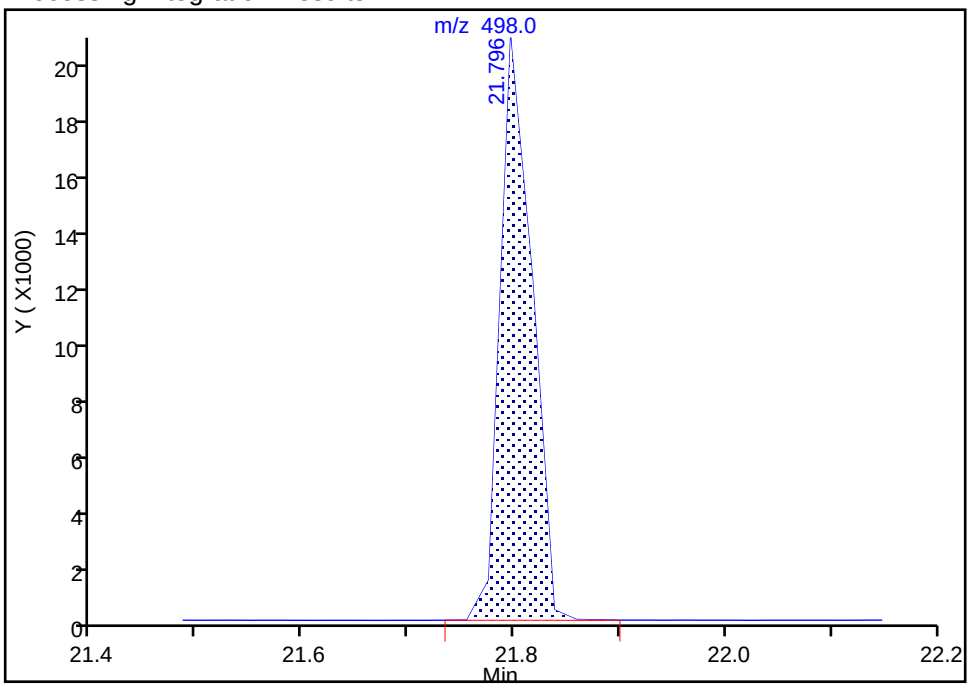
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0807.D
Injection Date: 08-Jan-2019 15:11:30 Instrument ID: CMSX
Lims ID: icis
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

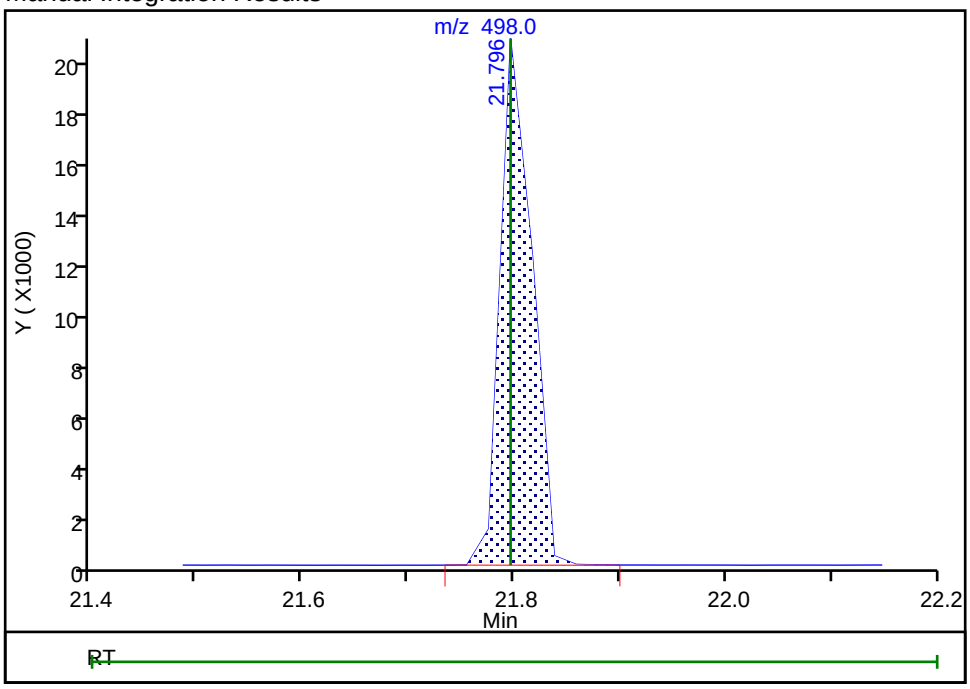
Processing Integration Results

RT: 21.80
Area: 42007
Amount: 5.467694
Amount Units: ug/ml



Manual Integration Results

RT: 21.80
Area: 42007
Amount: 4.770292
Amount Units: ug/ml



Reviewer: davisn, 09-Jan-2019 11:19:17
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

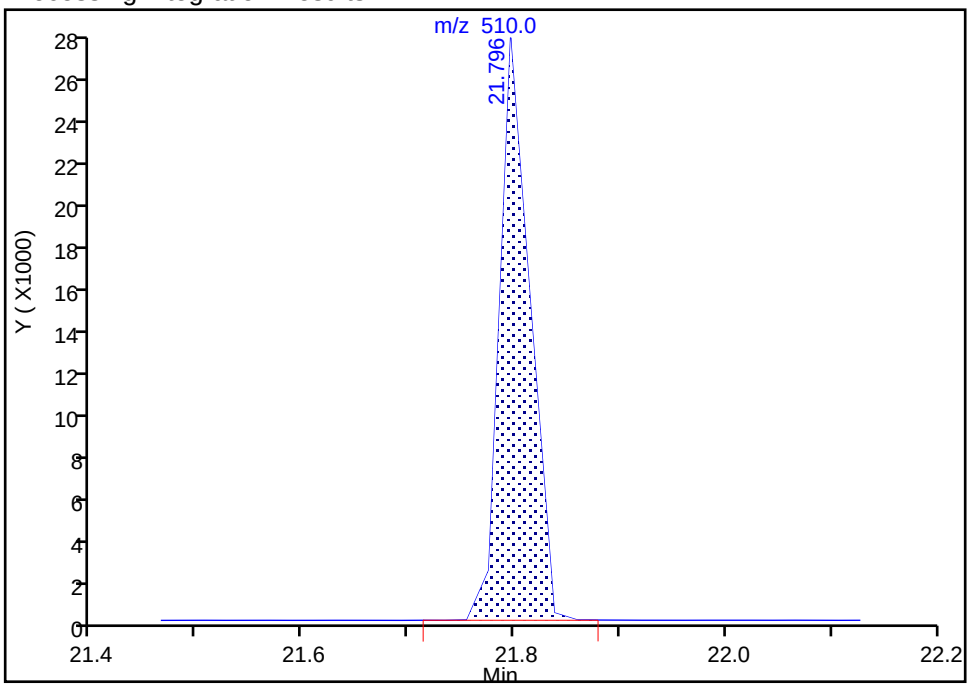
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0807.D
Injection Date: 08-Jan-2019 15:11:30 Instrument ID: CMSX
Lims ID: icis
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

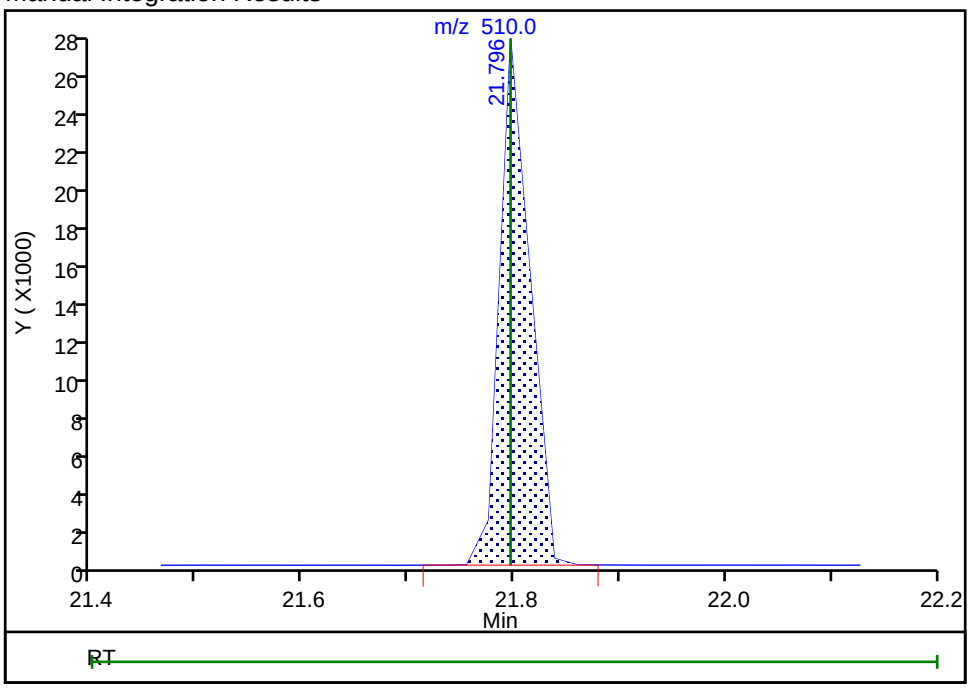
Processing Integration Results

RT: 21.80
Area: 55313
Amount: 5.897112
Amount Units: ug/ml



Manual Integration Results

RT: 21.80
Area: 55313
Amount: 4.891093
Amount Units: ug/ml



Reviewer: davisn, 09-Jan-2019 11:19:14
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0809.D				
Lims ID:	ic				
Client ID:					
Sample Type:	IC	Calib Level:	4		
Inject. Date:	08-Jan-2019 16:08:30	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	IC				
Misc. Info.:	680-0053107-005				
Operator ID:		Instrument ID:	CMSX		
Sublist:	chrom-680_CMSX*sub13				
Method:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\680_CMSX.m				
Limit Group:	680				
Last Update:	09-Jan-2019 11:34:11	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0310				
First Level Reviewer: davisn		Date:	08-Jan-2019 16:42:09		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.636	9.139 - 10.133		0	299489	1.92	
A 24 Total Dichlorobiphenyls	222	11.432	10.466 - 12.398		0	214973	1.96	
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	99	151688	0.7500	
A 25 Total Trichlorobiphenyls	256	13.118	11.773 - 14.463		0	154555	1.96	
A 26 Total Tetrachlorobiphenyls	292	14.705	12.911 - 16.499		0	216849	3.92	
A 27 Total Pentachlorobiphenyls	326	16.124	14.339 - 17.908		0	179296	3.98	
A 28 Total Hexachlorobiphenyls	360	17.343	15.365 - 19.320		0	180616	4.04	
A 29 Total Heptachlorobiphenyls	394	18.481	16.998 - 19.963		0	247124	5.54	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	140705	0.7500	a
A 30 Total Octachlorobiphenyls	430	19.582	18.505 - 20.658		0	235791	6.12	
32 DCB Decachlorobiphenyl	498	21.796	21.796	0.0	98	81970	10.4	a
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	98	103476	10.2	a

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal4_00019 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.328	9.139 -	10.133	22	299489	1.92			
190	9.328				97317		2.5- 3.5	3.1	
152	9.313				167355		50.7- 50.7	0.6	
153	9.313				71004		23.2- 23.2	1.4	
A 24 Total Dichlorobiphenyls									
222	11.569	10.466 -	12.398	22	214973	1.96			
224	11.569				137137		1.3- 1.7	1.6	
152	11.554				164867		31.7- 111.7	0.8	
153	11.554				20833		0.0- 49.1	6.6	
186	11.554				19955		0.0- 48.9	6.9	
188	11.554				7274		0.0- 43.3	18.9	
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	99	151688	0.7500			
189	12.409	12.409	0.0		22478		5.9- 7.5	6.7	
A 25 Total Trichlorobiphenyls									
256	13.087	11.773 -	14.463	95	154555	1.96			
258	13.087				148731		0.8- 1.2	1.0	
186	13.073				106639		26.5- 106.5	1.4	
188	13.087				34333		0.0- 61.5	4.3	
A 26 Total Tetrachlorobiphenyls									
292	13.367	12.911 -	16.499	0	216849	3.92			
290	13.367				169704		1.1- 1.5	1.3	
220	13.353				207655		58.1- 138.1	0.8	
222	13.353				134379		22.9- 102.9	1.3	
A 27 Total Pentachlorobiphenyls									
326	16.249	14.339 -	17.908	85	179296	3.98			
324	16.249				112108		1.4- 1.8	1.6	
254	16.249				135225		41.9- 121.9	0.8	
256	16.249				130222		38.2- 118.2	0.9	
258	16.249				43181		0.0- 65.4	2.6	
A 28 Total Hexachlorobiphenyls									
360	16.439	15.365 -	19.320	61	180616	4.04			
362	16.439				143291		1.0- 1.4	1.3	
288	16.439				104542		61.3- 61.3	1.4	
290	16.439				133847		220.6- 220.6	1.1	
292	16.439				65167		0.0- 0.0	2.2	
A 29 Total Heptachlorobiphenyls									
394	17.216	16.998 -	19.963	93	247124	5.54			
396	17.216				234653		0.8- 1.2	1.1	
322	17.198				106041		48.3- 48.3	2.2	
324	17.198				169038		77.4- 77.4	1.4	
* 15 Chrysene-d12									a
240	18.668	18.668	0.0	100	140705	0.7500			a
241	18.668	18.668	0.0		27260		4.3- 5.9	5.2	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.858	18.505	-20.658	91	235791	6.12			
428	18.858				215308		0.9- 1.3	1.1	
356	18.841				83236		39.6- 39.6	2.6	
358	18.841				155371		75.2- 75.2	1.4	
360	18.841				125271		59.6- 59.6	1.7	
32 DCB Decachlorobiphenyl									a
498	21.796	21.796	0.0	98	81970	10.4			a
500	21.817	21.796	0.021		65314		0.9- 1.3	1.3	
424	21.796	21.796	0.0		34934		0.0- 0.0	1.0	
426	21.796	21.796	0.0		86033		0.0- 0.0	1.0	
428	21.796	21.796	0.0		92372		0.0- 0.0	1.0	
430	21.796	21.796	0.0		57507		0.0- 0.0	1.0	
$ 22 Decachlorobiphenyl-13C12									a
510	21.796	21.796	0.0	98	103476	10.2			a
512	21.796	21.796	0.0		80944		0.9- 1.3	1.3	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal4_00019 Amount Added: 1.00 Units: mL

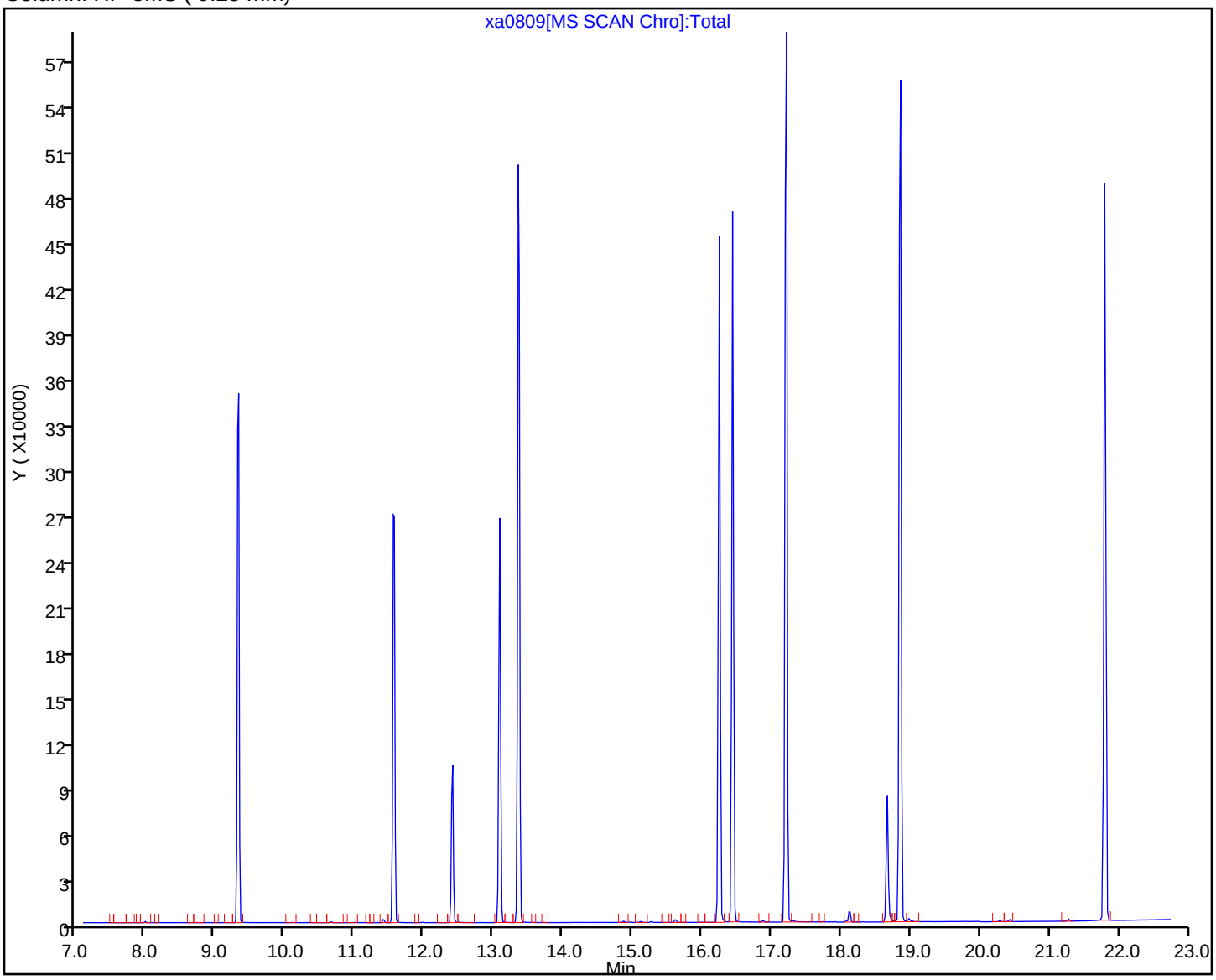
Report Date: 09-Jan-2019 11:34:12 Chrom Revision: 2.3 13-Dec-2018 17:23:12

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0809.D

Injection Date:	08-Jan-2019 16:08:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

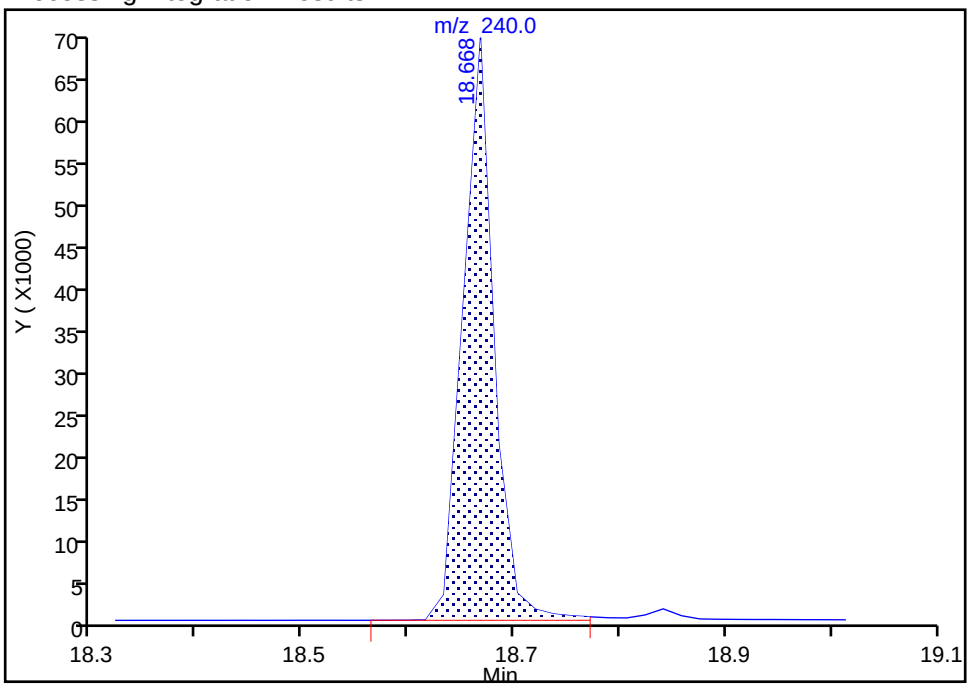
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0809.D
Injection Date: 08-Jan-2019 16:08:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

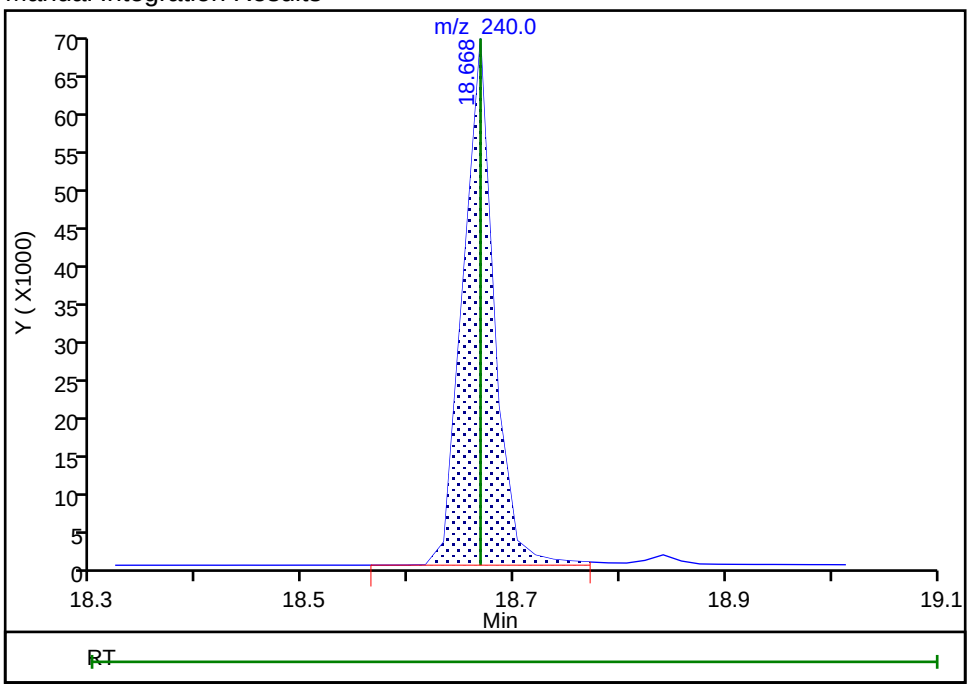
Processing Integration Results

RT: 18.67
Area: 140705
Amount: 1.500000
Amount Units: ug/ml



Manual Integration Results

RT: 18.67
Area: 140705
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 08-Jan-2019 16:41:09
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

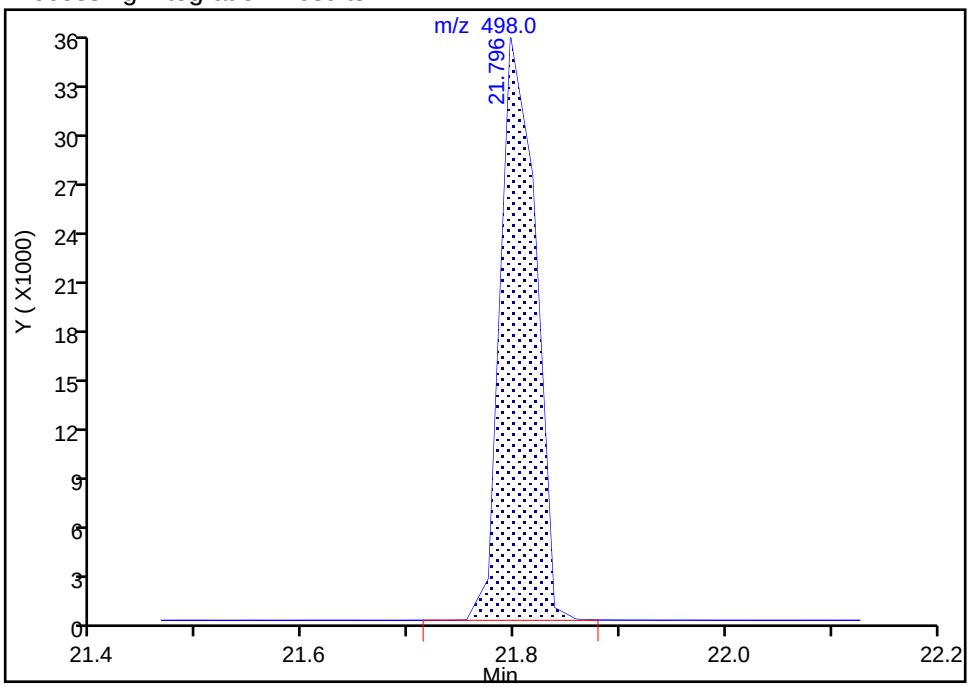
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0809.D
Injection Date: 08-Jan-2019 16:08:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

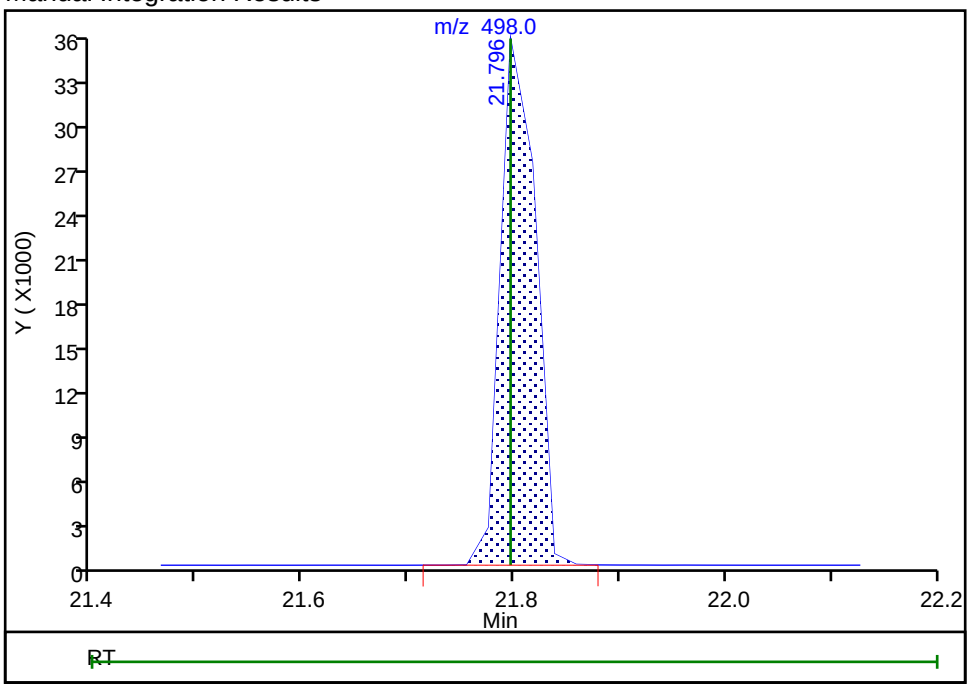
Processing Integration Results

RT: 21.80
Area: 81970
Amount: 11.906460
Amount Units: ug/ml



Manual Integration Results

RT: 21.80
Area: 81970
Amount: 10.411818
Amount Units: ug/ml



Reviewer: davisn, 08-Jan-2019 16:41:22
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

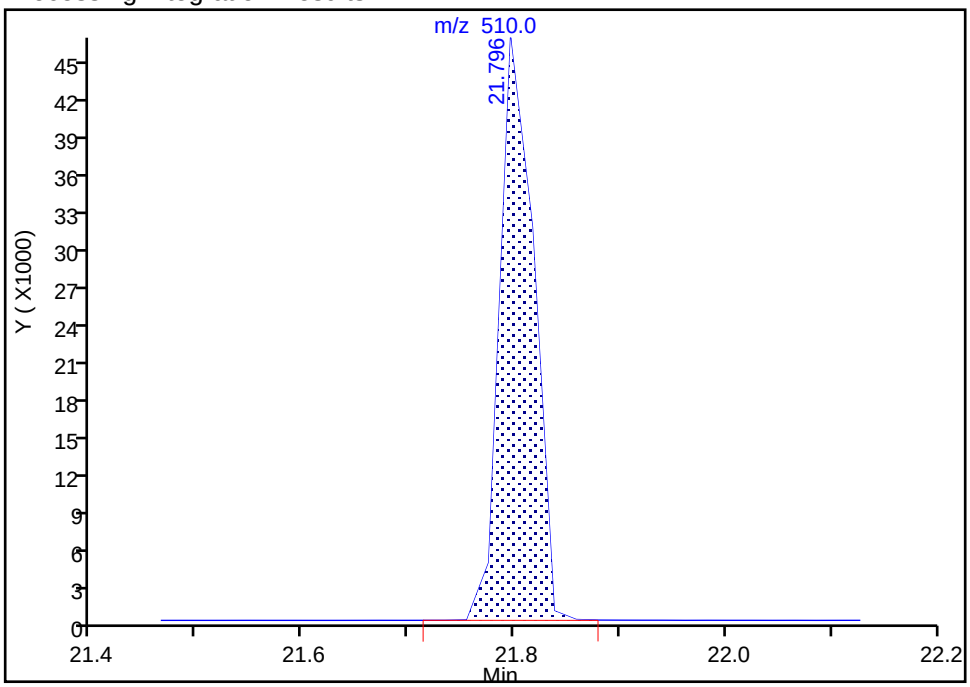
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0809.D
Injection Date: 08-Jan-2019 16:08:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

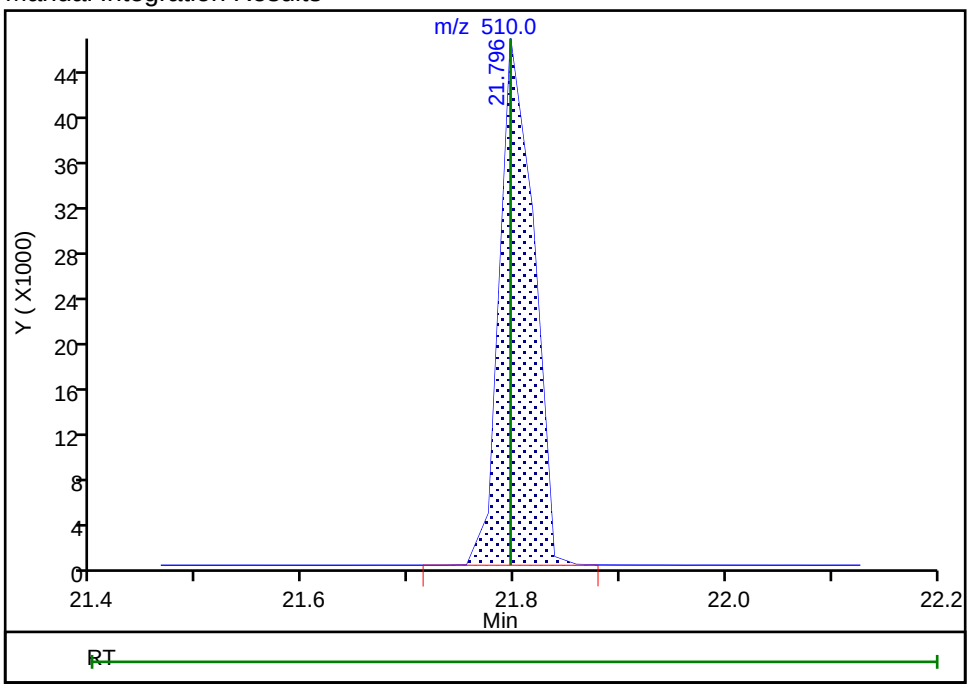
Processing Integration Results

RT: 21.80
Area: 103476
Amount: 12.105034
Amount Units: ug/ml



Manual Integration Results

RT: 21.80
Area: 103476
Amount: 10.234500
Amount Units: ug/ml



Reviewer: davisn, 08-Jan-2019 16:41:20
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0810.D				
Lims ID:	ic				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	08-Jan-2019 16:37:30	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	IC				
Misc. Info.:	680-0053107-006				
Operator ID:		Instrument ID:	CMSX		
Sublist:	chrom-680_CMSX*sub13				
Method:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\680_CMSX.m				
Limit Group:	680				
Last Update:	09-Jan-2019 11:34:14	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0310				
First Level Reviewer: davisn		Date:	08-Jan-2019 17:36:48		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.636	9.139 - 10.133		0	70279	0.5070	
A 24 Total Dichlorobiphenyls	222	11.432	10.466 - 12.398		0	48537	0.4973	
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	141912	0.7500	
A 25 Total Trichlorobiphenyls	256	13.118	11.773 - 14.463		0	35031	0.5000	
A 26 Total Tetrachlorobiphenyls	292	14.705	12.911 - 16.499		0	50081	1.02	
A 27 Total Pentachlorobiphenyls	326	16.124	14.339 - 17.908		0	40050	1.00	
A 28 Total Hexachlorobiphenyls	360	17.343	15.365 - 19.320		0	39570	0.99	
A 29 Total Heptachlorobiphenyls	394	18.481	16.998 - 19.963		0	54642	1.38	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	125185	0.7500	
A 30 Total Octachlorobiphenyls	430	19.582	18.505 - 20.658		0	52287	1.53	
32 DCB Decachlorobiphenyl	498	21.796	21.796	0.0	87	17538	2.50	
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	87	24902	2.77	

Reagents:

680isomerCal2_00019 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.328	9.139 -	10.133	22	70279	0.5070			
190	9.328				22627		2.5- 3.5	3.1	
152	9.328				39408		50.7- 50.7	0.6	
153	9.328				16919		23.2- 23.2	1.3	
A 24 Total Dichlorobiphenyls									
222	11.569	10.466 -	12.398	23	48537	0.4973			
224	11.569				31299		1.3- 1.7	1.6	
152	11.554				38625		31.7- 111.7	0.8	
153	11.554				4989		0.0- 49.1	6.3	
186	11.554				4573		0.0- 48.9	6.8	
188	11.569				1724		0.0- 43.3	18.2	
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	141912	0.7500			
189	12.409	12.409	0.0		20877		5.9- 7.5	6.8	
A 25 Total Trichlorobiphenyls									
256	13.087	11.773 -	14.463	98	35031	0.5000			
258	13.087				33764		0.8- 1.2	1.0	
186	13.087				23853		26.5- 106.5	1.4	
188	13.087				7866		0.0- 61.5	4.3	
A 26 Total Tetrachlorobiphenyls									
292	13.367	12.911 -	16.499	0	50081	1.02			
290	13.367				38770		1.1- 1.5	1.3	
220	13.353				47643		58.1- 138.1	0.8	
222	13.353				30128		22.9- 102.9	1.3	
A 27 Total Pentachlorobiphenyls									
326	16.249	14.339 -	17.908	87	40050	1.00			
324	16.249				25135		1.4- 1.8	1.6	
254	16.249				29289		41.9- 121.9	0.9	
256	16.249				27863		38.2- 118.2	0.9	
258	16.249				9666		0.0- 65.4	2.6	
A 28 Total Hexachlorobiphenyls									
360	16.439	15.365 -	19.320	61	39570	0.99			
362	16.439				31403		1.0- 1.4	1.3	
288	16.439				23233		61.3- 61.3	1.4	
290	16.439				29611		220.6- 220.6	1.1	
292	16.439				14458		0.0- 0.0	2.2	
A 29 Total Heptachlorobiphenyls									
394	17.216	16.998 -	19.963	94	54642	1.38			
396	17.216				51868		0.8- 1.2	1.1	
322	17.198				23362		48.3- 48.3	2.2	
324	17.198				36905		77.4- 77.4	1.4	
* 15 Chrysene-d12									
240	18.668	18.668	0.0	100	125185	0.7500			
241	18.668	18.668	0.0		23849		4.3- 5.9	5.2	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.858	18.505	-20.658	93	52287	1.53			
428	18.858				46700		0.9- 1.3	1.1	
356	18.841				18766		39.6- 39.6	2.5	
358	18.841				34959		75.2- 75.2	1.3	
360	18.841				27716		59.6- 59.6	1.7	
32 DCB Decachlorobiphenyl									
498	21.796	21.796	0.0	87	17538	2.50			
500	21.796	21.796	0.0		14083		0.9- 1.3	1.2	
424	21.796	21.796	0.0		7648		0.0- 0.0	1.0	
426	21.796	21.796	0.0		18892		0.0- 0.0	1.0	
428	21.796	21.796	0.0		20049		0.0- 0.0	1.0	
430	21.796	21.796	0.0		12729		0.0- 0.0	1.0	
$ 22 Decachlorobiphenyl-13C12									
510	21.796	21.796	0.0	87	24902	2.77			
512	21.796	21.796	0.0		19204		0.9- 1.3	1.3	

Reagents:

680isomerCal2_00019 Amount Added: 1.00 Units: mL

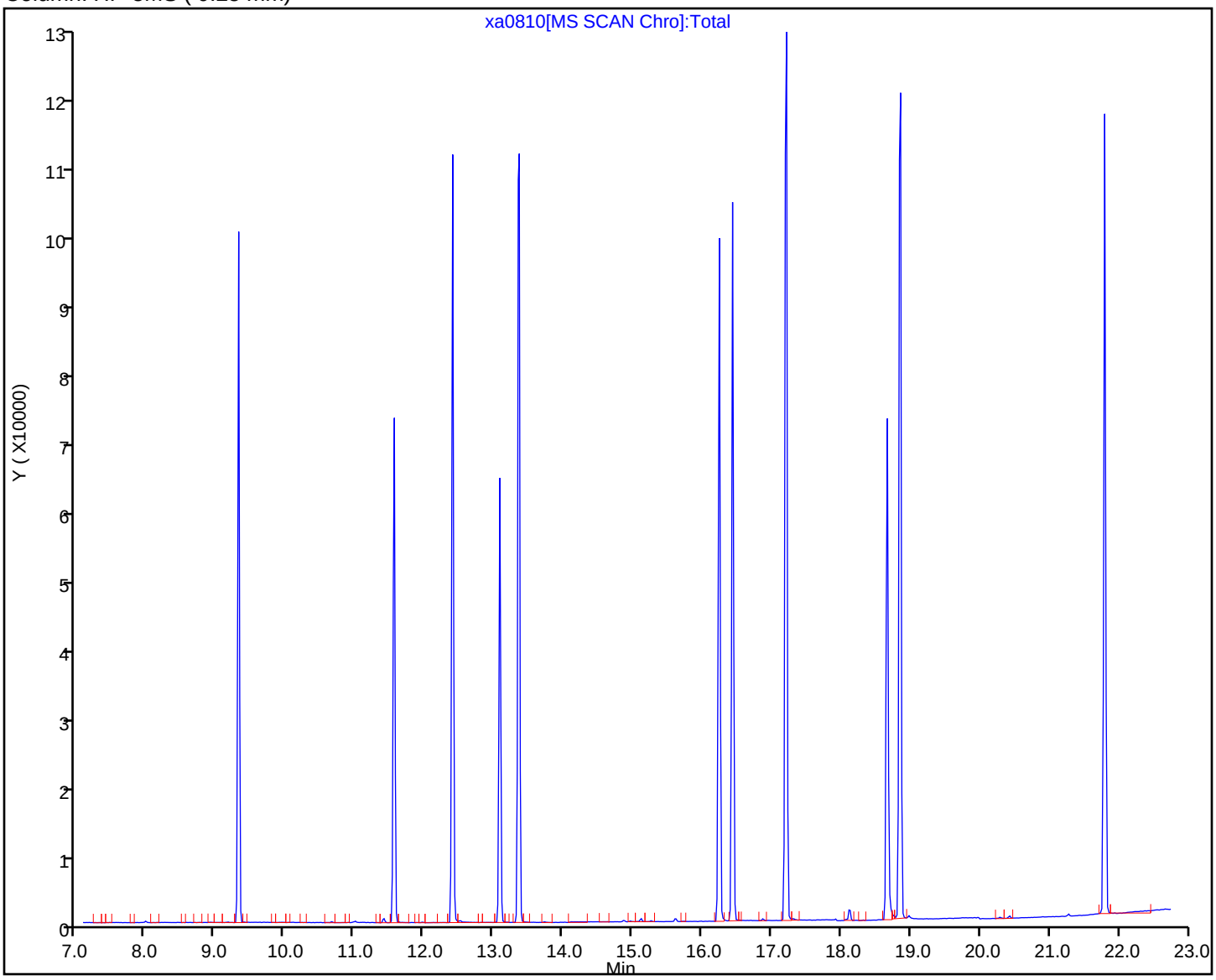
Report Date: 09-Jan-2019 11:34:15 Chrom Revision: 2.3 13-Dec-2018 17:23:12

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0810.D

Injection Date:	08-Jan-2019 16:37:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0811.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 08-Jan-2019 17:34:30 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 680-0053107-007
Operator ID: Instrument ID: CMSX
Sublist: chrom-680_CMSX*sub13

Method: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\680_CMSX.m
Limit Group: 680
Last Update: 09-Jan-2019 11:34:17 Calib Date: 08-Jan-2019 18:02:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0310

First Level Reviewer: davisn Date: 09-Jan-2019 11:21:59

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.636	9.139 - 10.133		0	15382	0.1155	
A 24 Total Dichlorobiphenyls	222	11.432	10.466 - 12.398		0	10649	0.1136	
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	154963	0.7500	
A 25 Total Trichlorobiphenyls	256	13.118	11.773 - 14.463		0	7502	0.1114	
A 26 Total Tetrachlorobiphenyls	292	14.705	12.911 - 16.499		0	10606	0.2241	
A 27 Total Pentachlorobiphenyls	326	16.124	14.339 - 17.908		0	8255	0.2145	
A 28 Total Hexachlorobiphenyls	360	17.343	15.365 - 19.320		0	8063	0.2109	
A 29 Total Heptachlorobiphenyls	394	18.481	16.998 - 19.963		0	13173	0.3457	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	120282	0.7500	a
A 30 Total Octachlorobiphenyls	430	19.582	18.505 - 20.658		0	10462	0.3176	
32 DCB Decachlorobiphenyl	498	21.793	21.796	-0.003	94	3384	0.5028	a
$ 22 Decachlorobiphenyl-13C12	510	21.793	21.796	-0.003	94	4106	0.4751	a

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal1_00021 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.328	9.139 -	10.133	23	15382	0.1155			
190	9.328				4969		2.5- 3.5	3.1	
152	9.328				8597		50.7- 50.7	0.6	
153	9.328				3633		23.2- 23.2	1.4	
A 24 Total Dichlorobiphenyls									
222	11.569	10.466 -	12.398	24	10649	0.1136			
224	11.569				6772		1.3- 1.7	1.6	
152	11.554				8235		31.7- 111.7	0.8	
153	11.569				1073		0.0- 49.1	6.3	
186	11.569				986		0.0- 48.9	6.9	
188	11.569				387		0.0- 43.3	17.5	
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	154963	0.7500			
189	12.409	12.409	0.0		22647		5.9- 7.5	6.8	
A 25 Total Trichlorobiphenyls									
256	13.087	11.773 -	14.463	98	7502	0.1114			
258	13.087				7162		0.8- 1.2	1.0	
186	13.087				5025		26.5- 106.5	1.4	
188	13.087				1616		0.0- 61.5	4.4	
A 26 Total Tetrachlorobiphenyls									
292	13.367	12.911 -	16.499	0	10606	0.2241			
290	13.367				8243		1.1- 1.5	1.3	
220	13.353				9999		58.1- 138.1	0.8	
222	13.353				6451		22.9- 102.9	1.3	
A 27 Total Pentachlorobiphenyls									
326	16.249	14.339 -	17.908	86	8255	0.2145			
324	16.249				5159		1.4- 1.8	1.6	
254	16.249				5926		41.9- 121.9	0.9	
256	16.249				5791		38.2- 118.2	0.9	
258	16.249				2433		0.0- 65.4	2.1	
A 28 Total Hexachlorobiphenyls									
360	16.439	15.365 -	19.320	61	8063	0.2109			
362	16.439				6426		1.0- 1.4	1.3	
288	16.439				4581		61.3- 61.3	1.4	
290	16.439				5949		220.6- 220.6	1.1	
292	16.439				3303		0.0- 0.0	1.9	
A 29 Total Heptachlorobiphenyls									
394	17.216	16.998 -	19.963	93	13173	0.3457			
396	17.216				12455		0.8- 1.2	1.1	
322	17.198				5531		48.3- 48.3	2.3	
324	17.198				8898		77.4- 77.4	1.4	
* 15 Chrysene-d12									a
240	18.668	18.668	0.0	100	120282	0.7500			a
241	18.668	18.668	0.0		23068		4.3- 5.9	5.2	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.858	18.505	-20.658	93	10462	0.3176			
428	18.858				9425		0.9- 1.3	1.1	
356	18.841				3766		39.6- 39.6	2.5	
358	18.841				7034		75.2- 75.2	1.3	
360	18.841				5729		59.6- 59.6	1.6	
32 DCB Decachlorobiphenyl									a
498	21.793	21.796	-0.003	94	3384	0.5028			a
500	21.814	21.796	0.018		2640		0.9- 1.3	1.3	
424	21.793	21.796	-0.003		1429		0.0- 0.0	1.0	
426	21.793	21.796	-0.003		3589		0.0- 0.0	1.0	
428	21.793	21.796	-0.003		3819		0.0- 0.0	1.0	
430	21.793	21.796	-0.003		2746		0.0- 0.0	1.0	
$ 22 Decachlorobiphenyl-13C12									a
510	21.793	21.796	-0.003	94	4106	0.4751			a
512	21.793	21.796	-0.003		3184		0.9- 1.3	1.3	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal1_00021 Amount Added: 1.00 Units: mL

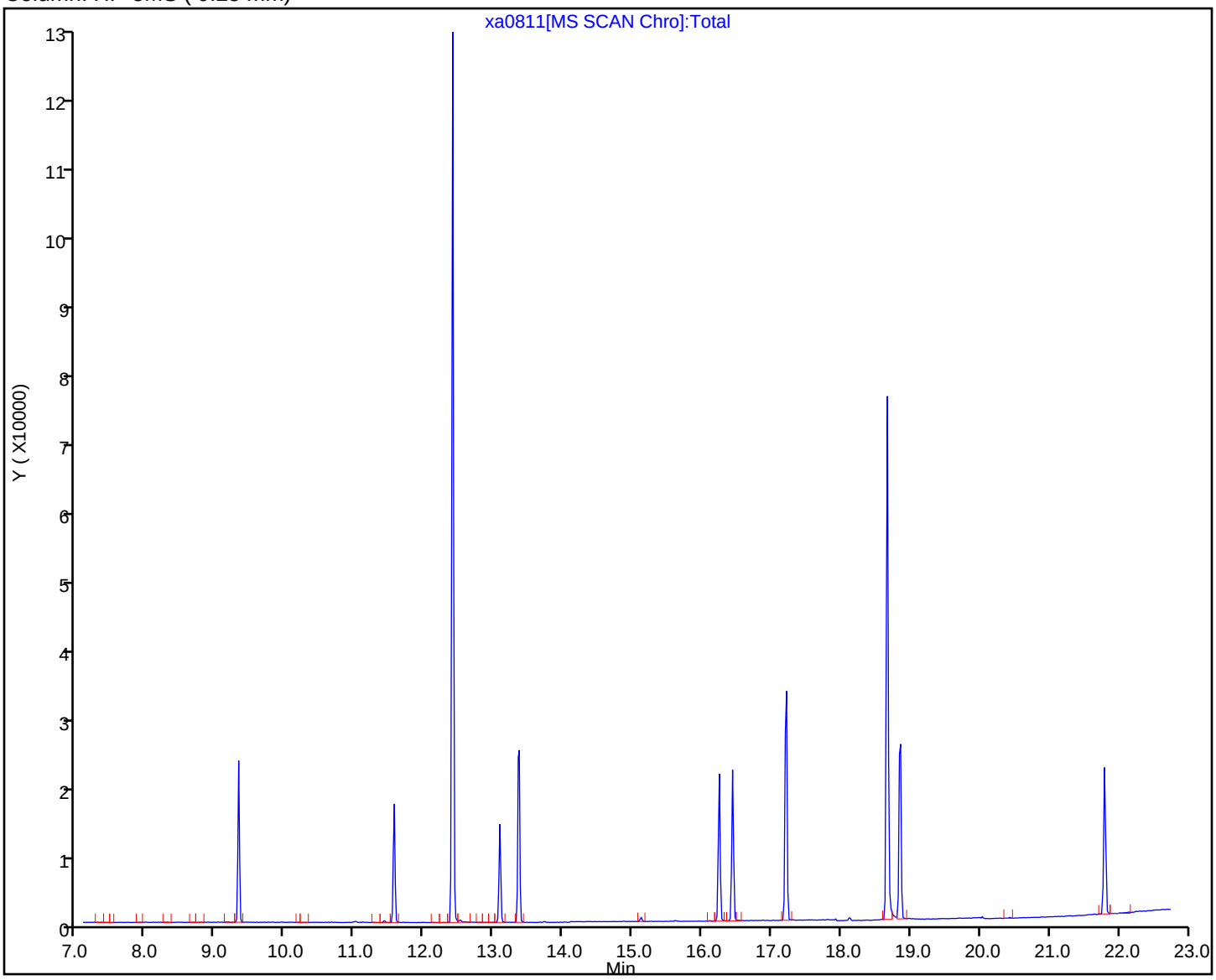
Report Date: 09-Jan-2019 11:34:18 Chrom Revision: 2.3 13-Dec-2018 17:23:12

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0811.D

Injection Date:	08-Jan-2019 17:34:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

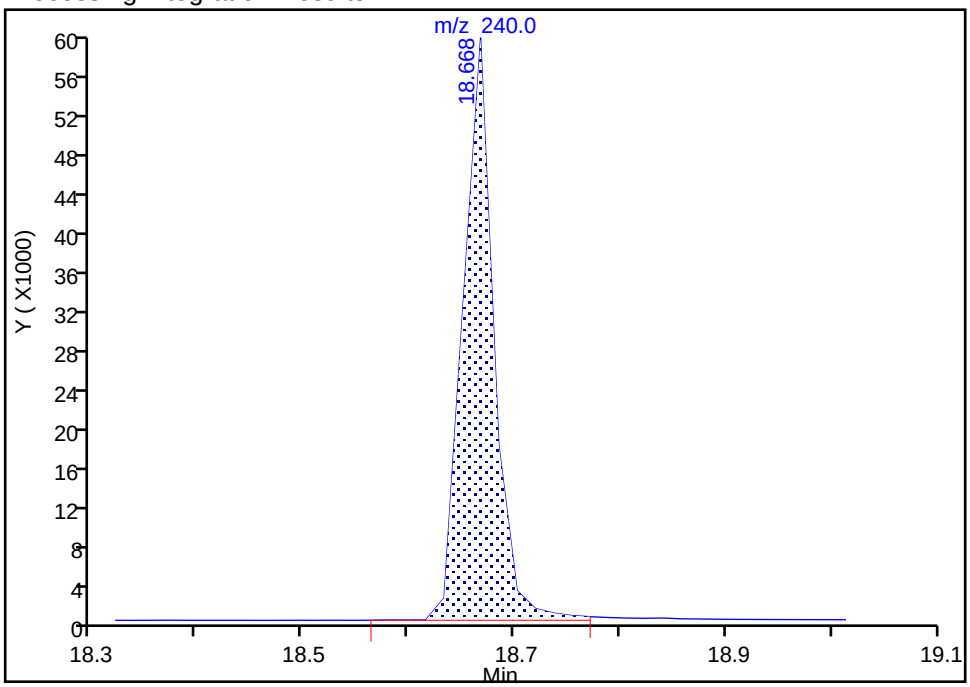
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0811.D
Injection Date: 08-Jan-2019 17:34:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

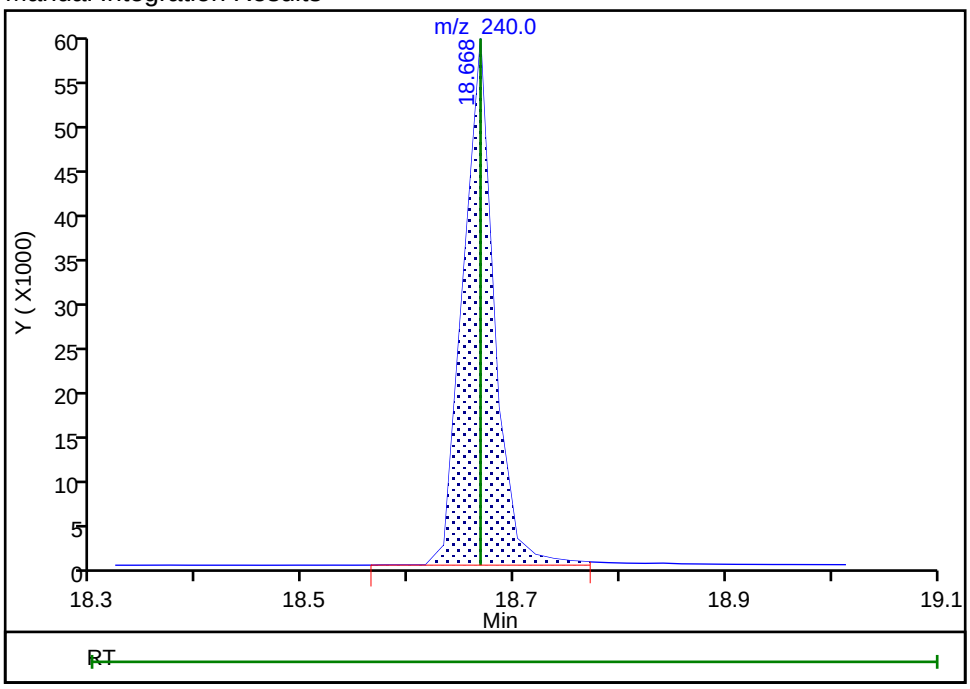
Processing Integration Results

RT: 18.67
Area: 120282
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.67
Area: 120282
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 09-Jan-2019 11:21:43
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

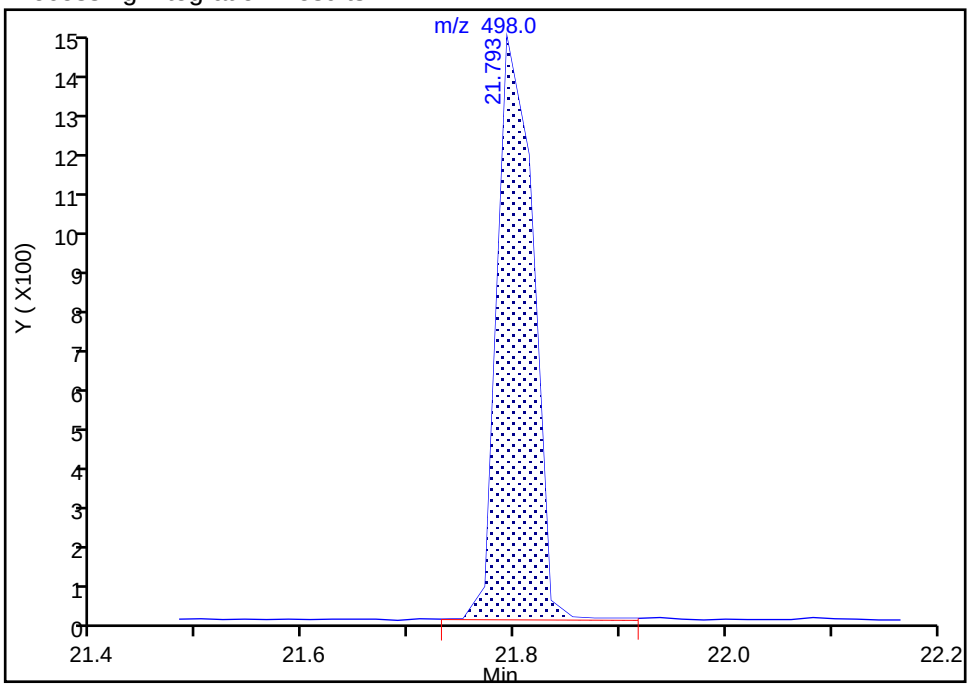
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0811.D
Injection Date: 08-Jan-2019 17:34:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

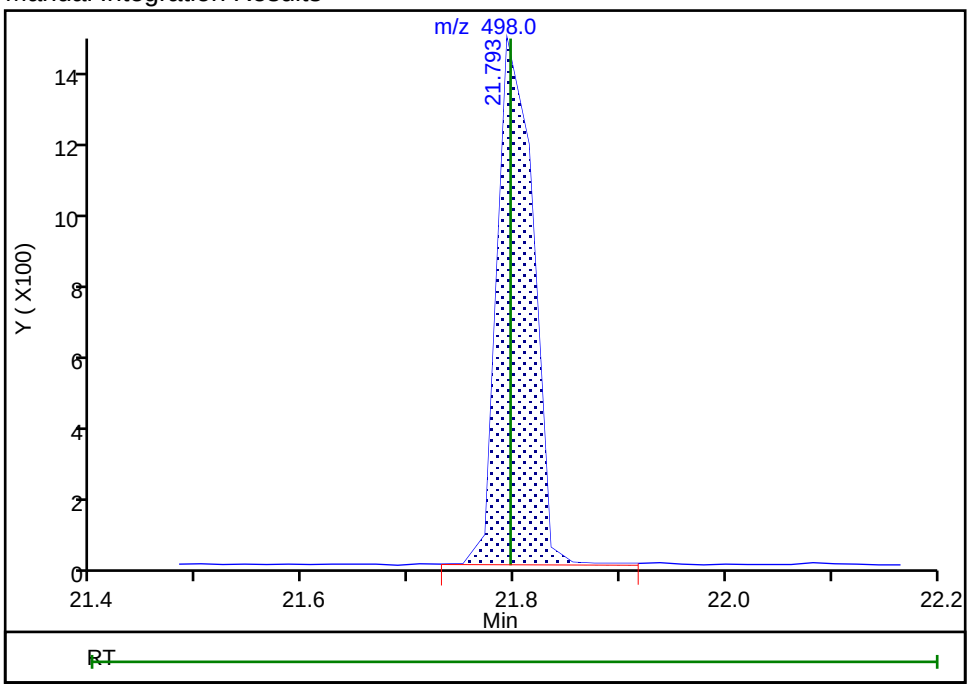
Processing Integration Results

RT: 21.79
Area: 3384
Amount: 0.551220
Amount Units: ug/ml



Manual Integration Results

RT: 21.79
Area: 3384
Amount: 0.502818
Amount Units: ug/ml



Reviewer: davisn, 09-Jan-2019 11:21:49
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

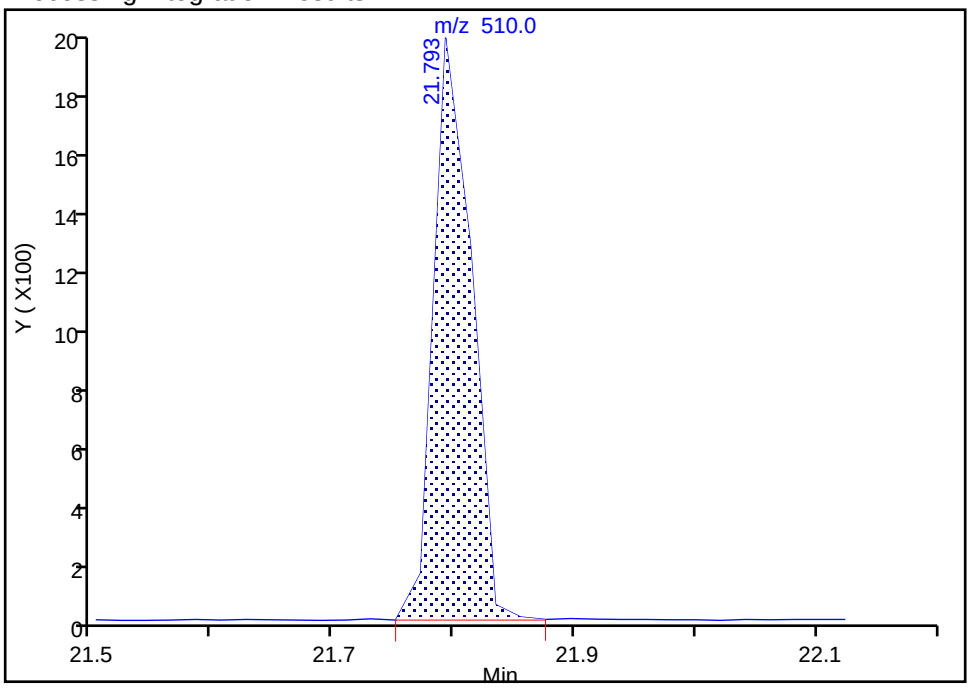
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0811.D
Injection Date: 08-Jan-2019 17:34:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

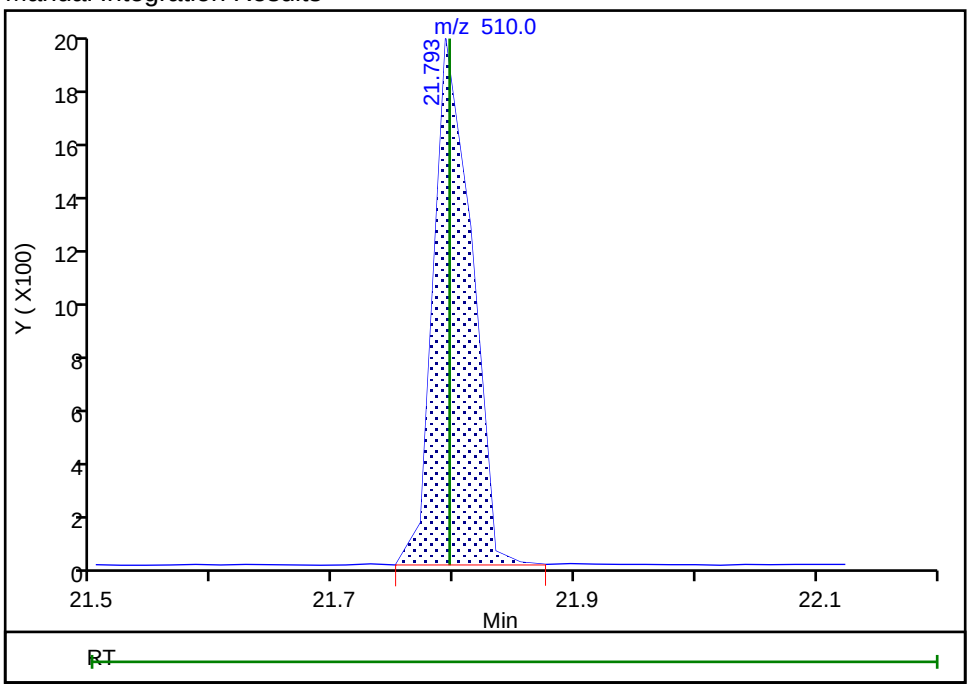
Processing Integration Results

RT: 21.79
Area: 4106
Amount: 0.538028
Amount Units: ug/ml



Manual Integration Results

RT: 21.79
Area: 4106
Amount: 0.475067
Amount Units: ug/ml



Reviewer: davisn, 09-Jan-2019 11:21:52
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 08-Jan-2019 18:02:30 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 680-0053107-008
Operator ID: Instrument ID: CMSX
Sublist: chrom-680_CMSX*sub13

Method: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\680_CMSX.m
Limit Group: 680
Last Update: 09-Jan-2019 11:34:20 Calib Date: 08-Jan-2019 18:02:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0310

First Level Reviewer: davisn Date: 09-Jan-2019 11:23:09

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.636	9.139 - 10.133		0	8242	0.0542	
A 24 Total Dichlorobiphenyls	222	11.432	10.466 - 12.398		0	5634	0.0526	
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	163560	0.7500	
A 25 Total Trichlorobiphenyls	256	13.118	11.773 - 14.463		0	3987	0.0518	
A 26 Total Tetrachlorobiphenyls	292	14.705	12.911 - 16.499		0	5574	0.1031	
A 27 Total Pentachlorobiphenyls	326	16.124	14.339 - 17.908		0	4430	0.1007	
A 28 Total Hexachlorobiphenyls	360	17.343	15.365 - 19.320		0	4409	0.1009	
A 29 Total Heptachlorobiphenyls	394	18.481	16.998 - 19.963		0	8087	0.1858	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	137427	0.7500	a
A 30 Total Octachlorobiphenyls	430	19.582	18.505 - 20.658		0	5679	0.1509	
32 DCB Decachlorobiphenyl	498	21.793	21.796	-0.003	92	1830	0.2380	
$ 22 Decachlorobiphenyl-13C12	510	21.793	21.796	-0.003	92	2369	0.2399	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal6_00002 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.328	9.139 -	10.133	24	8242	0.0542			
190	9.328				2684		2.5- 3.5	3.1	
152	9.328				4574		50.7- 50.7	0.6	
153	9.328				1988		23.2- 23.2	1.4	
A 24 Total Dichlorobiphenyls									
222	11.569	10.466 -	12.398	25	5634	0.0526			
224	11.569				3625		1.3- 1.7	1.6	
152	11.554				4402		31.7- 111.7	0.8	
153	11.554				548		0.0- 49.1	6.6	
186	11.569				559		0.0- 48.9	6.5	
188	11.569				225		0.0- 43.3	16.1	
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	163560	0.7500			
189	12.409	12.409	0.0		24417		5.9- 7.5	6.7	
A 25 Total Trichlorobiphenyls									
256	13.087	11.773 -	14.463	97	3987	0.0518			
258	13.087				3952		0.8- 1.2	1.0	
186	13.087				2805		26.5- 106.5	1.4	
188	13.087				916		0.0- 61.5	4.3	
A 26 Total Tetrachlorobiphenyls									
292	13.367	12.911 -	16.499	0	5574	0.1031			
290	13.367				4342		1.1- 1.5	1.3	
220	13.353				5461		58.1- 138.1	0.8	
222	13.353				3525		22.9- 102.9	1.2	
A 27 Total Pentachlorobiphenyls									
326	16.249	14.339 -	17.908	88	4430	0.1007			
324	16.249				2798		1.4- 1.8	1.6	
254	16.249				3319		41.9- 121.9	0.8	
256	16.249				3093		38.2- 118.2	0.9	
258	16.249				1583		0.0- 65.4	1.8	
A 28 Total Hexachlorobiphenyls									
360	16.439	15.365 -	19.320	61	4409	0.1009			
362	16.439				3516		1.0- 1.4	1.3	
288	16.439				2542		61.3- 61.3	1.4	
290	16.439				3185		220.6- 220.6	1.1	
292	16.439				2007		0.0- 0.0	1.8	
A 29 Total Heptachlorobiphenyls									
394	17.216	16.998 -	19.963	94	8087	0.1858			
396	17.216				7598		0.8- 1.2	1.1	
322	17.198				3360		48.3- 48.3	2.3	
324	17.198				5485		77.4- 77.4	1.4	
* 15 Chrysene-d12									a
240	18.668	18.668	0.0	100	137427	0.7500			a
241	18.668	18.668	0.0		26379		4.3- 5.9	5.2	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.858	18.505	-20.658	91	5679	0.1509			
428	18.858				5217		0.9- 1.3	1.1	
356	18.841				2080		39.6- 39.6	2.5	
358	18.841				3834		75.2- 75.2	1.4	
360	18.841				3054		59.6- 59.6	1.7	
32 DCB Decachlorobiphenyl									
498	21.793	21.796	-0.003	92	1830	0.2380			
500	21.813	21.796	0.017		1448		0.9- 1.3	1.3	
424	21.793	21.796	-0.003		776		0.0- 0.0	1.0	
426	21.793	21.796	-0.003		1950		0.0- 0.0	1.0	
428	21.793	21.796	-0.003		2060		0.0- 0.0	1.0	
430	21.793	21.796	-0.003		1381		0.0- 0.0	1.0	
$ 22 Decachlorobiphenyl-13C12									
510	21.793	21.796	-0.003	92	2369	0.2399			
512	21.793	21.796	-0.003		1848		0.9- 1.3	1.3	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal6_00002 Amount Added: 1.00 Units: mL

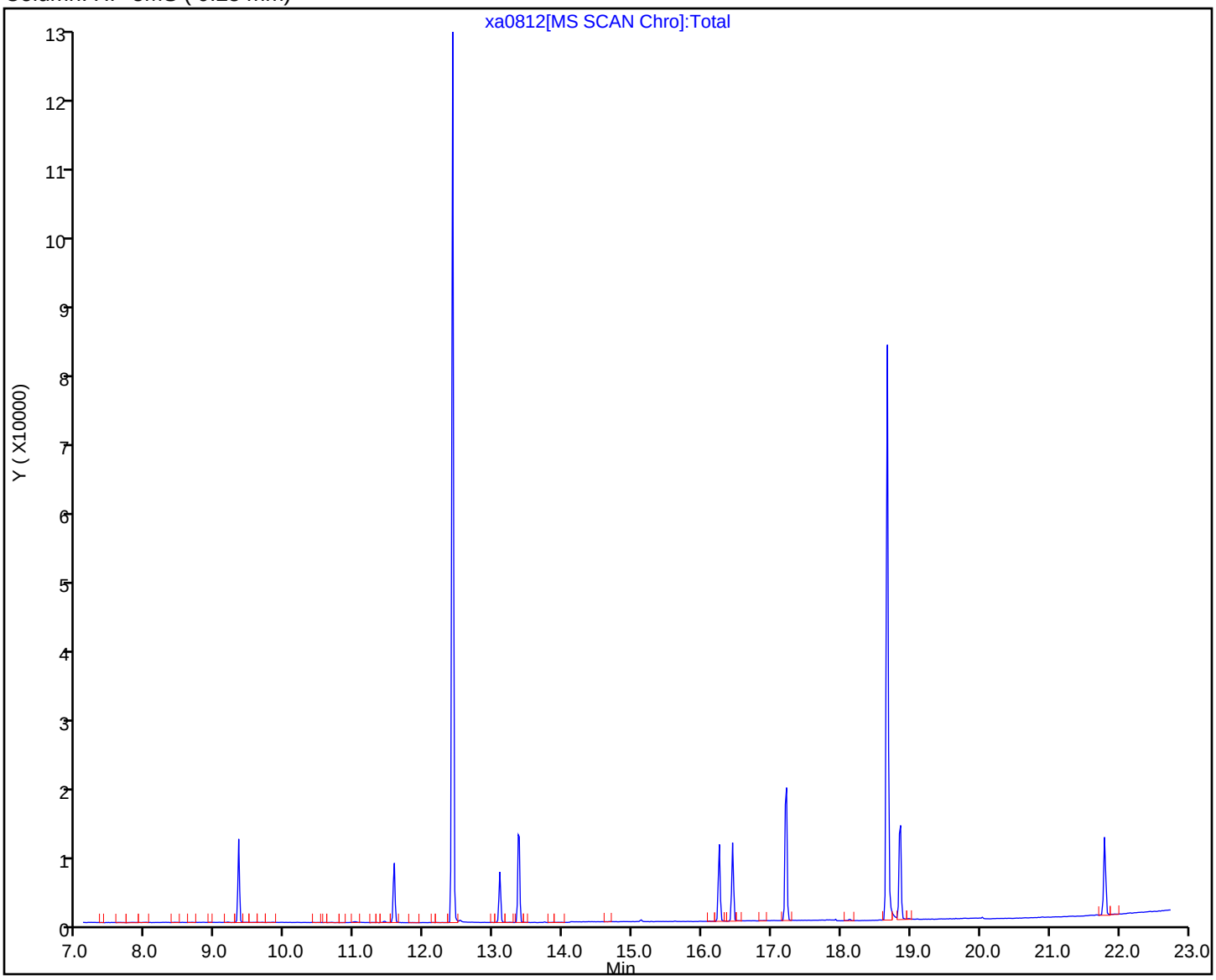
Report Date: 09-Jan-2019 11:34:20 Chrom Revision: 2.3 13-Dec-2018 17:23:12

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D

Injection Date:	08-Jan-2019 18:02:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

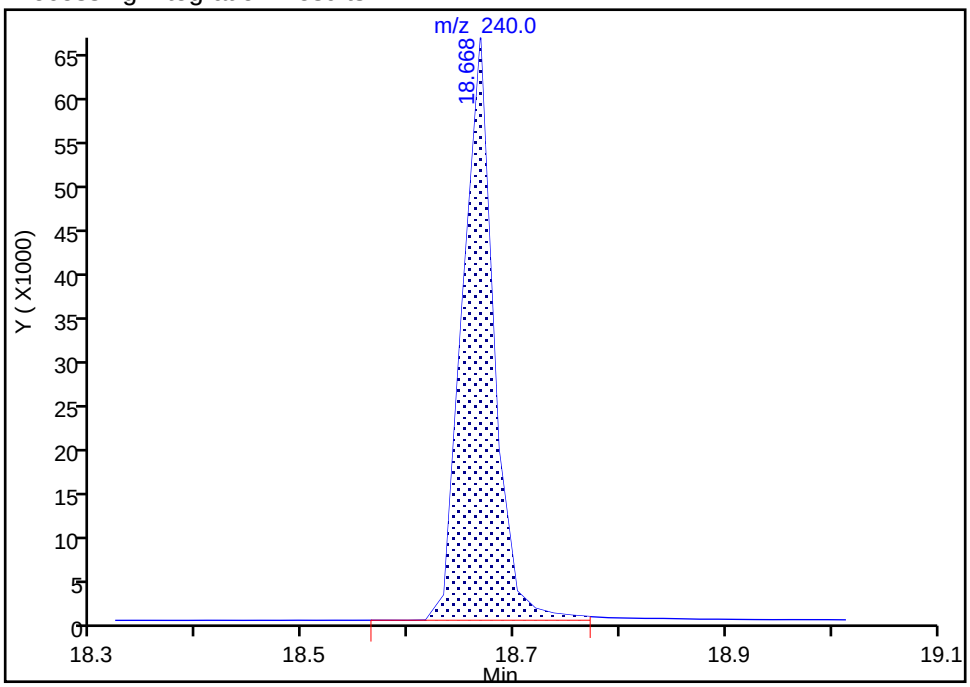
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D
Injection Date: 08-Jan-2019 18:02:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

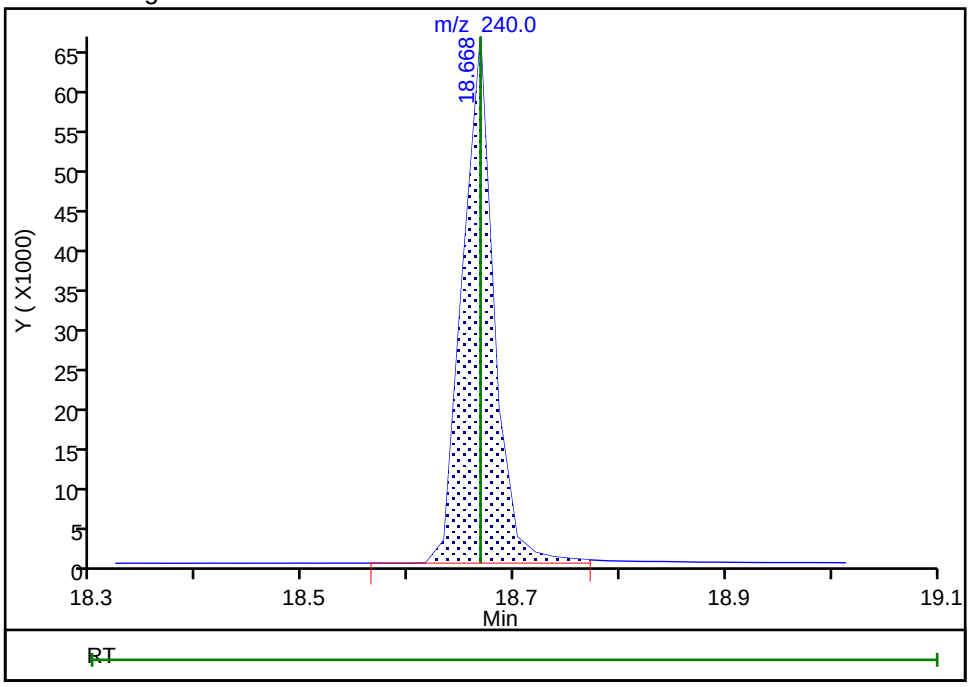
Processing Integration Results

RT: 18.67
Area: 137427
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.67
Area: 137427
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 09-Jan-2019 11:23:02
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0850.D				
Lims ID:	ic				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	08-Jan-2019 17:05:30	ALS Bottle#:	4	Worklist Smp#:	27
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	IC				
Misc. Info.:	680-0053107-004				
Operator ID:		Instrument ID:	CMSX		
Sublist:	chrom-680_CMSX*sub13				
Method:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\680_CMSX.m				
Limit Group:	680				
Last Update:	09-Jan-2019 11:34:22	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0310				
First Level Reviewer: davisn		Date:	08-Jan-2019 17:38:35		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.636	9.139 - 10.133		0	813481	4.41	
A 24 Total Dichlorobiphenyls	222	11.432	10.466 - 12.398		0	599778	4.62	
* 5 Phenanthrene-d10	188	12.395	12.409	-0.014	100	164834	0.7500	
A 25 Total Trichlorobiphenyls	256	13.118	11.773 - 14.463		0	441580	4.74	
A 26 Total Tetrachlorobiphenyls	292	14.705	12.911 - 16.499		0	615833	9.40	
A 27 Total Pentachlorobiphenyls	326	16.124	14.339 - 17.908		0	525344	9.86	
A 28 Total Hexachlorobiphenyls	360	17.343	15.365 - 19.320		0	515192	9.73	
A 29 Total Heptachlorobiphenyls	394	18.481	16.998 - 19.963		0	711849	13.5	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	166505	0.7500	a
A 30 Total Octachlorobiphenyls	430	19.582	18.505 - 20.658		0	662783	14.5	
32 DCB Decachlorobiphenyl	498	21.817	21.796	0.021	65	243534	26.1	a
$ 22 Decachlorobiphenyl-13C12	510	21.817	21.796	0.021	65	234805	19.6	a

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal5_00020 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.313	9.139 -	10.133	22	813481	4.41			
190	9.313				263888		2.5- 3.5	3.1	
152	9.313				455205		50.7- 50.7	0.6	
153	9.313				194787		23.2- 23.2	1.4	
A 24 Total Dichlorobiphenyls									
222	11.554	10.466 -	12.398	24	599778	4.62			
224	11.554				385154		1.3- 1.7	1.6	
152	11.539				469771		31.7- 111.7	0.8	
153	11.539				59784		0.0- 49.1	6.4	
186	11.554				56367		0.0- 48.9	6.8	
188	11.554				20236		0.0- 43.3	19.0	
* 5 Phenanthrene-d10									
188	12.395	12.409	-0.014	100	164834	0.7500			
189	12.395	12.409	-0.014		24671		5.9- 7.5	6.7	
A 25 Total Trichlorobiphenyls									
256	13.087	11.773 -	14.463	87	441580	4.74			
258	13.087				429116		0.8- 1.2	1.0	
186	13.073				299921		26.5- 106.5	1.4	
188	13.073				96775		0.0- 61.5	4.4	
A 26 Total Tetrachlorobiphenyls									
292	13.353	12.911 -	16.499	0	615833	9.40			
290	13.353				477349		1.1- 1.5	1.3	
220	13.353				584239		58.1- 138.1	0.8	
222	13.353				378977		22.9- 102.9	1.3	
A 27 Total Pentachlorobiphenyls									
326	16.249	14.339 -	17.908	86	525344	9.86			
324	16.249				327494		1.4- 1.8	1.6	
254	16.249				383588		41.9- 121.9	0.9	
256	16.249				367611		38.2- 118.2	0.9	
258	16.249				120836		0.0- 65.4	2.7	
A 28 Total Hexachlorobiphenyls									
360	16.439	15.365 -	19.320	61	515192	9.73			
362	16.439				412270		1.0- 1.4	1.2	
288	16.439				296019		61.3- 61.3	1.4	
290	16.439				378876		220.6- 220.6	1.1	
292	16.439				180094		0.0- 0.0	2.3	
A 29 Total Heptachlorobiphenyls									
394	17.216	16.998 -	19.963	91	711849	13.5			
396	17.216				678763		0.8- 1.2	1.0	
322	17.198				295839		48.3- 48.3	2.3	
324	17.216				469863		77.4- 77.4	1.4	
* 15 Chrysene-d12									a
240	18.668	18.668	0.0	100	166505	0.7500			a
241	18.668	18.668	0.0		31953		4.3- 5.9	5.2	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.858	18.505	-20.658	86	662783	14.5			
428	18.858				599381		0.9- 1.3	1.1	
356	18.858				229116		39.6- 39.6	2.6	
358	18.858				437853		75.2- 75.2	1.4	
360	18.858				349897		59.6- 59.6	1.7	
32 DCB Decachlorobiphenyl									a
498	21.817	21.796	0.021	65	243534	26.1			a
500	21.817	21.796	0.021		198589		0.9- 1.3	1.2	
424	21.796	21.796	0.0		95760		0.0- 0.0	1.0	
426	21.796	21.796	0.0		235617		0.0- 0.0	1.0	
428	21.796	21.796	0.0		257208		0.0- 0.0	1.0	
430	21.817	21.796	0.021		161026		0.0- 0.0	1.0	
$ 22 Decachlorobiphenyl-13C12									a
510	21.817	21.796	0.021	65	234805	19.6			a
512	21.817	21.796	0.021		184108		0.9- 1.3	1.3	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal5_00020 Amount Added: 1.00 Units: mL

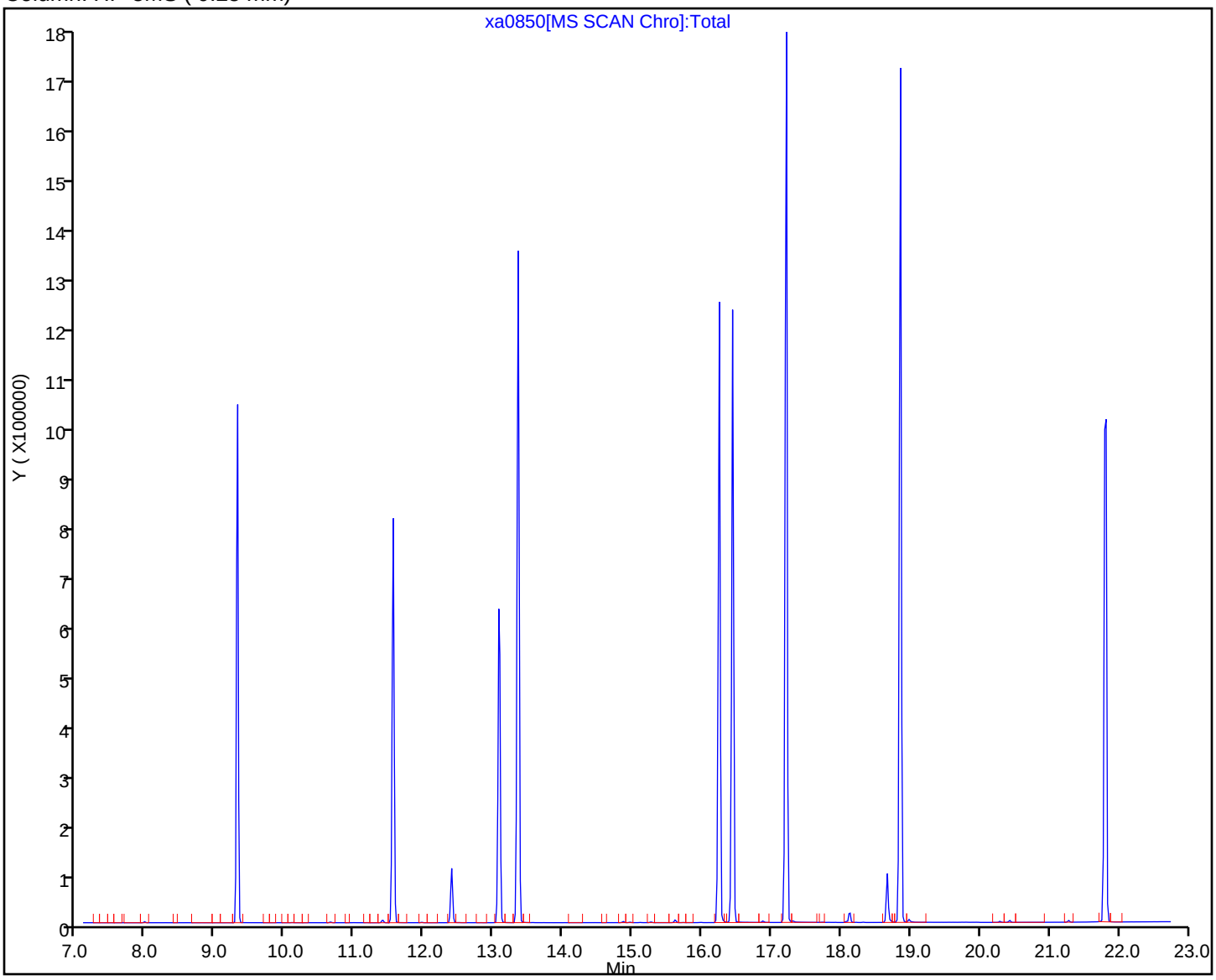
Report Date: 09-Jan-2019 11:34:22 Chrom Revision: 2.3 13-Dec-2018 17:23:12

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0850.D

Injection Date:	08-Jan-2019 17:05:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	27
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

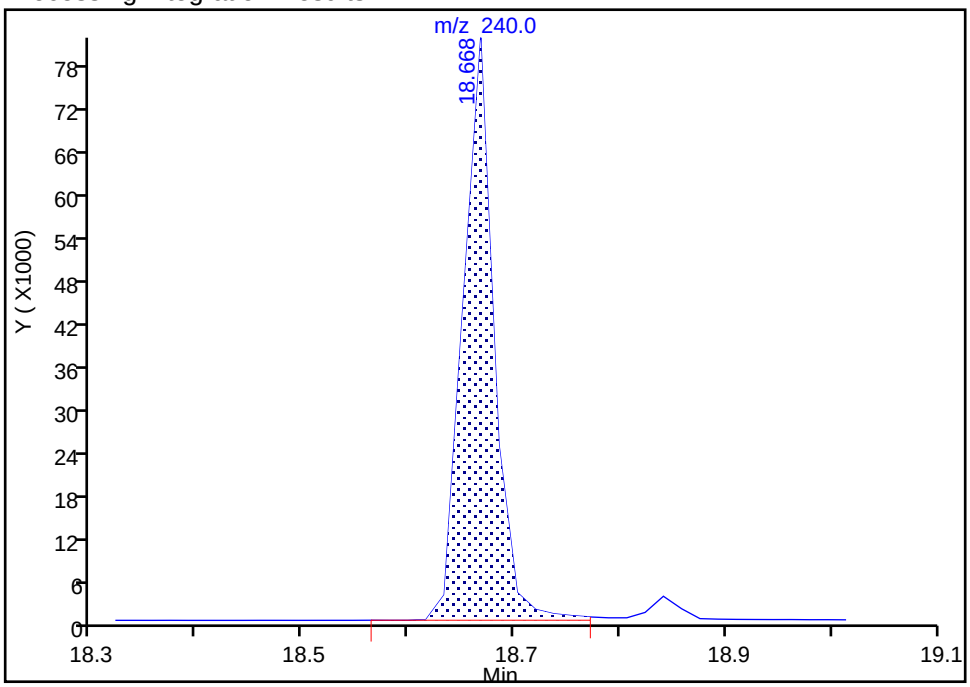
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0850.D
Injection Date: 08-Jan-2019 17:05:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 4 Worklist Smp#: 27
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

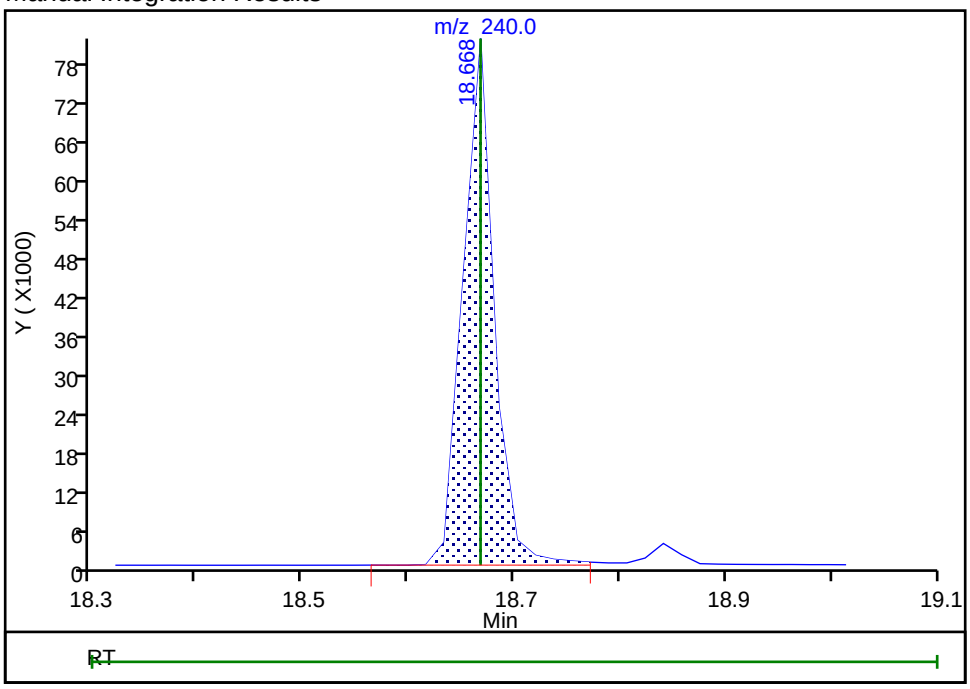
Processing Integration Results

RT: 18.67
Area: 166505
Amount: 1.500000
Amount Units: ug/ml



Manual Integration Results

RT: 18.67
Area: 166505
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 08-Jan-2019 17:37:57
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

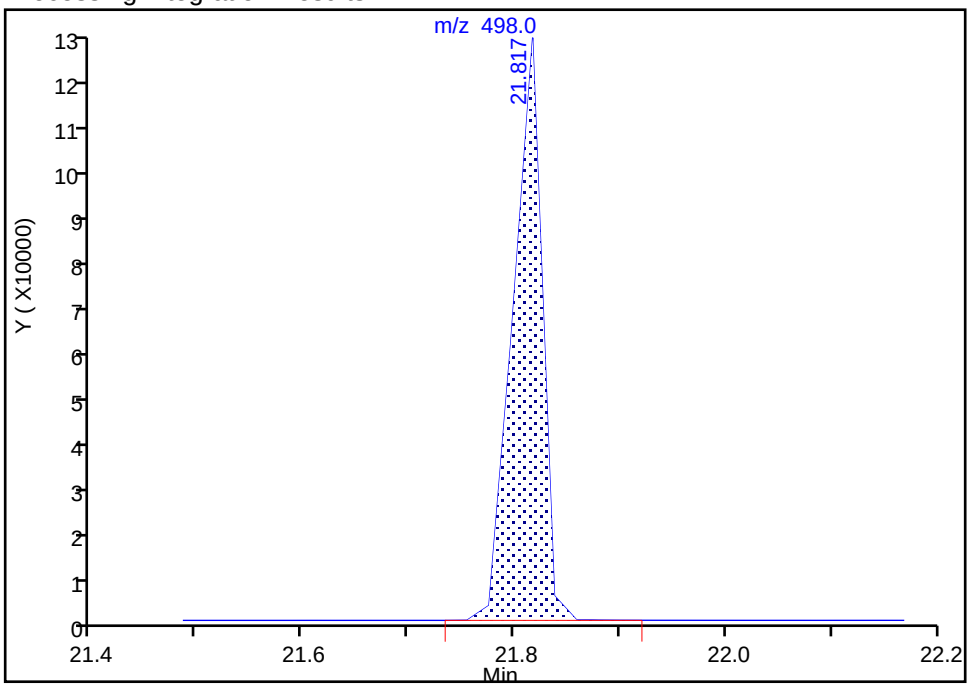
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0850.D
Injection Date: 08-Jan-2019 17:05:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 4 Worklist Smp#: 27
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

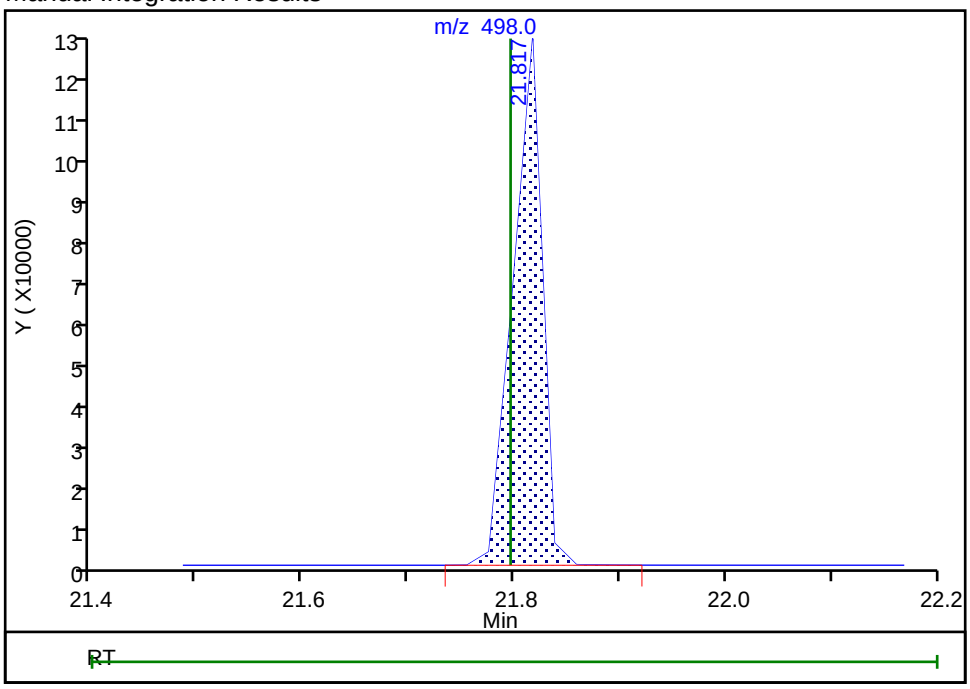
Processing Integration Results

RT: 21.82
Area: 243534
Amount: 29.325950
Amount Units: ug/ml



Manual Integration Results

RT: 21.82
Area: 243534
Amount: 26.140475
Amount Units: ug/ml



Reviewer: davisn, 08-Jan-2019 17:38:16
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

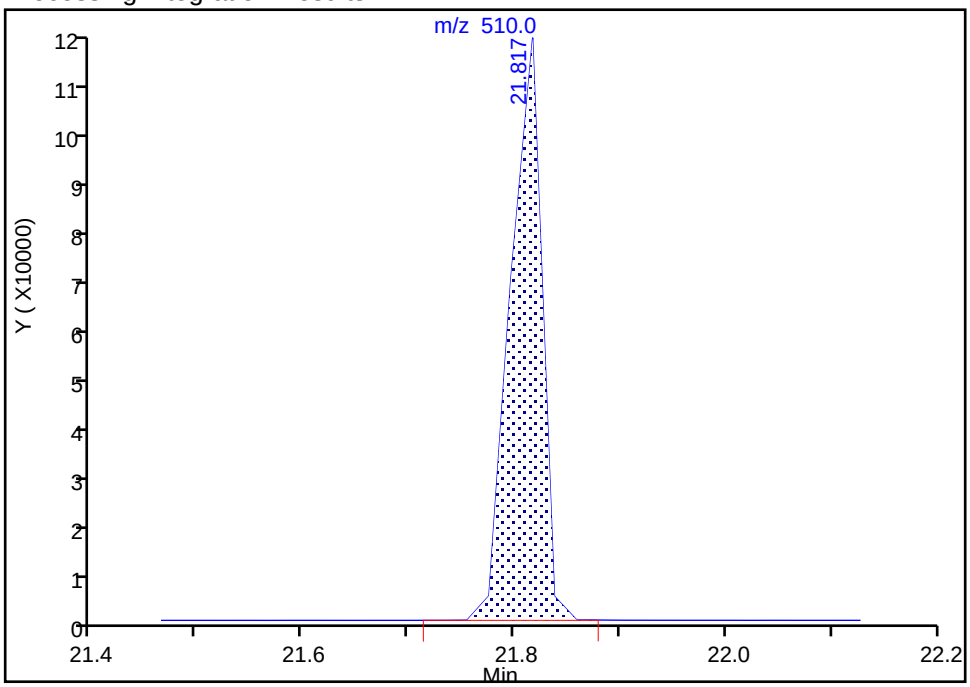
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0850.D
Injection Date: 08-Jan-2019 17:05:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 4 Worklist Smp#: 27
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

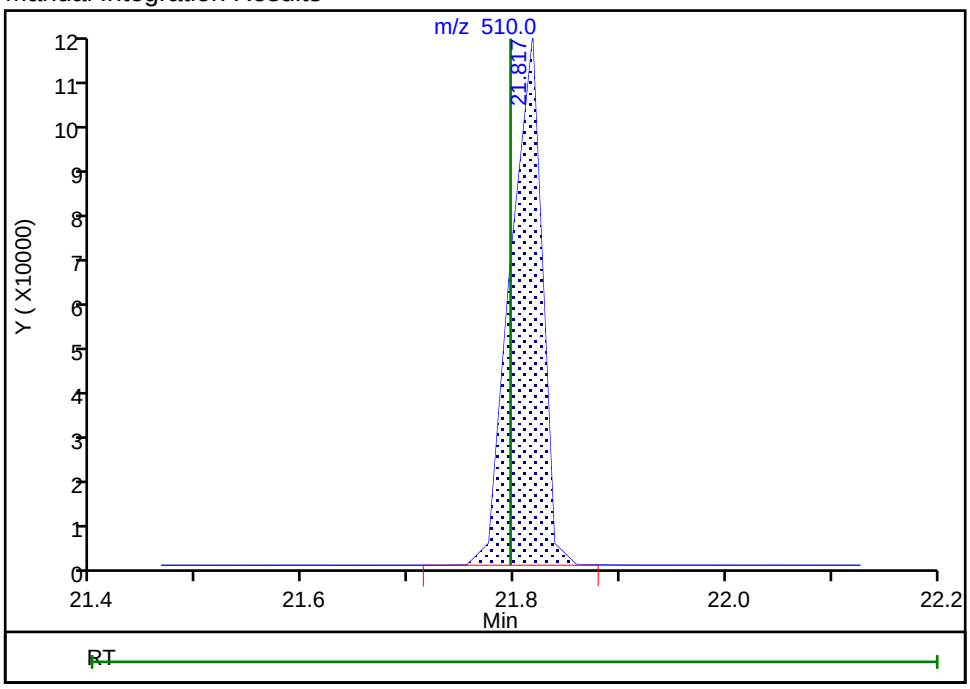
Processing Integration Results

RT: 21.82
Area: 234805
Amount: 21.798888
Amount Units: ug/ml



Manual Integration Results

RT: 21.82
Area: 234805
Amount: 19.625312
Amount Units: ug/ml



Reviewer: davisn, 08-Jan-2019 17:38:19
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM VI
PCBS BY INTERNAL STANDARD AND INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Savannah Job No.: 680-164605-1 Analy Batch No.: 559536

SDG No.:

Instrument ID: CMSX GC Column: HP-5MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/25/2019 13:07 Calibration End Date: 02/25/2019 15:59 Calibration ID: 63879

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-559536/11	xb2511.D
Level 2	IC 680-559536/10	xb2510.D
Level 3	IC 680-559536/9	xb2509.D
Level 4	ICISAV 680-559536/3	xb2504.D
Level 5	IC 680-559536/8	xb2508.D
Level 6	IC 680-559536/4	xb2507.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Monochlorobiphenyl	0.7768 0.8303	0.7679	0.7192	0.7084	0.8005	Ave		0.7672				6.1		20.0			
Total Dichlorobiphenyls	0.5231 0.6057	0.5247	0.4982	0.4848	0.5644	Ave		0.5335				8.4		20.0			
Total Trichlorobiphenyls	0.3701 0.4389	0.3719	0.3515	0.3760	0.4066	Ave		0.3858				8.2		20.0			
PCB-104				0.3059		Ave		0.3059						30.0			
Total Tetrachlorobiphenyls	0.2496 0.3004	0.2491	0.2474	0.2506	0.2786	Ave		0.2626				8.4		20.0			
Total Pentachlorobiphenyls	0.1904 0.2506	0.1911	0.1944	0.1975	0.2274	Ave		0.2085				11.9		20.0			
PCB-77				0.4052		Ave		0.4052						30.0			
Hexachlorobiphenyl	0.1811 0.2345	0.1804	0.1856	0.1913	0.2198	Ave		0.1988				11.5		20.0			
Heptachlorobiphenyl	0.2199 0.2149	0.1886	0.1711	0.1710	0.1962	Ave		0.1936				10.8		20.0			
Octachlorobiphenyl	0.1586 0.1992	0.1499	0.1557	0.1606	0.1806	Ave		0.1674				11.2		20.0			
PCB-208				0.0538		Ave		0.0538						30.0			
DCB Decachlorobiphenyl	0.0264 0.0421	0.0261	0.0293	0.0289	0.0338	Ave		0.0311				19.5		20.0			
Decachlorobiphenyl-13C12	0.0369 0.0537	0.0343	0.0421	0.0410	0.0451	Ave		0.0422				16.2		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI

PCBS BY INTERNAL STANDARD AND INITIAL CALIBRATION DATA

RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Savannah Job No.: 680-164605-1 Analy Batch No.: 559536

SDG No.:

Instrument ID: CMSX GC Column: HP-5MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/25/2019 13:07 Calibration End Date: 02/25/2019 15:59 Calibration ID: 63879

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-559536/11	xb2511.D
Level 2	IC 680-559536/10	xb2510.D
Level 3	IC 680-559536/9	xb2509.D
Level 4	ICISAV 680-559536/3	xb2504.D
Level 5	IC 680-559536/8	xb2508.D
Level 6	IC 680-559536/4	xb2507.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Monochlorobiphenyl	CRY	Ave	7419 831971	15897	77564	157105	335414	0.0500 5.00	0.100	0.500	1.00	2.00
Total Dichlorobiphenyls	CRY	Ave	4996 606979	10862	53734	107521	236477	0.0500 5.00	0.100	0.500	1.00	2.00
Total Trichlorobiphenyls	CRY	Ave	3535 439760	7698	37905	83389	170369	0.0500 5.00	0.100	0.500	1.00	2.00
PCB-104	CRY	Ave				135693					2.00	
Total Tetrachlorobiphenyls	CRY	Ave	4767 601944	10313	53368	111139	233496	0.100 10.0	0.200	1.00	2.00	4.00
Total Pentachlorobiphenyls	CRY	Ave	3637 502135	7911	41923	87585	190549	0.100 10.0	0.200	1.00	2.00	4.00
PCB-77	CRY	Ave				179738					2.00	
Hexachlorobiphenyl	CRY	Ave	3459 469969	7470	40027	84870	184183	0.100 10.0	0.200	1.00	2.00	4.00
Heptachlorobiphenyl	CRY	Ave	6300 646151	11710	55348	113769	246590	0.150 15.0	0.300	1.50	3.00	6.00
Octachlorobiphenyl	CRY	Ave	4543 598796	9312	50383	106848	226947	0.150 15.0	0.300	1.50	3.00	6.00
PCB-208	CRY	Ave				47750					4.00	
DCB Decachlorobiphenyl	CRY	Ave	1260 210942	2698	15783	32060	70810	0.250 25.0	0.500	2.50	5.00	10.0
Decachlorobiphenyl-13C12	CRY	Ave	1762 215192	3550	22714	45456	94422	0.250 20.0	0.500	2.50	5.00	10.0

Curve Type Legend:

Ave = Average ISTD

TestAmerica Savannah

Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2504.D
Lims ID: icis
Client ID:
Sample Type: ICIS Calib Level: 3
Inject. Date: 25-Feb-2019 13:07:30 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS
Operator ID: Instrument ID: CMSX
Sublist: chrom-680_CMSX*sub13

Method: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\680_CMSX.m
Limit Group: 680
Last Update: 26-Feb-2019 09:37:02 Calib Date: 25-Feb-2019 15:59:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0318

First Level Reviewer: davisn Date: 26-Feb-2019 09:23:54

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.741	9.244 - 10.239		0	157105	0.9234	
A 24 Total Dichlorobiphenyls	222	11.548	10.582 - 12.514		0	107521	0.9088	
* 5 Phenanthrene-d10	188	12.380	12.380	0.0	100	167272	0.7500	
A 25 Total Trichlorobiphenyls	256	13.229	11.889 - 14.569		0	83389	0.9746	
9 PCB-104	326	14.378	14.378	0.0	74	135693	2.00	
A 26 Total Tetrachlorobiphenyls	292	14.752	13.026 - 16.478		0	111139	1.91	
A 27 Total Pentachlorobiphenyls	326	16.166	14.318 - 18.014		0	87585	1.89	
12 PCB-77	292	16.418	16.418	0.0	96	179738	2.00	
A 28 Total Hexachlorobiphenyls	360	17.453	15.481 - 19.426		0	84870	1.93	
* 15 Chrysene-d12	240	18.625	18.625	0.0	100	166325	0.7500	a
A 29 Total Heptachlorobiphenyls	394	18.718	17.114 - 20.321		0	113769	2.65	
A 30 Total Octachlorobiphenyls	430	19.697	18.621 - 20.774		0	106848	2.88	
19 PCB-208	464	20.271	20.271	0.0	72	47750	4.00	
$ 22 Decachlorobiphenyl-13C12	510	21.761	21.761	0.0	86	45456	4.86	a
32 DCB Decachlorobiphenyl	498	21.782	21.782	0.0	61	32060	4.65	a

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

680isomerCal3_00045 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	S/N	Flags
A 23 Total Monochlorobiphenyls										
188	9.298	9.244 -	10.239	23	157105	0.9234				
190	9.298				50816		2.5- 3.5	3.1		
152	9.298				89578		50.7- 50.7	0.6		
153	9.298				37666		23.2- 23.2	1.3		
A 24 Total Dichlorobiphenyls										
222	11.539	10.582 -	12.514	24	107521	0.9088				
224	11.539				69129		1.3- 1.7	1.6		
152	11.539				82155		31.7- 111.7	0.8		
153	11.539				10711		0.0- 49.1	6.5		
186	11.539				9824		0.0- 48.9	7.0		
188	11.539				3715		0.0- 43.3	18.6		
* 5 Phenanthrene-d10										
188	12.380	12.380	0.0	100	167272	0.7500				
189	12.380	12.380	0.0		24797		5.9- 7.5	6.7		
A 25 Total Trichlorobiphenyls										
256	13.058	11.889 -	14.569	95	83389	0.9746				
258	13.073				79388		0.8- 1.2	1.1		
186	13.058				56415		26.5- 106.5	1.4		
188	13.058				18336		0.0- 61.5	4.3		
A 26 Total Tetrachlorobiphenyls										
292	13.338	13.026 -	16.478	0	111139	1.91				
290	13.338				86948		1.1- 1.5	1.3		
220	13.323				108838		58.1- 138.1	0.8		
222	13.338				69337		22.9- 102.9	1.3		
A 27 Total Pentachlorobiphenyls										
326	16.228	14.318 -	18.014	96	87585	1.89				
324	16.228				55138		1.4- 1.8	1.6		
254	16.211				66098		41.9- 121.9	0.8		
256	16.211				63689		38.2- 118.2	0.9		
258	16.211				21349		0.0- 65.4	2.6		
A 28 Total Hexachlorobiphenyls										
360	16.418	15.481 -	19.426	98	84870	1.93				
362	16.418				66891		1.0- 1.4	1.3		
288	16.401				49897		61.3- 61.3	1.3		
290	16.401				180216		220.6- 220.6	0.4		
292	16.418				180056		0.0- 0.0	0.4		
* 15 Chrysene-d12										a
240	18.625	18.625	0.0	100	166325	0.7500			280	a
241	18.625	18.625	0.0		31754		4.3- 5.9	5.2		
A 29 Total Heptachlorobiphenyls										
394	17.191	17.114 -	20.321	96	113769	2.65				
396	17.191				107862		0.8- 1.2	1.1		
322	17.173				50657		48.3- 48.3	2.1		
324	17.173				79747		77.4- 77.4	1.4		

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	S/N	Flags
A 30 Total Octachlorobiphenyls										
430	18.833	18.621	-20.774	97	106848	2.88				
428	18.815				96626		0.9- 1.3	1.1		
356	18.815				38146		39.6- 39.6	2.5		
358	18.815				72239		75.2- 75.2	1.3		
360	18.815				57998		59.6- 59.6	1.7		
$ 22 Decachlorobiphenyl-13C12										a
510	21.761	21.761	0.0	86	45456	4.86				a
512	21.782	21.782	0.0		35346		0.9- 1.3	1.3		
32 DCB Decachlorobiphenyl										a
498	21.782	21.782	0.0	61	32060	4.65			6665	a
500	21.782	21.782	0.0		26309		0.9- 1.3	1.2		
424	21.761	21.782	-0.021		14963		0.0- 0.0	1.0		
426	21.761	21.782	-0.021		36239		0.0- 0.0	1.0		
428	21.761	21.782	-0.021		38732		0.0- 0.0	1.0		
430	21.761	21.782	-0.021		23690		0.0- 0.0	1.0		

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal3_00045 Amount Added: 1.00 Units: mL

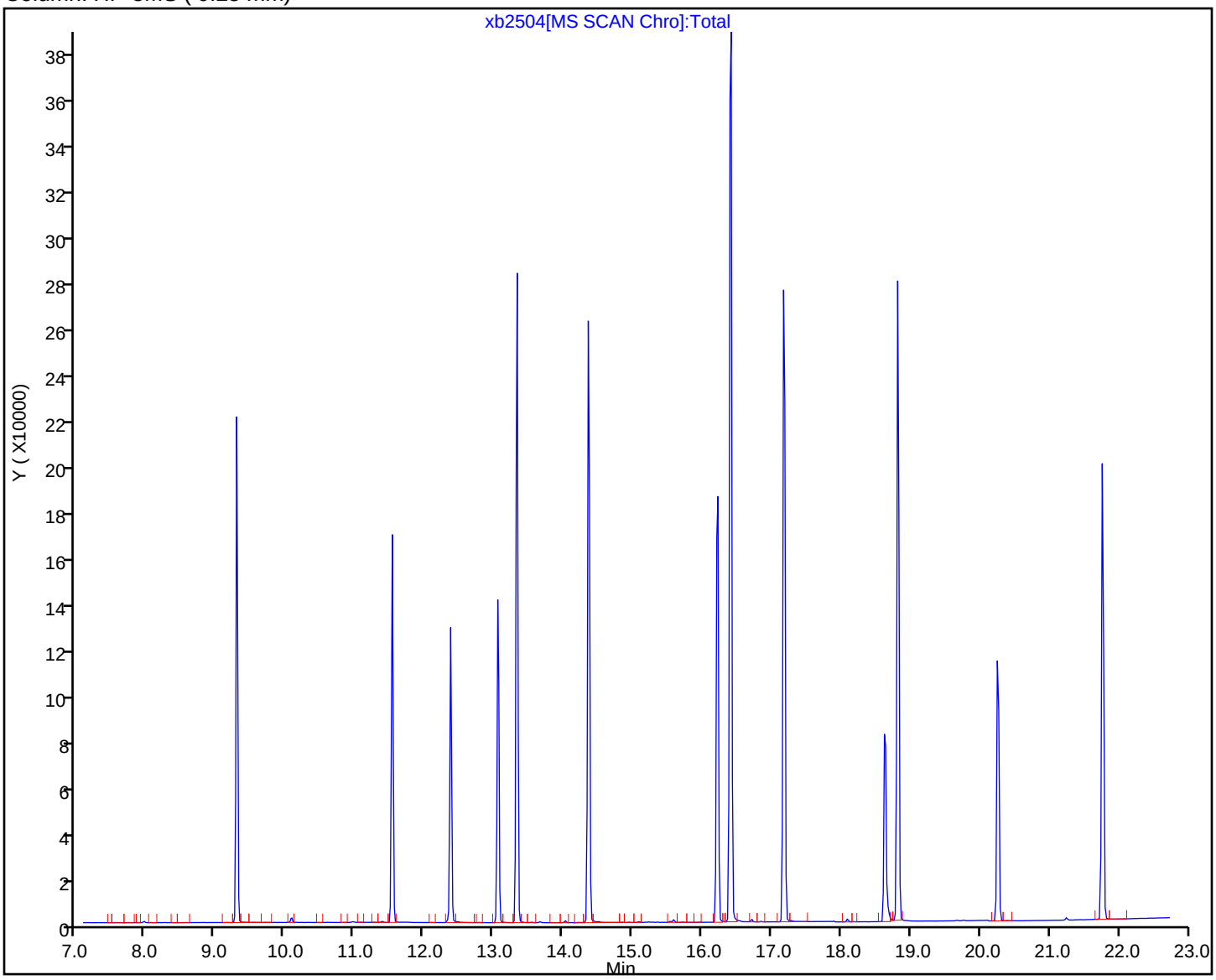
Report Date: 26-Feb-2019 09:37:02 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2504.D

Injection Date:	25-Feb-2019 13:07:30	Instrument ID:	CMSX		
Lims ID:	icis				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

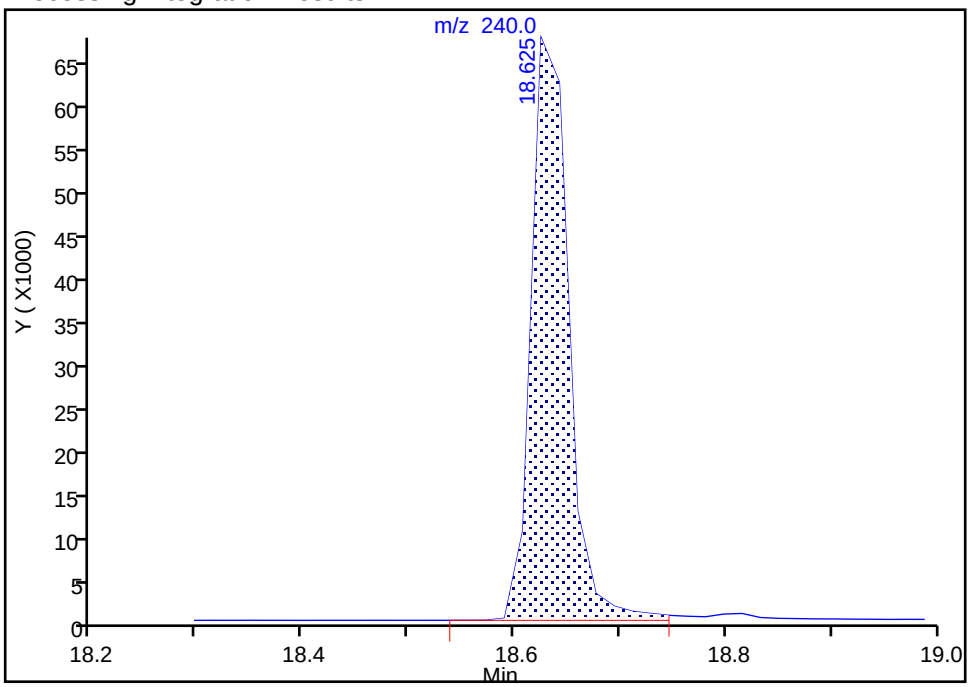
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2504.D
Injection Date: 25-Feb-2019 13:07:30 Instrument ID: CMSX
Lims ID: icis
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

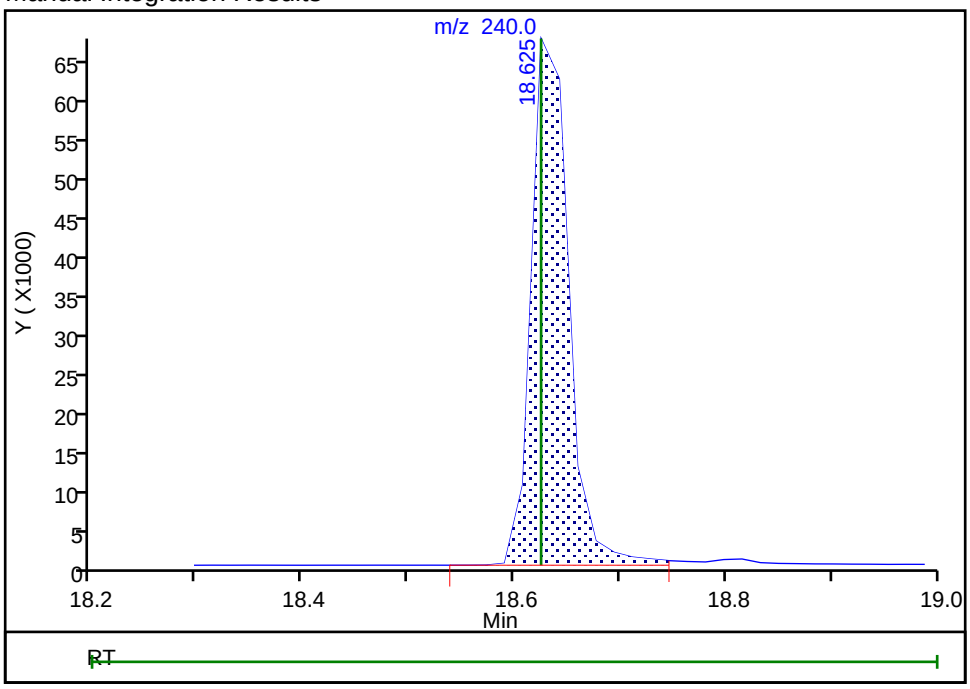
Processing Integration Results

RT: 18.63
Area: 166325
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.63
Area: 166325
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 26-Feb-2019 09:23:28
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

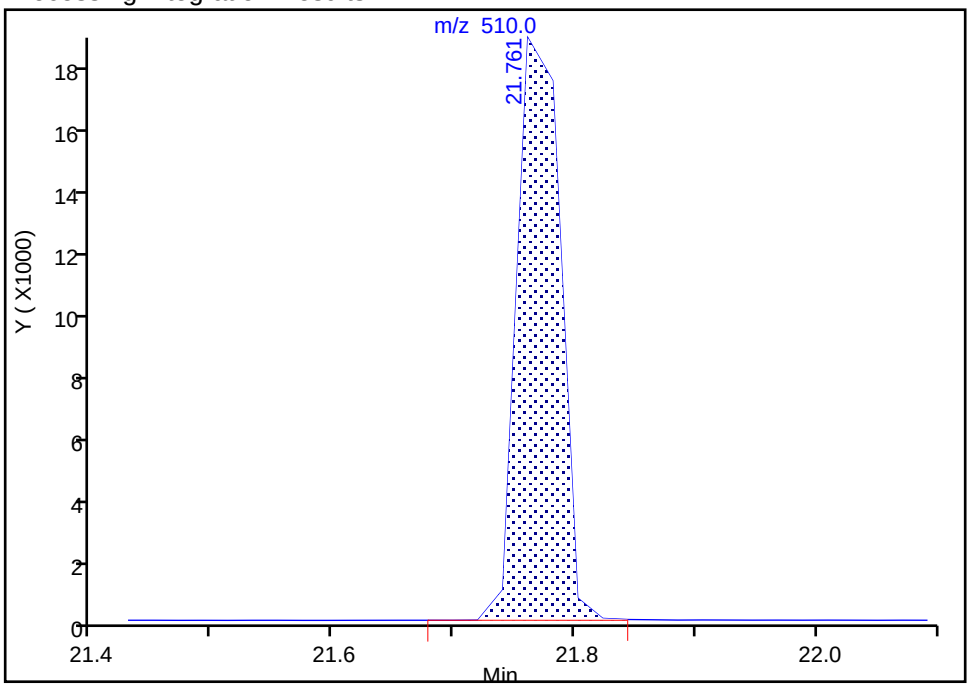
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2504.D
Injection Date: 25-Feb-2019 13:07:30 Instrument ID: CMSX
Lims ID: icis
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

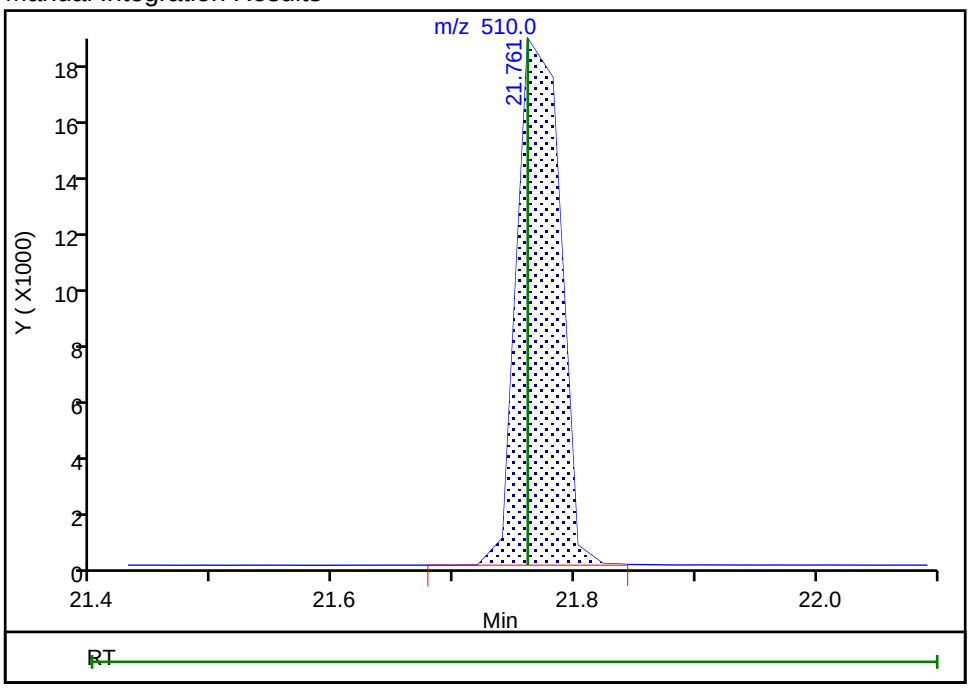
Processing Integration Results

RT: 21.76
Area: 45456
Amount: 4.859618
Amount Units: ug/ml



Manual Integration Results

RT: 21.76
Area: 45456
Amount: 4.859618
Amount Units: ug/ml



Reviewer: davisn, 26-Feb-2019 09:23:49
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

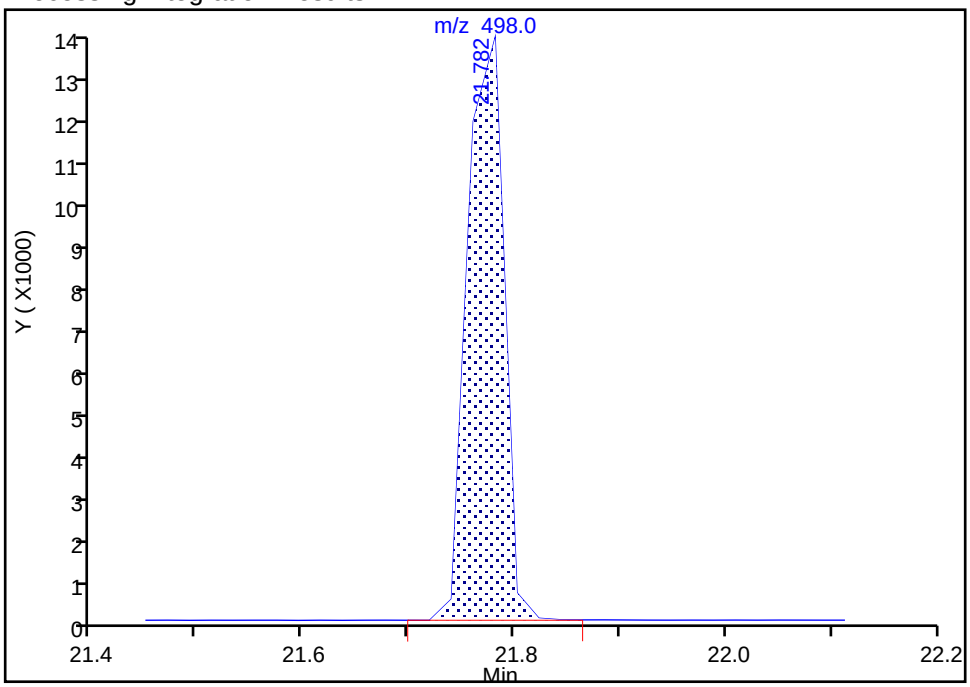
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2504.D
Injection Date: 25-Feb-2019 13:07:30 Instrument ID: CMSX
Lims ID: icis
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

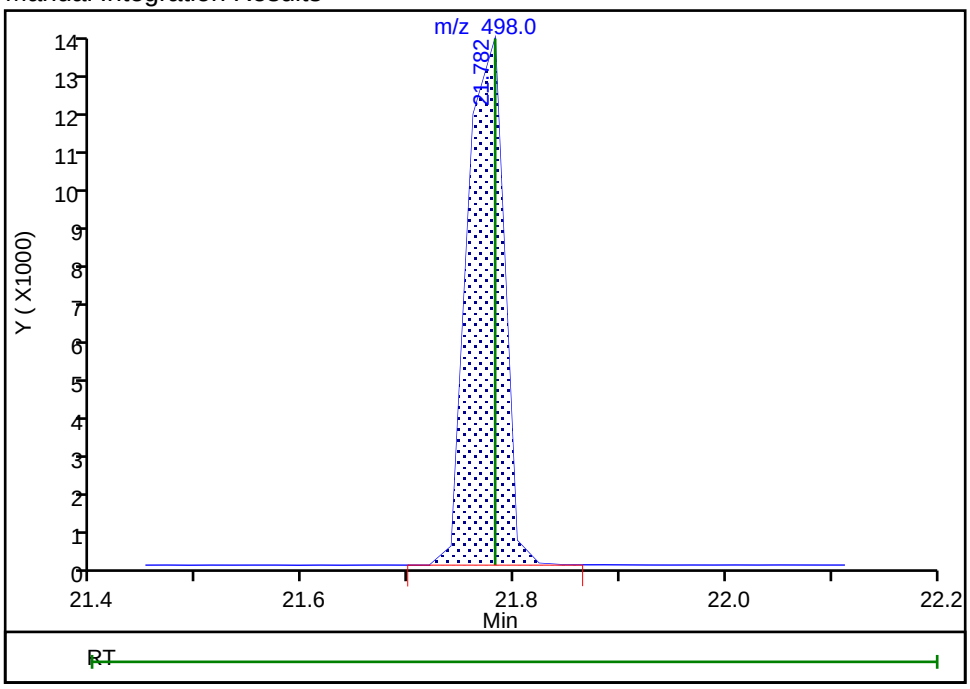
Processing Integration Results

RT: 21.78
Area: 32060
Amount: 4.650010
Amount Units: ug/ml



Manual Integration Results

RT: 21.78
Area: 32060
Amount: 4.650010
Amount Units: ug/ml



Reviewer: davisn, 26-Feb-2019 09:23:51
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2507.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 25-Feb-2019 14:04:30 ALS Bottle#: 7 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ic
Operator ID: Instrument ID: CMSX
Sublist: chrom-680_CMSX*sub13

Method: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\680_CMSX.m
Limit Group: 680
Last Update: 26-Feb-2019 09:37:03 Calib Date: 25-Feb-2019 15:59:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0318

First Level Reviewer: davisn Date: 26-Feb-2019 09:25:34

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.741	9.244 - 10.239		0	831971	5.41	
A 24 Total Dichlorobiphenyls	222	11.548	10.582 - 12.514		0	606979	5.68	
* 5 Phenanthrene-d10	188	12.365	12.380	-0.015	100	166671	0.7500	
A 25 Total Trichlorobiphenyls	256	13.229	11.889 - 14.569		0	439760	5.69	
A 26 Total Tetrachlorobiphenyls	292	14.752	13.026 - 16.478		0	601944	11.4	
A 27 Total Pentachlorobiphenyls	326	16.166	14.318 - 18.014		0	502135	12.0	
A 28 Total Hexachlorobiphenyls	360	17.453	15.481 - 19.426		0	469969	11.8	
* 15 Chrysene-d12	240	18.629	18.625	0.004	100	150306	0.7500	a
A 29 Total Heptachlorobiphenyls	394	18.718	17.114 - 20.321		0	646151	16.7	
A 30 Total Octachlorobiphenyls	430	19.697	18.621 - 20.774		0	598796	17.8	
$ 22 Decachlorobiphenyl-13C12	510	21.772	21.761	0.011	94	215192	25.5	a
32 DCB Decachlorobiphenyl	498	21.772	21.782	-0.010	94	210942	33.9	a

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

680isomerCal5_00021 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.284	9.244 -	10.239	22	831971	5.41			
190	9.284				269676		2.5- 3.5	3.1	
152	9.284				467341		50.7- 50.7	0.6	
153	9.284				194685		23.2- 23.2	1.4	
A 24 Total Dichlorobiphenyls									
222	11.525	10.582 -	12.514	25	606979	5.68			
224	11.525				390615		1.3- 1.7	1.6	
152	11.525				473101		31.7- 111.7	0.8	
153	11.525				60112		0.0- 49.1	6.5	
186	11.525				57026		0.0- 48.9	6.8	
188	11.525				20737		0.0- 43.3	18.8	
* 5 Phenanthrene-d10									
188	12.365	12.380	-0.015	100	166671	0.7500			
189	12.365	12.380	-0.015		24880		5.9- 7.5	6.7	
A 25 Total Trichlorobiphenyls									
256	13.058	11.889 -	14.569	93	439760	5.69			
258	13.058				423424		0.8- 1.2	1.0	
186	13.043				300192		26.5- 106.5	1.4	
188	13.043				97108		0.0- 61.5	4.4	
A 26 Total Tetrachlorobiphenyls									
292	13.338	13.026 -	16.478	0	601944	11.4			
290	13.323				470036		1.1- 1.5	1.3	
220	13.323				584775		58.1- 138.1	0.8	
222	13.323				376803		22.9- 102.9	1.2	
A 27 Total Pentachlorobiphenyls									
326	16.216	14.318 -	18.014	75	502135	12.0			
324	16.216				314089		1.4- 1.8	1.6	
254	16.216				374505		41.9- 121.9	0.8	
256	16.216				354147		38.2- 118.2	0.9	
258	16.216				115613		0.0- 65.4	2.7	
A 28 Total Hexachlorobiphenyls									
360	16.424	15.481 -	19.426	51	469969	11.8			
362	16.424				376190		1.0- 1.4	1.2	
288	16.406				282985		61.3- 61.3	1.3	
290	16.406				364172		220.6- 220.6	1.0	
292	16.406				176899		0.0- 0.0	2.1	
* 15 Chrysene-d12									a
240	18.629	18.625	0.004	100	150306	0.7500			a
241	18.629	18.625	0.004		28533		4.3- 5.9	5.3	
A 29 Total Heptachlorobiphenyls									
394	17.178	17.114 -	20.321	76	646151	16.7			
396	17.178				605154		0.8- 1.2	1.1	
322	17.178				286716		48.3- 48.3	2.1	
324	17.178				453310		77.4- 77.4	1.3	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.820	18.621	-20.774	78	598796	17.8			
428	18.820				542558		0.9- 1.3	1.1	
356	18.820				219677		39.6- 39.6	2.5	
358	18.820				415571		75.2- 75.2	1.3	
360	18.820				331256		59.6- 59.6	1.6	
$ 22 Decachlorobiphenyl-13C12									a
510	21.772	21.761	0.011	94	215192	25.5			a
512	21.772	21.782	-0.010		167283		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									a
498	21.772	21.782	-0.010	94	210942	33.9			a
500	21.772	21.782	-0.010		171833		0.9- 1.3	1.2	
424	21.772	21.782	-0.010		94755		0.0- 0.0	1.0	
426	21.772	21.782	-0.010		225589		0.0- 0.0	1.0	
428	21.772	21.782	-0.010		242035		0.0- 0.0	1.0	
430	21.772	21.782	-0.010		149525		0.0- 0.0	1.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal5_00021 Amount Added: 1.00 Units: mL

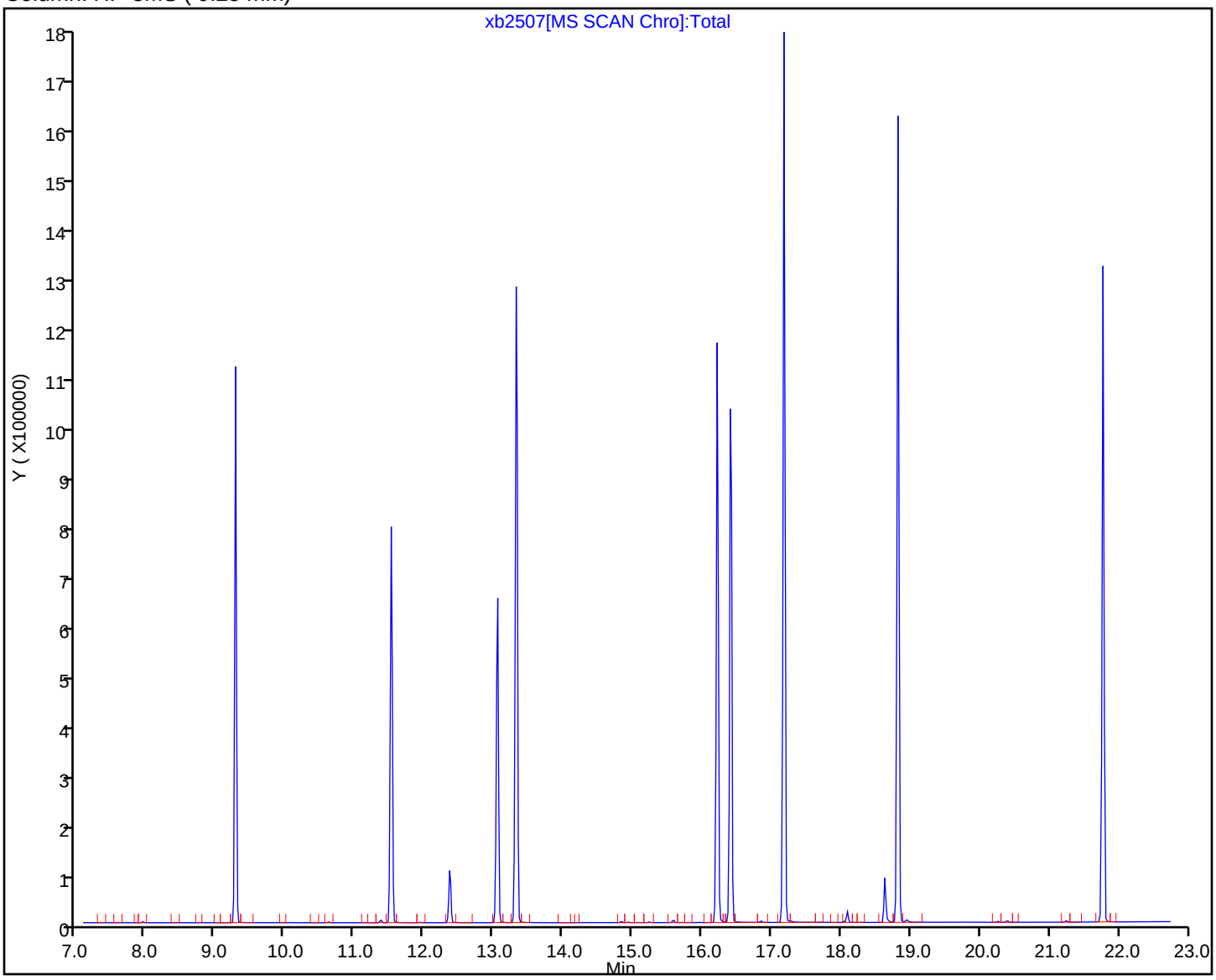
Report Date: 26-Feb-2019 09:37:04 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2507.D

Injection Date:	25-Feb-2019 14:04:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

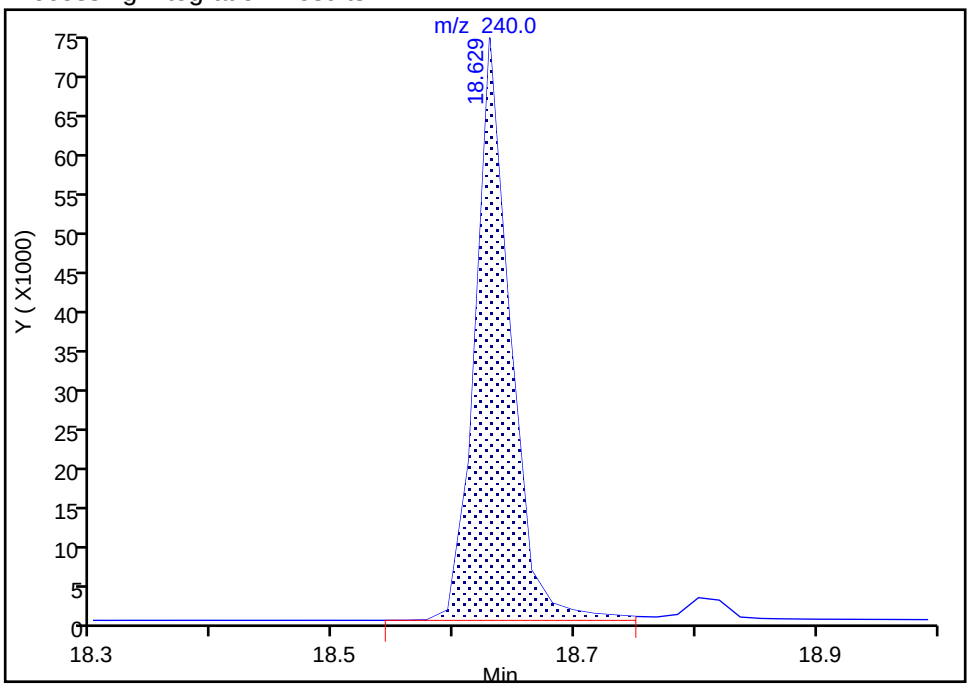
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2507.D
Injection Date: 25-Feb-2019 14:04:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

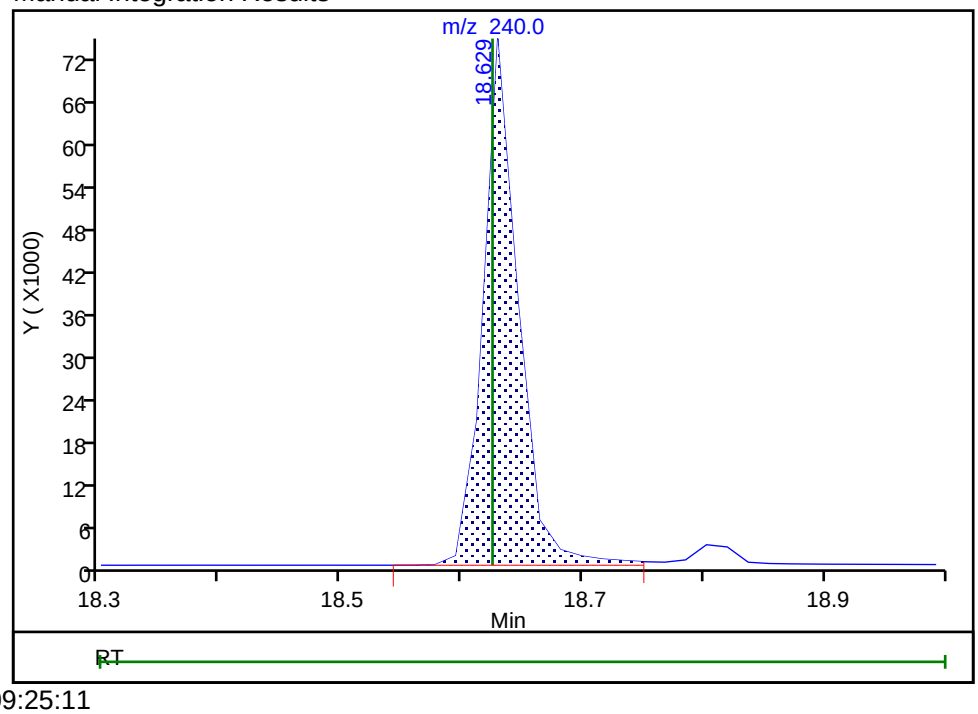
Processing Integration Results

RT: 18.63
Area: 150306
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.63
Area: 150306
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 26-Feb-2019 09:25:11
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

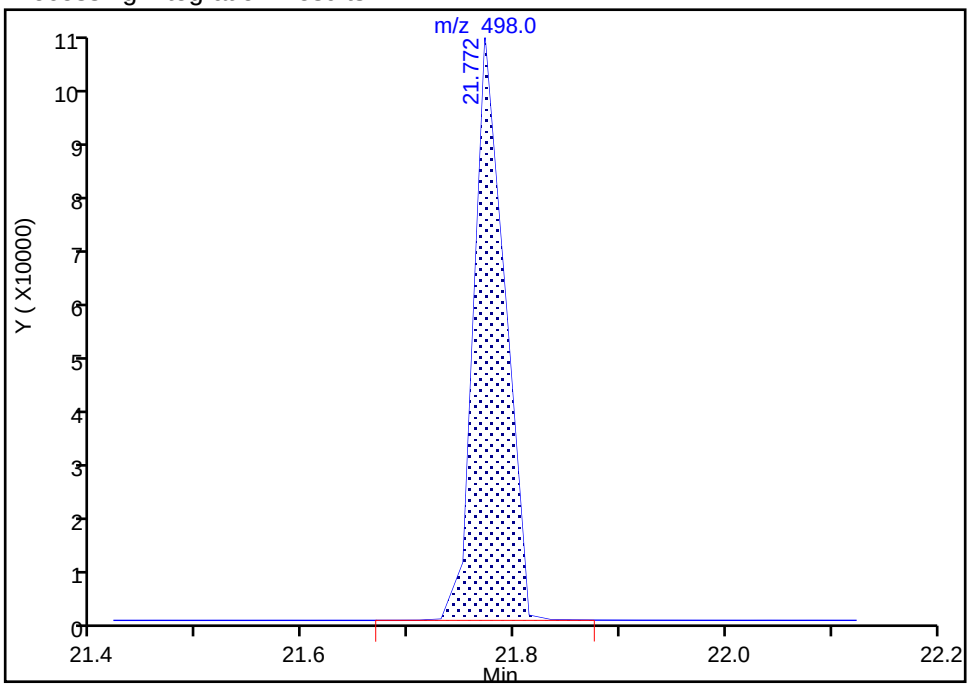
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2507.D
Injection Date: 25-Feb-2019 14:04:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

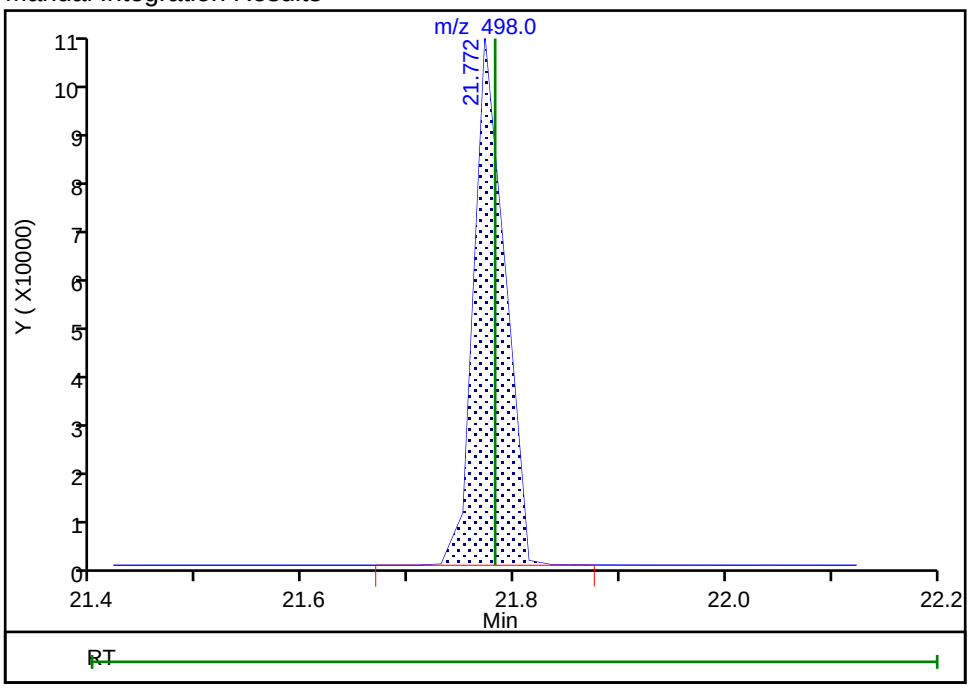
Processing Integration Results

RT: 21.77
Area: 210942
Amount: 33.855918
Amount Units: ug/ml



Manual Integration Results

RT: 21.77
Area: 210942
Amount: 33.855918
Amount Units: ug/ml



Reviewer: davisn, 26-Feb-2019 09:25:32
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

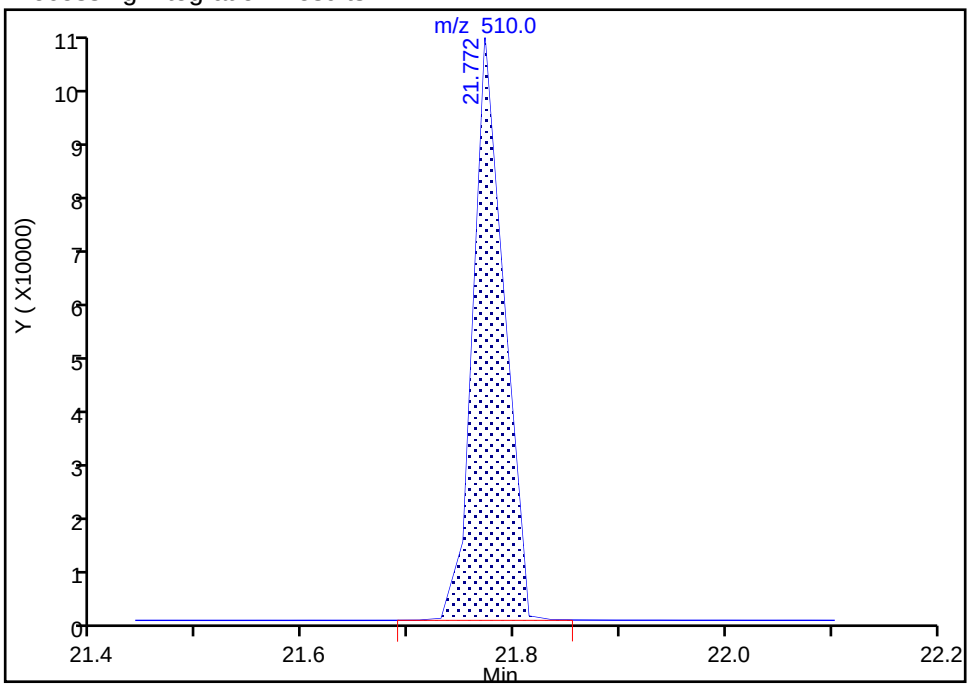
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2507.D
Injection Date: 25-Feb-2019 14:04:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

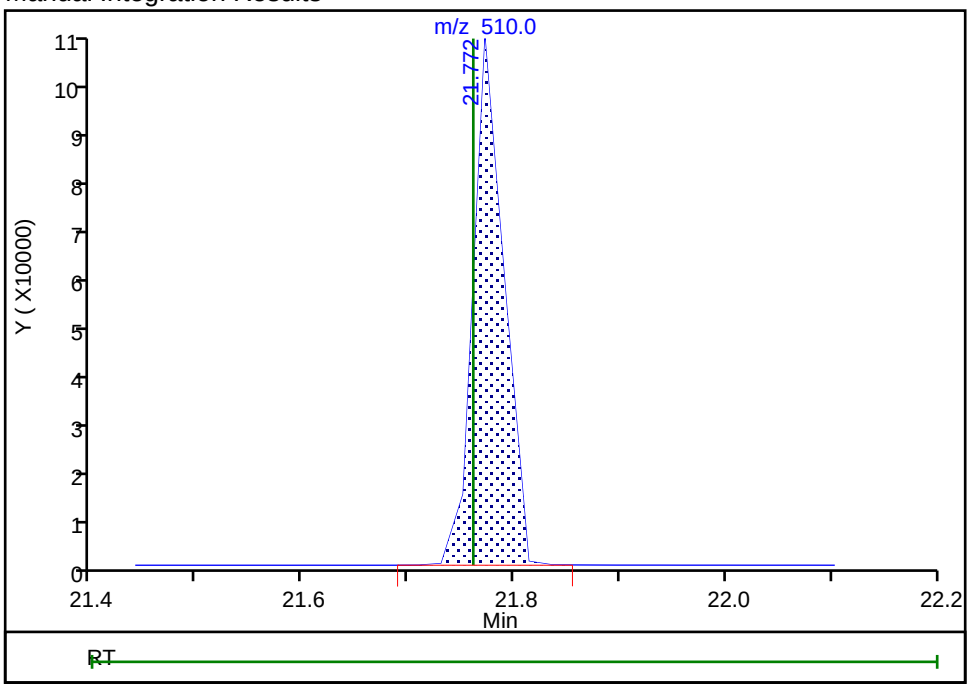
Processing Integration Results

RT: 21.77
Area: 215192
Amount: 25.457645
Amount Units: ug/ml



Manual Integration Results

RT: 21.77
Area: 215192
Amount: 25.457645
Amount Units: ug/ml



Reviewer: davisn, 26-Feb-2019 09:25:30
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2508.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 25-Feb-2019 14:33:30 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ic
Operator ID: Instrument ID: CMSX
Sublist: chrom-680_CMSX*sub13

Method: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\680_CMSX.m
Limit Group: 680
Last Update: 26-Feb-2019 09:37:06 Calib Date: 25-Feb-2019 15:59:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0318

First Level Reviewer: davisn Date: 26-Feb-2019 09:26:36

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.741	9.244 - 10.239		0	335414	2.09	
A 24 Total Dichlorobiphenyls	222	11.548	10.582 - 12.514		0	236477	2.12	
* 5 Phenanthrene-d10	188	12.380	12.380	0.0	100	163777	0.7500	
A 25 Total Trichlorobiphenyls	256	13.229	11.889 - 14.569		0	170369	2.11	
A 26 Total Tetrachlorobiphenyls	292	14.752	13.026 - 16.478		0	233496	4.24	
A 27 Total Pentachlorobiphenyls	326	16.166	14.318 - 18.014		0	190549	4.36	
A 28 Total Hexachlorobiphenyls	360	17.453	15.481 - 19.426		0	184183	4.42	
* 15 Chrysene-d12	240	18.629	18.625	0.004	100	157121	0.7500	a
A 29 Total Heptachlorobiphenyls	394	18.718	17.114 - 20.321		0	246590	6.08	
A 30 Total Octachlorobiphenyls	430	19.697	18.621 - 20.774		0	226947	6.47	
$ 22 Decachlorobiphenyl-13C12	510	21.772	21.761	0.011	81	94422	10.7	a
32 DCB Decachlorobiphenyl	498	21.772	21.782	-0.010	81	70810	10.9	a

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

680isomerCal4_00019 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.298	9.244 -	10.239	22	335414	2.09			
190	9.298				109165		2.5- 3.5	3.1	
152	9.298				188674		50.7- 50.7	0.6	
153	9.298				79022		23.2- 23.2	1.4	
A 24 Total Dichlorobiphenyls									
222	11.539	10.582 -	12.514	23	236477	2.12			
224	11.539				151974		1.3- 1.7	1.6	
152	11.525				186429		31.7- 111.7	0.8	
153	11.525				23623		0.0- 49.1	6.4	
186	11.525				22200		0.0- 48.9	6.8	
188	11.539				8159		0.0- 43.3	18.6	
* 5 Phenanthrene-d10									
188	12.380	12.380	0.0	100	163777	0.7500			
189	12.380	12.380	0.0		24469		5.9- 7.5	6.7	
A 25 Total Trichlorobiphenyls									
256	13.058	11.889 -	14.569	97	170369	2.11			
258	13.058				164287		0.8- 1.2	1.0	
186	13.058				114430		26.5- 106.5	1.4	
188	13.058				37101		0.0- 61.5	4.4	
A 26 Total Tetrachlorobiphenyls									
292	13.338	13.026 -	16.478	0	233496	4.24			
290	13.338				183196		1.1- 1.5	1.3	
220	13.323				229752		58.1- 138.1	0.8	
222	13.323				147112		22.9- 102.9	1.2	
A 27 Total Pentachlorobiphenyls									
326	16.216	14.318 -	18.014	75	190549	4.36			
324	16.216				118884		1.4- 1.8	1.6	
254	16.216				141657		41.9- 121.9	0.8	
256	16.216				136016		38.2- 118.2	0.9	
258	16.216				44583		0.0- 65.4	2.7	
A 28 Total Hexachlorobiphenyls									
360	16.423	15.481 -	19.426	50	184183	4.42			
362	16.423				146448		1.0- 1.4	1.3	
288	16.406				106048		61.3- 61.3	1.4	
290	16.406				137795		220.6- 220.6	1.1	
292	16.406				67310		0.0- 0.0	2.2	
* 15 Chrysene-d12									a
240	18.629	18.625	0.004	100	157121	0.7500			a
241	18.629	18.625	0.004		30019		4.3- 5.9	5.2	
A 29 Total Heptachlorobiphenyls									
394	17.178	17.114 -	20.321	79	246590	6.08			
396	17.178				232615		0.8- 1.2	1.1	
322	17.178				106845		48.3- 48.3	2.2	
324	17.178				170627		77.4- 77.4	1.4	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.819	18.621	-20.774	80	225921	6.44			
428	18.819				206793		0.9- 1.3	1.1	
356	18.819				81916		39.6- 39.6	2.5	
358	18.819				155338		75.2- 75.2	1.3	
360	18.819				123300		59.6- 59.6	1.7	
430	18.958	18.621	-20.774	85	1026	0.0293			
428	18.958				932		0.9- 1.3	1.1	
356	18.941				324		39.6- 39.6	2.9	
358	18.941				615		75.2- 75.2	1.5	
360	18.941				538		59.6- 59.6	1.7	
$ 22 Decachlorobiphenyl-13C12									a
510	21.772	21.761	0.011	81	94422	10.7			a
512	21.772	21.782	-0.010		72685		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									a
498	21.772	21.782	-0.010	81	70810	10.9			a
500	21.772	21.782	-0.010		56679		0.9- 1.3	1.2	
424	21.772	21.782	-0.010		34207		0.0- 0.0	1.0	
426	21.772	21.782	-0.010		82111		0.0- 0.0	1.0	
428	21.772	21.782	-0.010		88547		0.0- 0.0	1.0	
430	21.772	21.782	-0.010		54865		0.0- 0.0	1.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal4_00019 Amount Added: 1.00 Units: mL

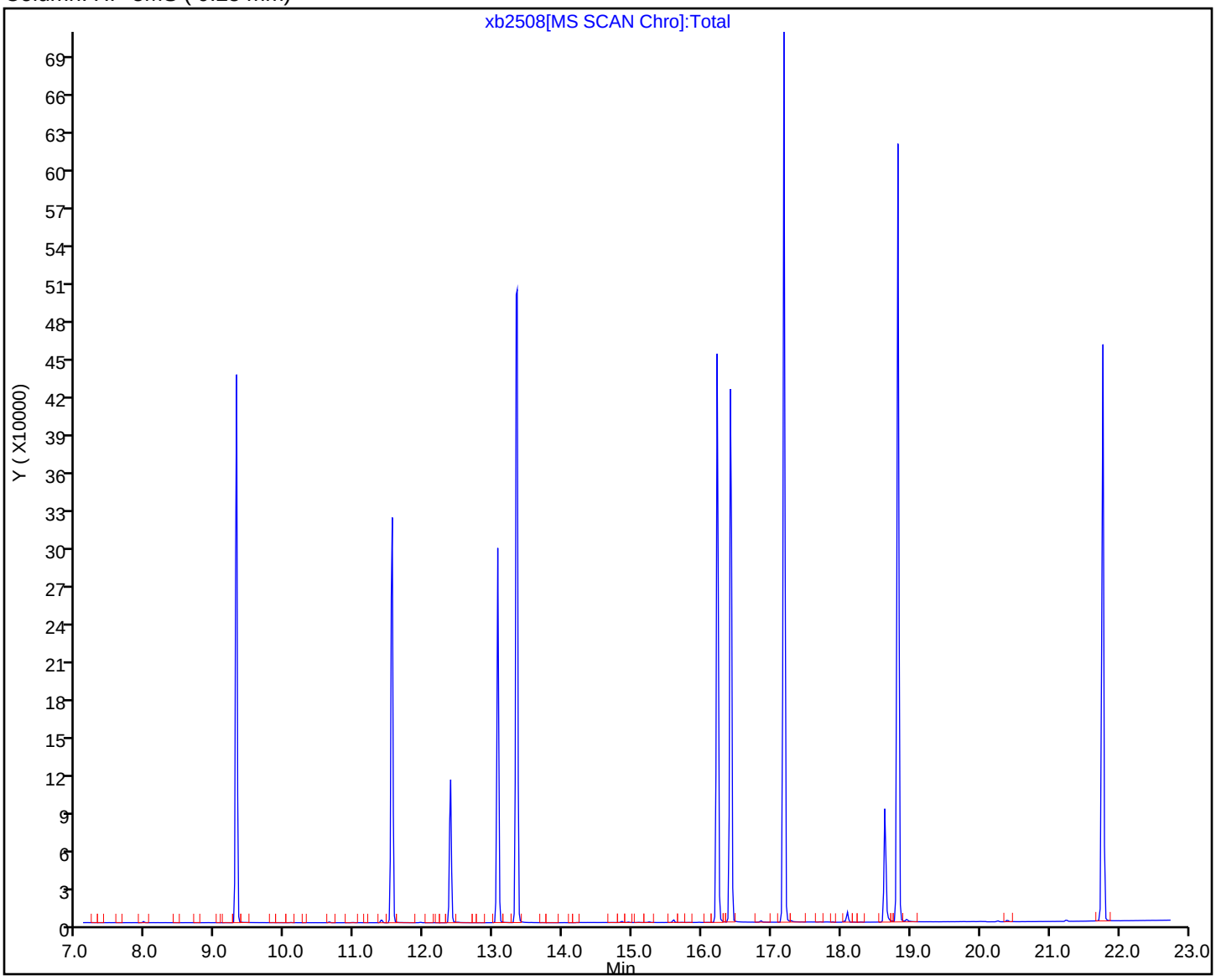
Report Date: 26-Feb-2019 09:37:06 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2508.D

Injection Date:	25-Feb-2019 14:33:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

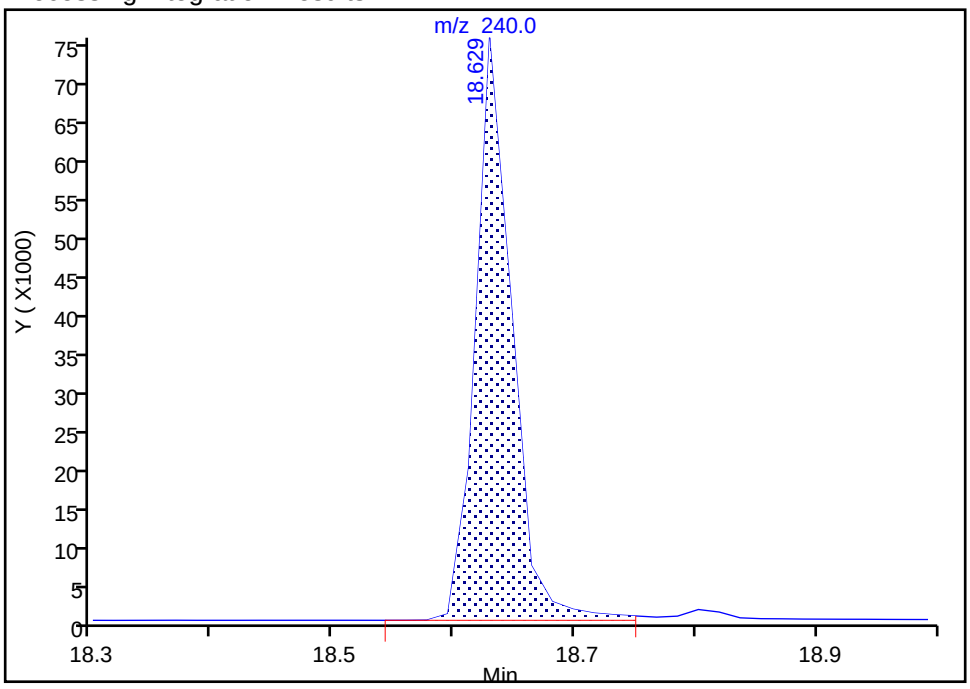
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2508.D
Injection Date: 25-Feb-2019 14:33:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

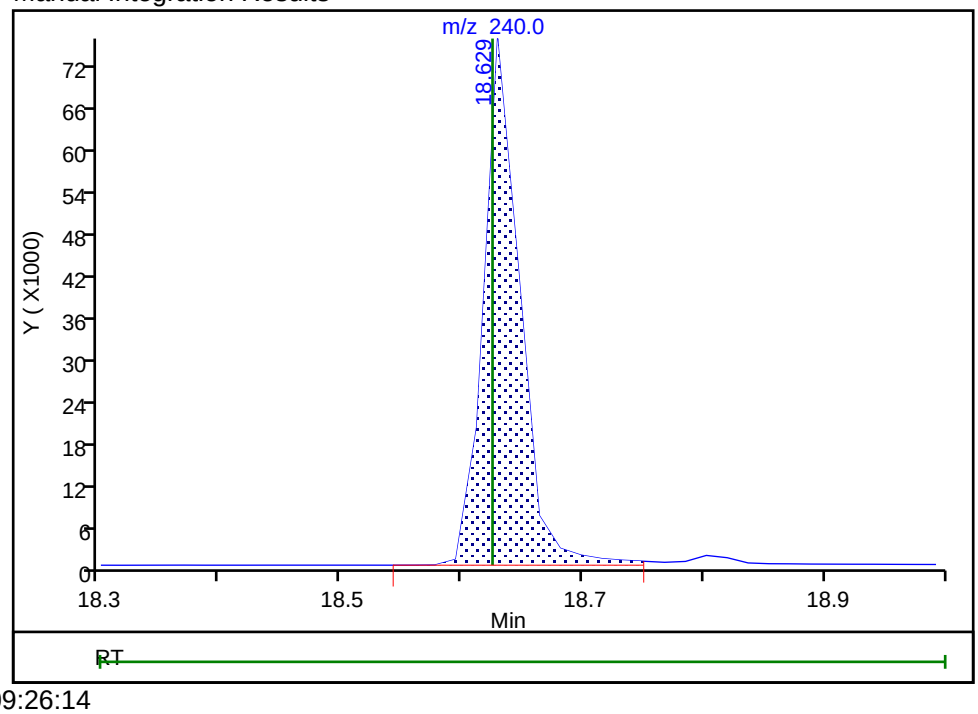
Processing Integration Results

RT: 18.63
Area: 157121
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.63
Area: 157121
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 26-Feb-2019 09:26:14
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

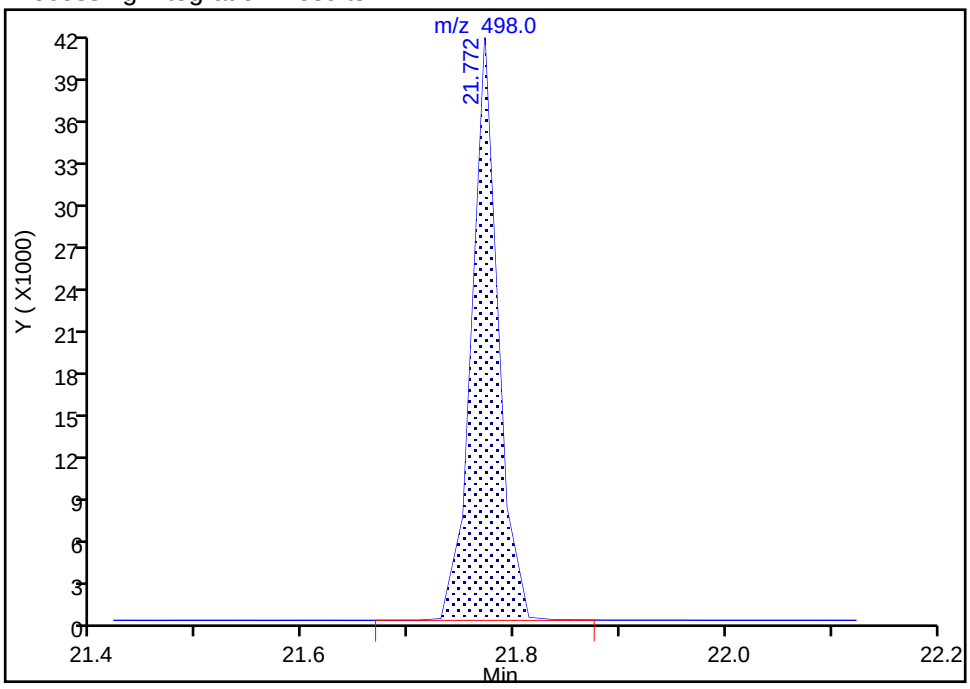
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2508.D
Injection Date: 25-Feb-2019 14:33:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

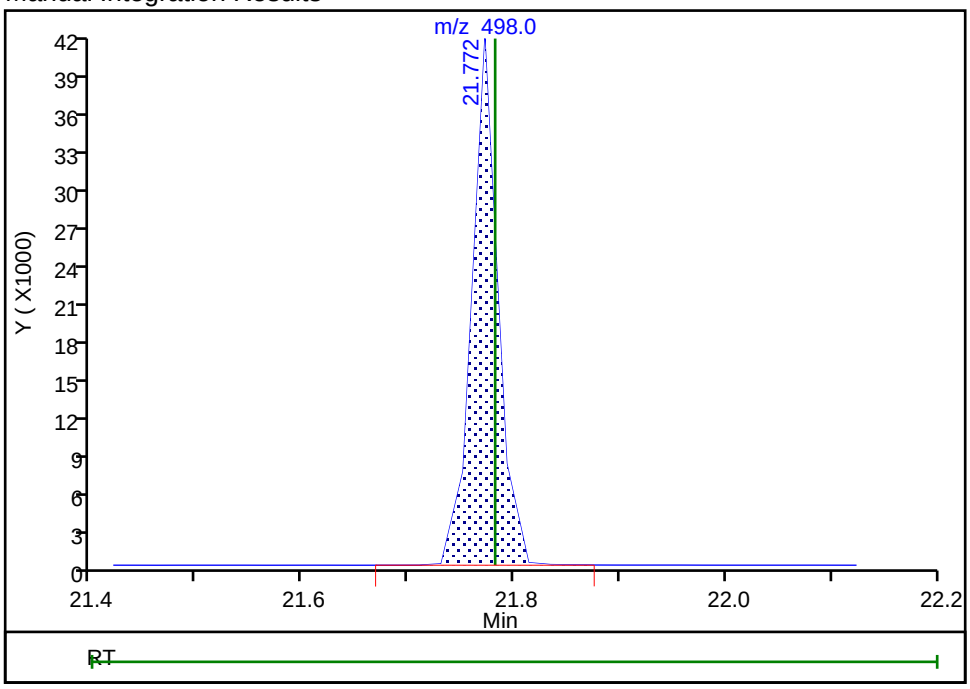
Processing Integration Results

RT: 21.77
Area: 70810
Amount: 10.871969
Amount Units: ug/ml



Manual Integration Results

RT: 21.77
Area: 70810
Amount: 10.871969
Amount Units: ug/ml



Reviewer: davisn, 26-Feb-2019 09:26:35
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

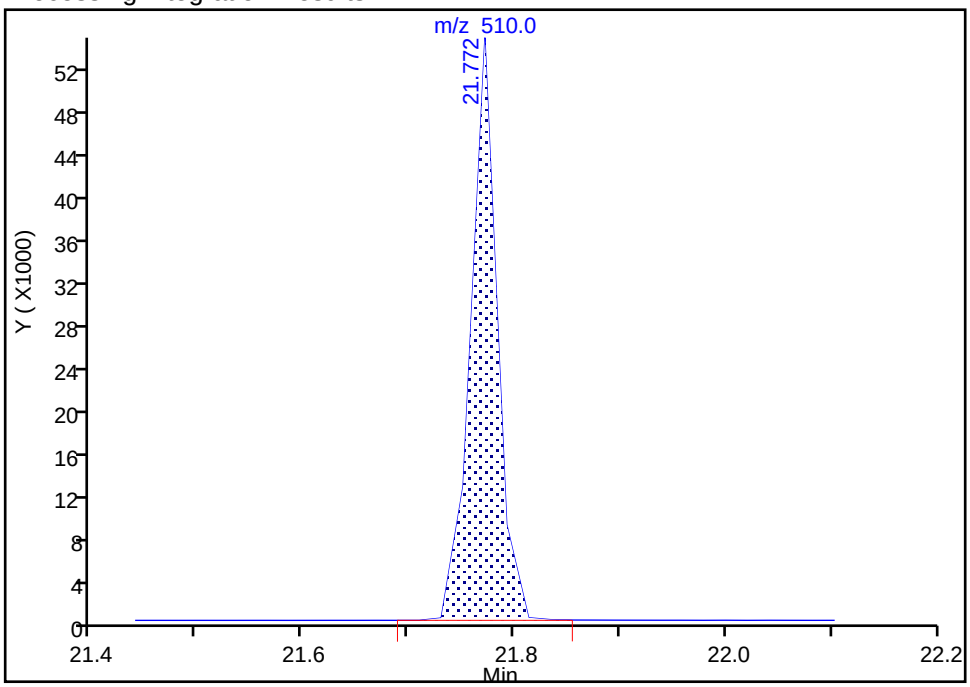
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2508.D
Injection Date: 25-Feb-2019 14:33:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

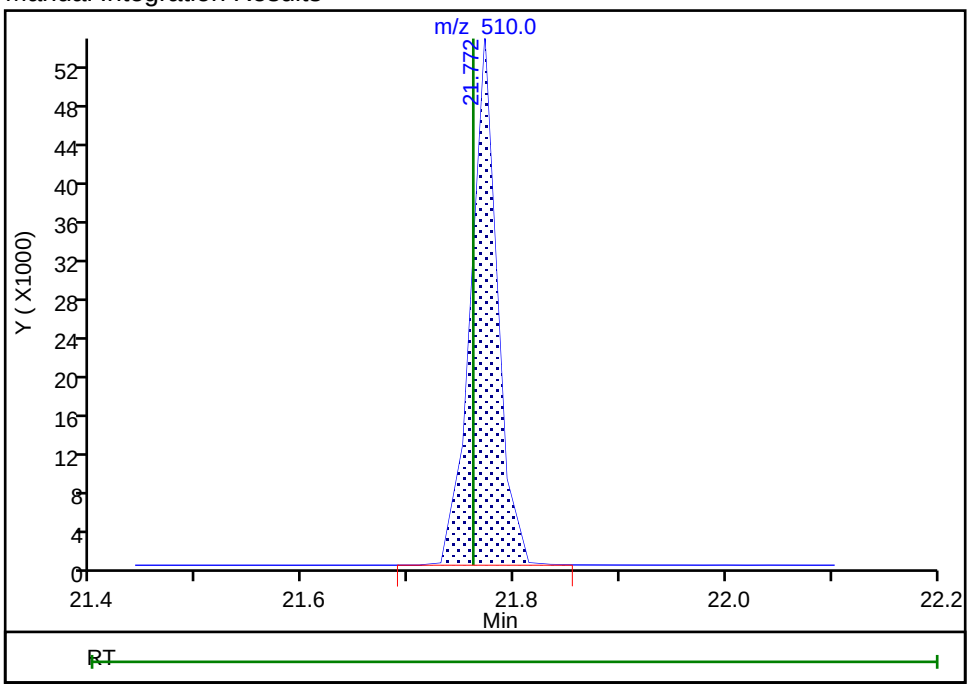
Processing Integration Results

RT: 21.77
Area: 94422
Amount: 10.685808
Amount Units: ug/ml



Manual Integration Results

RT: 21.77
Area: 94422
Amount: 10.685808
Amount Units: ug/ml



Reviewer: davisn, 26-Feb-2019 09:26:33
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2509.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 25-Feb-2019 15:02:30 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ic
Operator ID: Instrument ID: CMSX
Sublist: chrom-680_CMSX*sub13

Method: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\680_CMSX.m
Limit Group: 680
Last Update: 26-Feb-2019 09:37:07 Calib Date: 25-Feb-2019 15:59:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0318

First Level Reviewer: davisn Date: 26-Feb-2019 09:27:23

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.741	9.244 - 10.239		0	77564	0.4687	
A 24 Total Dichlorobiphenyls	222	11.548	10.582 - 12.514		0	53734	0.4670	
* 5 Phenanthrene-d10	188	12.380	12.380	0.0	100	157161	0.7500	
A 25 Total Trichlorobiphenyls	256	13.229	11.889 - 14.569		0	37905	0.4555	
A 26 Total Tetrachlorobiphenyls	292	14.752	13.026 - 16.478		0	53368	0.9422	
A 27 Total Pentachlorobiphenyls	326	16.166	14.318 - 18.014		0	41923	0.9320	
A 28 Total Hexachlorobiphenyls	360	17.453	15.481 - 19.426		0	40027	0.9335	
* 15 Chrysene-d12	240	18.629	18.625	0.004	100	161769	0.7500	
A 29 Total Heptachlorobiphenyls	394	18.718	17.114 - 20.321		0	55348	1.33	
A 30 Total Octachlorobiphenyls	430	19.697	18.621 - 20.774		0	50383	1.40	
$ 22 Decachlorobiphenyl-13C12	510	21.772	21.761	0.011	75	22714	2.50	a
32 DCB Decachlorobiphenyl	498	21.772	21.782	-0.010	75	15783	2.35	a

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

680isomerCal2_00019 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.299	9.244 -	10.239	23	77564	0.4687			
190	9.299				25204		2.5- 3.5	3.1	
152	9.299				43458		50.7- 50.7	0.6	
153	9.299				18149		23.2- 23.2	1.4	
A 24 Total Dichlorobiphenyls									
222	11.539	10.582 -	12.514	24	53734	0.4670			
224	11.539				34416		1.3- 1.7	1.6	
152	11.539				41686		31.7- 111.7	0.8	
153	11.539				5356		0.0- 49.1	6.4	
186	11.539				5063		0.0- 48.9	6.8	
188	11.539				1968		0.0- 43.3	17.5	
* 5 Phenanthrene-d10									
188	12.380	12.380	0.0	100	157161	0.7500			
189	12.380	12.380	0.0		23481		5.9- 7.5	6.7	
A 25 Total Trichlorobiphenyls									
256	13.058	11.889 -	14.569	98	37905	0.4555			
258	13.058				36387		0.8- 1.2	1.0	
186	13.058				25747		26.5- 106.5	1.4	
188	13.058				8496		0.0- 61.5	4.3	
A 26 Total Tetrachlorobiphenyls									
292	13.338	13.026 -	16.478	0	53368	0.9422			
290	13.338				41618		1.1- 1.5	1.3	
220	13.323				51492		58.1- 138.1	0.8	
222	13.338				33297		22.9- 102.9	1.2	
A 27 Total Pentachlorobiphenyls									
326	16.216	14.318 -	18.014	74	41923	0.9320			
324	16.216				26311		1.4- 1.8	1.6	
254	16.216				31463		41.9- 121.9	0.8	
256	16.216				30285		38.2- 118.2	0.9	
258	16.216				10426		0.0- 65.4	2.5	
A 28 Total Hexachlorobiphenyls									
360	16.424	15.481 -	19.426	51	40027	0.9335			
362	16.424				31781		1.0- 1.4	1.3	
288	16.406				24188		61.3- 61.3	1.3	
290	16.406				30610		220.6- 220.6	1.0	
292	16.406				15575		0.0- 0.0	2.0	
* 15 Chrysene-d12									
240	18.629	18.625	0.004	100	161769	0.7500			
241	18.629	18.625	0.004		30926		4.3- 5.9	5.2	
A 29 Total Heptachlorobiphenyls									
394	17.178	17.114 -	20.321	82	55348	1.33			
396	17.178				51624		0.8- 1.2	1.1	
322	17.178				23895		48.3- 48.3	2.2	
324	17.178				37615		77.4- 77.4	1.4	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.820	18.621	-20.774	82	50383	1.40			
428	18.820				45861		0.9- 1.3	1.1	
356	18.820				18605		39.6- 39.6	2.5	
358	18.820				35648		75.2- 75.2	1.3	
360	18.820				28322		59.6- 59.6	1.6	
$ 22 Decachlorobiphenyl-13C12									a
510	21.772	21.761	0.011	75	22714	2.50			a
512	21.772	21.782	-0.010		17438		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									a
498	21.772	21.782	-0.010	75	15783	2.35			a
500	21.772	21.782	-0.010		12659		0.9- 1.3	1.2	
424	21.751	21.782	-0.031		7408		0.0- 0.0	1.0	
426	21.772	21.782	-0.010		18073		0.0- 0.0	1.0	
428	21.772	21.782	-0.010		19640		0.0- 0.0	1.0	
430	21.772	21.782	-0.010		12255		0.0- 0.0	1.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal2_00019 Amount Added: 1.00 Units: mL

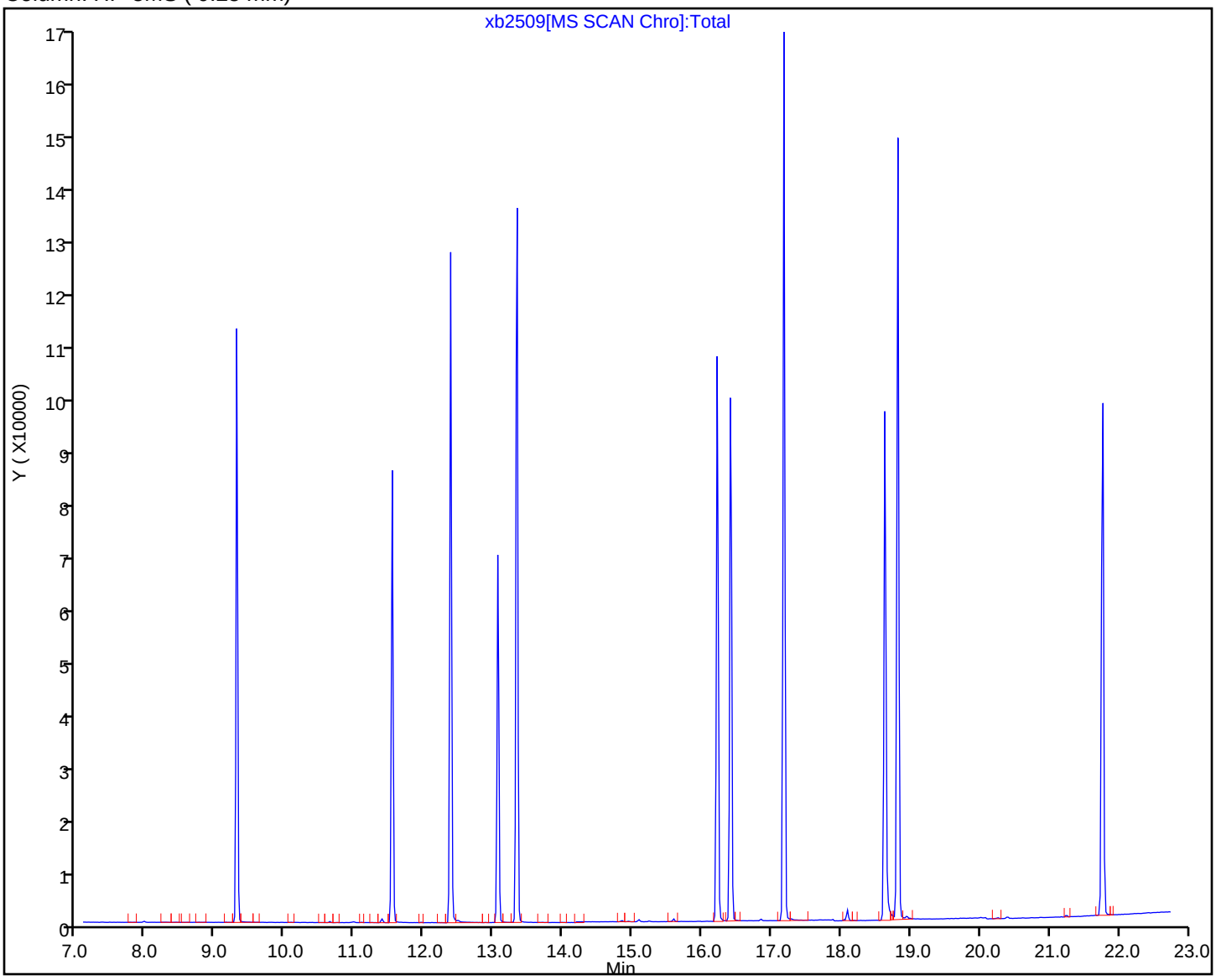
Report Date: 26-Feb-2019 09:37:07 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2509.D

Injection Date:	25-Feb-2019 15:02:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

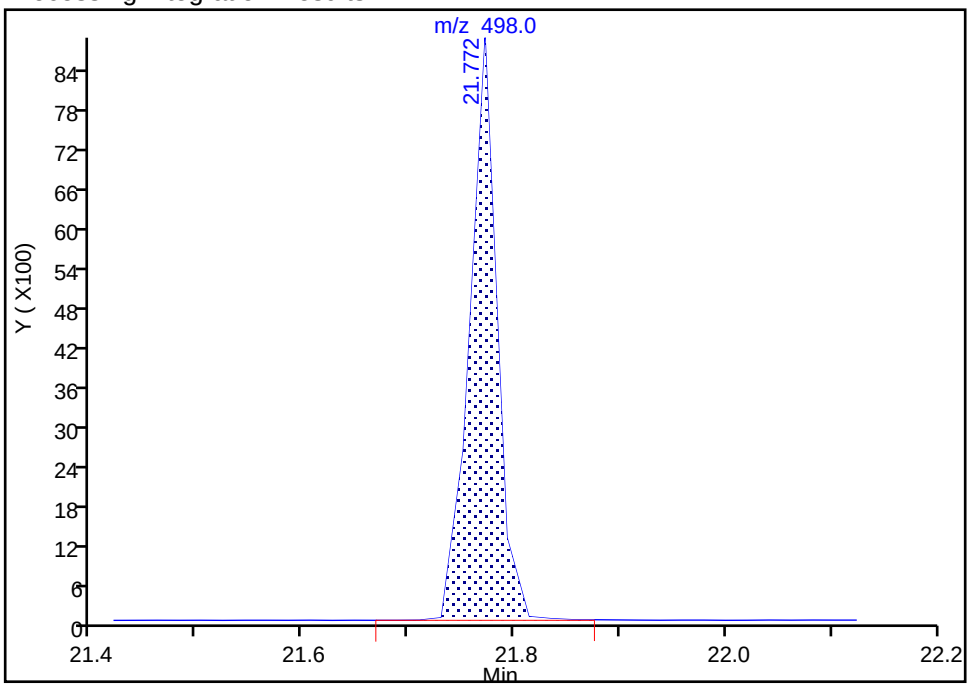
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2509.D
Injection Date: 25-Feb-2019 15:02:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

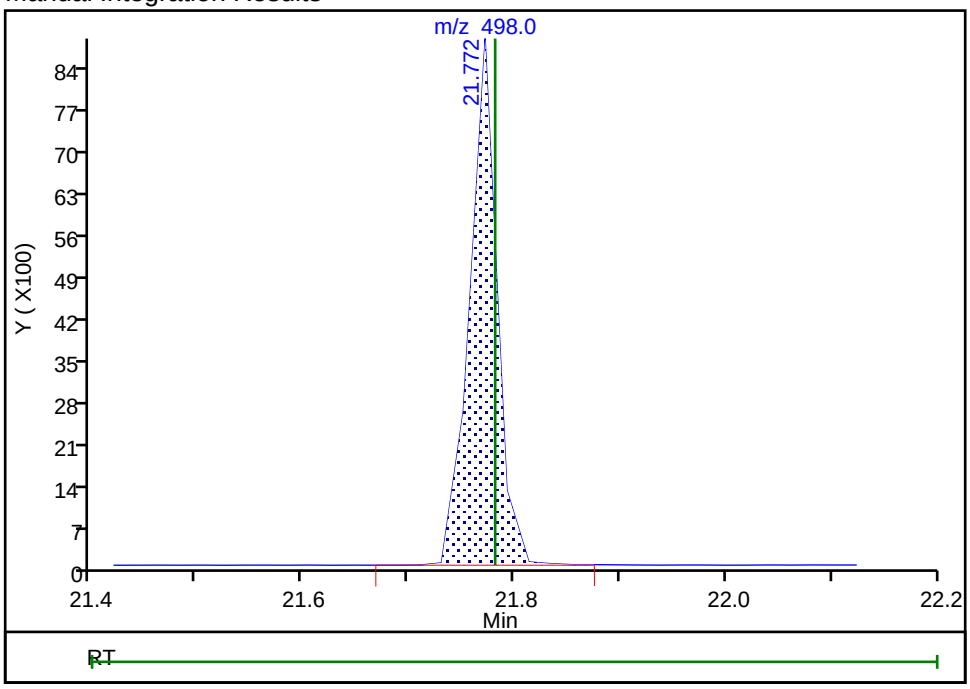
Processing Integration Results

RT: 21.77
Area: 15783
Amount: 2.353651
Amount Units: ug/ml



Manual Integration Results

RT: 21.77
Area: 15783
Amount: 2.353651
Amount Units: ug/ml



Reviewer: davisn, 26-Feb-2019 09:27:22
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

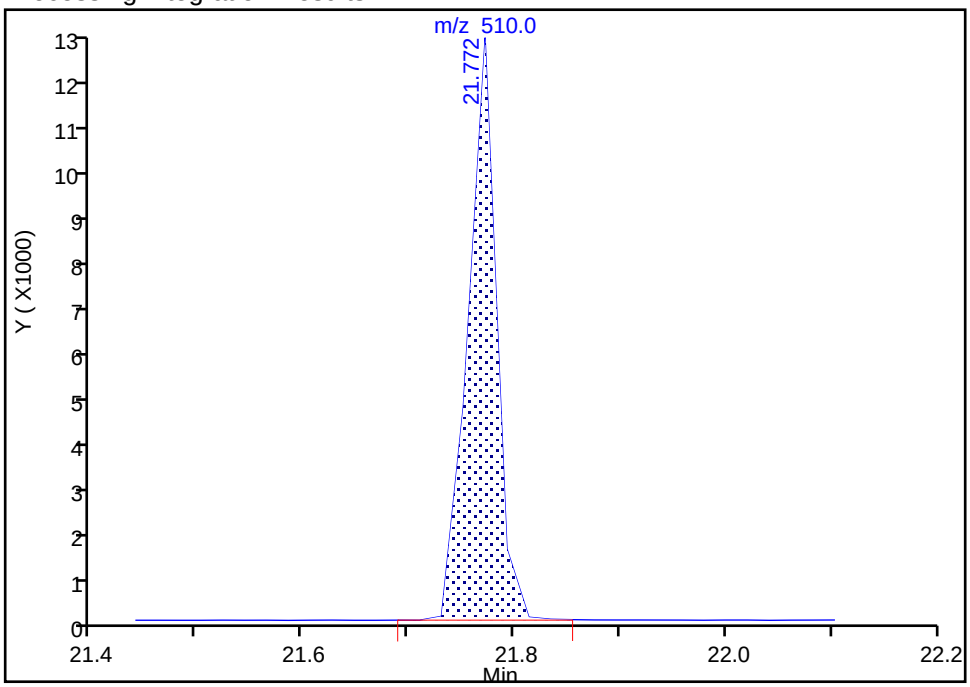
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2509.D
Injection Date: 25-Feb-2019 15:02:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

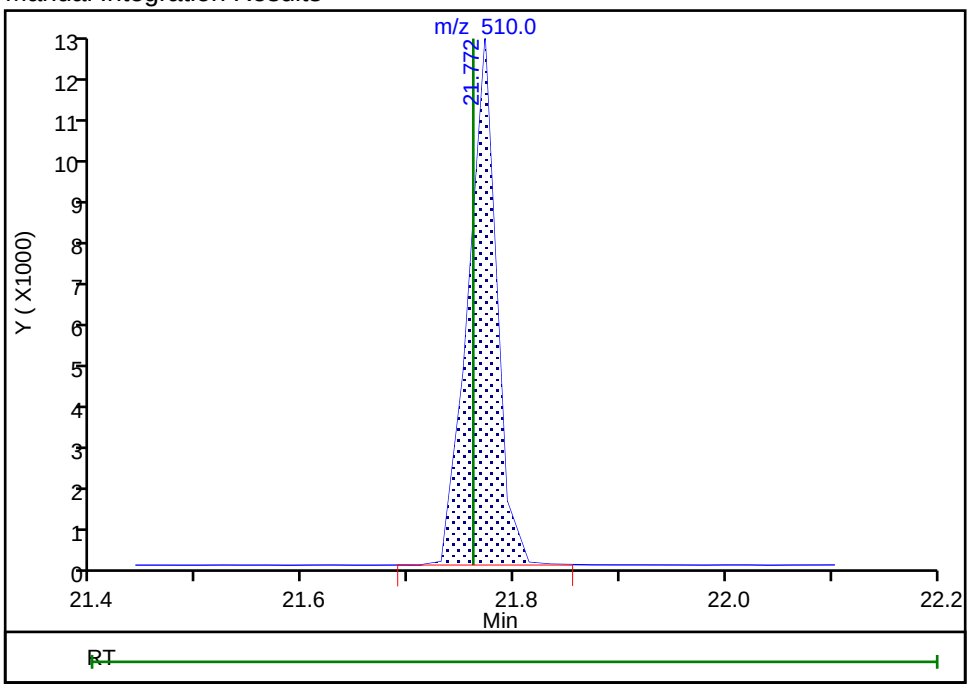
Processing Integration Results

RT: 21.77
Area: 22714
Amount: 2.496702
Amount Units: ug/ml



Manual Integration Results

RT: 21.77
Area: 22714
Amount: 2.496702
Amount Units: ug/ml



Reviewer: davisn, 26-Feb-2019 09:27:39
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2510.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 25-Feb-2019 15:30:30 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ic
Operator ID: Instrument ID: CMSX
Sublist: chrom-680_CMSX*sub13

Method: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\680_CMSX.m
Limit Group: 680
Last Update: 26-Feb-2019 09:37:08 Calib Date: 25-Feb-2019 15:59:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0318

First Level Reviewer: davisn Date: 26-Feb-2019 09:28:48

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.741	9.244 - 10.239		0	15897	0.1001	
A 24 Total Dichlorobiphenyls	222	11.548	10.582 - 12.514		0	10862	0.0983	
* 5 Phenanthrene-d10	188	12.379	12.380	-0.001	100	167560	0.7500	
A 25 Total Trichlorobiphenyls	256	13.229	11.889 - 14.569		0	7698	0.0964	
A 26 Total Tetrachlorobiphenyls	292	14.752	13.026 - 16.478		0	10313	0.1897	
A 27 Total Pentachlorobiphenyls	326	16.166	14.318 - 18.014		0	7911	0.1832	
A 28 Total Hexachlorobiphenyls	360	17.453	15.481 - 19.426		0	7470	0.1815	
* 15 Chrysene-d12	240	18.630	18.625	0.005	100	155260	0.7500	a
A 29 Total Heptachlorobiphenyls	394	18.718	17.114 - 20.321		0	11710	0.2922	
A 30 Total Octachlorobiphenyls	430	19.697	18.621 - 20.774		0	9312	0.2687	
$ 22 Decachlorobiphenyl-13C12	510	21.772	21.761	0.011	75	3550	0.4066	a
32 DCB Decachlorobiphenyl	498	21.772	21.782	-0.010	75	2698	0.4192	a

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

680isomerCal1_00021 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.298	9.244 -	10.239	24	15897	0.1001			
190	9.298				5211		2.5- 3.5	3.1	
152	9.298				8884		50.7- 50.7	0.6	
153	9.298				3708		23.2- 23.2	1.4	
A 24 Total Dichlorobiphenyls									
222	11.539	10.582 -	12.514	25	10862	0.0983			
224	11.539				6947		1.3- 1.7	1.6	
152	11.539				8473		31.7- 111.7	0.8	
153	11.539				1112		0.0- 49.1	6.2	
186	11.539				1021		0.0- 48.9	6.8	
188	11.539				400		0.0- 43.3	17.4	
* 5 Phenanthrene-d10									
188	12.379	12.380	-0.001	100	167560	0.7500			
189	12.379	12.380	-0.001		24961		5.9- 7.5	6.7	
A 25 Total Trichlorobiphenyls									
256	13.058	11.889 -	14.569	98	7698	0.0964			
258	13.058				7343		0.8- 1.2	1.0	
186	13.058				5126		26.5- 106.5	1.4	
188	13.058				1774		0.0- 61.5	4.1	
A 26 Total Tetrachlorobiphenyls									
292	13.338	13.026 -	16.478	0	10313	0.1897			
290	13.338				8062		1.1- 1.5	1.3	
220	13.323				10166		58.1- 138.1	0.8	
222	13.323				6533		22.9- 102.9	1.2	
A 27 Total Pentachlorobiphenyls									
326	16.216	14.318 -	18.014	76	7911	0.1832			
324	16.216				5039		1.4- 1.8	1.6	
254	16.216				5923		41.9- 121.9	0.9	
256	16.216				5733		38.2- 118.2	0.9	
258	16.216				2305		0.0- 65.4	2.2	
A 28 Total Hexachlorobiphenyls									
360	16.423	15.481 -	19.426	51	7470	0.1815			
362	16.423				5914		1.0- 1.4	1.3	
288	16.406				4446		61.3- 61.3	1.3	
290	16.406				5742		220.6- 220.6	1.0	
292	16.406				2684		0.0- 0.0	2.2	
* 15 Chrysene-d12									a
240	18.630	18.625	0.005	100	155260	0.7500			a
241	18.630	18.625	0.005		29383		4.3- 5.9	5.3	
A 29 Total Heptachlorobiphenyls									
394	17.177	17.114 -	20.321	81	11710	0.2922			
396	17.177				11173		0.8- 1.2	1.0	
322	17.177				5366		48.3- 48.3	2.1	
324	17.177				8561		77.4- 77.4	1.3	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.820	18.621	-20.774	85	9312	0.2687			
428	18.820				8473		0.9- 1.3	1.1	
356	18.820				3588		39.6- 39.6	2.4	
358	18.820				6540		75.2- 75.2	1.3	
360	18.820				5202		59.6- 59.6	1.6	
$ 22 Decachlorobiphenyl-13C12									a
510	21.772	21.761	0.011	75	3550	0.4066			a
512	21.772	21.782	-0.010		2723		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									a
498	21.772	21.782	-0.010	75	2698	0.4192			a
500	21.772	21.782	-0.010		2135		0.9- 1.3	1.3	
424	21.752	21.782	-0.030		1288		0.0- 0.0	1.0	
426	21.752	21.782	-0.030		3154		0.0- 0.0	1.0	
428	21.772	21.782	-0.010		3345		0.0- 0.0	1.0	
430	21.772	21.782	-0.010		2205		0.0- 0.0	1.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal1_00021 Amount Added: 1.00 Units: mL

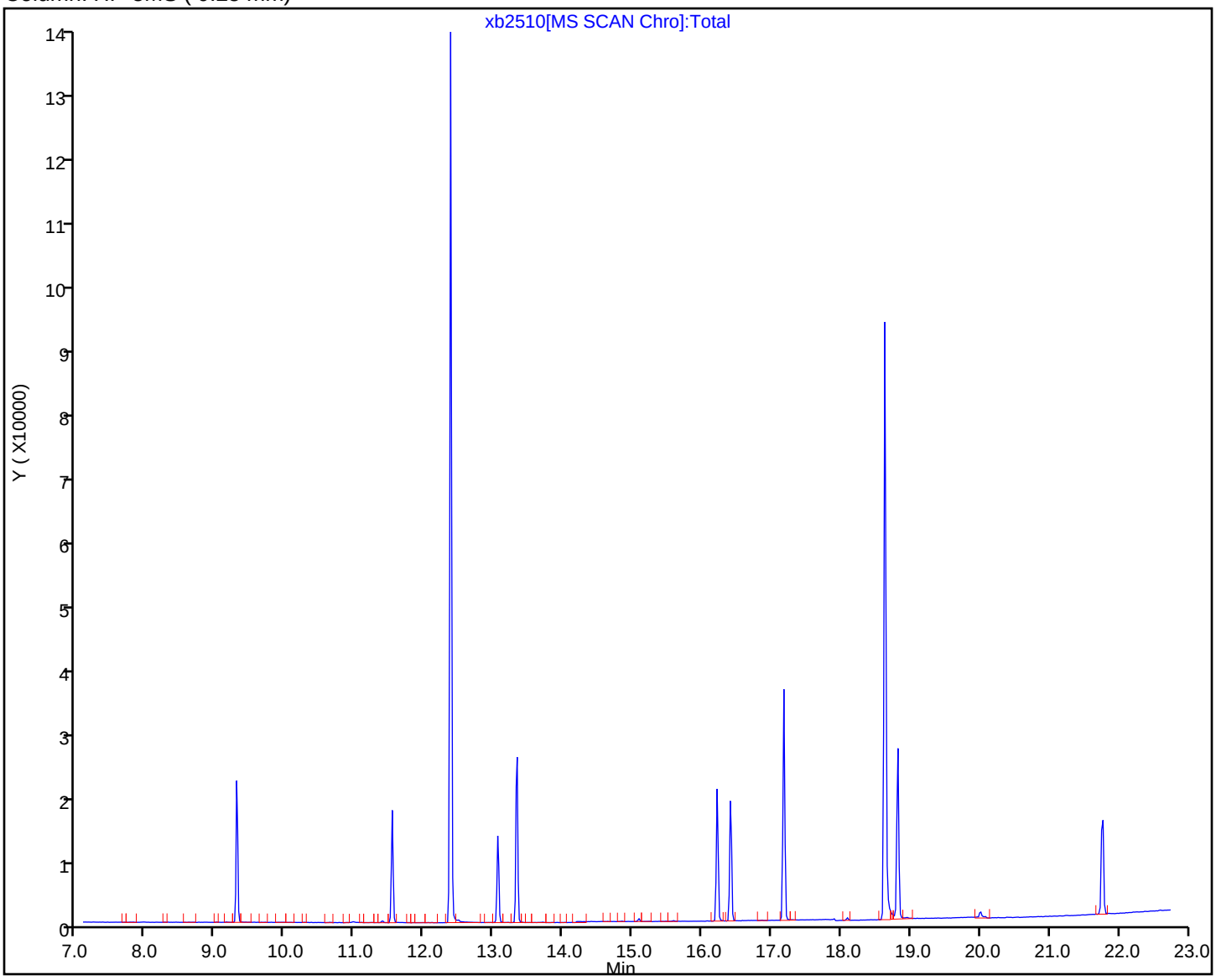
Report Date: 26-Feb-2019 09:37:09 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2510.D

Injection Date:	25-Feb-2019 15:30:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



Manual Integration/User Assign Peak Report

TestAmerica Savannah

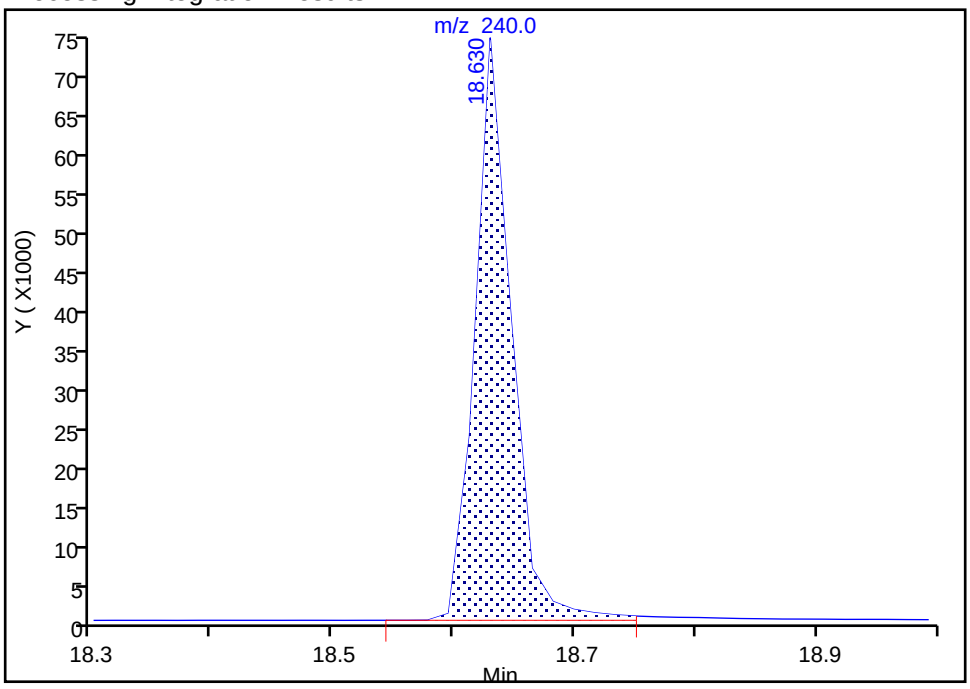
Data File:	\\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2510.D				
Injection Date:	25-Feb-2019 15:30:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

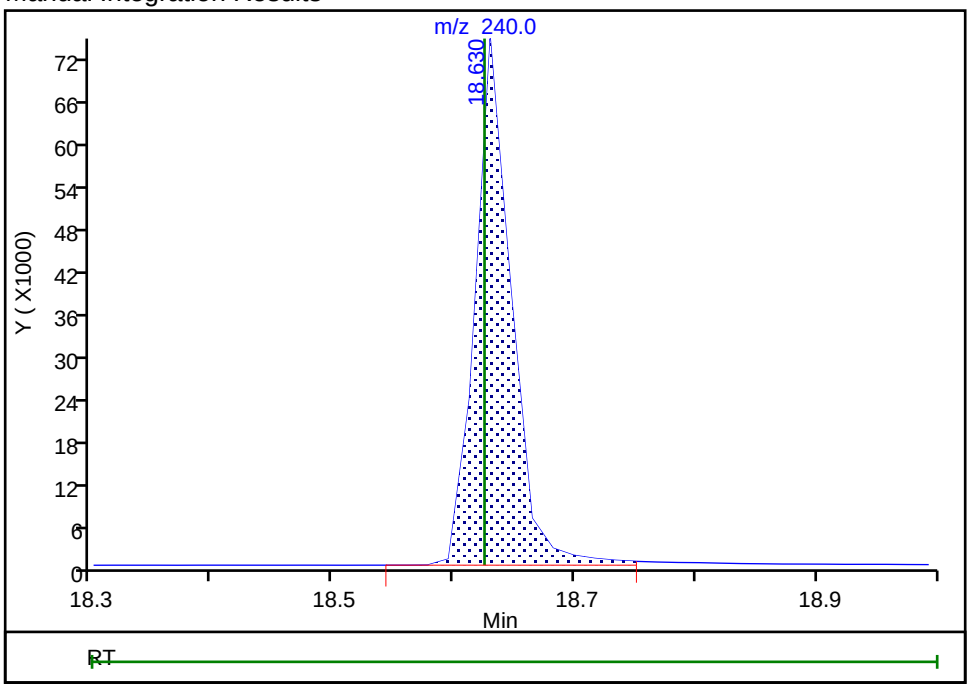
Processing Integration Results

RT: 18.63
Area: 155260
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.63
Area: 155260
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 26-Feb-2019 09:28:23
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Savannah

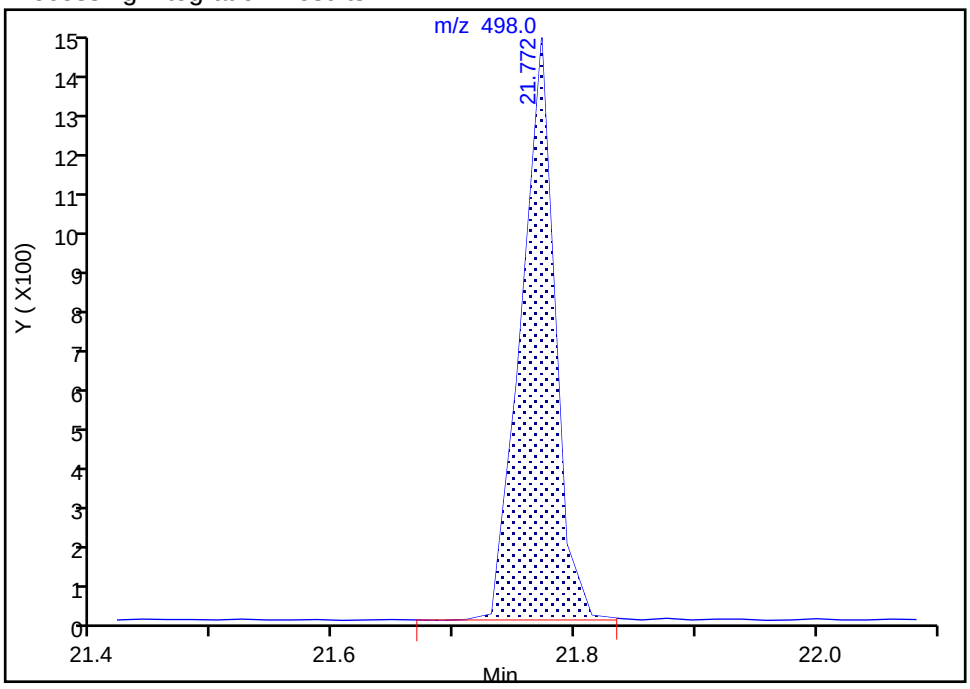
Data File:	\\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2510.D				
Injection Date:	25-Feb-2019 15:30:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

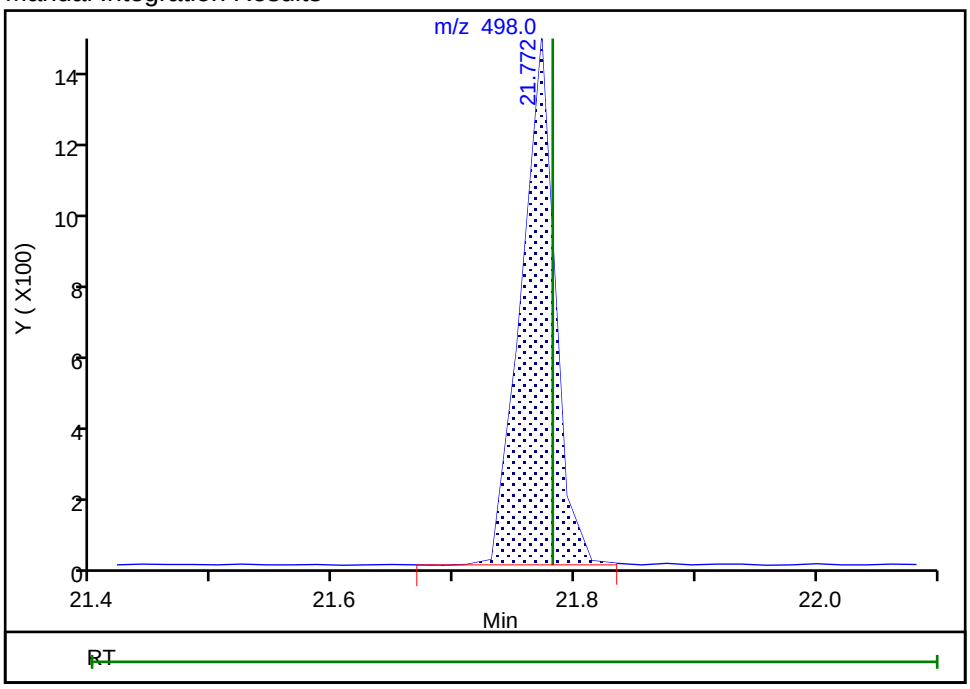
Processing Integration Results

RT: 21.77
Area: 2698
Amount: 0.419209
Amount Units: ug/ml



Manual Integration Results

RT: 21.77
Area: 2698
Amount: 0.419209
Amount Units: ug/ml



Reviewer: davisn, 26-Feb-2019 09:28:38
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

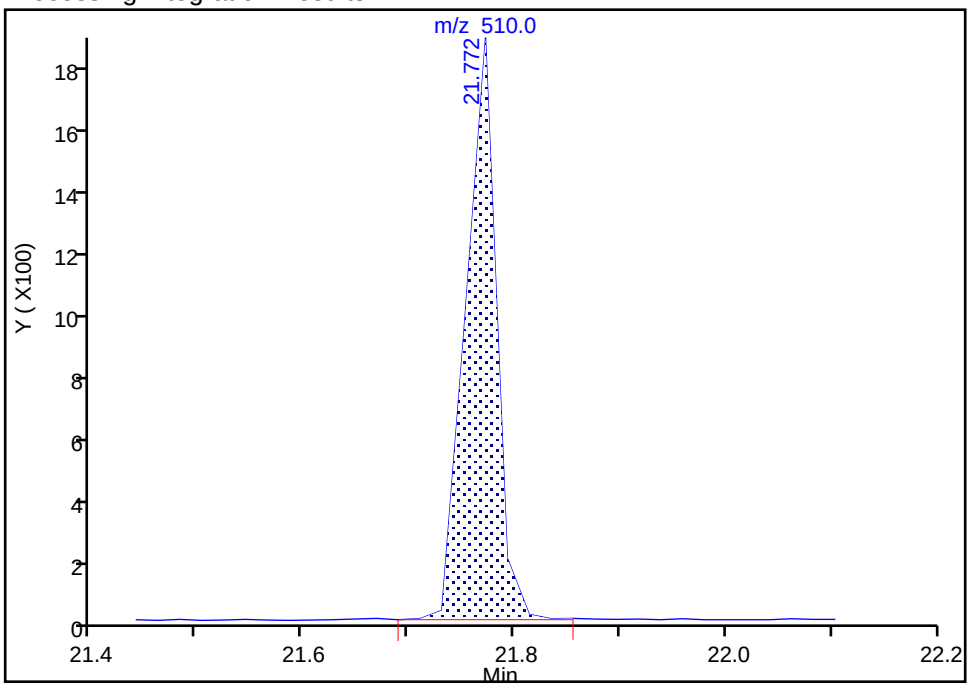
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2510.D
Injection Date: 25-Feb-2019 15:30:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

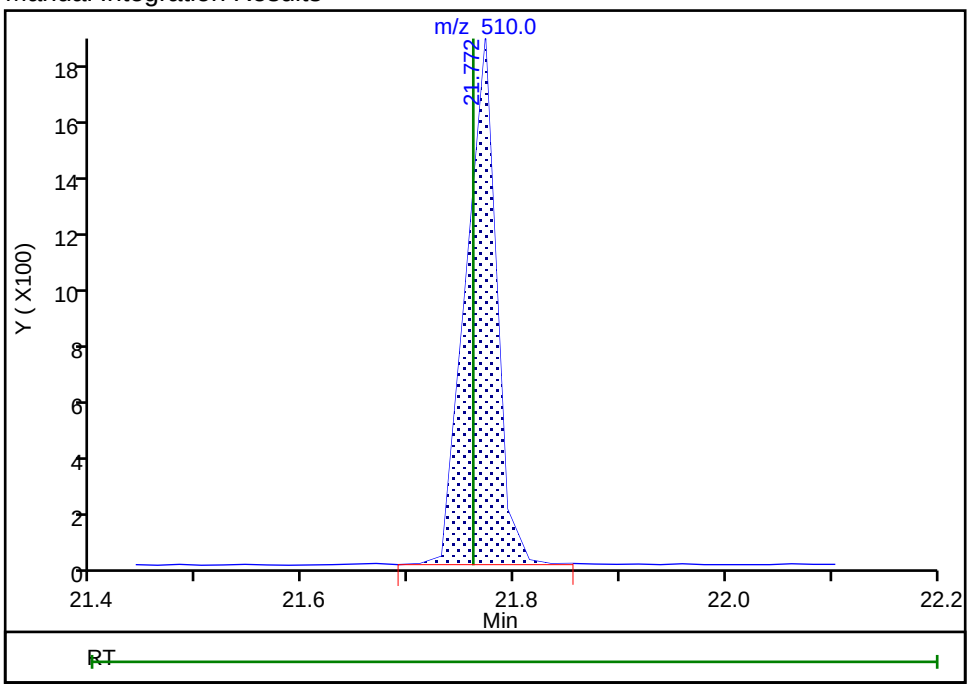
Processing Integration Results

RT: 21.77
Area: 3550
Amount: 0.406572
Amount Units: ug/ml



Manual Integration Results

RT: 21.77
Area: 3550
Amount: 0.406572
Amount Units: ug/ml



Reviewer: davisn, 26-Feb-2019 09:28:36
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D				
Lims ID:	ic				
Client ID:					
Sample Type:	IC	Calib Level:	6		
Inject. Date:	25-Feb-2019 15:59:30	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	ic				
Operator ID:		Instrument ID:	CMSX		
Sublist:	chrom-680_CMSX*sub13				
Method:	\\chromna\Savannah\ChromData\CMSX\20190225-54006.b\680_CMSX.m				
Limit Group:	680				
Last Update:	26-Feb-2019 09:37:09	Calib Date:	25-Feb-2019 15:59:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0318				
First Level Reviewer: davisn		Date:	26-Feb-2019 09:33:34		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.741	9.244 - 10.239		0	7419	0.0506	
A 24 Total Dichlorobiphenyls	222	11.548	10.582 - 12.514		0	4996	0.0490	
* 5 Phenanthrene-d10	188	12.380	12.380	0.0	100	147234	0.7500	
A 25 Total Trichlorobiphenyls	256	13.229	11.889 - 14.569		0	3535	0.0480	
A 26 Total Tetrachlorobiphenyls	292	14.752	13.026 - 16.478		0	4767	0.0950	
A 27 Total Pentachlorobiphenyls	326	16.166	14.318 - 18.014		0	3637	0.0913	
A 28 Total Hexachlorobiphenyls	360	17.453	15.481 - 19.426		0	3459	0.0911	
* 15 Chrysene-d12	240	18.629	18.625	0.004	100	143262	0.7500	a
A 29 Total Heptachlorobiphenyls	394	18.718	17.114 - 20.321		0	6300	0.1704	
A 30 Total Octachlorobiphenyls	430	19.697	18.621 - 20.774		0	4543	0.1421	
$ 22 Decachlorobiphenyl-13C12	510	21.772	21.761	0.011	75	1762	0.2187	a
32 DCB Decachlorobiphenyl	498	21.772	21.782	-0.010	75	1260	0.2122	a

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal6_00002 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.298	9.244 -	10.239	24	7419	0.0506			
190	9.298				2429		2.5- 3.5	3.1	
152	9.298				4130		50.7- 50.7	0.6	
153	9.298				1732		23.2- 23.2	1.4	
A 24 Total Dichlorobiphenyls									
222	11.539	10.582 -	12.514	26	4996	0.0490			
224	11.539				3133		1.3- 1.7	1.6	
152	11.539				3924		31.7- 111.7	0.8	
153	11.539				590		0.0- 49.1	5.3	
186	11.539				510		0.0- 48.9	6.1	
188	11.539				207		0.0- 43.3	15.1	
* 5 Phenanthrene-d10									
188	12.380	12.380	0.0	100	147234	0.7500			
189	12.380	12.380	0.0		21980		5.9- 7.5	6.7	
A 25 Total Trichlorobiphenyls									
256	13.058	11.889 -	14.569	97	3535	0.0480			
258	13.058				3365		0.8- 1.2	1.1	
186	13.058				2347		26.5- 106.5	1.4	
188	13.058				815		0.0- 61.5	4.1	
A 26 Total Tetrachlorobiphenyls									
292	13.338	13.026 -	16.478	0	4767	0.0950			
290	13.338				3719		1.1- 1.5	1.3	
220	13.323				4752		58.1- 138.1	0.8	
222	13.323				3041		22.9- 102.9	1.2	
A 27 Total Pentachlorobiphenyls									
326	16.216	14.318 -	18.014	77	3637	0.0913			
324	16.216				2313		1.4- 1.8	1.6	
254	16.216				2769		41.9- 121.9	0.8	
256	16.216				2607		38.2- 118.2	0.9	
258	16.216				850		0.0- 65.4	2.7	
A 28 Total Hexachlorobiphenyls									
360	16.406	15.481 -	19.426	65	3459	0.0911			
362	16.424				2776		1.0- 1.4	1.2	
288	16.406				2056		61.3- 61.3	1.4	
290	16.406				2637		220.6- 220.6	1.1	
292	16.406				1710		0.0- 0.0	1.6	
* 15 Chrysene-d12									a
240	18.629	18.625	0.004	100	143262	0.7500			a
241	18.629	18.625	0.004		27397		4.3- 5.9	5.2	
A 29 Total Heptachlorobiphenyls									
394	17.178	17.114 -	20.321	84	6300	0.1704			
396	17.178				6007		0.8- 1.2	1.0	
322	17.178				2762		48.3- 48.3	2.2	
324	17.178				4416		77.4- 77.4	1.4	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.819	18.621	-20.774	84	4543	0.1421			
428	18.819				3936		0.9- 1.3	1.2	
356	18.819				1611		39.6- 39.6	2.4	
358	18.819				3080		75.2- 75.2	1.3	
360	18.819				2457		59.6- 59.6	1.6	
$ 22 Decachlorobiphenyl-13C12									a
510	21.772	21.761	0.011	75	1762	0.2187			a
512	21.772	21.782	-0.010		1398		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									a
498	21.772	21.782	-0.010	75	1260	0.2122			a
500	21.772	21.782	-0.010		1014		0.9- 1.3	1.2	
424	21.751	21.782	-0.031		570		0.0- 0.0	1.0	
426	21.751	21.782	-0.031		1433		0.0- 0.0	1.0	
428	21.751	21.782	-0.031		1548		0.0- 0.0	1.0	
430	21.772	21.782	-0.010		1075		0.0- 0.0	1.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal6_00002 Amount Added: 1.00 Units: mL

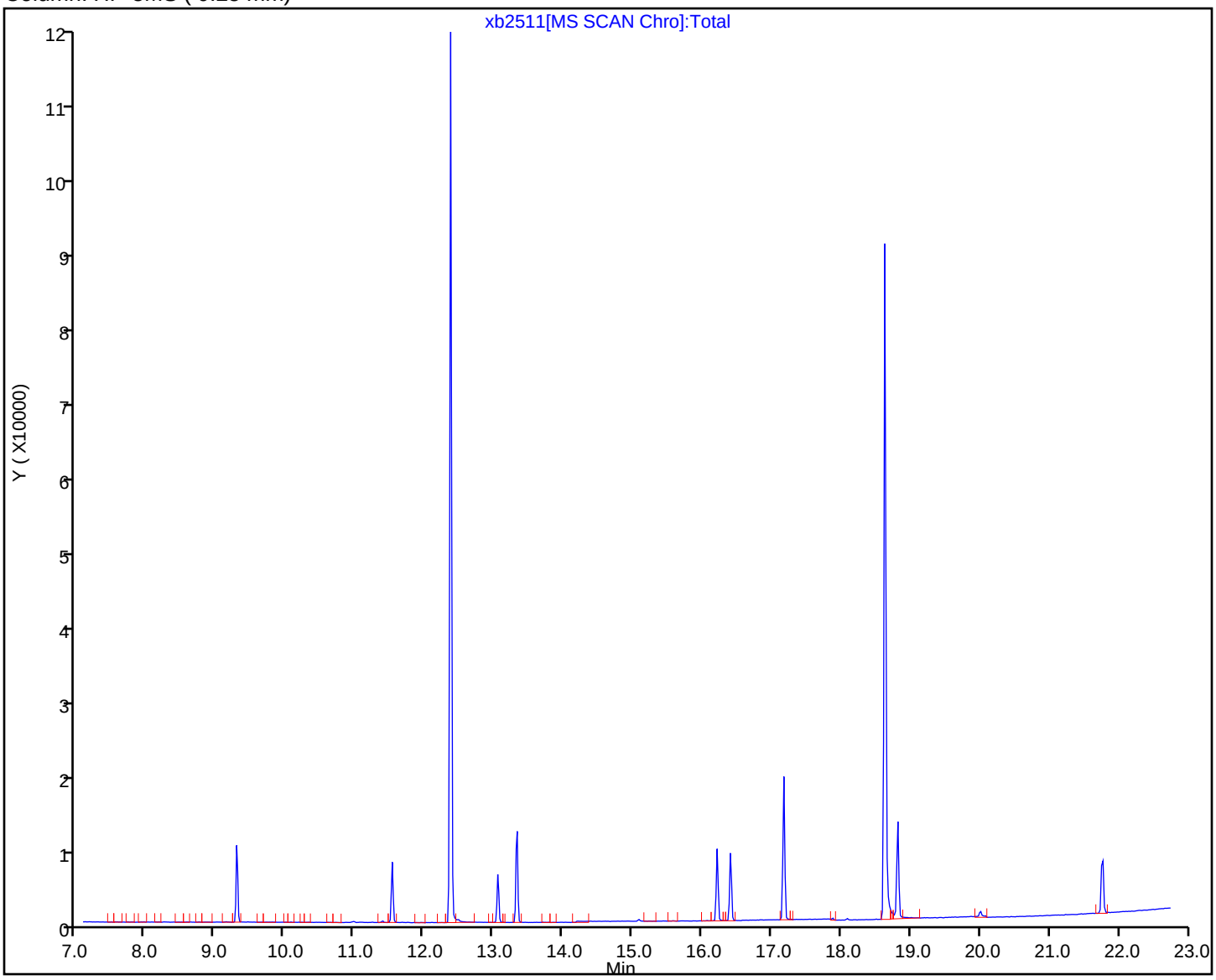
Report Date: 26-Feb-2019 09:37:10 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D

Injection Date:	25-Feb-2019 15:59:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



Manual Integration/User Assign Peak Report

TestAmerica Savannah

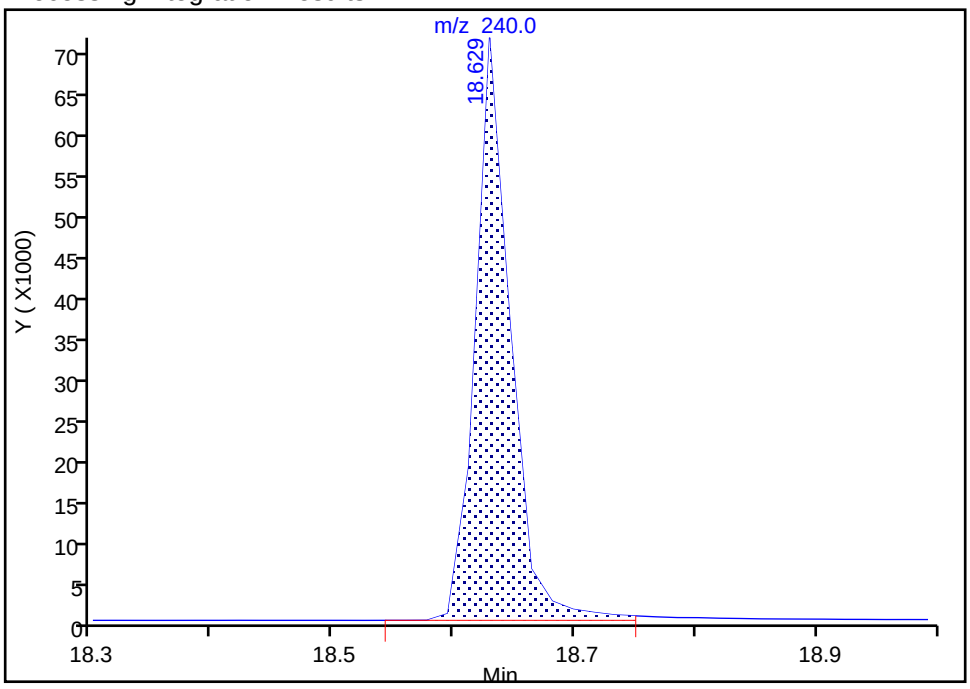
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D
Injection Date: 25-Feb-2019 15:59:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

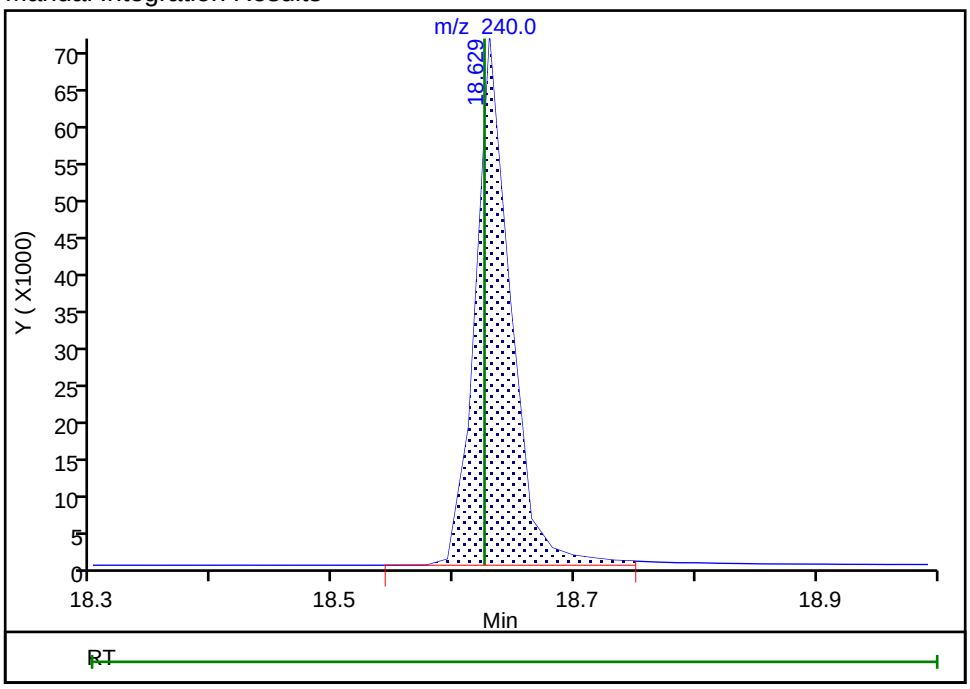
Processing Integration Results

RT: 18.63
Area: 143262
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.63
Area: 143262
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 26-Feb-2019 09:33:18
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Savannah

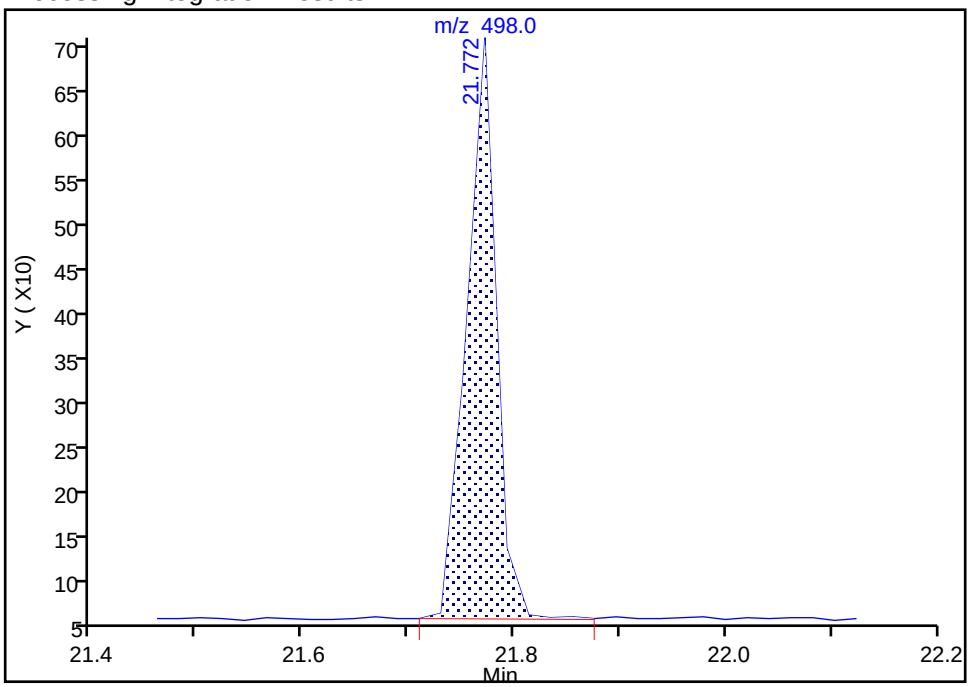
Data File:	\\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D				
Injection Date:	25-Feb-2019 15:59:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

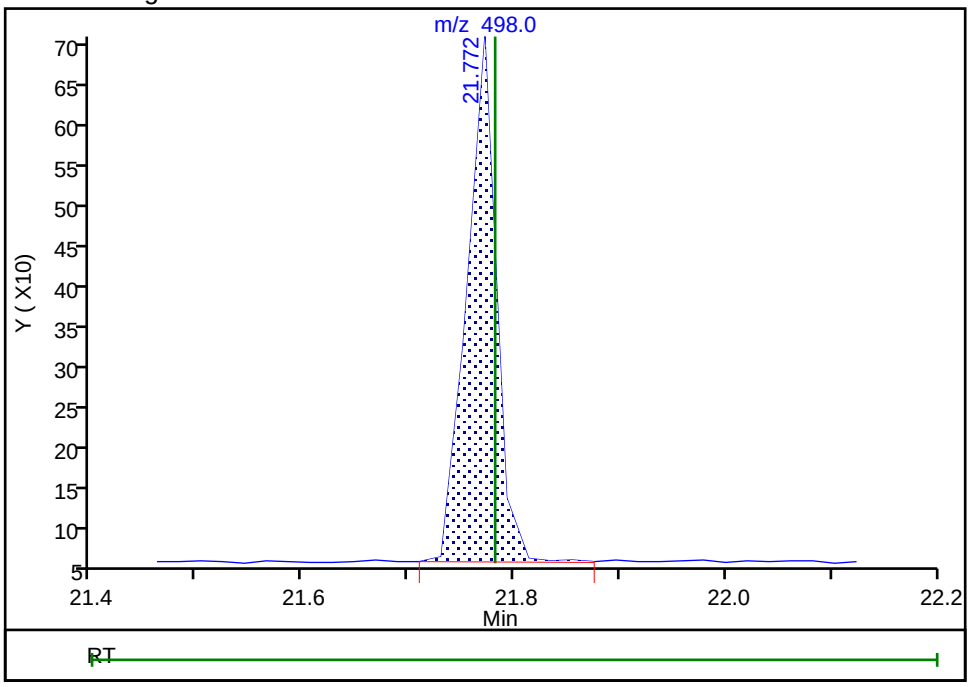
Processing Integration Results

RT: 21.77
Area: 1260
Amount: 0.212172
Amount Units: ug/ml



Manual Integration Results

RT: 21.77
Area: 1260
Amount: 0.212172
Amount Units: ug/ml



Reviewer: davisn, 26-Feb-2019 09:33:31
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

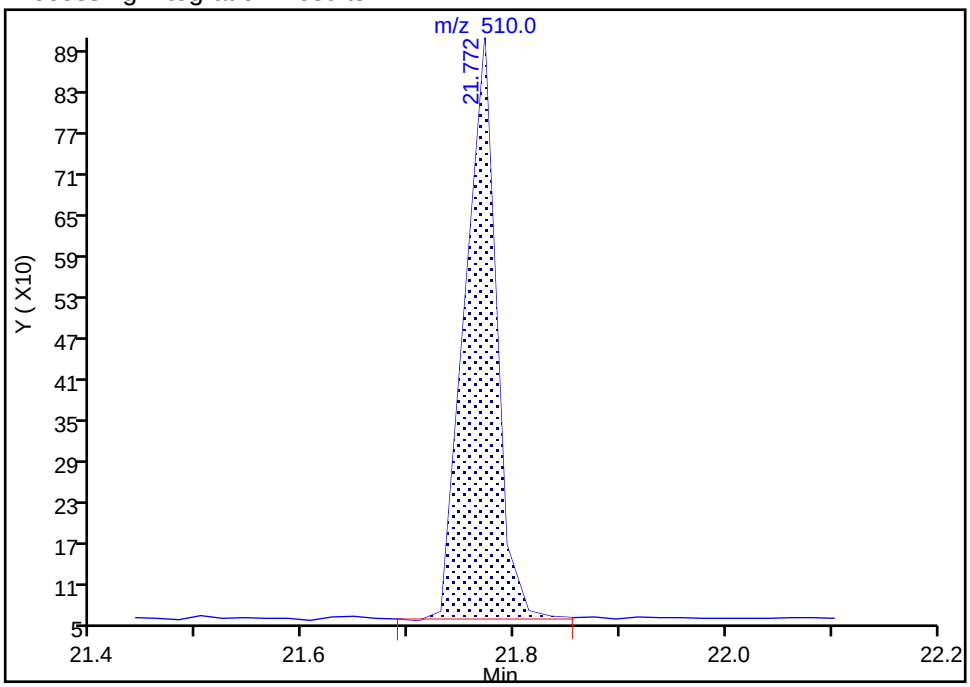
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D
Injection Date: 25-Feb-2019 15:59:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

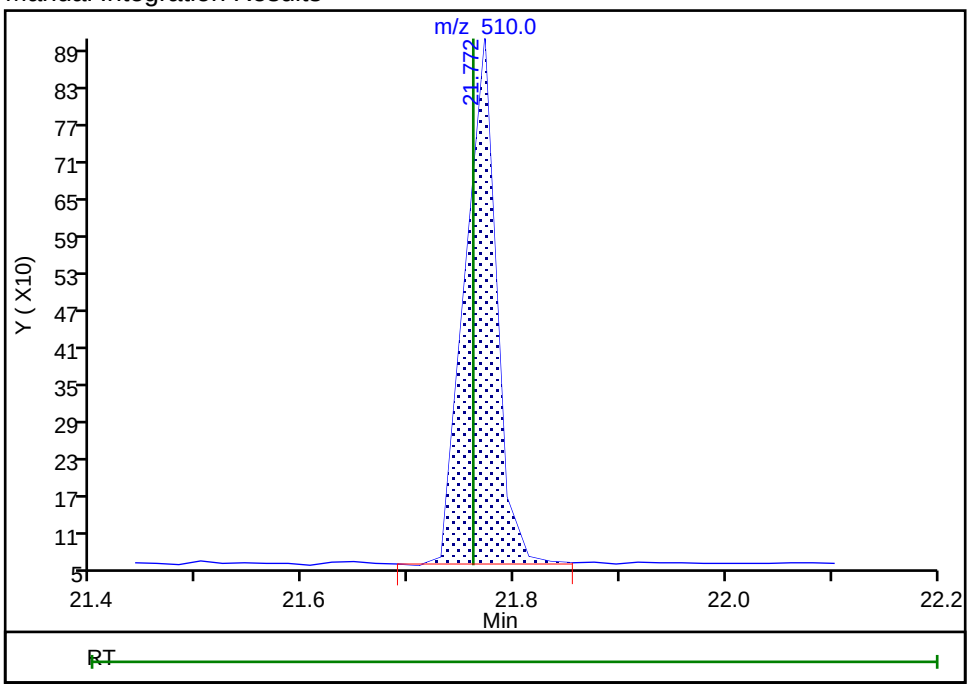
Processing Integration Results

RT: 21.77
Area: 1762
Amount: 0.218697
Amount Units: ug/ml



Manual Integration Results

RT: 21.77
Area: 1762
Amount: 0.218697
Amount Units: ug/ml



Reviewer: davisn, 26-Feb-2019 09:33:29
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM VII

PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Lab Sample ID: ICV 680-554469/9 Calibration Date: 01/08/2019 18:31

Instrument ID: CMSX Calib Start Date: 01/08/2019 15:11

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 01/08/2019 18:02

Lab File ID: xa0813.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.8305	0.8517		1.03	1.00	2.6	20.0
Total Dichlorobiphenyls	Ave	0.5847	0.5801		0.992	1.00	-0.8	20.0
Total Trichlorobiphenyls	Ave	0.4198	0.4573		1.09	1.00	8.9	20.0
Total Tetrachlorobiphenyls	Ave	0.2951	0.3118		2.11	2.00	5.6	20.0
Total Pentachlorobiphenyls	Ave	0.2400	0.2531		2.11	2.00	5.5	20.0
Hexachlorobiphenyl	Ave	0.2384	0.2508		2.10	2.00	5.2	20.0
Heptachlorobiphenyl	Ave	0.2376	0.2274		2.87	3.00	-4.3	20.0
Octachlorobiphenyl	Ave	0.2054	0.2183		3.19	3.00	6.3	20.0
DCB Decachlorobiphenyl	Ave	0.0420	0.0419		5.00	5.00	-0.0	20.0
Decachlorobiphenyl-13C12	Ave	0.0539	0.0577		5.35	5.00	7.1	20.0

TestAmerica Savannah

Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0813.D
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 08-Jan-2019 18:31:30 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 680-0053107-009
Operator ID: Instrument ID: CMSX
Sublist:

Method: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\680_CMSX.m
Limit Group: 680
Last Update: 09-Jan-2019 11:34:40 Calib Date: 08-Jan-2019 18:02:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0310

First Level Reviewer: davisn Date: 09-Jan-2019 11:39:57

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.762	9.265 - 10.260		0	139132	1.03	
A 24 Total Dichlorobiphenyls	222	11.574	10.614 - 12.535		0	94759	0.99	
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	149725	0.7500	
A 25 Total Trichlorobiphenyls	256	13.260	11.920 - 14.600		0	74700	1.09	
9 PCB-104	326	14.399	14.399	0.0	81	129655	0	
A 26 Total Tetrachlorobiphenyls	292	14.777	13.058 - 16.497		0	101850	2.11	
A 27 Total Pentachlorobiphenyls	326	16.189	14.333 - 18.045		0	82692	2.11	
12 PCB-77	292	16.439	16.439	0.0	96	163184	0	
A 28 Total Hexachlorobiphenyls	360	17.485	15.513 - 19.457		0	81927	2.10	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	122515	0.7500	a
A 29 Total Heptachlorobiphenyls	394	18.749	17.146 - 20.353		0	111447	2.87	
A 30 Total Octachlorobiphenyls	430	19.729	18.652 - 20.806		0	106964	3.19	
A 31 Total Nonachlorobiphenyls	464	20.250	18.500 - 22.000		0	50868	7.42	
19 PCB-208	464	20.303	20.286	0.017	67	51053	0	
32 DCB Decachlorobiphenyl	498	21.793	21.796	-0.003	97	34251	5.00	a
$ 22 Decachlorobiphenyl-13C12	510	21.793	21.796	-0.003	97	47122	5.35	a

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680cal3ICV_00054 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.328	9.265 -	10.260	22	139132	1.03			
190	9.328				44969		2.5- 3.5	3.1	
152	9.328				77112		50.7- 50.7	0.6	
153	9.328				32978		23.2- 23.2	1.4	
A 24 Total Dichlorobiphenyls									
222	11.569	10.614 -	12.535	23	94759	0.99			
224	11.569				60448		1.3- 1.7	1.6	
152	11.554				74402		31.7- 111.7	0.8	
153	11.554				9390		0.0- 49.1	6.4	
186	11.554				8829		0.0- 48.9	6.8	
188	11.569				3345		0.0- 43.3	18.1	
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	149725	0.7500			
189	12.409	12.409	0.0		22160		5.9- 7.5	6.8	
A 25 Total Trichlorobiphenyls									
256	13.087	11.920 -	14.600	97	74700	1.09			
258	13.087				71883		0.8- 1.2	1.0	
186	13.087				50898		26.5- 106.5	1.4	
188	13.087				16701		0.0- 61.5	4.3	
A 26 Total Tetrachlorobiphenyls									
292	13.367	13.058 -	16.497	0	101850	2.11			
290	13.367				79714		1.1- 1.5	1.3	
220	13.353				97812		58.1- 138.1	0.8	
222	13.353				62852		22.9- 102.9	1.3	
A 27 Total Pentachlorobiphenyls									
326	16.249	14.333 -	18.045	86	82692	2.11			
324	16.249				51927		1.4- 1.8	1.6	
254	16.249				60606		41.9- 121.9	0.9	
256	16.249				57833		38.2- 118.2	0.9	
258	16.249				18951		0.0- 65.4	2.7	
A 28 Total Hexachlorobiphenyls									
360	16.439	15.513 -	19.457	89	81927	2.10			
362	16.439				64254		1.0- 1.4	1.3	
288	16.439				47895		61.3- 61.3	1.3	
290	16.439				167773		220.6- 220.6	0.4	
292	16.439				163184		0.0- 0.0	0.4	
* 15 Chrysene-d12									a
240	18.668	18.668	0.0	100	122515	0.7500			a
241	18.668	18.668	0.0		23362		4.3- 5.9	5.2	
A 29 Total Heptachlorobiphenyls									
394	17.216	17.146 -	20.353	93	111447	2.87			
396	17.216				106172		0.8- 1.2	1.0	
322	17.198				48070		48.3- 48.3	2.2	
324	17.198				76118		77.4- 77.4	1.4	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.858	18.652	-20.806	92	106964	3.19			
428	18.858				96471		0.9- 1.3	1.1	
356	18.841				37748		39.6- 39.6	2.6	
358	18.841				71370		75.2- 75.2	1.4	
360	18.841				56752		59.6- 59.6	1.7	
A 31 Total Nonachlorobiphenyls									
464	20.303	18.500	-22.000	92	50868	7.42			
466	20.303				36662		1.1- 1.5	1.4	
390	20.282				24880		0.0- 0.0	1.5	
392	20.282				54321		0.0- 0.0	0.7	
394	20.282				50905		0.0- 0.0	0.7	
32 DCB Decachlorobiphenyl									a
498	21.793	21.796	-0.003	97	34251	5.00			a
500	21.814	21.796	0.018		27468		0.9- 1.3	1.2	
424	21.793	21.796	-0.003		15559		0.0- 0.0	1.0	
426	21.793	21.796	-0.003		38012		0.0- 0.0	1.0	
428	21.793	21.796	-0.003		40278		0.0- 0.0	1.0	
430	21.793	21.796	-0.003		24897		0.0- 0.0	1.0	
$ 22 Decachlorobiphenyl-13C12									a
510	21.793	21.796	-0.003	97	47122	5.35			a
512	21.793	21.796	-0.003		36334		0.9- 1.3	1.3	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680cal3ICV_00054 Amount Added: 1.00 Units: mL

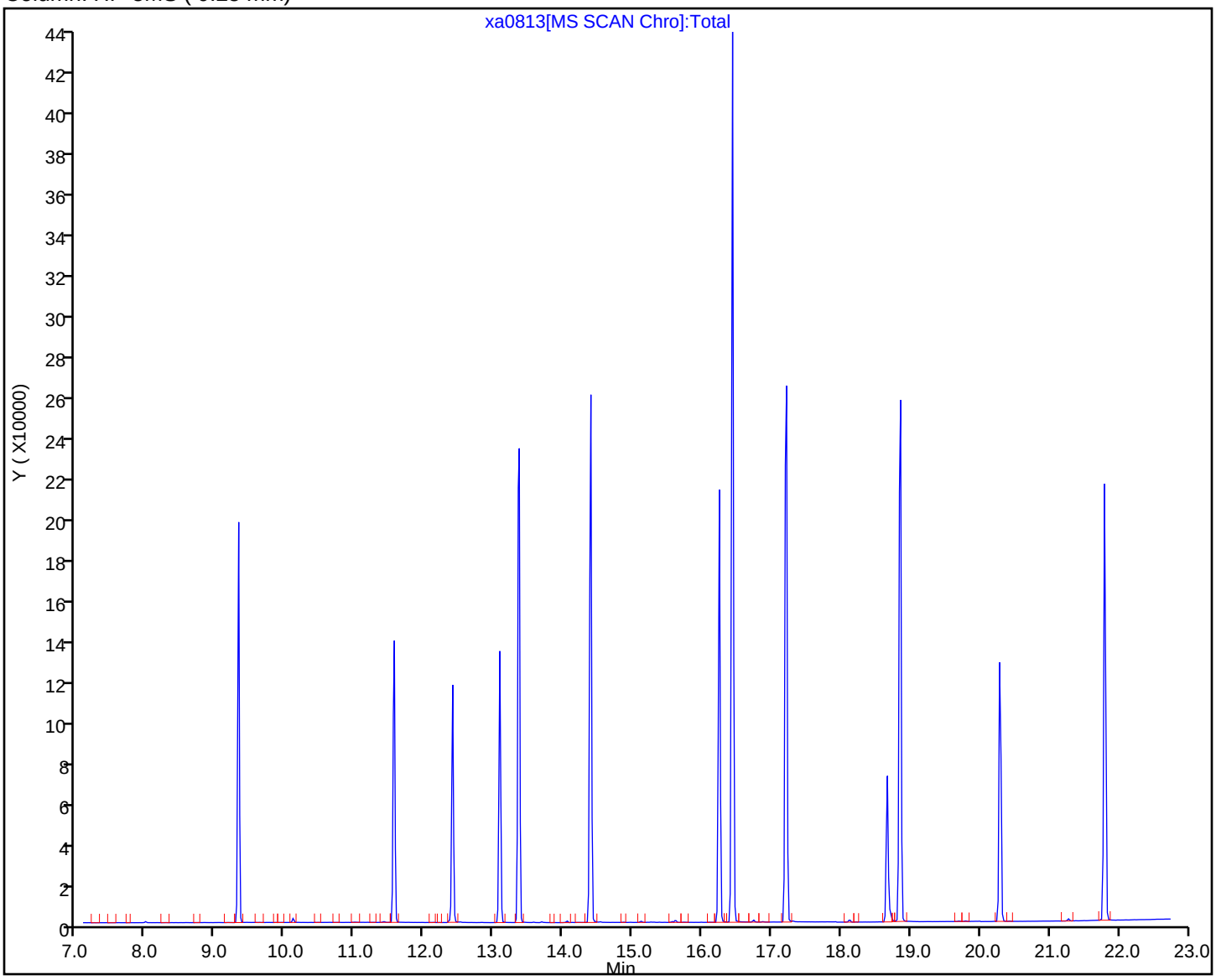
Report Date: 09-Jan-2019 11:40:01 Chrom Revision: 2.3 13-Dec-2018 17:23:12

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0813.D

Injection Date:	08-Jan-2019 18:31:30	Instrument ID:	CMSX		
Lims ID:	icv				
Client ID:					
Operator ID:		ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

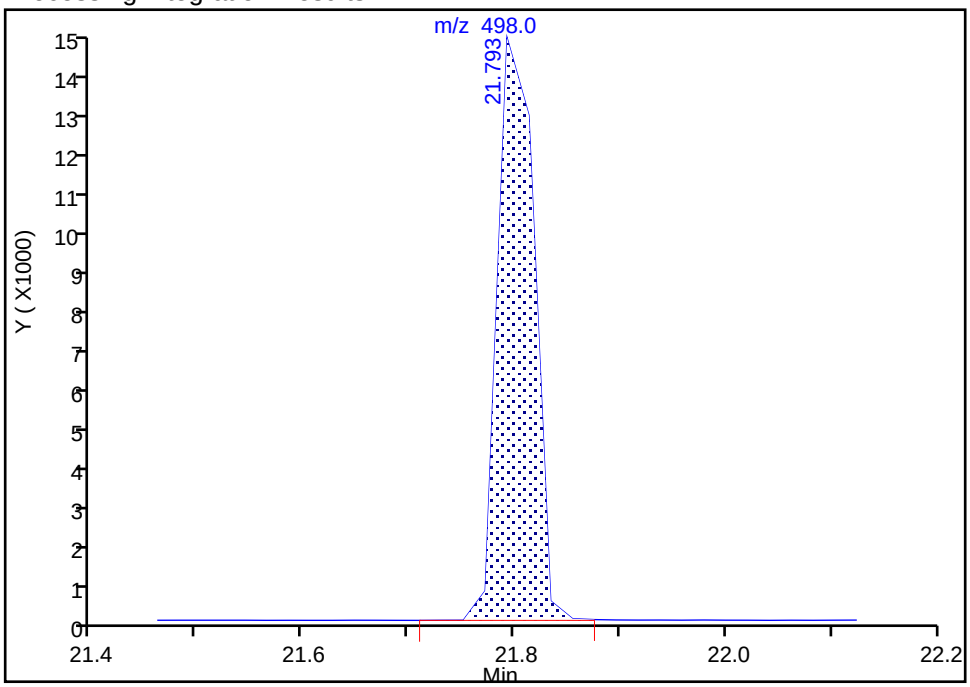
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0813.D
Injection Date: 08-Jan-2019 18:31:30 Instrument ID: CMSX
Lims ID: icv
Client ID:
Operator ID: ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

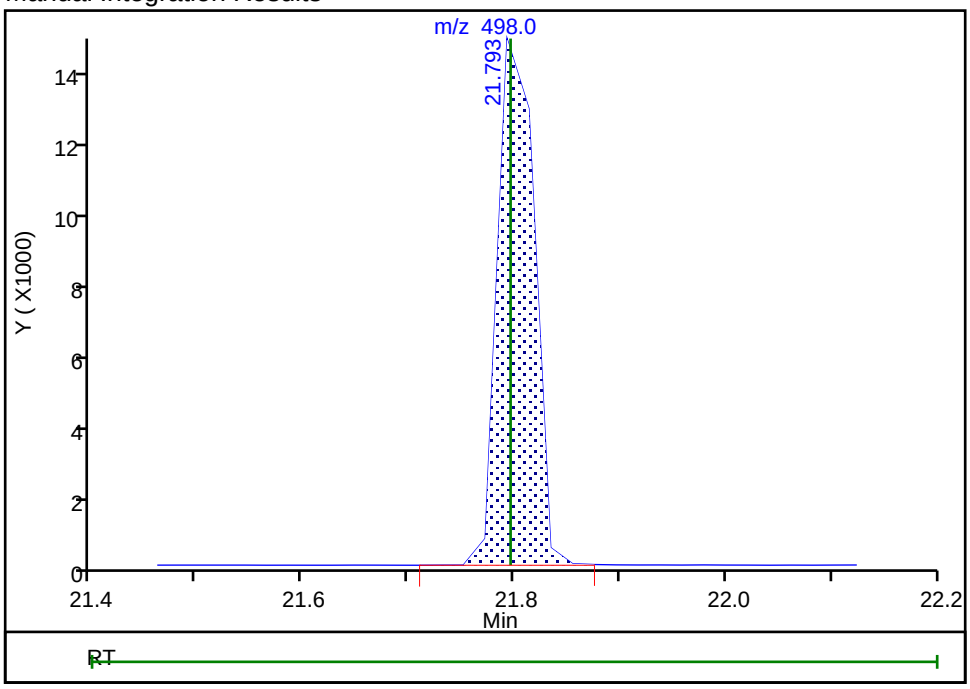
Processing Integration Results

RT: 21.79
Area: 34251
Amount: 9.992983
Amount Units: ug/ml



Manual Integration Results

RT: 21.79
Area: 34251
Amount: 4.996491
Amount Units: ug/ml



Reviewer: davisn, 09-Jan-2019 11:25:53
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

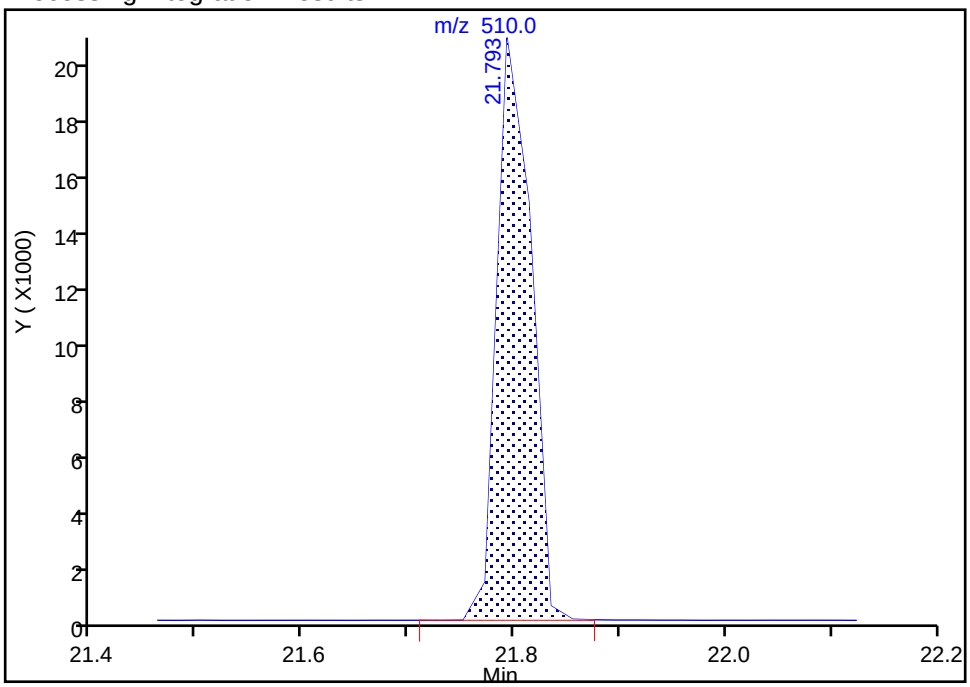
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0813.D
Injection Date: 08-Jan-2019 18:31:30 Instrument ID: CMSX
Lims ID: icv
Client ID:
Operator ID: ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

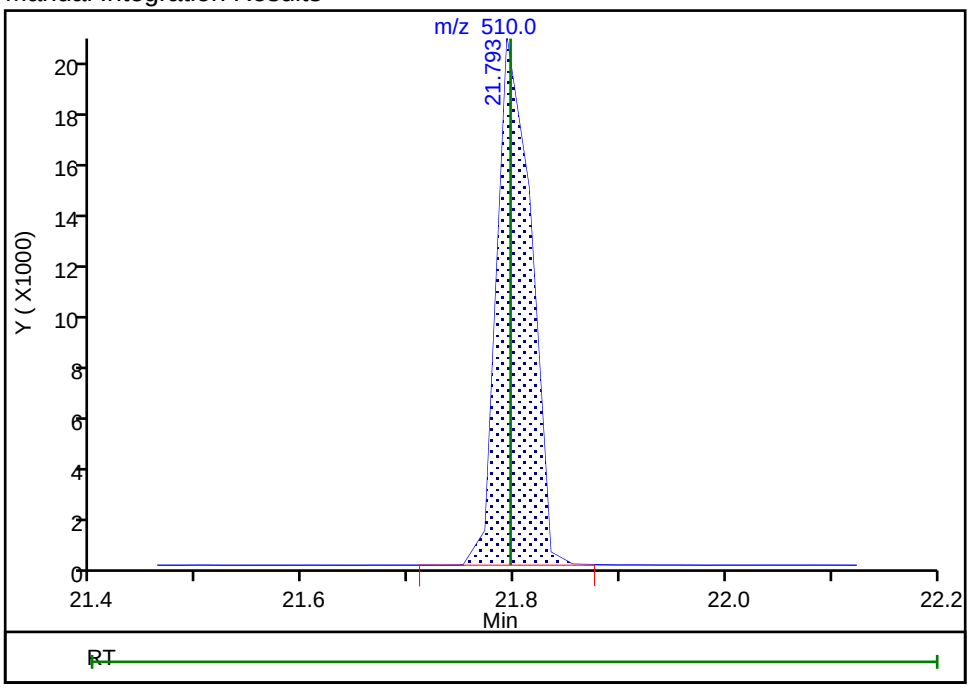
Processing Integration Results

RT: 21.79
Area: 47122
Amount: 10.705352
Amount Units: ug/ml



Manual Integration Results

RT: 21.79
Area: 47122
Amount: 5.352676
Amount Units: ug/ml



Reviewer: davisn, 09-Jan-2019 11:25:55
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM VII

PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Lab Sample ID: CCVIS 680-559058/3 Calibration Date: 02/20/2019 18:16

Instrument ID: CMSX Calib Start Date: 01/08/2019 15:11

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 01/08/2019 18:02

Lab File ID: xb2004.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.8305	0.8631		1.04	1.00	3.9	20.0
Total Dichlorobiphenyls	Ave	0.5847	0.5990		1.02	1.00	2.4	20.0
Total Trichlorobiphenyls	Ave	0.4198	0.4298		1.02	1.00	2.4	20.0
Total Tetrachlorobiphenyls	Ave	0.2951	0.3051		2.07	2.00	3.4	20.0
Total Pentachlorobiphenyls	Ave	0.2400	0.2439		2.03	2.00	1.6	20.0
Hexachlorobiphenyl	Ave	0.2384	0.2453		2.06	2.00	2.9	20.0
Heptachlorobiphenyl	Ave	0.2376	0.2197		2.77	3.00	-7.5	20.0
Octachlorobiphenyl	Ave	0.2054	0.1986		2.90	3.00	-3.3	20.0
DCB Decachlorobiphenyl	Ave	0.0420	0.0389		4.64	5.00	-7.2	20.0
Decachlorobiphenyl-13C12	Ave	0.0539	0.0517		4.80	5.00	-4.0	20.0

TestAmerica Savannah

Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2004.D
Lims ID: ccvis
Client ID:
Sample Type: CCVIS
Inject. Date: 20-Feb-2019 18:16:30 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS
Misc. Info.: 680-0053931-003
Operator ID: Instrument ID: CMSX
Sublist: chrom-680_CMSX*sub13

Method: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m
Limit Group: 680
Last Update: 22-Feb-2019 09:00:18 Calib Date: 08-Jan-2019 18:02:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0319

First Level Reviewer: davisn Date: 22-Feb-2019 09:00:18

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.762	9.265 - 10.260		0	147975	1.04	
A 24 Total Dichlorobiphenyls	222	11.569	10.603 - 12.535		0	102693	1.02	
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	146684	0.7500	
A 25 Total Trichlorobiphenyls	256	13.260	11.920 - 14.600		0	73691	1.02	
9 PCB-104	326	14.398	14.398	0.0	79	125102	0	
A 26 Total Tetrachlorobiphenyls	292	14.773	13.047 - 16.499		0	104633	2.07	
A 27 Total Pentachlorobiphenyls	326	16.192	14.338 - 18.045		0	83646	2.03	
12 PCB-77	292	16.439	16.439	0.0	98	158300	0	
A 28 Total Hexachlorobiphenyls	360	17.480	15.502 - 19.457		0	84124	2.06	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	128592	0.7500	a
A 29 Total Heptachlorobiphenyls	394	18.749	17.146 - 20.353		0	113008	2.77	
A 30 Total Octachlorobiphenyls	430	19.724	18.652 - 20.795		0	102142	2.90	
A 31 Total Nonachlorobiphenyls	464	20.250	18.500 - 22.000		0	45765	6.36	
19 PCB-208	464	20.285	20.285	0.0	100	45801	0	
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	89	44356	4.80	
32 DCB Decachlorobiphenyl	498	21.796	21.796	0.0	89	33380	4.64	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal3_00045 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	S/N	Flags
A 23 Total Monochlorobiphenyls										
188	9.328	9.265 -	10.260	22	147975	1.04				
190	9.328				48014		2.5- 3.5	3.1		
152	9.328				82758		50.7- 50.7	0.6		
153	9.328				34744		23.2- 23.2	1.4		
A 24 Total Dichlorobiphenyls										
222	11.569	10.603 -	12.535	23	102693	1.02				
224	11.569				65806		1.3- 1.7	1.6		
152	11.554				79738		31.7- 111.7	0.8		
153	11.554				10166		0.0- 49.1	6.5		
186	11.554				9516		0.0- 48.9	6.9		
188	11.554				3634		0.0- 43.3	18.1		
* 5 Phenanthrene-d10										
188	12.409	12.409	0.0	100	146684	0.7500				
189	12.409	12.409	0.0		21638		5.9- 7.5	6.8		
A 25 Total Trichlorobiphenyls										
256	13.087	11.920 -	14.600	95	73691	1.02				
258	13.087				70438		0.8- 1.2	1.0		
186	13.087				48953		26.5- 106.5	1.4		
188	13.087				16132		0.0- 61.5	4.4		
A 26 Total Tetrachlorobiphenyls										
292	13.367	13.047 -	16.499	0	104633	2.07				
290	13.367				81766		1.1- 1.5	1.3		
220	13.352				100622		58.1- 138.1	0.8		
222	13.352				65006		22.9- 102.9	1.3		
A 27 Total Pentachlorobiphenyls										
326	16.248	14.338 -	18.045	91	83646	2.03				
324	16.248				52144		1.4- 1.8	1.6		
254	16.231				60632		41.9- 121.9	0.9		
256	16.248				58132		38.2- 118.2	0.9		
258	16.248				19488		0.0- 65.4	2.7		
A 28 Total Hexachlorobiphenyls										
360	16.439	15.502 -	19.457	91	84124	2.06				
362	16.439				67004		1.0- 1.4	1.3		
288	16.439				50366		61.3- 61.3	1.3		
290	16.439				167990		220.6- 220.6	0.4		
292	16.439				158300		0.0- 0.0	0.4		
* 15 Chrysene-d12										a
240	18.668	18.668	0.0	100	128592	0.7500			179	a
241	18.668	18.668	0.0		24335		4.3- 5.9	5.3		
A 29 Total Heptachlorobiphenyls										
394	17.216	17.146 -	20.353	95	113008	2.77				
396	17.216				106755		0.8- 1.2	1.1		
322	17.198				49143		48.3- 48.3	2.2		
324	17.198				77861		77.4- 77.4	1.4		

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	S/N	Flags
A 30 Total Octachlorobiphenyls										
430	18.858	18.652	-20.795	93	102142	2.90				
428	18.858				93142		0.9- 1.3	1.1		
356	18.840				37488		39.6- 39.6	2.5		
358	18.840				72162		75.2- 75.2	1.3		
360	18.840				57329		59.6- 59.6	1.6		
A 31 Total Nonachlorobiphenyls										
464	20.285	18.500	-22.000	59	45765	6.36				
466	20.285				32828		1.1- 1.5	1.4		
390	20.285				23837		0.0- 0.0	1.4		
392	20.285				51459		0.0- 0.0	0.6		
394	20.285				48710		0.0- 0.0	0.7		
$ 22 Decachlorobiphenyl-13C12										
510	21.796	21.796	0.0	89	44356	4.80				
512	21.796	21.796	0.0		34318		0.9- 1.3	1.3		
32 DCB Decachlorobiphenyl										
498	21.796	21.796	0.0	89	33380	4.64			9072	
500	21.796	21.796	0.0		26240		0.9- 1.3	1.3		
424	21.796	21.796	0.0		15261		0.0- 0.0	1.0		
426	21.796	21.796	0.0		37793		0.0- 0.0	1.0		
428	21.796	21.796	0.0		40018		0.0- 0.0	1.0		
430	21.796	21.796	0.0		24985		0.0- 0.0	1.0		

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal3_00045 Amount Added: 1.00 Units: mL

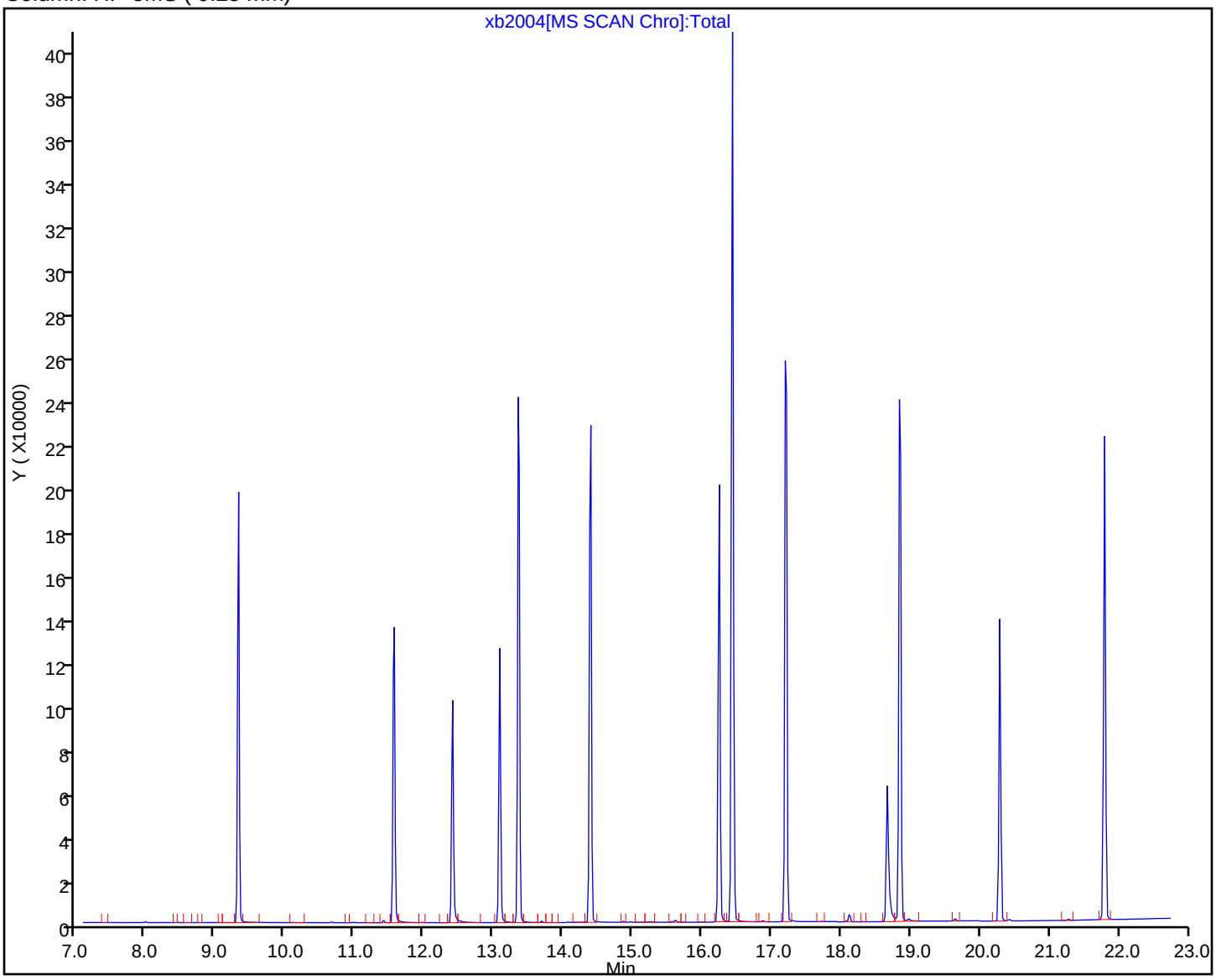
Report Date: 22-Feb-2019 09:00:18 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2004.D

Injection Date:	20-Feb-2019 18:16:30	Instrument ID:	CMSX		
Lims ID:	ccvis				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



Manual Integration/User Assign Peak Report

TestAmerica Savannah

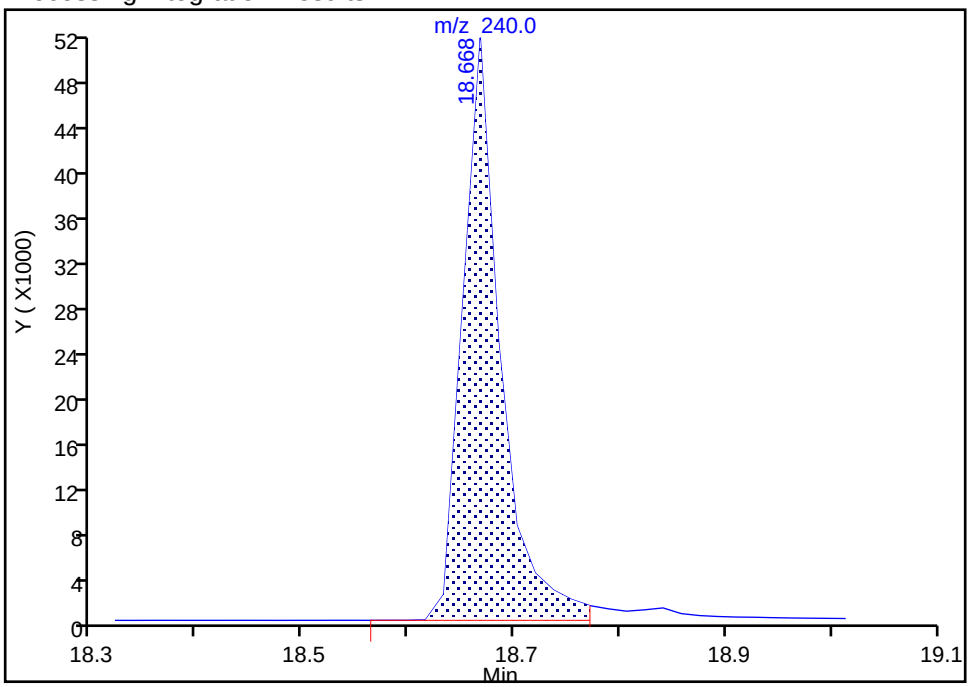
Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2004.D				
Injection Date:	20-Feb-2019 18:16:30	Instrument ID:	CMSX		
Lims ID:	ccvis				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

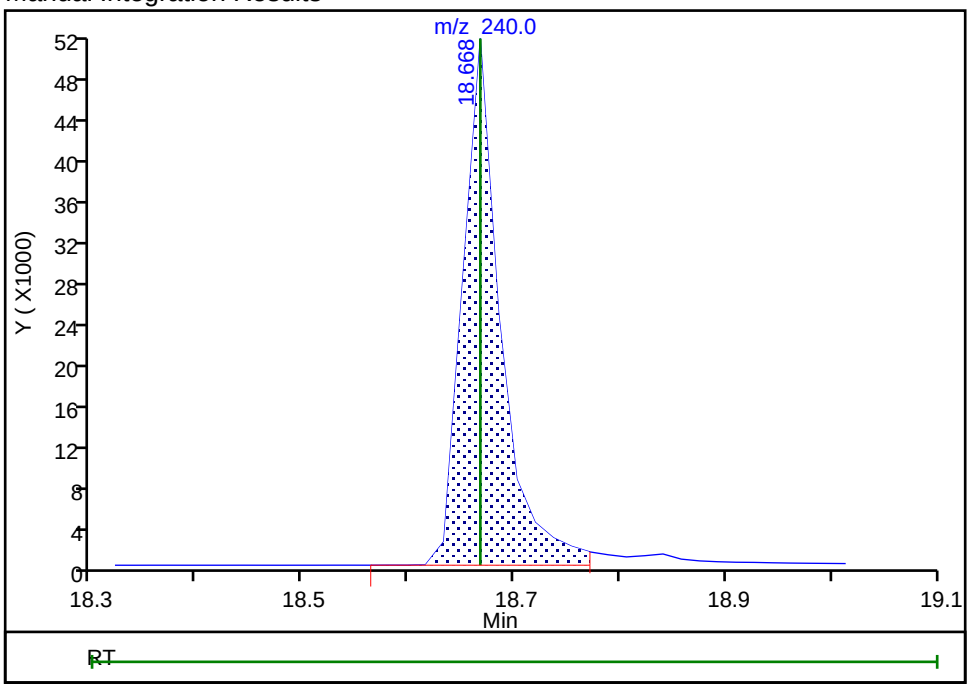
Processing Integration Results

RT: 18.67
Area: 128592
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.67
Area: 128592
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 22-Feb-2019 08:59:00
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM VII

PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Lab Sample ID: CCV 680-559058/25 Calibration Date: 02/21/2019 04:44

Instrument ID: CMSX Calib Start Date: 01/08/2019 15:11

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 01/08/2019 18:02

Lab File ID: xb2026.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.8305	0.6919		0.833	1.00	-16.7	20.0
Total Dichlorobiphenyls	Ave	0.5847	0.4816		0.824	1.00	-17.6	20.0
Total Trichlorobiphenyls	Ave	0.4198	0.3486		0.830	1.00	-17.0	20.0
Total Tetrachlorobiphenyls	Ave	0.2951	0.2500		1.69	2.00	-15.3	20.0
Total Pentachlorobiphenyls	Ave	0.2400	0.2046		1.70	2.00	-14.8	20.0
Hexachlorobiphenyl	Ave	0.2384	0.2088		1.75	2.00	-12.4	20.0
Heptachlorobiphenyl	Ave	0.2376	0.1797		2.27	3.00	-24.4*	20.0
Octachlorobiphenyl	Ave	0.2054	0.1667		2.43	3.00	-18.8	20.0
DCB Decachlorobiphenyl	Ave	0.0420	0.0331		3.94	5.00	-21.2*	20.0
Decachlorobiphenyl-13C12	Ave	0.0539	0.0446		4.13	5.00	-17.3	20.0

TestAmerica Savannah

Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2026.D
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 21-Feb-2019 04:44:30 ALS Bottle#: 3 Worklist Smp#: 25
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 680-0053931-025
Operator ID: Instrument ID: CMSX
Sublist: chrom-680_CMSX*sub13

Method: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m
Limit Group: 680
Last Update: 22-Feb-2019 09:23:18 Calib Date: 08-Jan-2019 18:02:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0319

First Level Reviewer: davisn Date: 22-Feb-2019 09:23:18

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.762	9.265 - 10.260		0	165851	0.8331	
A 24 Total Dichlorobiphenyls	222	11.569	10.603 - 12.535		0	115429	0.8236	
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	99	175208	0.7500	
A 25 Total Trichlorobiphenyls	256	13.260	11.920 - 14.600		0	83550	0.8304	
9 PCB-104	326	14.399	14.393	0.006	77	143910	0	
A 26 Total Tetrachlorobiphenyls	292	14.773	13.047 - 16.499		0	119843	1.69	
A 27 Total Pentachlorobiphenyls	326	16.192	14.338 - 18.045		0	98084	1.70	
12 PCB-77	292	16.439	16.437	0.002	98	191746	0	
A 28 Total Hexachlorobiphenyls	360	17.480	15.502 - 19.457		0	100074	1.75	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	179773	0.7500	s
A 29 Total Heptachlorobiphenyls	394	18.749	17.146 - 20.353		0	129220	2.27	
A 30 Total Octachlorobiphenyls	430	19.724	18.652 - 20.795		0	119875	2.43	
A 31 Total Nonachlorobiphenyls	464	20.250	18.500 - 22.000		0	53252	5.29	
19 PCB-208	464	20.286	20.293	-0.007	96	53296	0	
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	82	53407	4.13	
32 DCB Decachlorobiphenyl	498	21.796	21.799	-0.003	82	39644	3.94	

QC Flag Legend

Processing Flags
s - Failed ISTD Recovery Test

Reagents:

680cal3ICV_00054 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.328	9.265 -	10.260	22	165851	0.8331			
190	9.328				54352		2.5- 3.5	3.1	
152	9.313				93544		50.7- 50.7	0.6	
153	9.328				39145		23.2- 23.2	1.4	
A 24 Total Dichlorobiphenyls									
222	11.569	10.603 -	12.535	22	115429	0.8236			
224	11.569				73788		1.3- 1.7	1.6	
152	11.554				91469		31.7- 111.7	0.8	
153	11.554				11567		0.0- 49.1	6.4	
186	11.554				10893		0.0- 48.9	6.8	
188	11.554				4059		0.0- 43.3	18.2	
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	99	175208	0.7500			
189	12.409	12.409	0.0		26065		5.9- 7.5	6.7	
A 25 Total Trichlorobiphenyls									
256	13.087	11.920 -	14.600	95	83550	0.8304			
258	13.087				80581		0.8- 1.2	1.0	
186	13.087				58173		26.5- 106.5	1.4	
188	13.087				18961		0.0- 61.5	4.2	
A 26 Total Tetrachlorobiphenyls									
292	13.368	13.047 -	16.499	0	119843	1.69			
290	13.353				93130		1.1- 1.5	1.3	
220	13.353				114211		58.1- 138.1	0.8	
222	13.353				73743		22.9- 102.9	1.3	
A 27 Total Pentachlorobiphenyls									
326	16.249	14.338 -	18.045	92	98084	1.70			
324	16.249				62282		1.4- 1.8	1.6	
254	16.231				72306		41.9- 121.9	0.9	
256	16.231				69232		38.2- 118.2	0.9	
258	16.249				23092		0.0- 65.4	2.7	
A 28 Total Hexachlorobiphenyls									
360	16.439	15.502 -	19.457	95	100074	1.75			
362	16.439				79204		1.0- 1.4	1.3	
288	16.439				57088		61.3- 61.3	1.4	
290	16.439				198875		220.6- 220.6	0.4	
292	16.439				191746		0.0- 0.0	0.4	
* 15 Chrysene-d12									s
240	18.668	18.668	0.0	100	179773	0.7500			
241	18.668	18.668	0.0		34173		4.3- 5.9	5.3	
A 29 Total Heptachlorobiphenyls									
394	17.216	17.146 -	20.353	96	129220	2.27			
396	17.216				122996		0.8- 1.2	1.1	
322	17.198				56775		48.3- 48.3	2.2	
324	17.198				90141		77.4- 77.4	1.4	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.858	18.652	-20.795	96	119875	2.43			
428	18.858				109582		0.9- 1.3	1.1	
356	18.841				44205		39.6- 39.6	2.5	
358	18.841				83418		75.2- 75.2	1.3	
360	18.841				66626		59.6- 59.6	1.6	
A 31 Total Nonachlorobiphenyls									
464	20.286	18.500	-22.000	65	53252	5.29			
466	20.286				38593		1.1- 1.5	1.4	
390	20.286				27800		0.0- 0.0	1.4	
392	20.286				59950		0.0- 0.0	0.6	
394	20.286				56115		0.0- 0.0	0.7	
$ 22 Decachlorobiphenyl-13C12									
510	21.796	21.796	0.0	82	53407	4.13			
512	21.796	21.796	0.0		41177		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									
498	21.796	21.799	-0.003	82	39644	3.94			
500	21.796	21.799	-0.003		31730		0.9- 1.3	1.2	
424	21.796	21.799	-0.003		17825		0.0- 0.0	1.0	
426	21.796	21.799	-0.003		42869		0.0- 0.0	1.0	
428	21.796	21.799	-0.003		45410		0.0- 0.0	1.0	
430	21.796	21.799	-0.003		28270		0.0- 0.0	1.0	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Reagents:

680cal3ICV_00054 Amount Added: 1.00 Units: mL

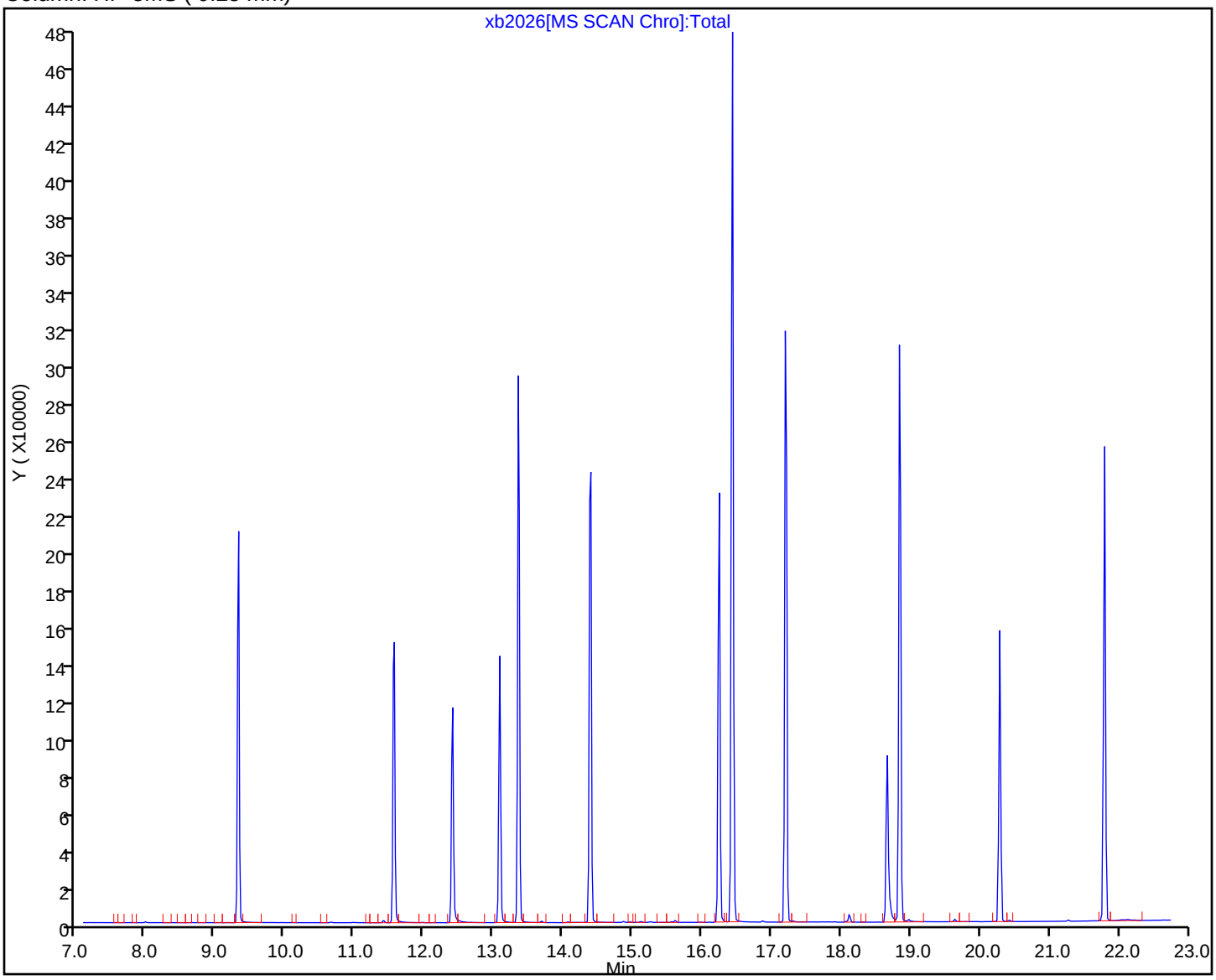
Report Date: 22-Feb-2019 09:23:18 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2026.D

Injection Date:	21-Feb-2019 04:44:30	Instrument ID:	CMSX		
Lims ID:	ccv				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	25
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



FORM VII

PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Lab Sample ID: CCVIS 680-559059/3 Calibration Date: 02/21/2019 06:44

Instrument ID: CMSX Calib Start Date: 01/08/2019 15:11

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 01/08/2019 18:02

Lab File ID: xb2030.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.8305	0.7268		0.875	1.00	-12.5	20.0
Total Dichlorobiphenyls	Ave	0.5847	0.5079		0.869	1.00	-13.1	20.0
Total Trichlorobiphenyls	Ave	0.4198	0.3597		0.857	1.00	-14.3	20.0
Total Tetrachlorobiphenyls	Ave	0.2951	0.2563		1.74	2.00	-13.2	20.0
Total Pentachlorobiphenyls	Ave	0.2400	0.2131		1.78	2.00	-11.2	20.0
Hexachlorobiphenyl	Ave	0.2384	0.2136		1.79	2.00	-10.4	20.0
Heptachlorobiphenyl	Ave	0.2376	0.1920		2.42	3.00	-19.2	20.0
Octachlorobiphenyl	Ave	0.2054	0.1725		2.52	3.00	-16.0	20.0
DCB Decachlorobiphenyl	Ave	0.0420	0.0343		4.08	5.00	-18.4	20.0
Decachlorobiphenyl-13C12	Ave	0.0539	0.0462		4.29	5.00	-14.2	20.0

TestAmerica Savannah

Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2030.D
Lims ID: ccvis
Client ID:
Sample Type: CCVIS
Inject. Date: 21-Feb-2019 06:44:30 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS
Misc. Info.: 680-0053932-003
Operator ID: Instrument ID: CMSX
Sublist: chrom-680_CMSX*sub13

Method: \\chromna\Savannah\ChromData\CMSX\20190220-53932.b\680_CMSX.m
Limit Group: 680
Last Update: 22-Feb-2019 09:34:54 Calib Date: 08-Jan-2019 18:02:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0319

First Level Reviewer: davisn Date: 22-Feb-2019 09:28:12

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.762	9.265 - 10.260		0	164413	0.8751	
A 24 Total Dichlorobiphenyls	222	11.569	10.603 - 12.535		0	114894	0.8686	
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	170892	0.7500	
A 25 Total Trichlorobiphenyls	256	13.255	11.910 - 14.600		0	81361	0.8568	
9 PCB-104	326	14.399	14.399	0.0	77	137979	0	
A 26 Total Tetrachlorobiphenyls	292	14.773	13.047 - 16.499		0	115936	1.74	
A 27 Total Pentachlorobiphenyls	326	16.192	14.339 - 18.045		0	96425	1.78	
12 PCB-77	292	16.439	16.439	0.0	98	185751	0	
A 28 Total Hexachlorobiphenyls	360	17.480	15.502 - 19.457		0	96638	1.79	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	169663	0.7500	a
A 29 Total Heptachlorobiphenyls	394	18.749	17.146 - 20.353		0	130280	2.42	
A 30 Total Octachlorobiphenyls	430	19.718	18.642 - 20.795		0	117082	2.52	
A 31 Total Nonachlorobiphenyls	464	20.250	18.500 - 22.000		0	103215	10.9	7a
19 PCB-208	464	20.286	20.286	0.0	96	51635	0	
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	83	52302	4.29	
32 DCB Decachlorobiphenyl	498	21.796	21.796	0.0	83	38741	4.08	

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection
Review Flags
a - User Assigned ID

Reagents:

680isomerCal3_00045 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	S/N	Flags
A 23 Total Monochlorobiphenyls										
188	9.328	9.265 -	10.260	22	164413	0.8751				
190	9.328				53241		2.5- 3.5	3.1		
152	9.313				92069		50.7- 50.7	0.6		
153	9.328				38885		23.2- 23.2	1.4		
A 24 Total Dichlorobiphenyls										
222	11.569	10.603 -	12.535	22	114894	0.8686				
224	11.569				73346		1.3- 1.7	1.6		
152	11.554				88542		31.7- 111.7	0.8		
153	11.554				11267		0.0- 49.1	6.5		
186	11.554				10747		0.0- 48.9	6.8		
188	11.554				3983		0.0- 43.3	18.4		
* 5 Phenanthrene-d10										
188	12.409	12.409	0.0	100	170892	0.7500				
189	12.409	12.409	0.0		25550		5.9- 7.5	6.7		
A 25 Total Trichlorobiphenyls										
256	13.087	11.910 -	14.600	94	81361	0.8568				
258	13.087				78172		0.8- 1.2	1.0		
186	13.073				56443		26.5- 106.5	1.4		
188	13.087				18203		0.0- 61.5	4.3		
A 26 Total Tetrachlorobiphenyls										
292	13.368	13.047 -	16.499	0	115936	1.74				
290	13.353				91410		1.1- 1.5	1.3		
220	13.353				113471		58.1- 138.1	0.8		
222	13.353				73741		22.9- 102.9	1.2		
A 27 Total Pentachlorobiphenyls										
326	16.249	14.339 -	18.045	92	96425	1.78				
324	16.249				60708		1.4- 1.8	1.6		
254	16.231				70968		41.9- 121.9	0.9		
256	16.249				68600		38.2- 118.2	0.9		
258	16.249				22848		0.0- 65.4	2.7		
A 28 Total Hexachlorobiphenyls										
360	16.439	15.502 -	19.457	94	96638	1.79				
362	16.439				77351		1.0- 1.4	1.2		
288	16.439				56409		61.3- 61.3	1.4		
290	16.439				194096		220.6- 220.6	0.4		
292	16.439				185751		0.0- 0.0	0.4		
* 15 Chrysene-d12										a
240	18.668	18.668	0.0	100	169663	0.7500			239	a
241	18.668	18.668	0.0		32614		4.3- 5.9	5.2		
A 29 Total Heptachlorobiphenyls										
394	17.216	17.146 -	20.353	97	126316	2.35				
396	17.216				118501		0.8- 1.2	1.1		
322	17.198				55351		48.3- 48.3	2.1		
324	17.198				87474		77.4- 77.4	1.4		

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	S/N	Flags
394	18.115	17.146	-20.353	57	1611	0.0300				
396	18.132				1557		0.8- 1.2	1.0		
322	18.115				893		48.3- 48.3	1.7		
324	18.115				1400		77.4- 77.4	1.1		
394	18.841	17.146	-20.353	13	2353	0.0438				
396	18.841				2110		0.8- 1.2	1.1		
322	18.841				5839		48.3- 48.3	0.4		
324	18.841				5218		77.4- 77.4	0.4		
A 30 Total Octachlorobiphenyls										
430	18.858	18.642	-20.795	95	117082	2.52				
428	18.858				106973		0.9- 1.3	1.1		
356	18.841				42100		39.6- 39.6	2.5		
358	18.841				80997		75.2- 75.2	1.3		
360	18.841				64311		59.6- 59.6	1.7		
A 31 Total Nonachlorobiphenyls										a
464	20.286	18.500	-22.000	66	51332	5.41				a
466	20.286				36378		1.1- 1.5	1.4		
390	20.286				26790		0.0- 0.0			
392	20.286				57894		0.0- 0.0			
394	20.286				54691		0.0- 0.0			
464	20.286	18.500	-22.000	66	51332	5.41				
466	20.286				36378		1.1- 1.5	1.4		
390	20.286				26790		0.0- 0.0	1.4		
392	20.286				57894		0.0- 0.0	0.6		
394	20.286				54691		0.0- 0.0	0.7		
464	20.431	18.500	-22.000	61	332	0.0350				7
466	20.431				232		1.1- 1.5	1.4		
392	20.431				309		0.0- 0.0	0.8		
394	20.431				355		0.0- 0.0	0.7		
464	21.279	18.500	-22.000	60	219	0.0231				7
466	21.279				159		1.1- 1.5	1.4		
392	21.279				279		0.0- 0.0	0.6		
394	21.279				294		0.0- 0.0	0.5		
$ 22 Decachlorobiphenyl-13C12										
510	21.796	21.796	0.0	83	52302	4.29				
512	21.796	21.796	0.0		40782		0.9- 1.3	1.3		
32 DCB Decachlorobiphenyl										
498	21.796	21.796	0.0	83	38741	4.08			21840	
500	21.796	21.796	0.0		31208		0.9- 1.3	1.2		
424	21.796	21.796	0.0		17445		0.0- 0.0	1.0		
426	21.796	21.796	0.0		42619		0.0- 0.0	1.0		
428	21.796	21.796	0.0		45764		0.0- 0.0	1.0		
430	21.796	21.796	0.0		28533		0.0- 0.0	1.0		

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Review Flags
a - User Assigned ID

Reagents:

680isomerCal3_00045 Amount Added: 1.00 Units: mL

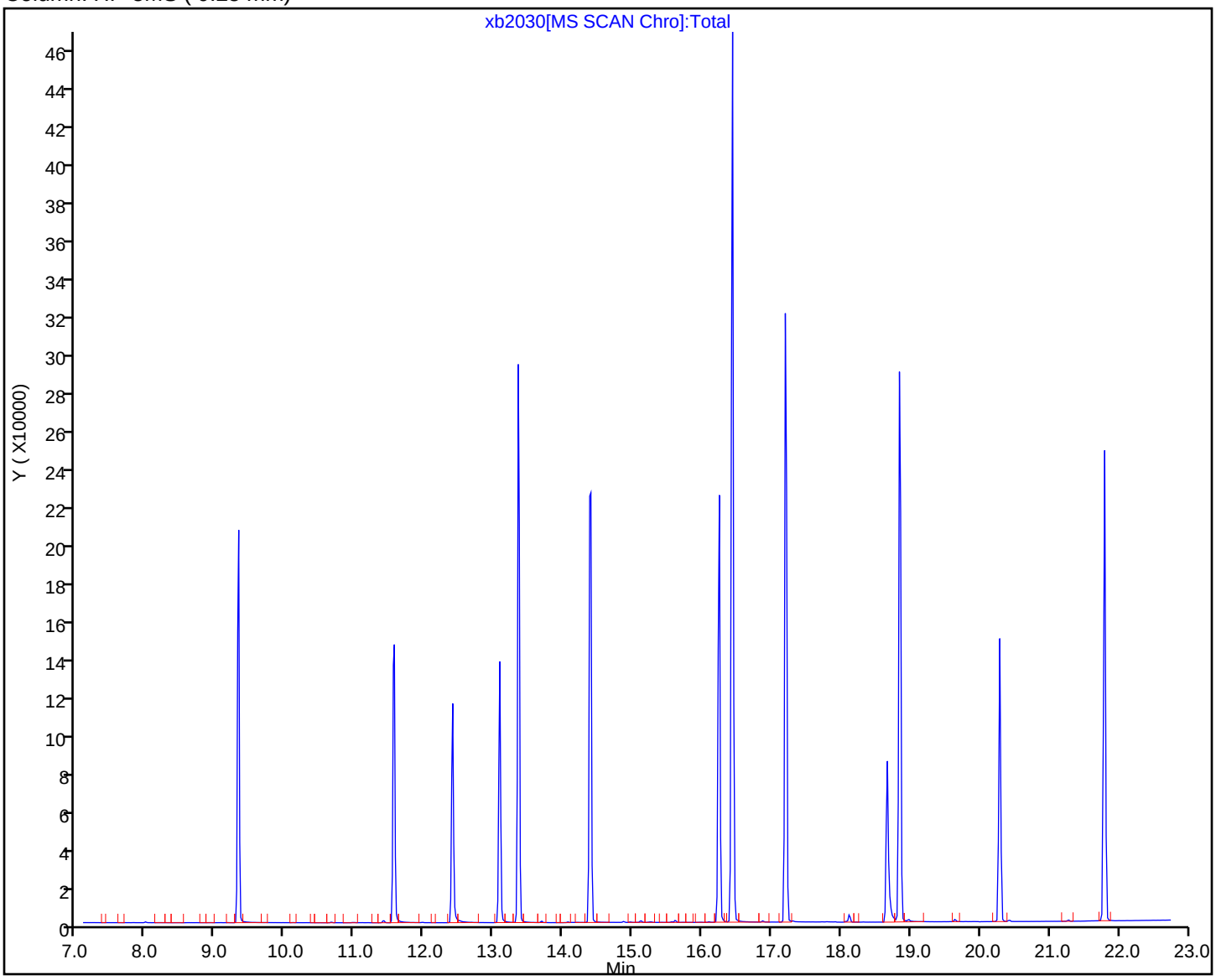
Report Date: 22-Feb-2019 09:34:54 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2030.D

Injection Date:	21-Feb-2019 06:44:30	Instrument ID:	CMSX		
Lims ID:	ccvis				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



Manual Integration/User Assign Peak Report

TestAmerica Savannah

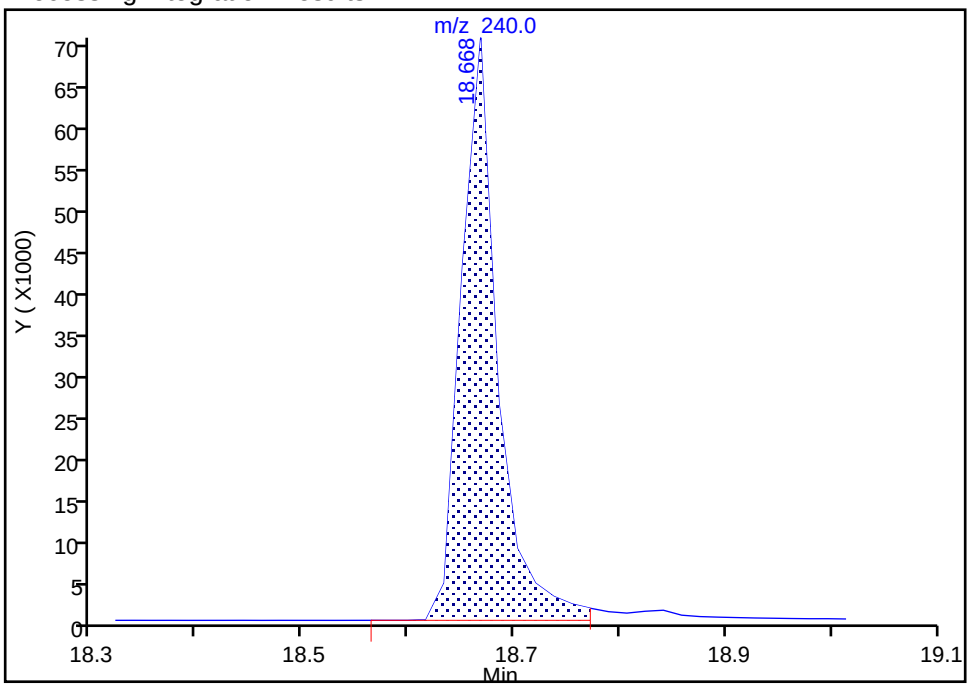
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2030.D
Injection Date: 21-Feb-2019 06:44:30 Instrument ID: CMSX
Lims ID: ccvis
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

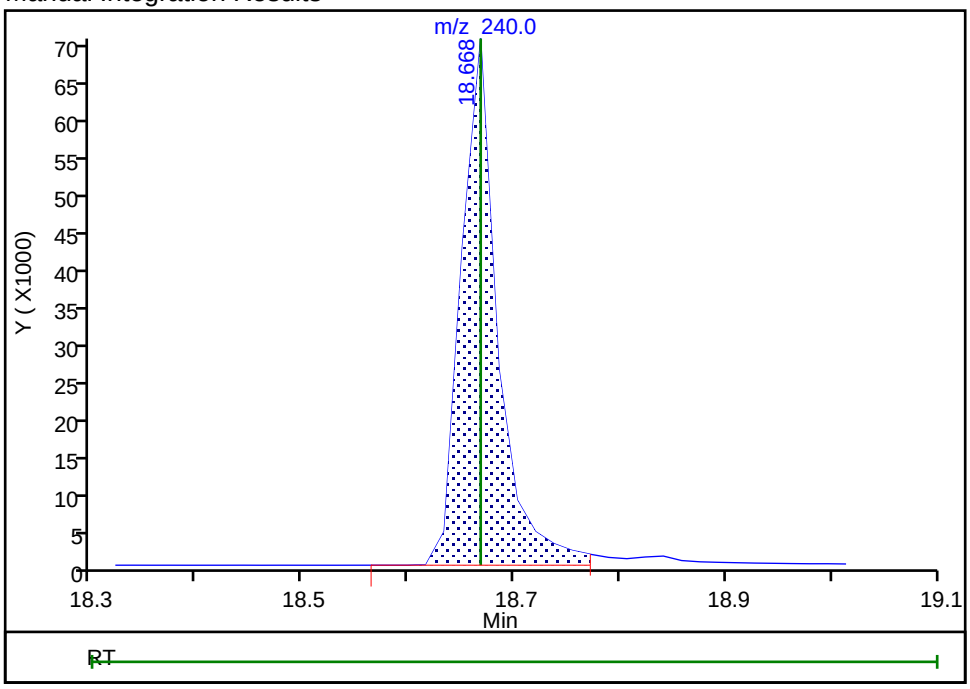
Processing Integration Results

RT: 18.67
Area: 169663
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.67
Area: 169663
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 22-Feb-2019 09:34:24
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM VII

PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Lab Sample ID: CCV 680-559059/21 Calibration Date: 02/21/2019 16:43

Instrument ID: CMSX Calib Start Date: 01/08/2019 15:11

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 01/08/2019 18:02

Lab File ID: xb2051.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.8305	0.8070		0.972	1.00	-2.8	20.0
Total Dichlorobiphenyls	Ave	0.5847	0.5601		0.958	1.00	-4.2	20.0
Total Trichlorobiphenyls	Ave	0.4198	0.4000		0.953	1.00	-4.7	20.0
Total Tetrachlorobiphenyls	Ave	0.2951	0.2879		1.95	2.00	-2.4	20.0
Total Pentachlorobiphenyls	Ave	0.2400	0.2300		1.92	2.00	-4.2	20.0
Hexachlorobiphenyl	Ave	0.2384	0.2246		1.88	2.00	-5.8	20.0
Heptachlorobiphenyl	Ave	0.2376	0.1938		2.45	3.00	-18.4	20.0
Octachlorobiphenyl	Ave	0.2054	0.1765		2.58	3.00	-14.1	20.0
DCB Decachlorobiphenyl	Ave	0.0420	0.0315		3.75	5.00	-25.0*	20.0
Decachlorobiphenyl-13C12	Ave	0.0539	0.0422		3.92	5.00	-21.6*	20.0

TestAmerica Savannah

Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2051.D
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 21-Feb-2019 16:43:30 ALS Bottle#: 3 Worklist Smp#: 21
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 680-0053932-021
Operator ID: Instrument ID: CMSX
Sublist: chrom-680_CMSX*sub13

Method: \\chromna\Savannah\ChromData\CMSX\20190220-53932.b\680_CMSX.m
Limit Group: 680
Last Update: 22-Feb-2019 09:51:39 Calib Date: 08-Jan-2019 18:02:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0319

First Level Reviewer: davisn Date: 22-Feb-2019 09:51:39

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.762	9.265 - 10.260		0	153536	0.9717	
A 24 Total Dichlorobiphenyls	222	11.569	10.603 - 12.535		0	106567	0.9580	
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	159076	0.7500	
A 25 Total Trichlorobiphenyls	256	13.255	11.910 - 14.600		0	76097	0.9529	
9 PCB-104	326	14.398	14.399	-0.001	77	129919	0	
A 26 Total Tetrachlorobiphenyls	292	14.773	13.047 - 16.499		0	109562	1.95	
A 27 Total Pentachlorobiphenyls	326	16.192	14.339 - 18.045		0	87520	1.92	
12 PCB-77	292	16.439	16.439	0.0	98	164233	0	
A 28 Total Hexachlorobiphenyls	360	17.480	15.502 - 19.457		0	85451	1.88	
* 15 Chrysene-d12	240	18.667	18.668	-0.001	100	142687	0.7500	
A 29 Total Heptachlorobiphenyls	394	18.749	17.146 - 20.353		0	110609	2.45	
A 30 Total Octachlorobiphenyls	430	19.718	18.642 - 20.795		0	100745	2.58	
A 31 Total Nonachlorobiphenyls	464	20.250	18.500 - 22.000		0	44125	5.53	
19 PCB-208	464	20.285	20.286	-0.001	92	44196	0	
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	81	40168	3.92	a
32 DCB Decachlorobiphenyl	498	21.796	21.796	0.0	81	29950	3.75	a

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

680cal3ICV_00054 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.328	9.265	- 10.260	22	153536	0.9717			
190	9.328				49988		2.5- 3.5	3.1	
152	9.328				86403		50.7- 50.7	0.6	
153	9.328				36187		23.2- 23.2	1.4	
A 24 Total Dichlorobiphenyls									
222	11.568	10.603	-12.535	23	106567	0.9580			
224	11.568				68660		1.3- 1.7	1.6	
152	11.554				82662		31.7- 111.7	0.8	
153	11.554				10606		0.0- 49.1	6.5	
186	11.554				10080		0.0- 48.9	6.8	
188	11.554				3688		0.0- 43.3	18.6	
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	159076	0.7500			
189	12.409	12.409	0.0		23669		5.9- 7.5	6.7	
A 25 Total Trichlorobiphenyls									
256	13.087	11.910	-14.600	95	76097	0.9529			
258	13.087				73581		0.8- 1.2	1.0	
186	13.072				52974		26.5- 106.5	1.4	
188	13.087				16951		0.0- 61.5	4.3	
A 26 Total Tetrachlorobiphenyls									
292	13.352	13.047	-16.499	0	109562	1.95			
290	13.352				85734		1.1- 1.5	1.3	
220	13.352				104295		58.1- 138.1	0.8	
222	13.352				67581		22.9- 102.9	1.3	
A 27 Total Pentachlorobiphenyls									
326	16.248	14.339	-18.045	91	87520	1.92			
324	16.248				55444		1.4- 1.8	1.6	
254	16.231				65360		41.9- 121.9	0.8	
256	16.231				62778		38.2- 118.2	0.9	
258	16.248				20939		0.0- 65.4	2.6	
A 28 Total Hexachlorobiphenyls									
360	16.439	15.502	-19.457	95	85451	1.88			
362	16.439				68375		1.0- 1.4	1.2	
288	16.439				52094		61.3- 61.3	1.3	
290	16.439				173607		220.6- 220.6	0.4	
292	16.439				164233		0.0- 0.0	0.4	
* 15 Chrysene-d12									
240	18.667	18.668	-0.001	100	142687	0.7500			
241	18.667	18.668	-0.001		27197		4.3- 5.9	5.2	
A 29 Total Heptachlorobiphenyls									
394	17.216	17.146	-20.353	97	110609	2.45			
396	17.216				103861		0.8- 1.2	1.1	
322	17.198				51729		48.3- 48.3	2.0	
324	17.198				80696		77.4- 77.4	1.3	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.858	18.642	-20.795	97	100745	2.58			
428	18.858				91374		0.9- 1.3	1.1	
356	18.840				37116		39.6- 39.6	2.5	
358	18.840				69871		75.2- 75.2	1.3	
360	18.840				55761		59.6- 59.6	1.6	
A 31 Total Nonachlorobiphenyls									
464	20.285	18.500	-22.000	69	44125	5.53			
466	20.285				31855		1.1- 1.5	1.4	
390	20.285				22355		0.0- 0.0	1.4	
392	20.285				47951		0.0- 0.0	0.7	
394	20.285				45515		0.0- 0.0	0.7	
$ 22 Decachlorobiphenyl-13C12									a
510	21.796	21.796	0.0	81	40168	3.92			a
512	21.796	21.796	0.0		30916		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									a
498	21.796	21.796	0.0	81	29950	3.75			a
500	21.796	21.796	0.0		23430		0.9- 1.3	1.3	
424	21.796	21.796	0.0		13426		0.0- 0.0	1.0	
426	21.796	21.796	0.0		33540		0.0- 0.0	1.0	
428	21.796	21.796	0.0		35586		0.0- 0.0	1.0	
430	21.796	21.796	0.0		22003		0.0- 0.0	1.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680cal3ICV_00054 Amount Added: 1.00 Units: mL

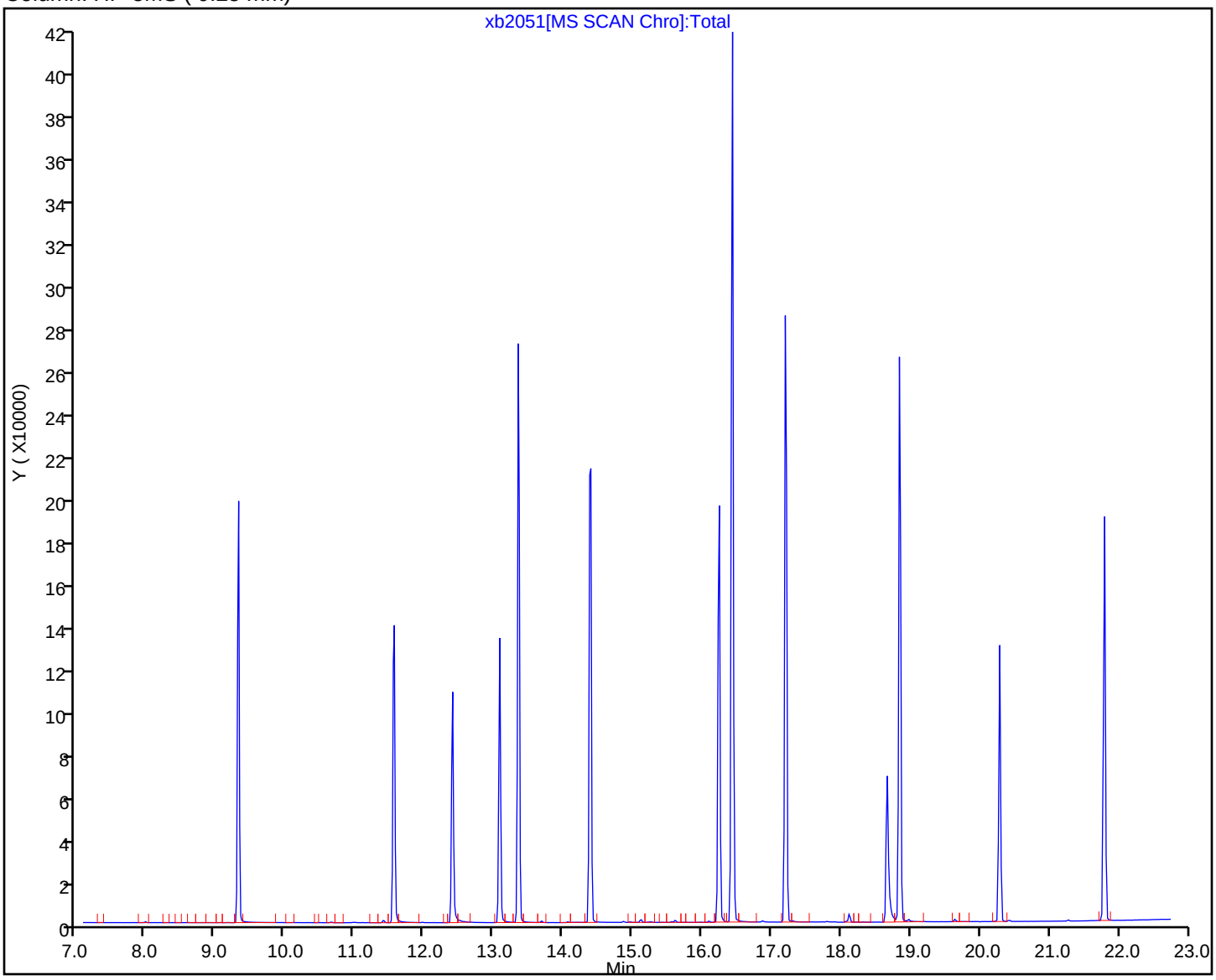
Report Date: 22-Feb-2019 09:51:40 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2051.D

Injection Date:	21-Feb-2019 16:43:30	Instrument ID:	CMSX		
Lims ID:	ccv				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

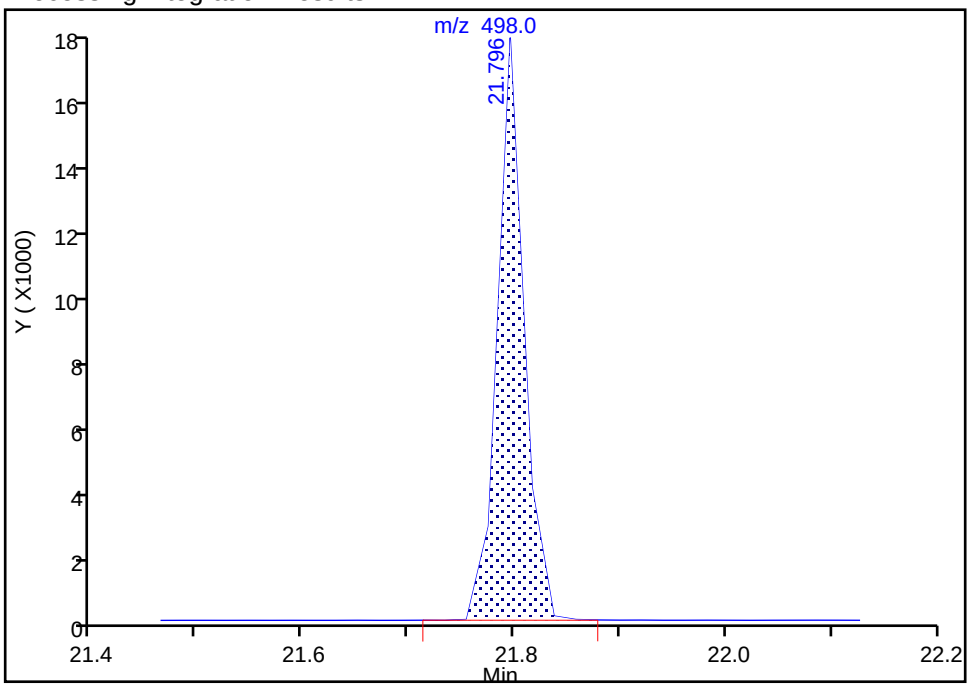
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2051.D
Injection Date: 21-Feb-2019 16:43:30 Instrument ID: CMSX
Lims ID: ccv
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 21
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

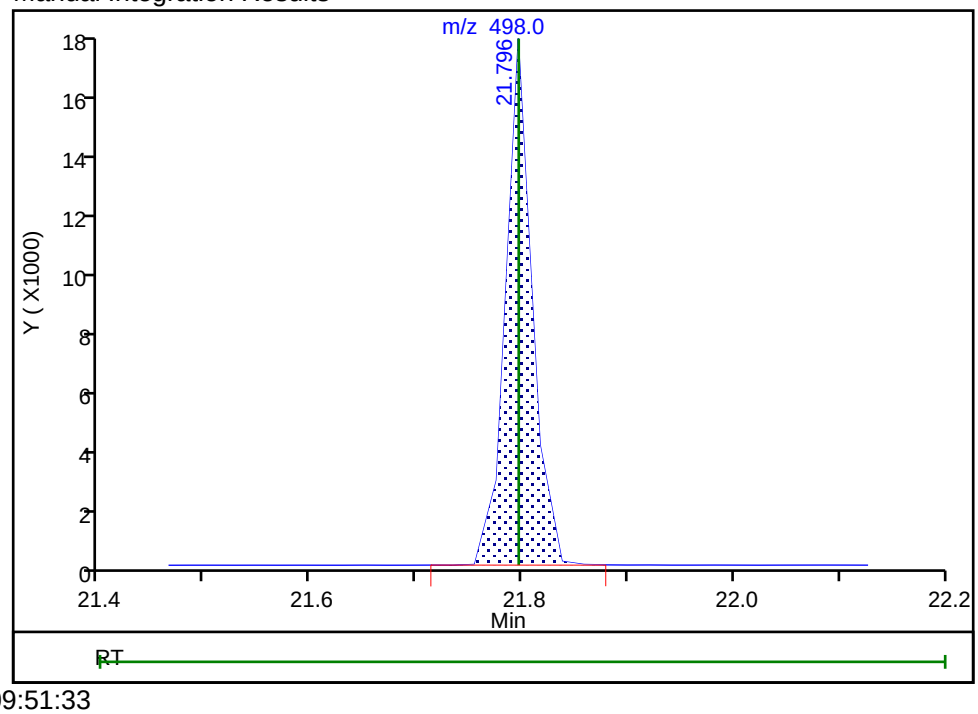
Processing Integration Results

RT: 21.80
Area: 29950
Amount: 3.751402
Amount Units: ug/ml



Manual Integration Results

RT: 21.80
Area: 29950
Amount: 3.751402
Amount Units: ug/ml



Reviewer: davisn, 22-Feb-2019 09:51:33
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

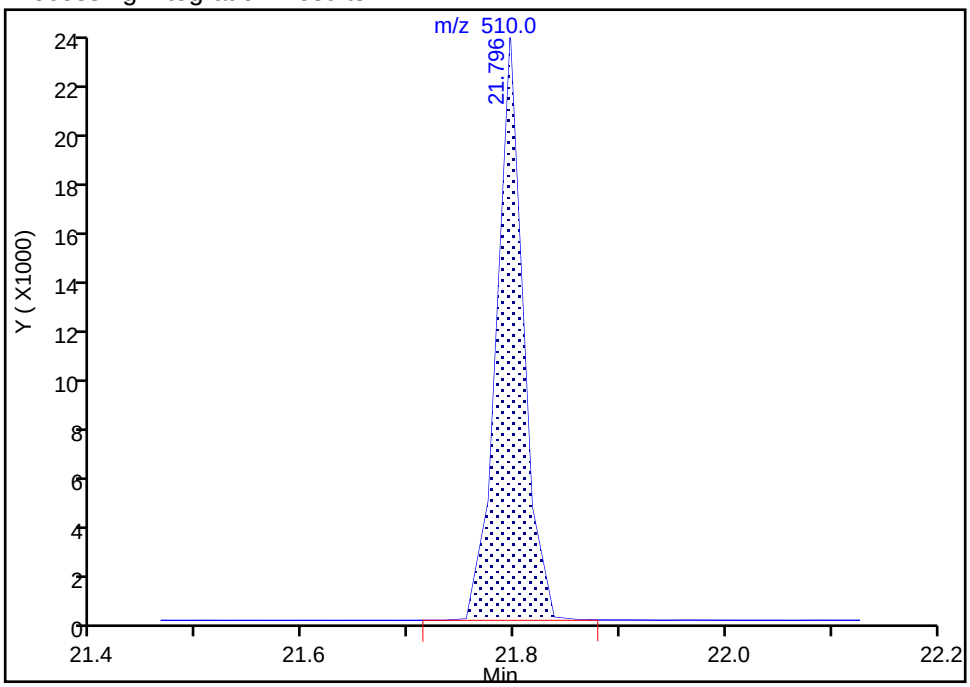
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2051.D
Injection Date: 21-Feb-2019 16:43:30 Instrument ID: CMSX
Lims ID: ccv
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 21
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

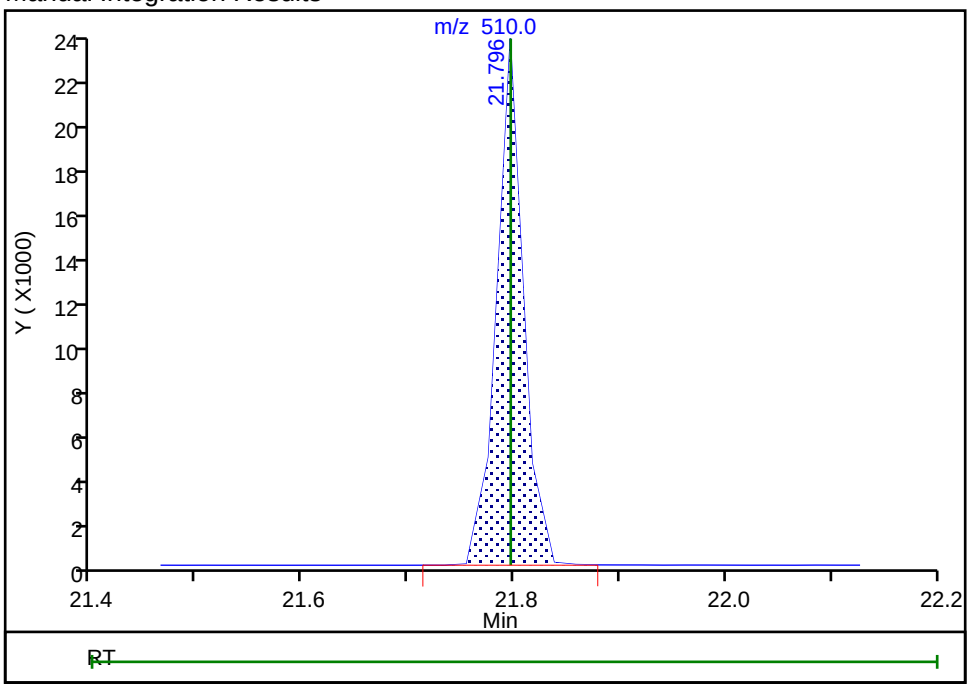
Processing Integration Results

RT: 21.80
Area: 40168
Amount: 3.917710
Amount Units: ug/ml



Manual Integration Results

RT: 21.80
Area: 40168
Amount: 3.917710
Amount Units: ug/ml



Reviewer: davisn, 22-Feb-2019 09:51:30
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM VII

PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Lab Sample ID: ICV 680-559536/12 Calibration Date: 02/25/2019 16:27

Instrument ID: CMSX Calib Start Date: 01/08/2019 15:11

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 01/08/2019 18:02

Lab File ID: xb2512.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nonachlorobiphenyl	Ave	0.0526	0.0562		7.22	4.00	6.7	20.0

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2512.D				
Lims ID:	icv				
Client ID:					
Sample Type:	ICV				
Inject. Date:	25-Feb-2019 16:27:30	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	icv				
Operator ID:		Instrument ID:	CMSX		
Sublist:					
Method:	\\chromna\Savannah\ChromData\CMSX\20190225-54006.b\680_CMSX.m				
Limit Group:	680				
Last Update:	26-Feb-2019 09:41:38	Calib Date:	25-Feb-2019 15:59:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0318				
First Level Reviewer: davisn		Date:	26-Feb-2019 09:34:47		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.741	9.244 - 10.239		0	148044	0.9706	
A 24 Total Dichlorobiphenyls	222	11.548	10.582 - 12.514		0	99694	0.9399	
* 5 Phenanthrene-d10	188	12.379	12.380	-0.001	100	159287	0.7500	
A 25 Total Trichlorobiphenyls	256	13.229	11.889 - 14.569		0	77942	1.02	
9 PCB-104	326	14.366	14.378	-0.012	87	131385	2.16	
A 26 Total Tetrachlorobiphenyls	292	14.746	13.026 - 16.465		0	104997	2.01	
A 27 Total Pentachlorobiphenyls	326	16.157	14.301 - 18.014		0	82838	2.00	
12 PCB-77	292	16.406	16.418	-0.012	89	171320	2.13	
A 28 Total Hexachlorobiphenyls	360	17.453	15.481 - 19.426		0	79498	2.01	
* 15 Chrysene-d12	240	18.630	18.625	0.005	100	149107	0.7500	a
A 29 Total Heptachlorobiphenyls	394	18.718	17.114 - 20.321		0	107639	2.80	
A 30 Total Octachlorobiphenyls	430	19.697	18.621 - 20.774		0	99834	3.00	
A 31 Total Nonachlorobiphenyls	464	20.250	18.500 - 22.000		0	44651	7.22	
19 PCB-208	464	20.262	20.271	-0.009	90	45038	4.21	
$ 22 Decachlorobiphenyl-13C12	510	21.772	21.761	0.011	76	43029	5.13	a
32 DCB Decachlorobiphenyl	498	21.772	21.782	-0.010	76	30805	4.98	a

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680cal3ICV_00054 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.298	9.244 -	10.239	22	148044	0.9706			
190	9.298				47768		2.5- 3.5	3.1	
152	9.298				82564		50.7- 50.7	0.6	
153	9.298				34366		23.2- 23.2	1.4	
A 24 Total Dichlorobiphenyls									
222	11.539	10.582 -	12.514	24	99694	0.9399			
224	11.539				63993		1.3- 1.7	1.6	
152	11.539				78272		31.7- 111.7	0.8	
153	11.539				10027		0.0- 49.1	6.4	
186	11.539				9373		0.0- 48.9	6.8	
188	11.539				3581		0.0- 43.3	17.9	
* 5 Phenanthrene-d10									
188	12.379	12.380	-0.001	100	159287	0.7500			
189	12.379	12.380	-0.001		23818		5.9- 7.5	6.7	
A 25 Total Trichlorobiphenyls									
256	13.058	11.889 -	14.569	98	77942	1.02			
258	13.058				75231		0.8- 1.2	1.0	
186	13.058				53075		26.5- 106.5	1.4	
188	13.058				17295		0.0- 61.5	4.3	
A 26 Total Tetrachlorobiphenyls									
292	13.338	13.026 -	16.465	0	104997	2.01			
290	13.338				82174		1.1- 1.5	1.3	
220	13.323				101366		58.1- 138.1	0.8	
222	13.323				64647		22.9- 102.9	1.3	
A 27 Total Pentachlorobiphenyls									
326	16.216	14.301 -	18.014	74	82838	2.00			
324	16.216				51531		1.4- 1.8	1.6	
254	16.216				62071		41.9- 121.9	0.8	
256	16.216				59965		38.2- 118.2	0.9	
258	16.216				19932		0.0- 65.4	2.6	
A 28 Total Hexachlorobiphenyls									
360	16.423	15.481 -	19.426	92	79498	2.01			
362	16.423				62780		1.0- 1.4	1.3	
288	16.406				47875		61.3- 61.3	1.3	
290	16.406				171872		220.6- 220.6	0.4	
292	16.406				171655		0.0- 0.0	0.4	
* 15 Chrysene-d12									a
240	18.630	18.625	0.005	100	149107	0.7500			a
241	18.630	18.625	0.005		28412		4.3- 5.9	5.2	
A 29 Total Heptachlorobiphenyls									
394	17.177	17.114 -	20.321	82	107639	2.80			
396	17.177				101768		0.8- 1.2	1.1	
322	17.177				47386		48.3- 48.3	2.1	
324	17.177				74795		77.4- 77.4	1.4	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.820	18.621	-20.774	83	99834	3.00			
428	18.820				90640		0.9- 1.3	1.1	
356	18.820				36613		39.6- 39.6	2.5	
358	18.820				69033		75.2- 75.2	1.3	
360	18.820				53785		59.6- 59.6	1.7	
A 31 Total Nonachlorobiphenyls									
464	20.262	18.500	-22.000	70	44651	7.22			
466	20.262				31831		1.1- 1.5	1.4	
390	20.262				24217		0.0- 0.0	1.3	
392	20.262				51685		0.0- 0.0	0.6	
394	20.262				48746		0.0- 0.0	0.7	
$ 22 Decachlorobiphenyl-13C12									a
510	21.772	21.761	0.011	76	43029	5.13			a
512	21.772	21.782	-0.010		33501		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									a
498	21.772	21.782	-0.010	76	30805	4.98			a
500	21.772	21.782	-0.010		24524		0.9- 1.3	1.3	
424	21.772	21.782	-0.010		13876		0.0- 0.0	1.0	
426	21.772	21.782	-0.010		34561		0.0- 0.0	1.0	
428	21.772	21.782	-0.010		37166		0.0- 0.0	1.0	
430	21.772	21.782	-0.010		23605		0.0- 0.0	1.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680cal3ICV_00054 Amount Added: 1.00 Units: mL

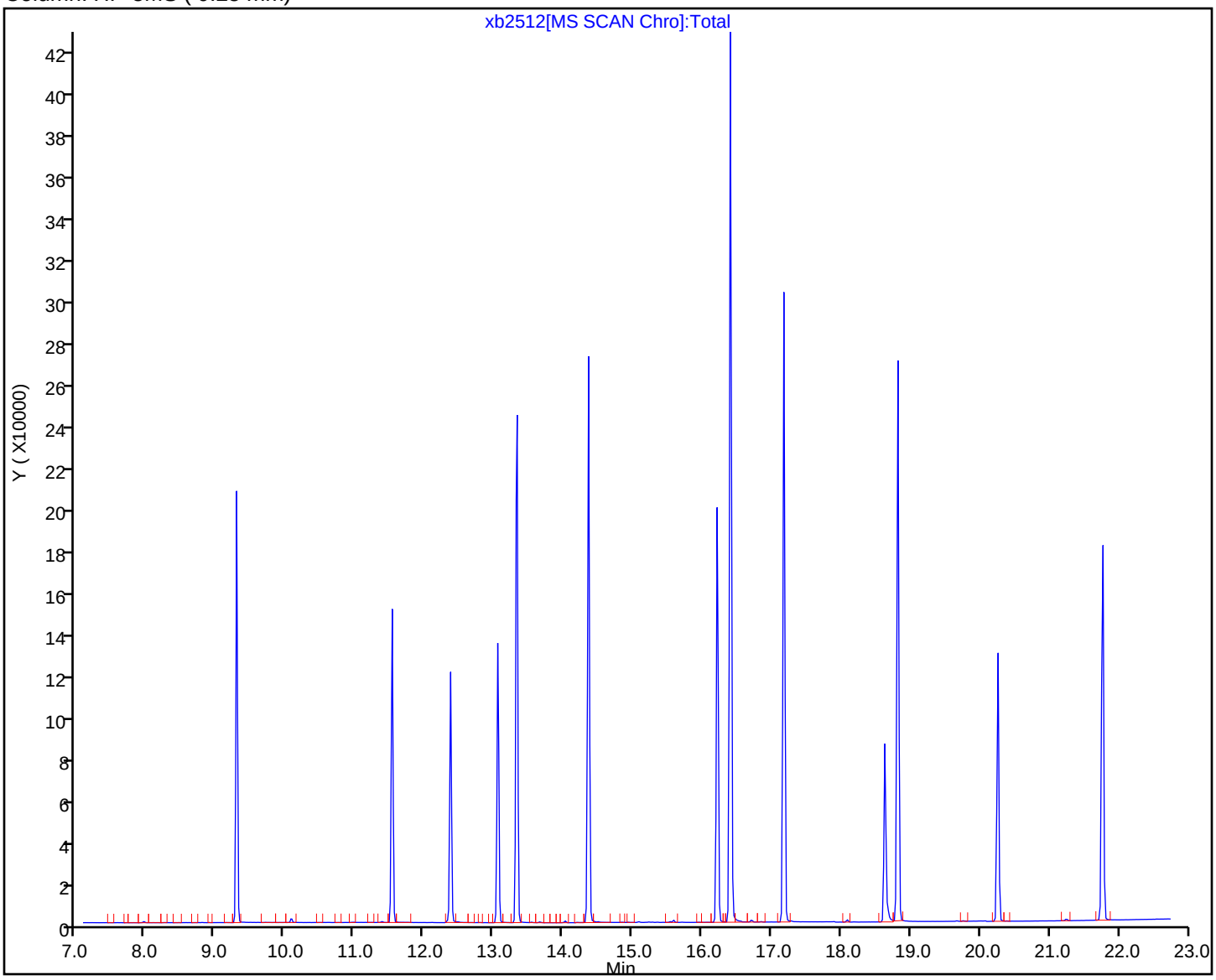
Report Date: 26-Feb-2019 10:08:28 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2512.D

Injection Date:	25-Feb-2019 16:27:30	Instrument ID:	CMSX		
Lims ID:	icv				
Client ID:					
Operator ID:		ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

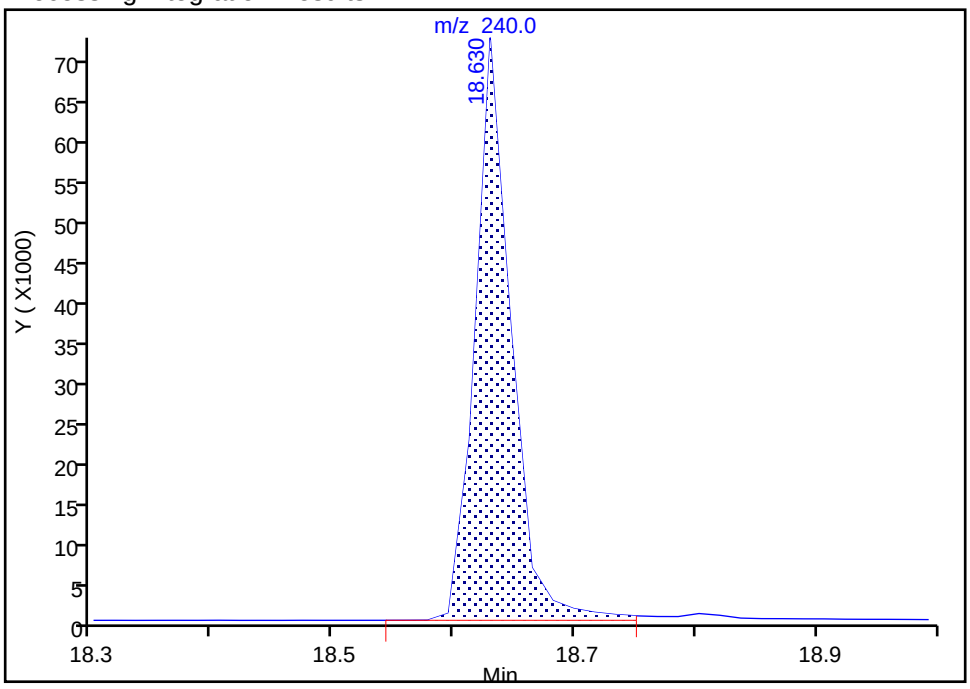
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2512.D
Injection Date: 25-Feb-2019 16:27:30 Instrument ID: CMSX
Lims ID: icv
Client ID:
Operator ID: ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

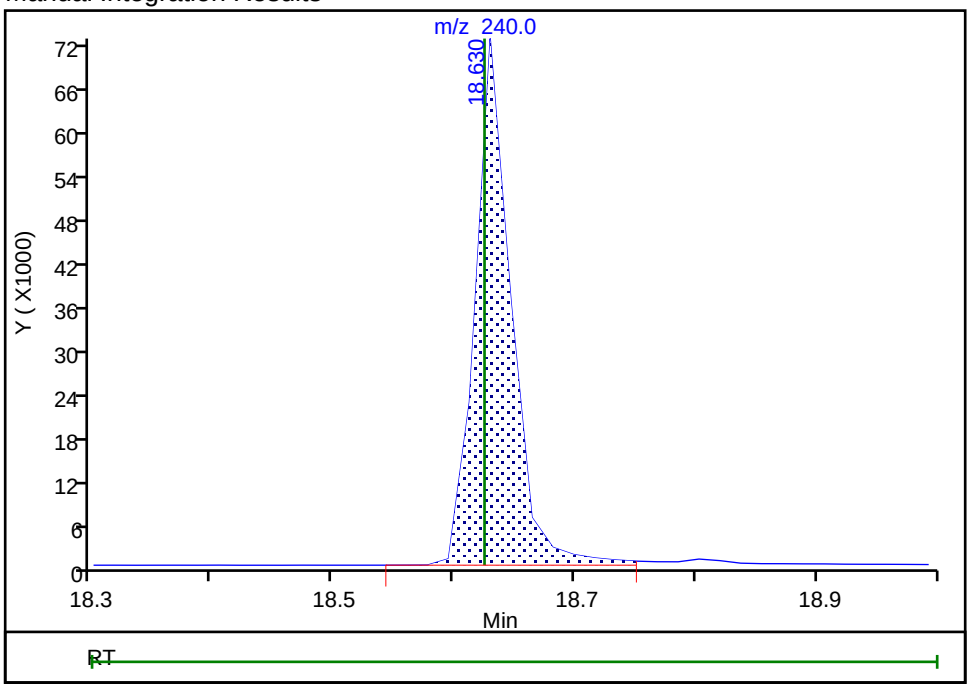
Processing Integration Results

RT: 18.63
Area: 149107
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.63
Area: 149107
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 26-Feb-2019 09:34:19
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM VII

PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Lab Sample ID: ICV 680-559536/12 Calibration Date: 02/25/2019 16:27

Instrument ID: CMSX Calib Start Date: 02/25/2019 13:07

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 02/25/2019 15:59

Lab File ID: xb2512.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.7672	0.7447		0.971	1.00	-2.9	20.0
Total Dichlorobiphenyls	Ave	0.5335	0.5015		0.940	1.00	-6.0	20.0
Total Trichlorobiphenyls	Ave	0.3858	0.3920		1.02	1.00	1.6	20.0
Total Tetrachlorobiphenyls	Ave	0.2626	0.2641		2.01	2.00	0.6	20.0
Total Pentachlorobiphenyls	Ave	0.2085	0.2083		2.00	2.00	-0.1	20.0
Hexachlorobiphenyl	Ave	0.1988	0.1999		2.01	2.00	0.6	20.0
Heptachlorobiphenyl	Ave	0.1936	0.1805		2.80	3.00	-6.8	20.0
Octachlorobiphenyl	Ave	0.1674	0.1674		3.00	3.00	-0.0	20.0
DCB Decachlorobiphenyl	Ave	0.0311	0.0310		4.98	5.00	-0.3	20.0
Decachlorobiphenyl-13C12	Ave	0.0422	0.0433		5.13	5.00	2.6	20.0

TestAmerica Savannah

Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2512.D
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 25-Feb-2019 16:27:30 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: icv
Operator ID: Instrument ID: CMSX
Sublist:

Method: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\680_CMSX.m
Limit Group: 680
Last Update: 26-Feb-2019 09:41:38 Calib Date: 25-Feb-2019 15:59:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0318

First Level Reviewer: davisn Date: 26-Feb-2019 09:34:47

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.741	9.244 - 10.239		0	148044	0.9706	
A 24 Total Dichlorobiphenyls	222	11.548	10.582 - 12.514		0	99694	0.9399	
* 5 Phenanthrene-d10	188	12.379	12.380	-0.001	100	159287	0.7500	
A 25 Total Trichlorobiphenyls	256	13.229	11.889 - 14.569		0	77942	1.02	
9 PCB-104	326	14.366	14.378	-0.012	87	131385	2.16	
A 26 Total Tetrachlorobiphenyls	292	14.746	13.026 - 16.465		0	104997	2.01	
A 27 Total Pentachlorobiphenyls	326	16.157	14.301 - 18.014		0	82838	2.00	
12 PCB-77	292	16.406	16.418	-0.012	89	171320	2.13	
A 28 Total Hexachlorobiphenyls	360	17.453	15.481 - 19.426		0	79498	2.01	
* 15 Chrysene-d12	240	18.630	18.625	0.005	100	149107	0.7500	a
A 29 Total Heptachlorobiphenyls	394	18.718	17.114 - 20.321		0	107639	2.80	
A 30 Total Octachlorobiphenyls	430	19.697	18.621 - 20.774		0	99834	3.00	
A 31 Total Nonachlorobiphenyls	464	20.250	18.500 - 22.000		0	44651	7.22	
19 PCB-208	464	20.262	20.271	-0.009	90	45038	4.21	
$ 22 Decachlorobiphenyl-13C12	510	21.772	21.761	0.011	76	43029	5.13	a
32 DCB Decachlorobiphenyl	498	21.772	21.782	-0.010	76	30805	4.98	a

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

680cal3ICV_00054 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.298	9.244 -	10.239	22	148044	0.9706			
190	9.298				47768		2.5- 3.5	3.1	
152	9.298				82564		50.7- 50.7	0.6	
153	9.298				34366		23.2- 23.2	1.4	
A 24 Total Dichlorobiphenyls									
222	11.539	10.582 -	12.514	24	99694	0.9399			
224	11.539				63993		1.3- 1.7	1.6	
152	11.539				78272		31.7- 111.7	0.8	
153	11.539				10027		0.0- 49.1	6.4	
186	11.539				9373		0.0- 48.9	6.8	
188	11.539				3581		0.0- 43.3	17.9	
* 5 Phenanthrene-d10									
188	12.379	12.380	-0.001	100	159287	0.7500			
189	12.379	12.380	-0.001		23818		5.9- 7.5	6.7	
A 25 Total Trichlorobiphenyls									
256	13.058	11.889 -	14.569	98	77942	1.02			
258	13.058				75231		0.8- 1.2	1.0	
186	13.058				53075		26.5- 106.5	1.4	
188	13.058				17295		0.0- 61.5	4.3	
A 26 Total Tetrachlorobiphenyls									
292	13.338	13.026 -	16.465	0	104997	2.01			
290	13.338				82174		1.1- 1.5	1.3	
220	13.323				101366		58.1- 138.1	0.8	
222	13.323				64647		22.9- 102.9	1.3	
A 27 Total Pentachlorobiphenyls									
326	16.216	14.301 -	18.014	74	82838	2.00			
324	16.216				51531		1.4- 1.8	1.6	
254	16.216				62071		41.9- 121.9	0.8	
256	16.216				59965		38.2- 118.2	0.9	
258	16.216				19932		0.0- 65.4	2.6	
A 28 Total Hexachlorobiphenyls									
360	16.423	15.481 -	19.426	92	79498	2.01			
362	16.423				62780		1.0- 1.4	1.3	
288	16.406				47875		61.3- 61.3	1.3	
290	16.406				171872		220.6- 220.6	0.4	
292	16.406				171655		0.0- 0.0	0.4	
* 15 Chrysene-d12									a
240	18.630	18.625	0.005	100	149107	0.7500			a
241	18.630	18.625	0.005		28412		4.3- 5.9	5.2	
A 29 Total Heptachlorobiphenyls									
394	17.177	17.114 -	20.321	82	107639	2.80			
396	17.177				101768		0.8- 1.2	1.1	
322	17.177				47386		48.3- 48.3	2.1	
324	17.177				74795		77.4- 77.4	1.4	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.820	18.621	-20.774	83	99834	3.00			
428	18.820				90640		0.9- 1.3	1.1	
356	18.820				36613		39.6- 39.6	2.5	
358	18.820				69033		75.2- 75.2	1.3	
360	18.820				53785		59.6- 59.6	1.7	
A 31 Total Nonachlorobiphenyls									
464	20.262	18.500	-22.000	70	44651	7.22			
466	20.262				31831		1.1- 1.5	1.4	
390	20.262				24217		0.0- 0.0	1.3	
392	20.262				51685		0.0- 0.0	0.6	
394	20.262				48746		0.0- 0.0	0.7	
$ 22 Decachlorobiphenyl-13C12									a
510	21.772	21.761	0.011	76	43029	5.13			a
512	21.772	21.782	-0.010		33501		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									a
498	21.772	21.782	-0.010	76	30805	4.98			a
500	21.772	21.782	-0.010		24524		0.9- 1.3	1.3	
424	21.772	21.782	-0.010		13876		0.0- 0.0	1.0	
426	21.772	21.782	-0.010		34561		0.0- 0.0	1.0	
428	21.772	21.782	-0.010		37166		0.0- 0.0	1.0	
430	21.772	21.782	-0.010		23605		0.0- 0.0	1.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680cal3ICV_00054 Amount Added: 1.00 Units: mL

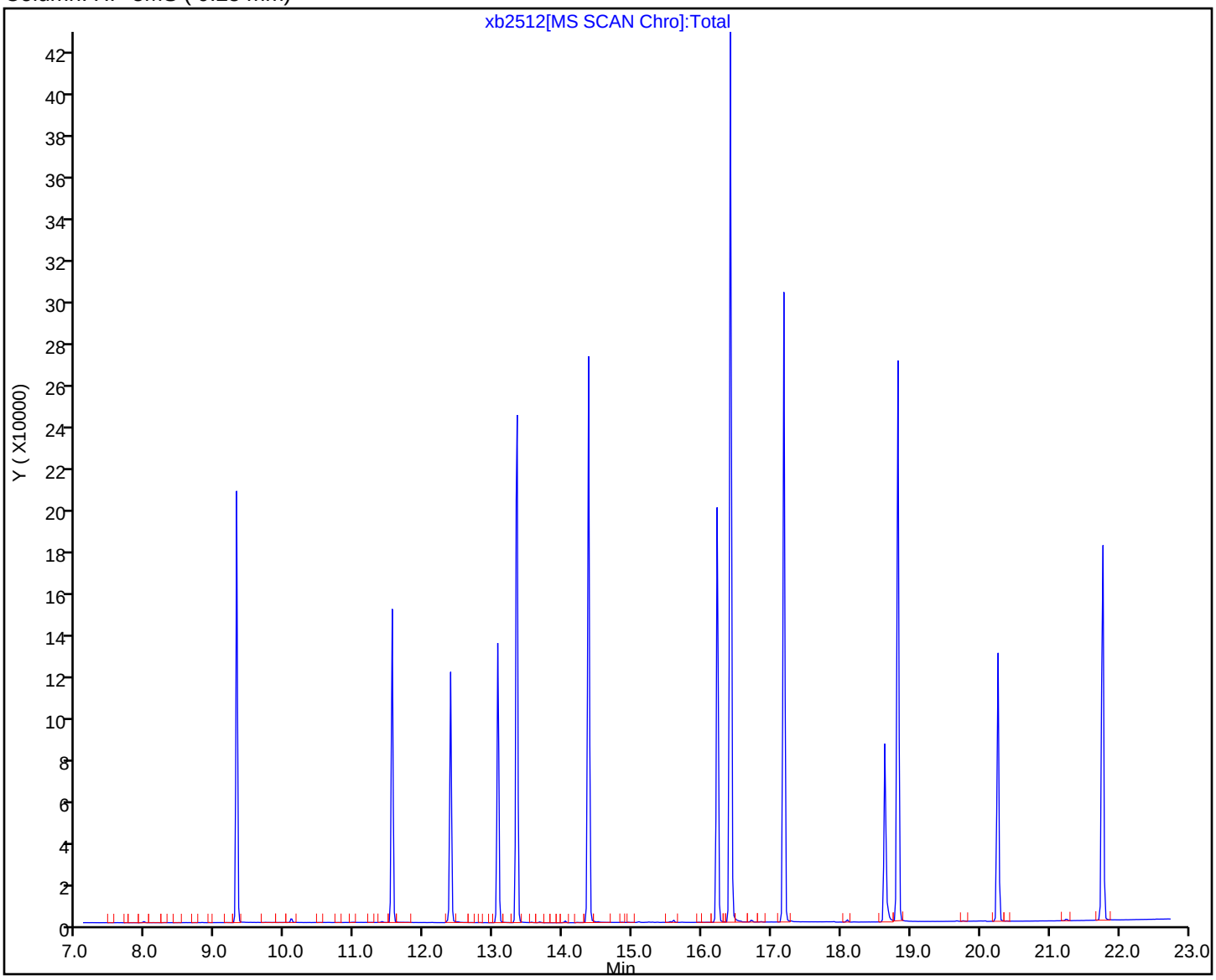
Report Date: 26-Feb-2019 10:08:28 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2512.D

Injection Date:	25-Feb-2019 16:27:30	Instrument ID:	CMSX		
Lims ID:	icv				
Client ID:					
Operator ID:		ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

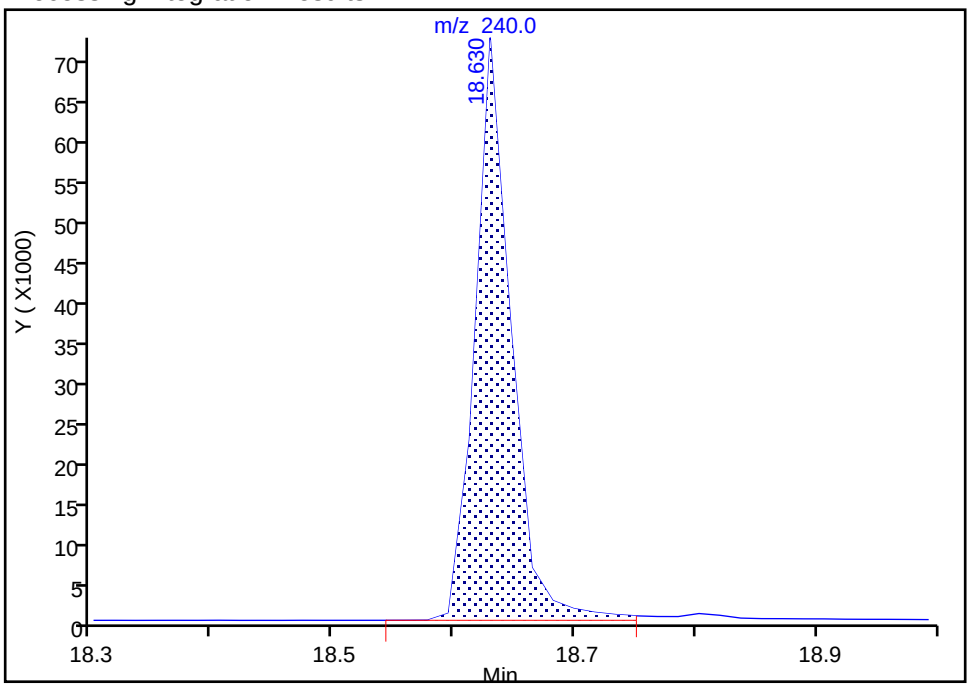
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2512.D
Injection Date: 25-Feb-2019 16:27:30 Instrument ID: CMSX
Lims ID: icv
Client ID:
Operator ID: ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

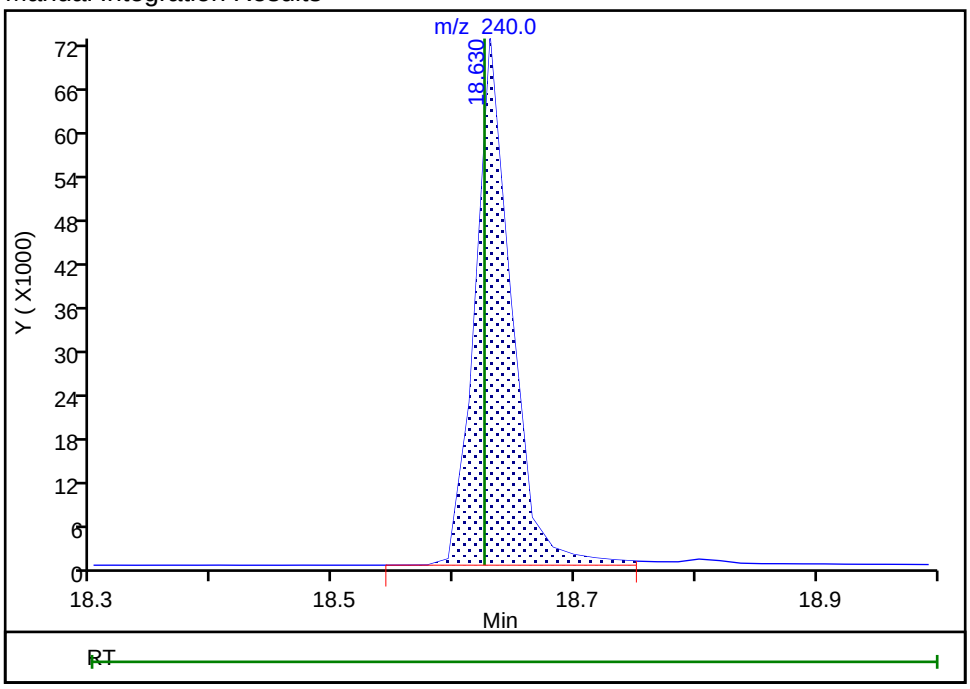
Processing Integration Results

RT: 18.63
Area: 149107
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.63
Area: 149107
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 26-Feb-2019 09:34:19
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

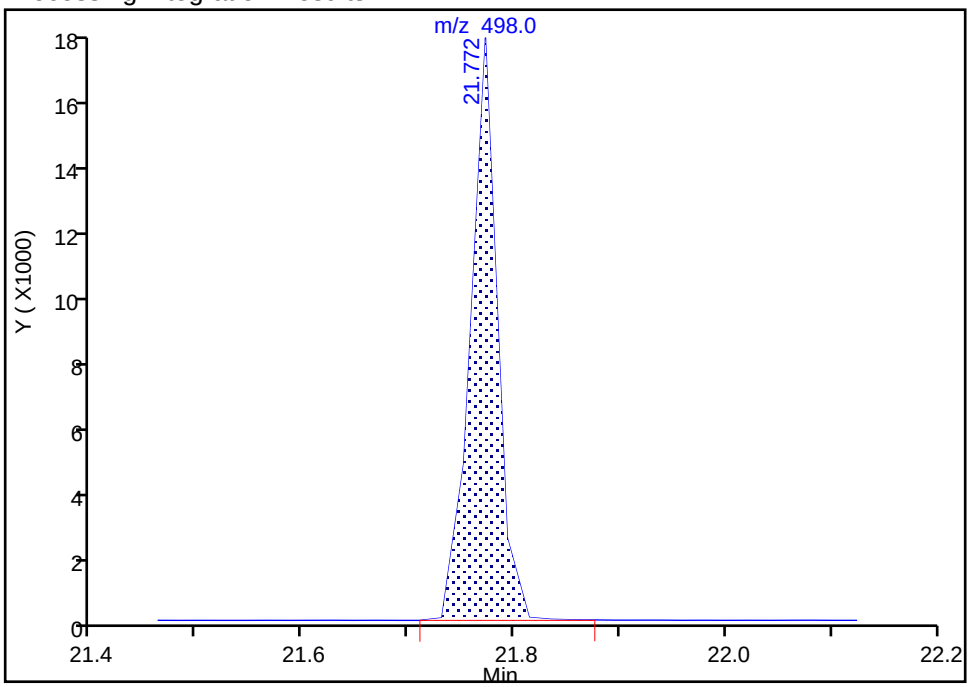
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2512.D
Injection Date: 25-Feb-2019 16:27:30 Instrument ID: CMSX
Lims ID: icv
Client ID:
Operator ID: ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

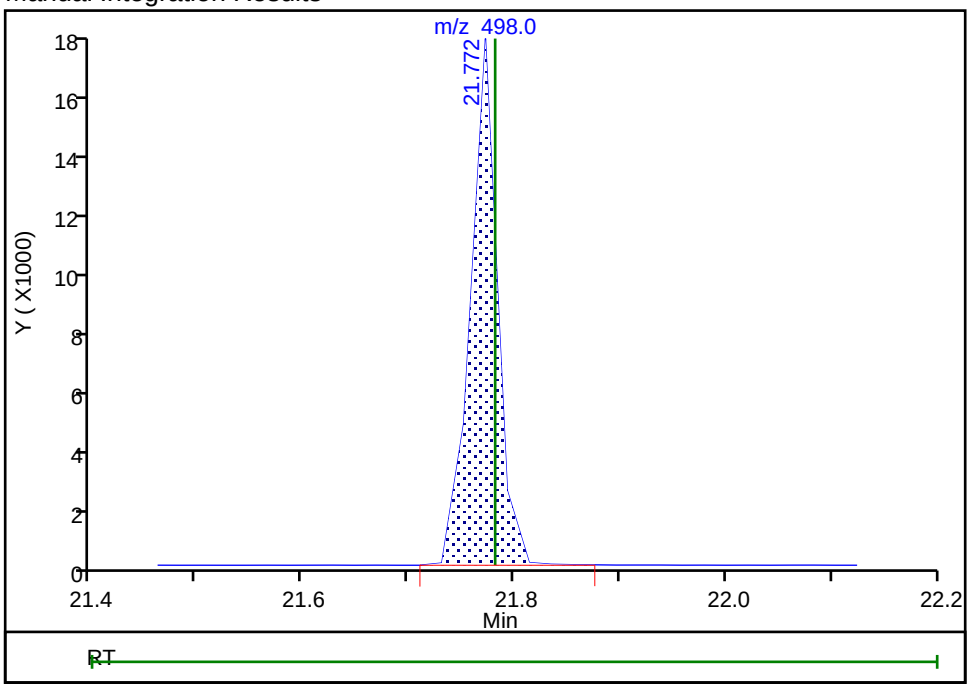
Processing Integration Results

RT: 21.77
Area: 30805
Amount: 4.983920
Amount Units: ug/ml



Manual Integration Results

RT: 21.77
Area: 30805
Amount: 4.983920
Amount Units: ug/ml



Reviewer: davisn, 26-Feb-2019 09:34:43
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Savannah

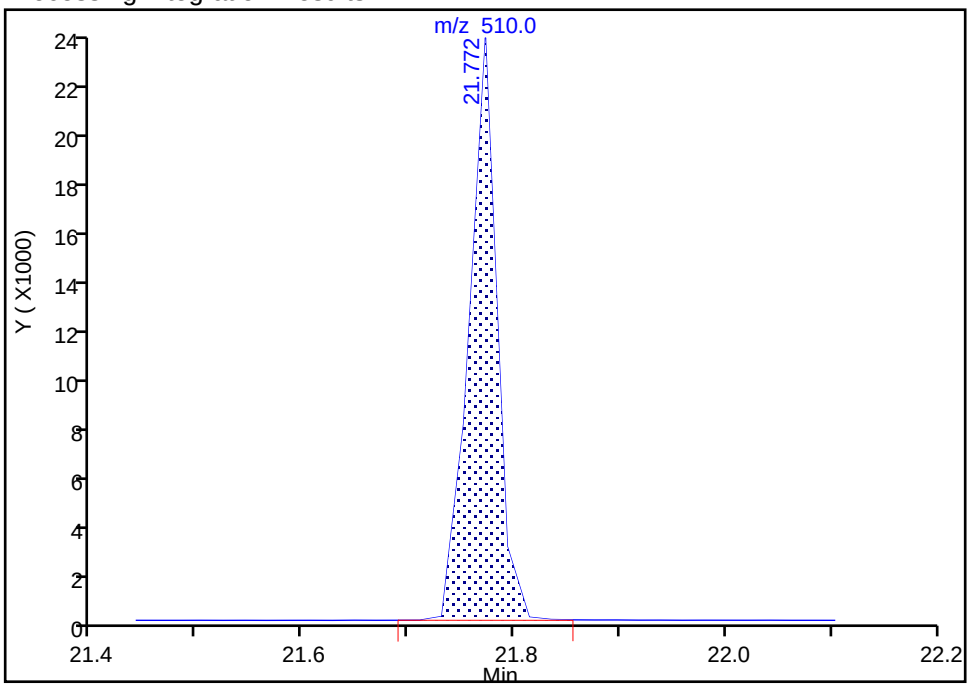
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2512.D
Injection Date: 25-Feb-2019 16:27:30 Instrument ID: CMSX
Lims ID: icv
Client ID:
Operator ID: ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

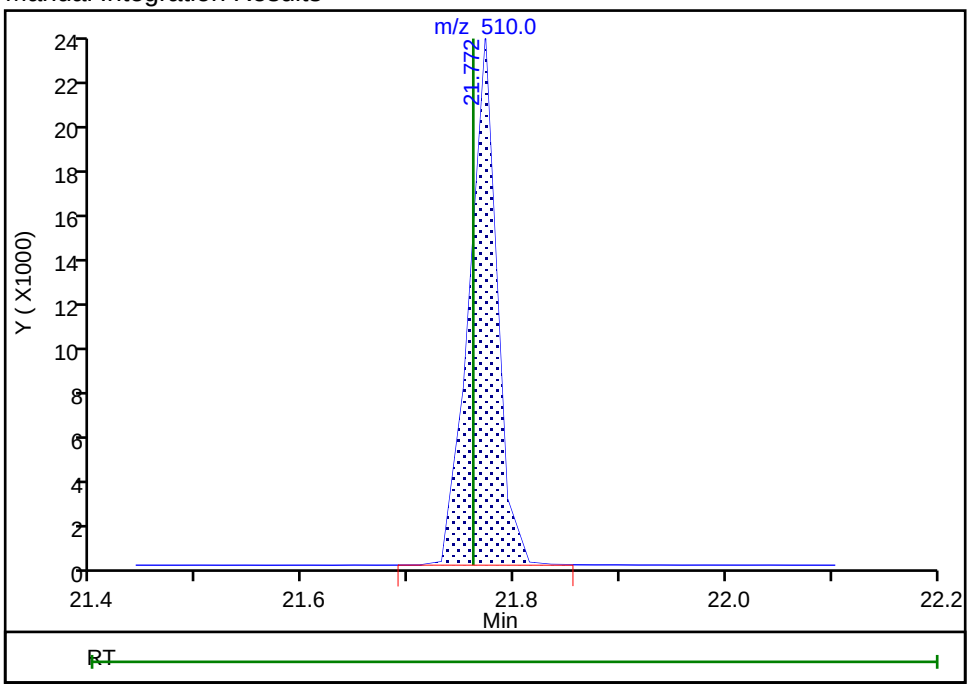
Processing Integration Results

RT: 21.77
Area: 43029
Amount: 5.131350
Amount Units: ug/ml



Manual Integration Results

RT: 21.77
Area: 43029
Amount: 5.131350
Amount Units: ug/ml



Reviewer: davisn, 26-Feb-2019 09:34:42
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM VII

PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Lab Sample ID: CCVIS 680-559821/3 Calibration Date: 02/27/2019 15:23

Instrument ID: CMSX Calib Start Date: 02/25/2019 13:07

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 02/25/2019 15:59

Lab File ID: xb2704.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.7672	0.6938		0.904	1.00	-9.6	20.0
Total Dichlorobiphenyls	Ave	0.5335	0.4921		0.922	1.00	-7.8	20.0
Total Trichlorobiphenyls	Ave	0.3858	0.3486		0.904	1.00	-9.6	20.0
Total Tetrachlorobiphenyls	Ave	0.2626	0.2434		1.85	2.00	-7.3	20.0
Total Pentachlorobiphenyls	Ave	0.2085	0.1957		1.88	2.00	-6.2	20.0
Hexachlorobiphenyl	Ave	0.1988	0.1943		1.95	2.00	-2.3	20.0
Heptachlorobiphenyl	Ave	0.1936	0.1723		2.67	3.00	-11.0	20.0
Octachlorobiphenyl	Ave	0.1674	0.1579		2.83	3.00	-5.7	20.0
DCB Decachlorobiphenyl	Ave	0.0311	0.0305		4.91	5.00	-1.8	20.0
Decachlorobiphenyl-13C12	Ave	0.0422	0.0407		4.83	5.00	-3.4	20.0

TestAmerica Savannah

Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2704.D
Lims ID: ccvis
Client ID:
Sample Type: CCVIS
Inject. Date: 27-Feb-2019 15:23:30 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS
Misc. Info.: 680-0054053-003
Operator ID: Instrument ID: CMSX
Sublist: chrom-680_CMSX*sub13

Method: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\680_CMSX.m
Limit Group: 680
Last Update: 27-Feb-2019 15:52:28 Calib Date: 25-Feb-2019 15:59:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0310

First Level Reviewer: davisn Date: 27-Feb-2019 15:52:28

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.741	9.244 - 10.239		0	159230	0.9043	
A 24 Total Dichlorobiphenyls	222	11.548	10.582 - 12.514		0	112939	0.9224	
* 5 Phenanthrene-d10	188	12.380	12.380	0.0	100	174833	0.7500	
A 25 Total Trichlorobiphenyls	256	13.229	11.889 - 14.569		0	80015	0.9036	
9 PCB-104	326	14.366	14.366	0.0	86	131013	1.87	
A 26 Total Tetrachlorobiphenyls	292	14.746	13.026 - 16.466		0	111743	1.85	
A 27 Total Pentachlorobiphenyls	326	16.160	14.306 - 18.014		0	89822	1.88	
12 PCB-77	292	16.406	16.406	0.0	92	180894	1.94	
A 28 Total Hexachlorobiphenyls	360	17.453	15.481 - 19.426		0	89187	1.95	
* 15 Chrysene-d12	240	18.629	18.629	0.0	100	172131	0.7500	
A 29 Total Heptachlorobiphenyls	394	18.718	17.114 - 20.321		0	118621	2.67	
A 30 Total Octachlorobiphenyls	430	19.697	18.621 - 20.774		0	108707	2.83	
A 31 Total Nonachlorobiphenyls	464	20.250	18.500 - 22.000		0	48146	6.75	
19 PCB-208	464	20.261	20.261	0.0	83	48146	3.90	
$ 22 Decachlorobiphenyl-13C12	510	21.772	21.772	0.0	75	46751	4.83	a
32 DCB Decachlorobiphenyl	498	21.772	21.772	0.0	75	35046	4.91	a

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal3_00045 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	S/N	Flags
A 23 Total Monochlorobiphenyls										
188	9.298	9.244 -	10.239	23	159230	0.9043				
190	9.298				52181		2.5- 3.5	3.1		
152	9.298				90350		50.7- 50.7	0.6		
153	9.298				37477		23.2- 23.2	1.4		
A 24 Total Dichlorobiphenyls										
222	11.539	10.582 -	12.514	23	112939	0.9224				
224	11.539				72063		1.3- 1.7	1.6		
152	11.525				87740		31.7- 111.7	0.8		
153	11.525				11318		0.0- 49.1	6.4		
186	11.539				10564		0.0- 48.9	6.8		
188	11.539				4030		0.0- 43.3	17.9		
* 5 Phenanthrene-d10										
188	12.380	12.380	0.0	100	174833	0.7500				
189	12.380	12.380	0.0		25701		5.9- 7.5	6.8		
A 25 Total Trichlorobiphenyls										
256	13.058	11.889 -	14.569	99	80015	0.9036				
258	13.058				77159		0.8- 1.2	1.0		
186	13.058				54909		26.5- 106.5	1.4		
188	13.058				17946		0.0- 61.5	4.3		
A 26 Total Tetrachlorobiphenyls										
292	13.338	13.026 -	16.466	0	111743	1.85				
290	13.338				87400		1.1- 1.5	1.3		
220	13.323				109261		58.1- 138.1	0.8		
222	13.323				70110		22.9- 102.9	1.2		
A 27 Total Pentachlorobiphenyls										
326	16.216	14.306 -	18.014	78	89822	1.88				
324	16.216				56661		1.4- 1.8	1.6		
254	16.216				67669		41.9- 121.9	0.8		
256	16.216				65592		38.2- 118.2	0.9		
258	16.216				21809		0.0- 65.4	2.6		
A 28 Total Hexachlorobiphenyls										
360	16.406	15.481 -	19.426	85	89187	1.95				
362	16.424				70624		1.0- 1.4	1.3		
288	16.406				53137		61.3- 61.3	1.3		
290	16.406				182803		220.6- 220.6	0.4		
292	16.406				180894		0.0- 0.0	0.4		
* 15 Chrysene-d12										
240	18.629	18.629	0.0	100	172131	0.7500			405	
241	18.629	18.629	0.0		32861		4.3- 5.9	5.2		
A 29 Total Heptachlorobiphenyls										
394	17.178	17.114 -	20.321	83	118621	2.67				
396	17.178				112160		0.8- 1.2	1.1		
322	17.178				51621		48.3- 48.3	2.2		
324	17.178				82722		77.4- 77.4	1.4		

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	S/N	Flags
A 30 Total Octachlorobiphenyls										
430	18.820	18.621	-20.774	82	108707	2.83				
428	18.820				99457		0.9- 1.3	1.1		
356	18.820				39155		39.6- 39.6	2.5		
358	18.820				74667		75.2- 75.2	1.3		
360	18.820				59054		59.6- 59.6	1.7		
A 31 Total Nonachlorobiphenyls										
464	20.261	18.500	-22.000	76	48146	6.75				
466	20.261				34891		1.1- 1.5	1.4		
390	20.261				24373		0.0- 0.0	1.4		
392	20.261				52512		0.0- 0.0	0.7		
394	20.261				49534		0.0- 0.0	0.7		
$ 22 Decachlorobiphenyl-13C12										a
510	21.772	21.772	0.0	75	46751	4.83				a
512	21.772	21.772	0.0		36381		0.9- 1.3	1.3		
32 DCB Decachlorobiphenyl										a
498	21.772	21.772	0.0	75	35046	4.91			19640	a
500	21.772	21.772	0.0		28074		0.9- 1.3	1.2		
424	21.751	21.772	-0.021		15914		0.0- 0.0	1.0		
426	21.772	21.772	0.0		38715		0.0- 0.0	1.0		
428	21.772	21.772	0.0		41768		0.0- 0.0	1.0		
430	21.772	21.772	0.0		25637		0.0- 0.0	1.0		

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal3_00045 Amount Added: 1.00 Units: mL

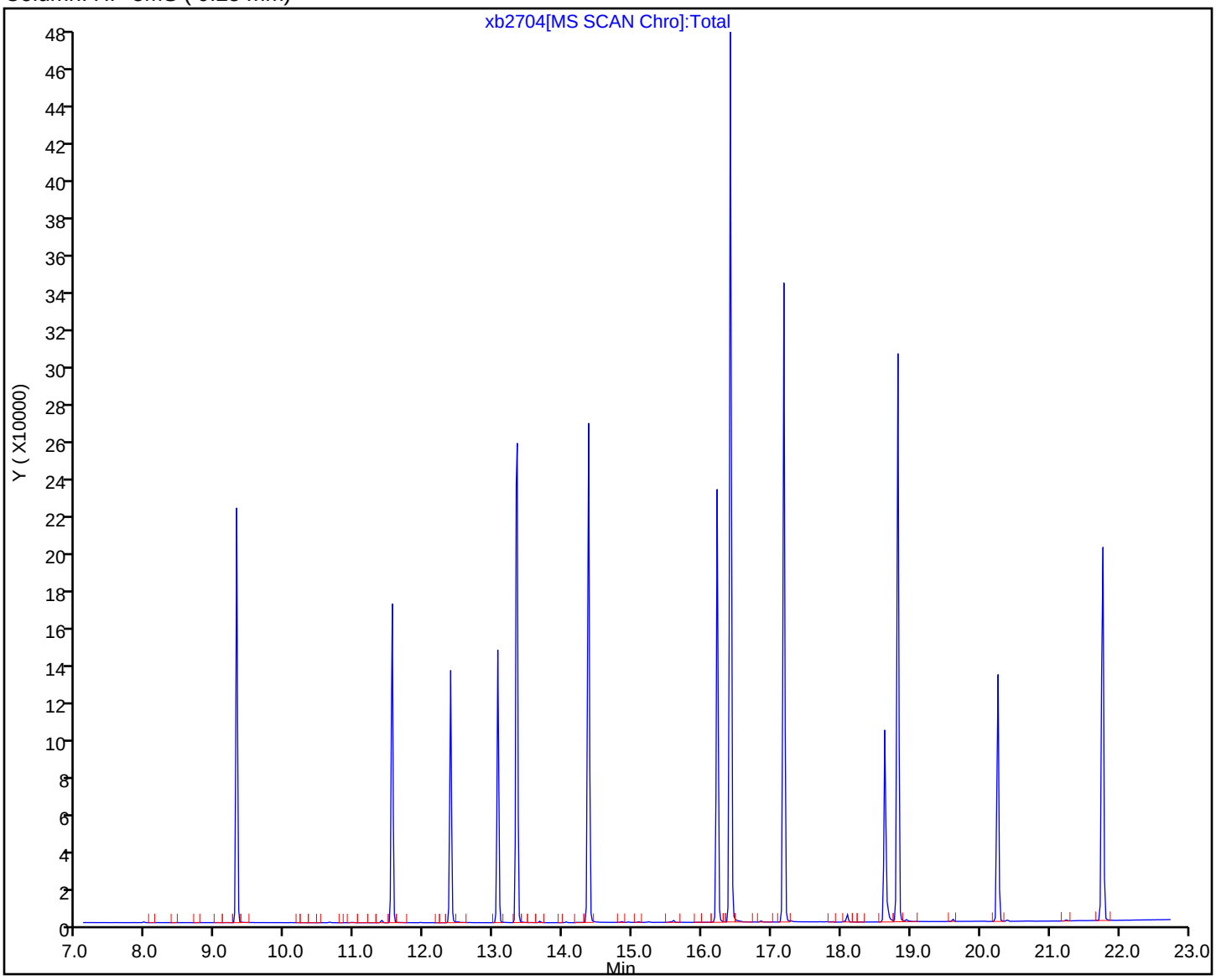
Report Date: 27-Feb-2019 15:52:29 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2704.D

Injection Date:	27-Feb-2019 15:23:30	Instrument ID:	CMSX		
Lims ID:	ccvis				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

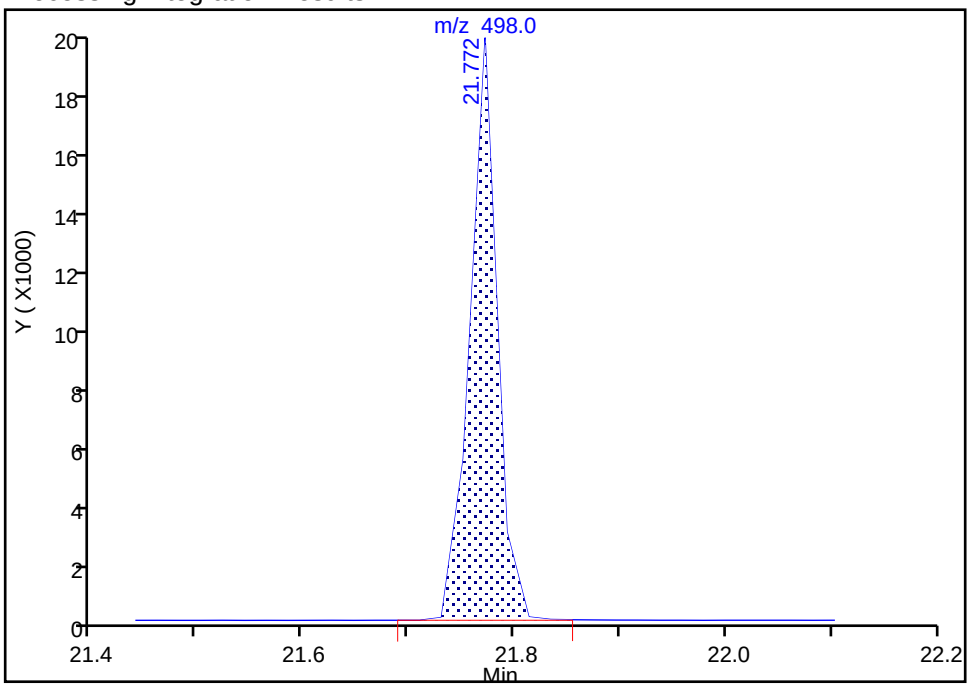
Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2704.D
Injection Date: 27-Feb-2019 15:23:30 Instrument ID: CMSX
Lims ID: ccvis
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

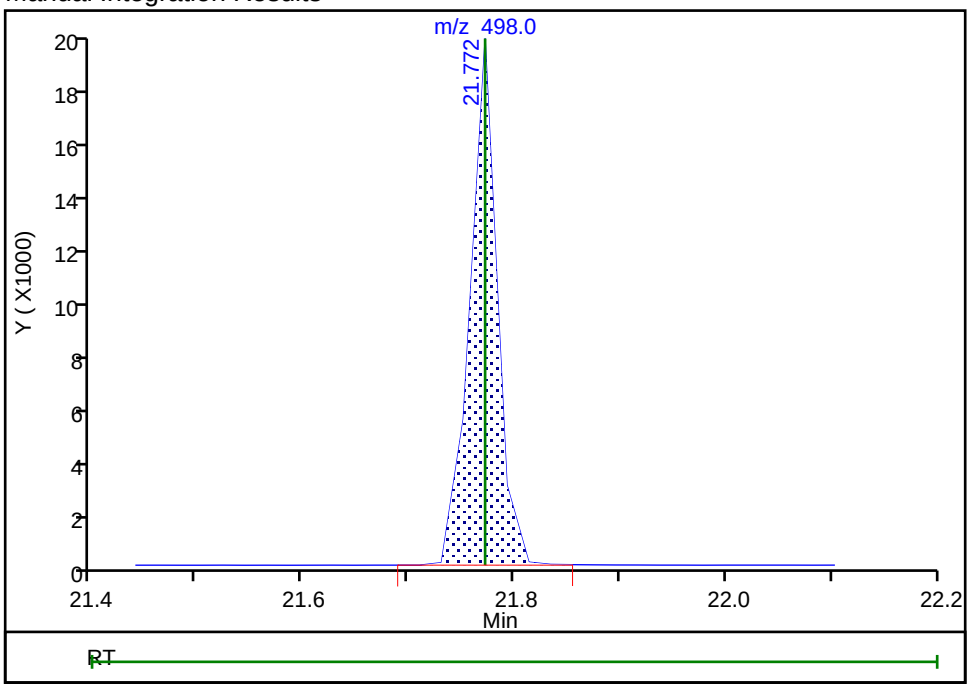
Processing Integration Results

RT: 21.77
Area: 35046
Amount: 4.911648
Amount Units: ug/ml



Manual Integration Results

RT: 21.77
Area: 35046
Amount: 4.911648
Amount Units: ug/ml



Reviewer: davisn, 27-Feb-2019 15:52:24
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

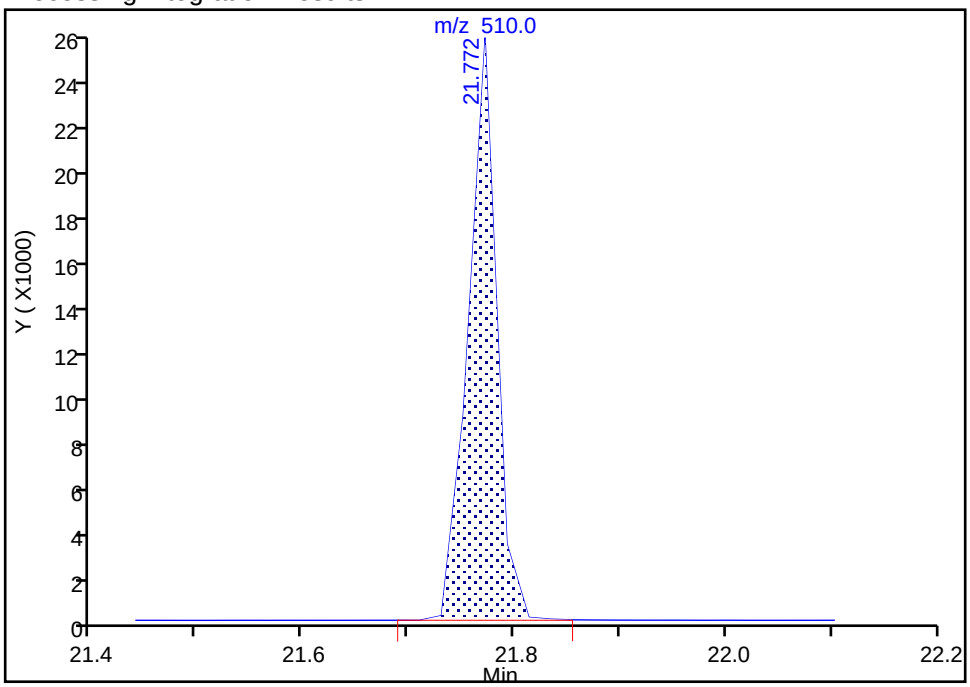
Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2704.D
Injection Date: 27-Feb-2019 15:23:30 Instrument ID: CMSX
Lims ID: ccvis
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

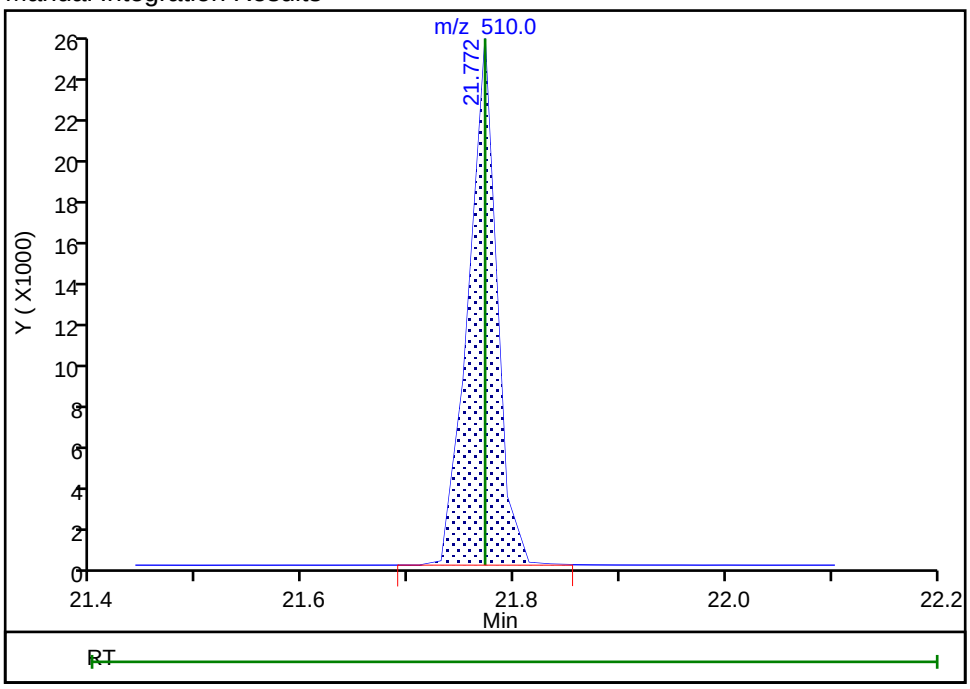
Processing Integration Results

RT: 21.77
Area: 46751
Amount: 4.829478
Amount Units: ug/ml



Manual Integration Results

RT: 21.77
Area: 46751
Amount: 4.829478
Amount Units: ug/ml



Reviewer: davisn, 27-Feb-2019 15:52:21
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM VII

PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Lab Sample ID: CCV 680-559821/13 Calibration Date: 02/27/2019 20:09

Instrument ID: CMSX Calib Start Date: 02/25/2019 13:07

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 02/25/2019 15:59

Lab File ID: xb2714.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.7672	0.6740		0.879	1.00	-12.1	20.0
Total Dichlorobiphenyls	Ave	0.5335	0.4750		0.890	1.00	-11.0	20.0
Total Trichlorobiphenyls	Ave	0.3858	0.3417		0.886	1.00	-11.4	20.0
Total Tetrachlorobiphenyls	Ave	0.2626	0.2363		1.80	2.00	-10.0	20.0
Total Pentachlorobiphenyls	Ave	0.2085	0.1929		1.85	2.00	-7.5	20.0
Hexachlorobiphenyl	Ave	0.1988	0.1864		1.87	2.00	-6.3	20.0
Heptachlorobiphenyl	Ave	0.1936	0.1675		2.60	3.00	-13.5	20.0
Octachlorobiphenyl	Ave	0.1674	0.1554		2.79	3.00	-7.2	20.0
DCB Decachlorobiphenyl	Ave	0.0311	0.0303		4.87	5.00	-2.6	20.0
Decachlorobiphenyl-13C12	Ave	0.0422	0.0403		4.78	5.00	-4.5	20.0

TestAmerica Savannah

Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2714.D
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 27-Feb-2019 20:09:30 ALS Bottle#: 3 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 680-0054053-013
Operator ID: Instrument ID: CMSX
Sublist: chrom-680_CMSX*sub13

Method: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\680_CMSX.m
Limit Group: 680
Last Update: 28-Feb-2019 09:05:35 Calib Date: 25-Feb-2019 15:59:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0311

First Level Reviewer: davisn Date: 28-Feb-2019 09:05:35

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.741	9.244 - 10.239		0	160957	0.8786	
A 24 Total Dichlorobiphenyls	222	11.548	10.582 - 12.514		0	113422	0.8903	
* 5 Phenanthrene-d10	188	12.379	12.380	-0.001	100	174038	0.7500	
A 25 Total Trichlorobiphenyls	256	13.229	11.889 - 14.569		0	81605	0.8857	
9 PCB-104	326	14.366	14.366	0.0	86	133460	1.83	
A 26 Total Tetrachlorobiphenyls	292	14.746	13.026 - 16.466		0	112830	1.80	
A 27 Total Pentachlorobiphenyls	326	16.160	14.306 - 18.014		0	92143	1.85	
12 PCB-77	292	16.406	16.406	0.0	91	185426	1.92	
A 28 Total Hexachlorobiphenyls	360	17.453	15.481 - 19.426		0	89002	1.87	
* 15 Chrysene-d12	240	18.630	18.629	0.001	100	179097	0.7500	
A 29 Total Heptachlorobiphenyls	394	18.718	17.114 - 20.321		0	119996	2.60	
A 30 Total Octachlorobiphenyls	430	19.697	18.621 - 20.774		0	111355	2.79	
A 31 Total Nonachlorobiphenyls	464	20.250	18.500 - 22.000		0	49702	6.69	
19 PCB-208	464	20.262	20.261	0.001	82	49702	3.87	
$ 22 Decachlorobiphenyl-13C12	510	21.772	21.772	0.0	70	48102	4.78	a
32 DCB Decachlorobiphenyl	498	21.772	21.772	0.0	70	36159	4.87	a

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680cal3ICV_00054 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.298	9.244 -	10.239	22	160957	0.8786			
190	9.298				52403		2.5- 3.5	3.1	
152	9.298				90845		50.7- 50.7	0.6	
153	9.298				37427		23.2- 23.2	1.4	
A 24 Total Dichlorobiphenyls									
222	11.539	10.582 -	12.514	23	113422	0.8903			
224	11.539				72795		1.3- 1.7	1.6	
152	11.524				87355		31.7- 111.7	0.8	
153	11.524				11224		0.0- 49.1	6.5	
186	11.539				10559		0.0- 48.9	6.9	
188	11.539				4023		0.0- 43.3	18.1	
* 5 Phenanthrene-d10									
188	12.379	12.380	-0.001	100	174038	0.7500			
189	12.379	12.380	-0.001		25886		5.9- 7.5	6.7	
A 25 Total Trichlorobiphenyls									
256	13.058	11.889 -	14.569	100	81605	0.8857			
258	13.058				78044		0.8- 1.2	1.0	
186	13.058				54761		26.5- 106.5	1.4	
188	13.058				17785		0.0- 61.5	4.4	
A 26 Total Tetrachlorobiphenyls									
292	13.338	13.026 -	16.466	0	112830	1.80			
290	13.338				88237		1.1- 1.5	1.3	
220	13.323				109306		58.1- 138.1	0.8	
222	13.323				70688		22.9- 102.9	1.2	
A 27 Total Pentachlorobiphenyls									
326	16.216	14.306 -	18.014	77	92143	1.85			
324	16.216				57710		1.4- 1.8	1.6	
254	16.216				68814		41.9- 121.9	0.8	
256	16.216				65662		38.2- 118.2	0.9	
258	16.216				21749		0.0- 65.4	2.7	
A 28 Total Hexachlorobiphenyls									
360	16.406	15.481 -	19.426	83	89002	1.87			
362	16.423				70431		1.0- 1.4	1.3	
288	16.406				53835		61.3- 61.3	1.3	
290	16.406				188838		220.6- 220.6	0.4	
292	16.406				185182		0.0- 0.0	0.4	
* 15 Chrysene-d12									
240	18.630	18.629	0.001	100	179097	0.7500			
241	18.630	18.629	0.001		34089		4.3- 5.9	5.3	
A 29 Total Heptachlorobiphenyls									
394	17.177	17.114 -	20.321	83	119996	2.60			
396	17.177				113550		0.8- 1.2	1.1	
322	17.177				52323		48.3- 48.3	2.2	
324	17.177				82163		77.4- 77.4	1.4	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.820	18.621	-20.774	85	111355	2.79			
428	18.820				101467		0.9- 1.3	1.1	
356	18.820				39577		39.6- 39.6	2.6	
358	18.820				75822		75.2- 75.2	1.3	
360	18.820				60778		59.6- 59.6	1.7	
A 31 Total Nonachlorobiphenyls									
464	20.262	18.500	-22.000	77	49702	6.69			
466	20.262				35891		1.1- 1.5	1.4	
390	20.262				25343		0.0- 0.0	1.4	
392	20.262				54321		0.0- 0.0	0.7	
394	20.262				51794		0.0- 0.0	0.7	
$ 22 Decachlorobiphenyl-13C12									a
510	21.772	21.772	0.0	70	48102	4.78			a
512	21.772	21.772	0.0		37280		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									a
498	21.772	21.772	0.0	70	36159	4.87			a
500	21.772	21.772	0.0		28792		0.9- 1.3	1.3	
424	21.752	21.772	-0.020		16481		0.0- 0.0	1.0	
426	21.772	21.772	0.0		39215		0.0- 0.0	1.0	
428	21.772	21.772	0.0		42241		0.0- 0.0	1.0	
430	21.772	21.772	0.0		26608		0.0- 0.0	1.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680cal3ICV_00054 Amount Added: 1.00 Units: mL

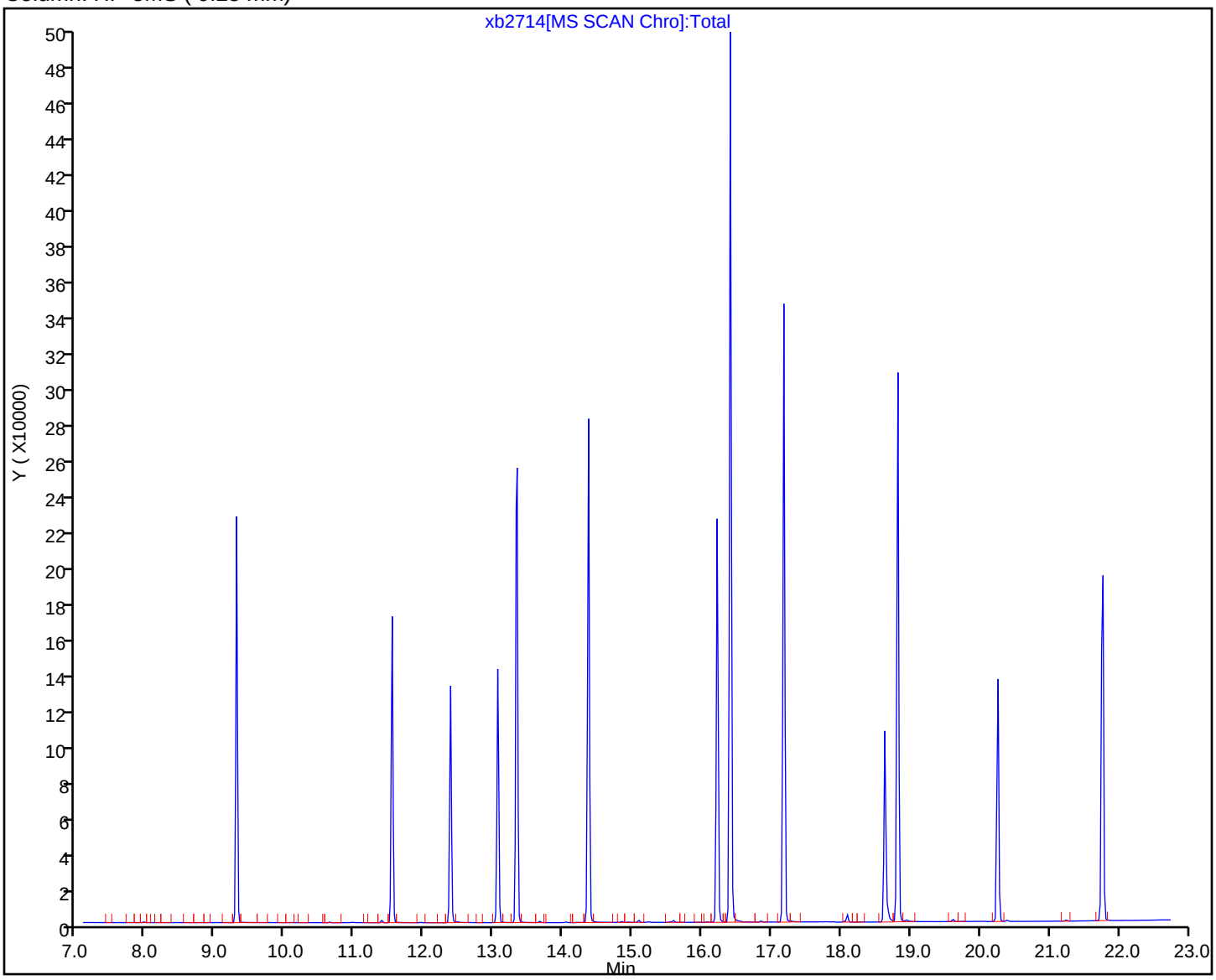
Report Date: 28-Feb-2019 09:05:35 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2714.D

Injection Date:	27-Feb-2019 20:09:30	Instrument ID:	CMSX		
Lims ID:	ccv				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

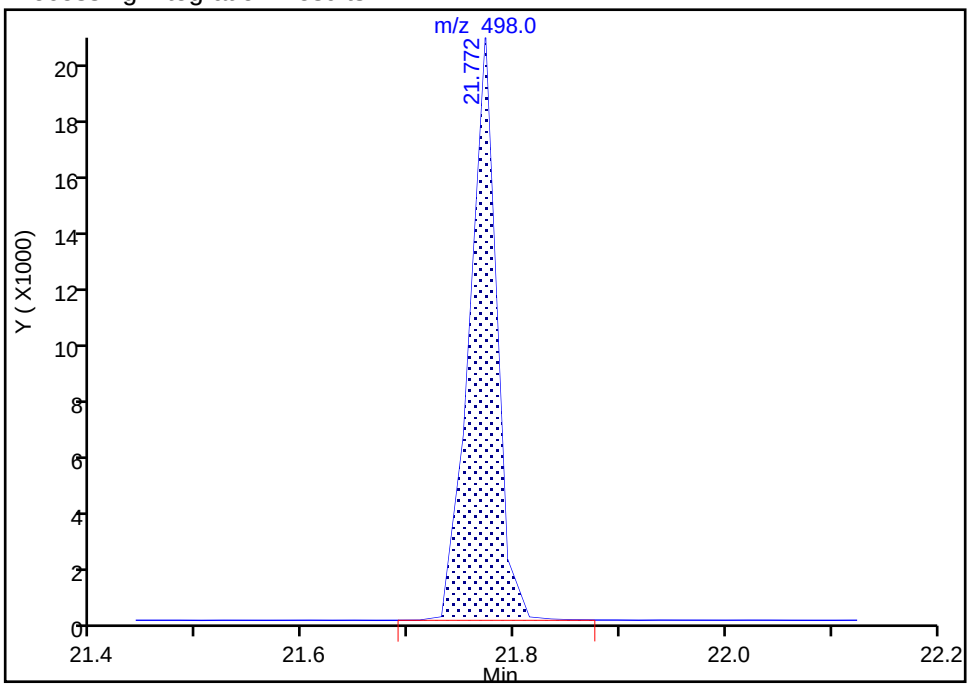
Data File:	\\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2714.D				
Injection Date:	27-Feb-2019 20:09:30	Instrument ID:	CMSX		
Lims ID:	ccv				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

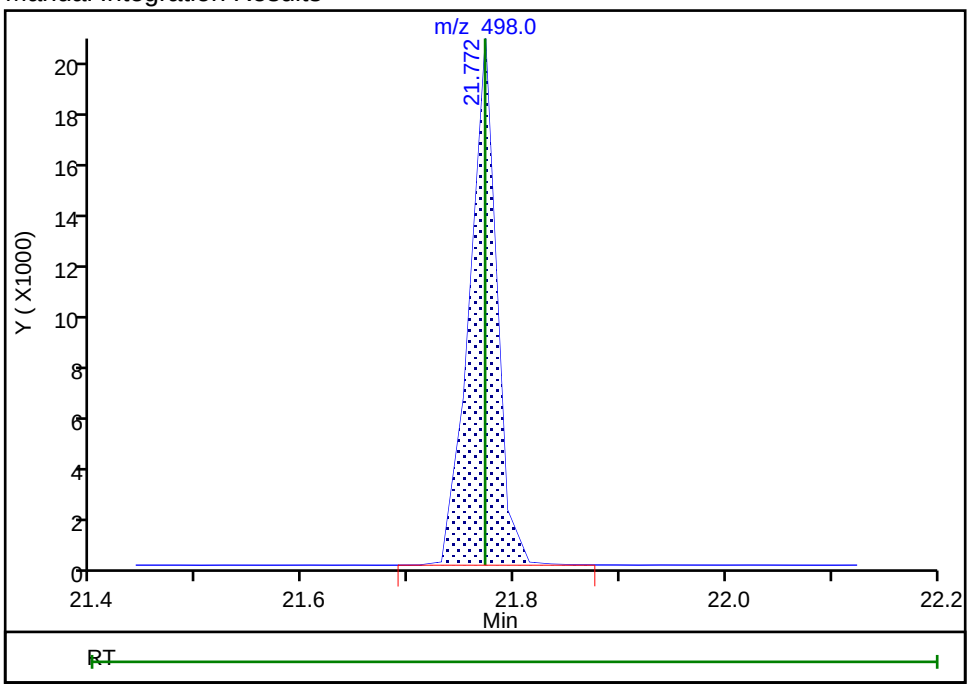
Processing Integration Results

RT: 21.77
Area: 36159
Amount: 4.870527
Amount Units: ug/ml



Manual Integration Results

RT: 21.77
Area: 36159
Amount: 4.870527
Amount Units: ug/ml



Reviewer: davisn, 28-Feb-2019 09:05:31
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

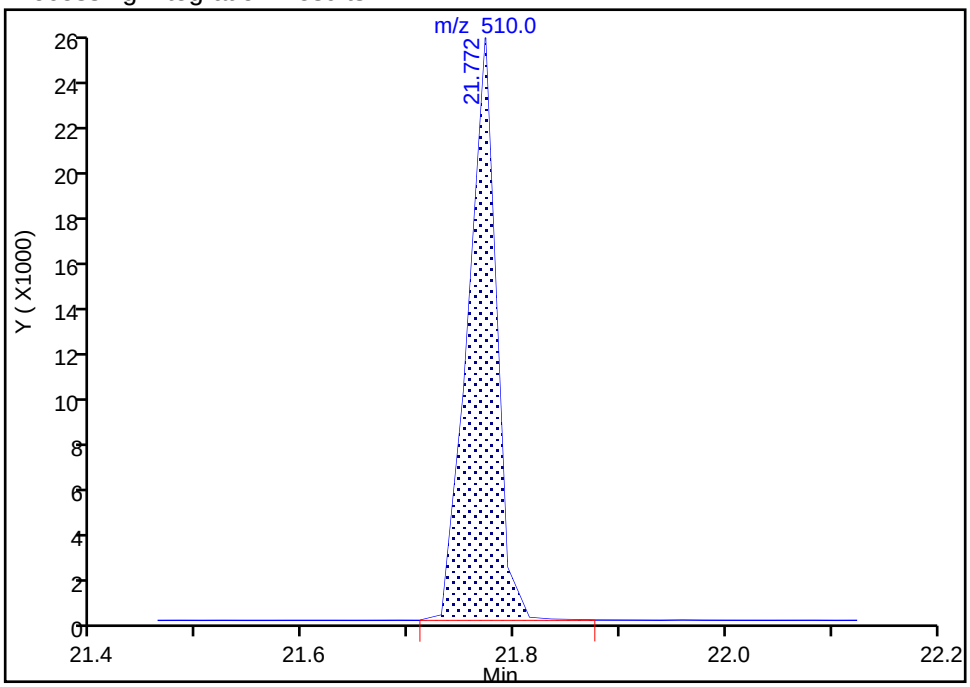
Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2714.D
Injection Date: 27-Feb-2019 20:09:30 Instrument ID: CMSX
Lims ID: ccv
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

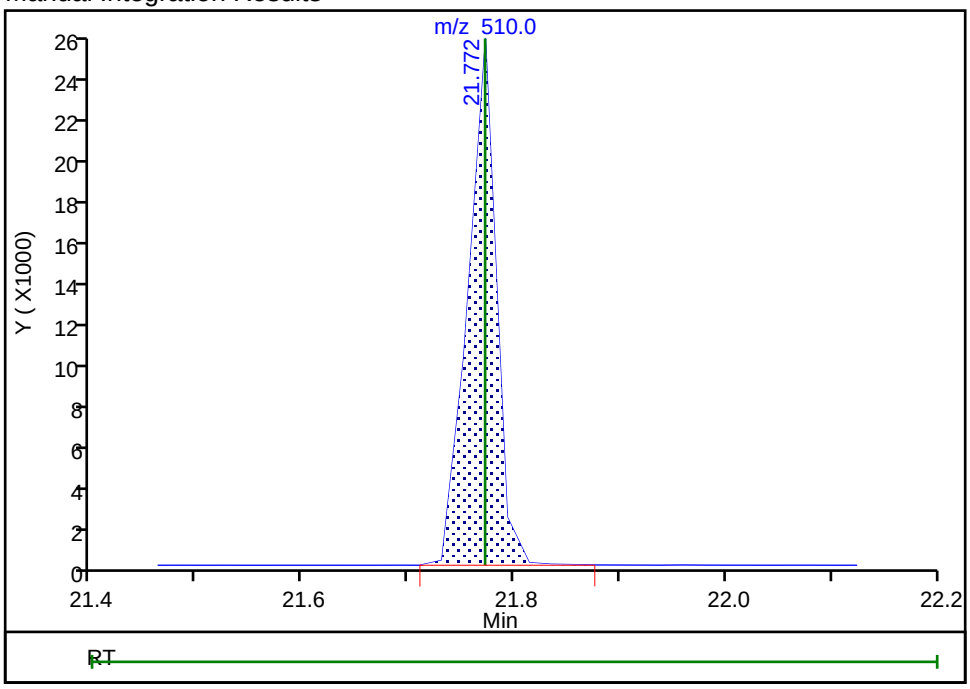
Processing Integration Results

RT: 21.77
Area: 48102
Amount: 4.775768
Amount Units: ug/ml



Manual Integration Results

RT: 21.77
Area: 48102
Amount: 4.775768
Amount Units: ug/ml



Reviewer: davisn, 28-Feb-2019 09:05:30
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0805.D				
Lims ID:	dftpp				
Client ID:					
Sample Type:	DFTPP				
Inject. Date:	08-Jan-2019 14:10:30	ALS Bottle#:	1	Worklist Smp#:	25
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	DFTPP				
Misc. Info.:	680-0053107-001				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\680_CMSX.m				
Limit Group:	680				
Last Update:	09-Jan-2019 11:34:39	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0310				
First Level Reviewer: davisn		Date:	08-Jan-2019 15:34:52		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags

8 DFTPP

Reagents:

SM680dftpp_00038 Amount Added: 1.00 Units: mL

Report Date: 09-Jan-2019 11:34:39 Chrom Revision: 2.3 13-Dec-2018 17:23:12
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0805.D

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
8 DFTPP									
198	13.533	13.533	0.0	0	177564		-1.0- -1.0		

Reagents:

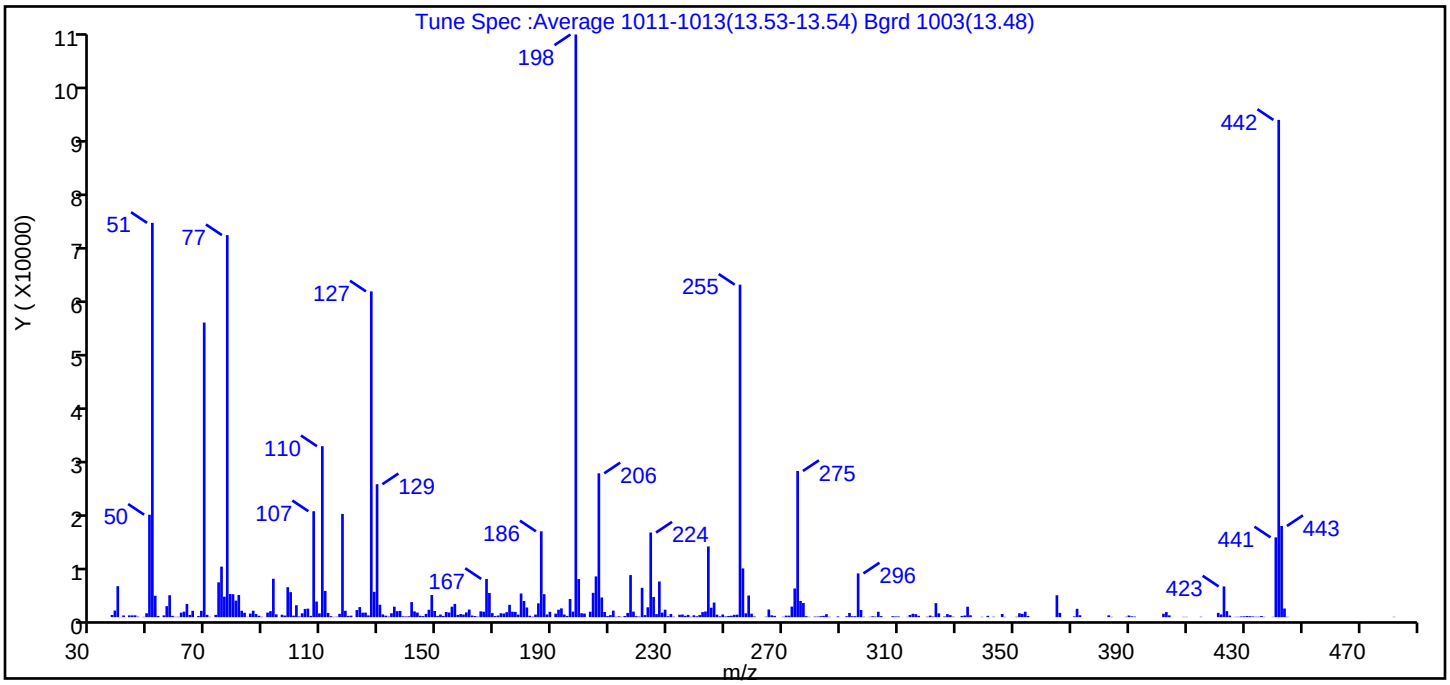
SM680dftpp_00038 Amount Added: 1.00 Units: mL

MS Tune Report

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0805.D
Injection Date: 08-Jan-2019 14:10:30 Instrument ID: CMSX
Lims ID: dftpp
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 25
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Tune Method: DFTPP Method 680

8 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	100% (Base Peak)	100.0
127	40-60% of m/z 198	55.9
197	<1% of m/z 198	1.0
199	5-9% of m/z 198	6.5
275	10-30% of m/z 198	25.1
365	>1% of m/z 198	3.8
441	Present and <m/z 443	13.7 (87.5)
442	>40% of m/z 198	85.3
443	17-23% of m/z 442	15.6 (18.3)

Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0805.D\680_CMSX.rslt\spectra.d
Injection Date: 08-Jan-2019 14:10:30
Spectrum: Tune Spec :Average 1011-1013(13.53-13.54) Bgrd 1003(13.48)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 318

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	374	124.00	786	206.00	25288	297.00	1258
38.00	1154	125.00	797	207.00	3461	298.00	70
39.00	5447	126.00	301	208.00	909	300.00	58
40.00	27	127.00	57272	209.00	190	301.00	151
41.00	293	128.00	4446	210.00	353	302.00	101
43.00	309	129.00	23376	211.00	1148	303.00	952
44.00	306	130.00	2175	212.00	71	304.00	182
45.00	321	131.00	483	213.00	151	308.00	162
46.00	88	132.00	255	214.00	54	309.00	122
48.00	55	133.00	107	215.00	207	310.00	120
49.00	681	134.00	689	216.00	736	313.00	50
50.00	18008	135.00	1834	217.00	7391	314.00	387
51.00	69320	136.00	1047	218.00	974	315.00	594
52.00	3759	137.00	1097	219.00	169	316.00	527
53.00	208	138.00	149	220.00	98	317.00	229
55.00	313	139.00	121	221.00	5155	320.00	73
56.00	1932	140.00	150	222.00	354	321.00	274
57.00	3858	141.00	2646	223.00	1733	322.00	103
58.00	231	142.00	1010	224.00	14877	323.00	2461
59.00	59	143.00	800	225.00	3549	324.00	669
60.00	66	144.00	235	226.00	532	326.00	114
61.00	788	145.00	188	227.00	6270	327.00	537
62.00	970	146.00	573	228.00	798	328.00	352
63.00	2325	147.00	1301	229.00	1310	329.00	80
64.00	400	148.00	3893	230.00	175	332.00	214
65.00	1116	149.00	1080	231.00	558	333.00	280
67.00	197	150.00	229	232.00	78	334.00	1835
68.00	1112	151.00	457	234.00	418	335.00	333
69.00	51792	152.00	218	235.00	454	339.00	55
70.00	414	153.00	906	236.00	234	341.00	232
71.00	63	154.00	814	237.00	398	343.00	74
73.00	399	155.00	1838	238.00	75	346.00	548
74.00	6123	156.00	2323	239.00	328	347.00	52

Report Date: 09-Jan-2019 11:34:39 Chrom Revision: 2.3 13-Dec-2018 17:23:12
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0805.D\680_CMSX.rslt\spectra.d
Injection Date: 08-Jan-2019 14:10:30
Spectrum: Tune Spec :Average 1011-1013(13.53-13.54) Bgrd 1003(13.48)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 318

m/z	Y	m/z	Y	m/z	Y	m/z	Y
75.00	8882	157.00	400	240.00	152	351.00	68
76.00	3597	158.00	543	241.00	367	352.00	685
77.00	67168	159.00	459	242.00	884	353.00	581
78.00	4065	160.00	834	243.00	996	354.00	956
79.00	4034	161.00	1340	244.00	12426	355.00	202
80.00	2911	162.00	278	245.00	1659	365.00	3849
81.00	3885	163.00	194	246.00	2562	366.00	743
82.00	1123	164.00	91	247.00	441	371.00	135
83.00	769	165.00	1021	248.00	156	372.00	1466
84.00	56	166.00	958	249.00	470	373.00	332
85.00	628	167.00	6721	250.00	121	383.00	319
86.00	1135	168.00	4254	251.00	205	384.00	57
87.00	543	169.00	709	252.00	253	389.00	62
88.00	242	170.00	197	253.00	408	390.00	289
89.00	67	171.00	285	254.00	439	391.00	146
91.00	799	172.00	684	255.00	58456	392.00	101
92.00	1057	173.00	634	256.00	8564	402.00	605
93.00	6752	174.00	878	257.00	677	403.00	899
94.00	490	175.00	2170	258.00	3808	404.00	316
95.00	11	176.00	954	259.00	606	409.00	51
96.00	422	177.00	922	260.00	117	410.00	52
97.00	283	178.00	440	264.00	75	415.00	65
98.00	5268	179.00	4159	265.00	1347	421.00	750
99.00	4397	180.00	2843	266.00	324	422.00	481
100.00	262	181.00	1701	267.00	222	423.00	5398
101.00	2096	182.00	244	270.00	66	424.00	1056
102.00	125	183.00	86	271.00	269	425.00	271
103.00	682	184.00	448	272.00	260	427.00	55
104.00	1447	185.00	2427	273.00	1857	428.00	61
105.00	1496	186.00	15088	274.00	5037	429.00	125
106.00	221	187.00	4040	275.00	25696	430.00	143
107.00	18624	188.00	467	276.00	2847	431.00	196
108.00	2744	189.00	941	277.00	2484	432.00	165
109.00	663	191.00	615	278.00	173	433.00	122

Report Date: 09-Jan-2019 11:34:39 Chrom Revision: 2.3 13-Dec-2018 17:23:12
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0805.D\680_CMSX.rslt\spectra.d
Injection Date: 08-Jan-2019 14:10:30
Spectrum: Tune Spec :Average 1011-1013(13.53-13.54) Bgrd 1003(13.48)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 318

m/z	Y	m/z	Y	m/z	Y	m/z	Y
110.00	30056	192.00	1309	279.00	54	434.00	74
111.00	4609	193.00	1548	281.00	95	435.00	75
112.00	744	194.00	457	282.00	102	436.00	188
113.00	178	195.00	210	283.00	170	437.00	50
114.00	50	196.00	3190	284.00	229	440.00	55
115.00	72	197.00	975	285.00	526	441.00	14025
116.00	584	198.00	102440	286.00	70	442.00	87424
117.00	18144	199.00	6694	289.00	131	443.00	16024
118.00	1122	200.00	689	292.00	157	444.00	1523
119.00	220	201.00	627	293.00	734	445.00	64
120.00	266	203.00	955	294.00	166	482.00	55
122.00	1247	204.00	4274	295.00	165		
123.00	1768	205.00	7160	296.00	7690		

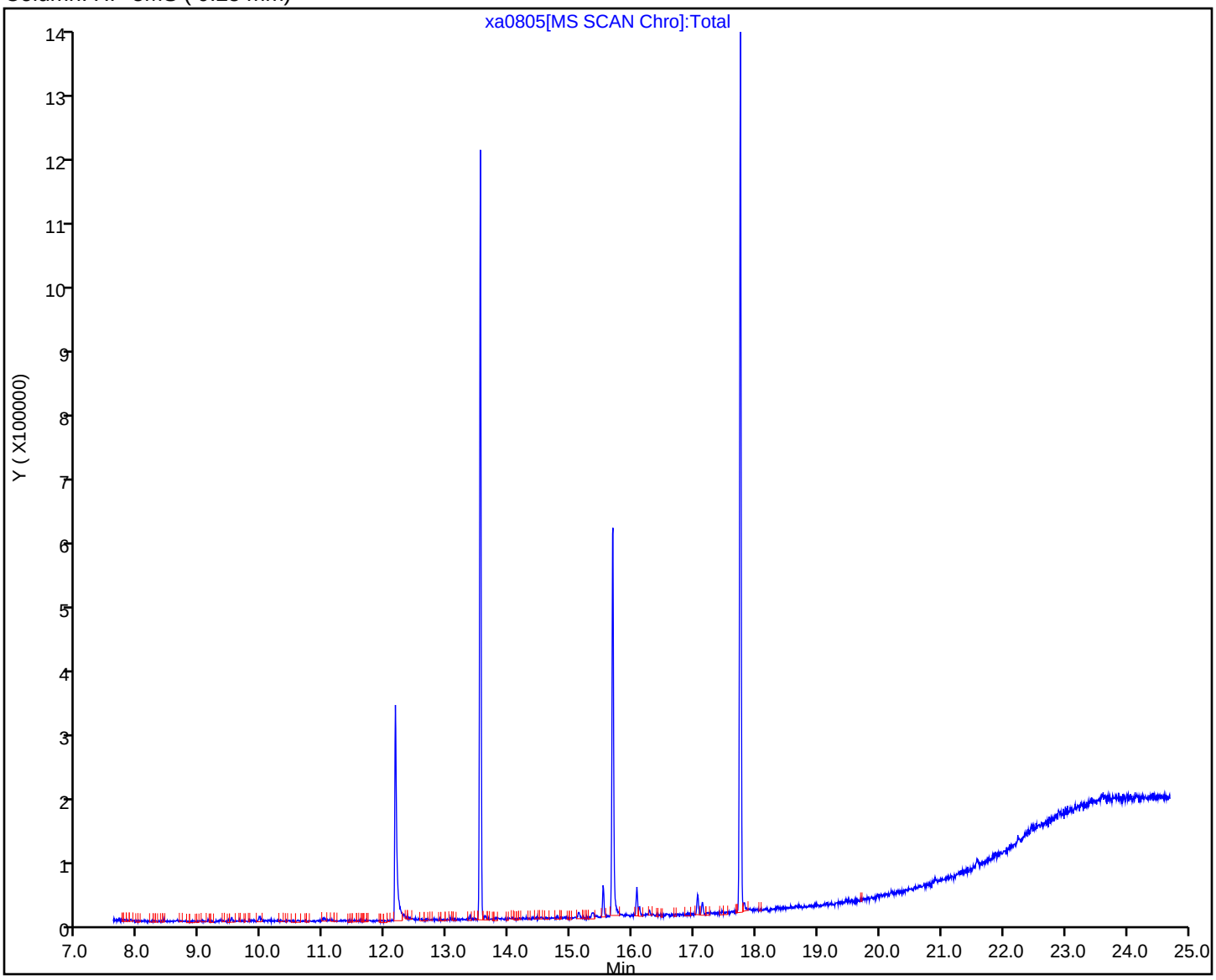
Report Date: 09-Jan-2019 11:34:39 Chrom Revision: 2.3 13-Dec-2018 17:23:12

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0805.D

Injection Date:	08-Jan-2019 14:10:30	Instrument ID:	CMSX		
Lims ID:	dftpp				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	25
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2002.D				
Lims ID:	dftpp				
Client ID:					
Sample Type:	DFTPP				
Inject. Date:	20-Feb-2019 17:15:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	DFTPP				
Misc. Info.:	680-0053931-001				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 08:57:58	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 08:57:58		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags

8 DFTPP

Reagents:

SM680dftpp_00038 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
8 DFTPP									
198	13.528	13.528	0.0	0	190070		-1.0- -1.0		

Reagents:

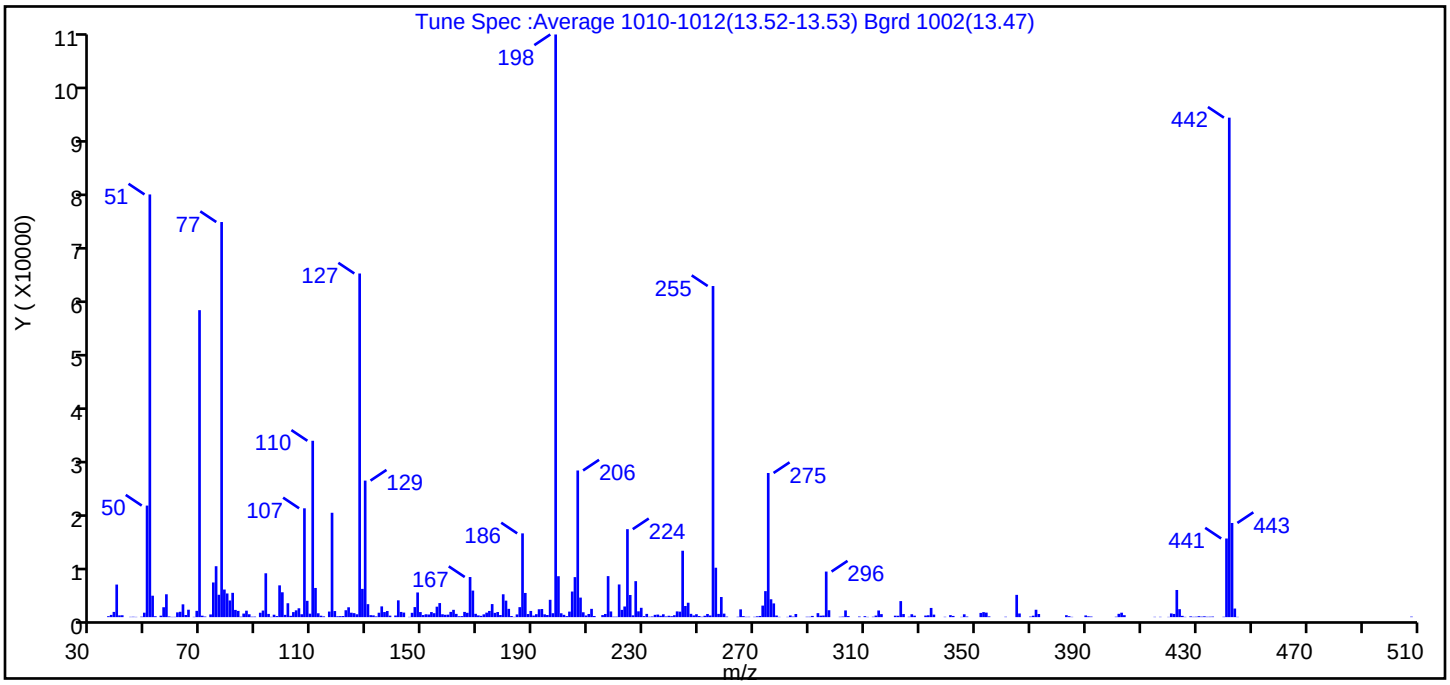
SM680dftpp_00038 Amount Added: 1.00 Units: mL

MS Tune Report

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2002.D
Injection Date: 20-Feb-2019 17:15:30 Instrument ID: CMSX
Lims ID: dftpp
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Tune Method: DFTPP Method 680

8 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	100% (Base Peak)	100.0
127	40-60% of m/z 198	59.0
197	<1% of m/z 198	0.7
199	5-9% of m/z 198	7.0
275	10-30% of m/z 198	24.7
365	>1% of m/z 198	3.8
441	Present and <m/z 443	13.5 (83.5)
442	>40% of m/z 198	85.7
443	17-23% of m/z 442	16.2 (18.9)

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2002.D\680_CMSX.rslt\spectra.d
Injection Date: 20-Feb-2019 17:15:30
Spectrum: Tune Spec :Average 1010-1012(13.52-13.53) Bgrd 1002(13.47)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 314

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	183	123.00	1856	204.00	4820	295.00	307
37.00	419	124.00	835	205.00	7533	296.00	8581
38.00	986	125.00	754	206.00	27608	297.00	1300
39.00	6133	126.00	543	207.00	3680	301.00	70
40.00	335	127.00	64688	208.00	917	302.00	103
41.00	357	128.00	5320	209.00	309	303.00	1264
44.00	59	129.00	25704	210.00	598	304.00	201
45.00	73	130.00	2444	211.00	1561	308.00	117
46.00	51	131.00	373	212.00	211	310.00	184
48.00	93	132.00	332	215.00	386	311.00	51
49.00	837	133.00	136	216.00	598	313.00	79
50.00	21000	134.00	831	217.00	7723	314.00	293
51.00	79568	135.00	2027	218.00	1072	315.00	1253
52.00	4036	136.00	960	219.00	90	316.00	570
53.00	169	137.00	1155	220.00	92	321.00	275
55.00	275	138.00	285	221.00	6153	322.00	260
56.00	1866	140.00	306	222.00	1367	323.00	3020
57.00	4306	141.00	3165	223.00	2005	324.00	581
58.00	125	142.00	979	224.00	16560	326.00	76
59.00	54	143.00	860	225.00	4169	327.00	550
60.00	61	145.00	50	226.00	337	328.00	275
61.00	897	146.00	816	227.00	6774	332.00	300
62.00	1011	147.00	1892	228.00	1094	333.00	352
63.00	2413	148.00	4647	229.00	1759	334.00	1734
64.00	400	149.00	955	230.00	197	335.00	474
65.00	1397	150.00	395	231.00	611	339.00	65
67.00	57	151.00	540	232.00	89	341.00	380
68.00	1187	152.00	499	233.00	128	342.00	229
69.00	57784	153.00	953	234.00	435	345.00	51
70.00	273	154.00	742	235.00	484	346.00	537
71.00	115	155.00	1969	236.00	261	347.00	114
73.00	508	156.00	2648	237.00	536	352.00	794
74.00	6527	157.00	543	238.00	133	353.00	945

Report Date: 22-Feb-2019 08:57:59 Chrom Revision: 2.3 11-Feb-2019 16:31:10
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2002.D\680_CMSX.rslt\spectra.d
Injection Date: 20-Feb-2019 17:15:30
Spectrum: Tune Spec :Average 1010-1012(13.52-13.53) Bgrd 1002(13.47)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 314

m/z	Y	m/z	Y	m/z	Y	m/z	Y
75.00	9588	158.00	447	239.00	261	354.00	850
76.00	4210	159.00	471	240.00	180	355.00	142
77.00	74376	160.00	991	241.00	359	361.00	77
78.00	5195	161.00	1378	242.00	1082	365.00	4193
79.00	4458	162.00	615	243.00	1032	366.00	691
80.00	3140	163.00	172	244.00	12500	370.00	107
81.00	4576	164.00	197	245.00	2097	371.00	273
82.00	1363	165.00	985	246.00	2712	372.00	1392
83.00	1175	166.00	817	247.00	622	373.00	590
84.00	88	167.00	7552	248.00	322	383.00	365
85.00	671	168.00	4998	249.00	549	384.00	177
86.00	1214	169.00	625	250.00	209	385.00	57
87.00	543	170.00	328	251.00	77	390.00	324
88.00	91	171.00	247	252.00	258	391.00	156
89.00	102	172.00	527	253.00	597	392.00	112
91.00	828	173.00	846	254.00	312	401.00	83
92.00	1239	174.00	1167	255.00	62328	402.00	624
93.00	8257	175.00	2460	256.00	9303	403.00	838
94.00	609	176.00	808	257.00	610	404.00	369
95.00	60	177.00	964	258.00	3789	415.00	60
96.00	456	178.00	401	259.00	661	417.00	61
97.00	201	179.00	4305	260.00	103	420.00	51
98.00	5985	180.00	3107	264.00	74	421.00	695
99.00	4681	181.00	1564	265.00	1469	422.00	605
100.00	431	182.00	212	266.00	188	423.00	5112
101.00	2619	183.00	57	267.00	63	424.00	1495
102.00	251	184.00	515	268.00	69	425.00	245
103.00	951	185.00	1881	270.00	66	426.00	56
104.00	1281	186.00	15770	271.00	153	428.00	146
105.00	1668	187.00	4553	272.00	223	429.00	68
106.00	546	188.00	585	273.00	2172	430.00	85
107.00	20488	189.00	1168	274.00	4897	431.00	181
108.00	3072	190.00	297	275.00	27136	432.00	100
109.00	650	191.00	557	276.00	3364	433.00	161

Report Date: 22-Feb-2019 08:57:59 Chrom Revision: 2.3 11-Feb-2019 16:31:10
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2002.D\680_CMSX.rslt\spectra.d
Injection Date: 20-Feb-2019 17:15:30
Spectrum: Tune Spec :Average 1010-1012(13.52-13.53) Bgrd 1002(13.47)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 314

m/z	Y	m/z	Y	m/z	Y	m/z	Y
110.00	33200	192.00	1483	277.00	2586	434.00	75
111.00	5494	193.00	1528	278.00	307	435.00	88
112.00	728	194.00	530	279.00	53	436.00	111
113.00	269	195.00	398	282.00	52	440.00	76
114.00	143	196.00	3265	283.00	319	441.00	14803
116.00	1053	197.00	740	284.00	104	442.00	94024
117.00	19648	198.00	109680	285.00	591	443.00	17728
118.00	1146	199.00	7704	289.00	75	444.00	1618
119.00	170	200.00	732	290.00	78	445.00	52
120.00	192	201.00	438	291.00	232	508.00	95
121.00	212	202.00	190	293.00	755		
122.00	1301	203.00	1043	294.00	279		

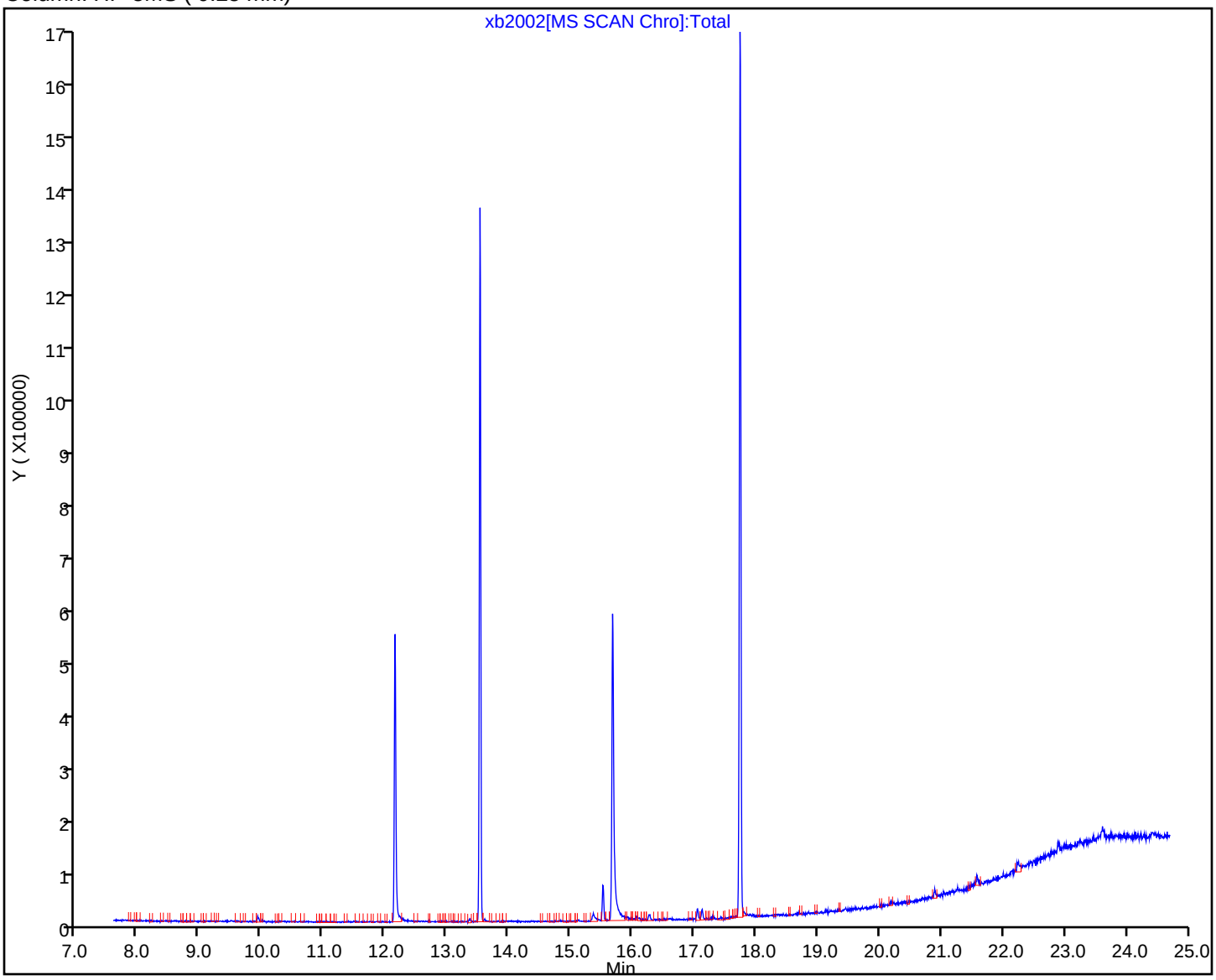
Report Date: 22-Feb-2019 08:57:59 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2002.D

Injection Date:	20-Feb-2019 17:15:30	Instrument ID:	CMSX		
Lims ID:	dftpp				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2003.D				
Lims ID:	wdm				
Client ID:					
Sample Type:	WDM				
Inject. Date:	20-Feb-2019 17:46:30	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	WDM				
Misc. Info.:	680-0053931-002				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 08:58:04	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 08:58:04		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
1 PCB-1	188	9.325	9.325	0.0	1	141854	NC	
2 PCB-3	188	10.200	10.200	0.0	1	145153	NC	
3 PCB-10	222	10.663	10.663	0.0	1	97756	NC	
4 PCB-19	256	11.980	11.980	0.0	1	42085	NC	
6 PCB-15	222	12.475	12.475	0.0	1	100919	NC	
7 PCB-54	292	13.107	13.107	0.0	1	56246	NC	
9 PCB-104	326	14.393	14.393	0.0	4	53799	0	
10 PCB-37	256	14.540	14.540	0.0	1	64015	NC	
11 PCB-155	360	15.562	15.562	0.0	1	46306	NC	
12 PCB-77	292	16.437	16.437	0.0	5	54685	0	
13 PCB-188	394	17.206	17.206	0.0	1	3760	NC	a
14 PCB-126	326	17.985	17.985	0.0	0	46593	NC	
16 PCB-202	430	18.712	18.712	0.0	0	21108	NC	
17 PCB-169	360	19.397	19.397	0.0	0	33295	NC	
19 PCB-208	464	20.293	20.293	0.0	15	9951	0	
18 PCB-189	394	20.293	20.293	0.0	0	10330	NC	
20 PCB-205	430	20.735	20.735	0.0	0	18582	NC	
21 PCB-206	464	21.283	21.283	0.0	0	6793	NC	
32 DCB Decachlorobiphenyl	498	21.799	21.799	0.0	1	5123	0	a

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

a - User Assigned ID

Reagents:

SM680WDM_00031 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
13 PCB-188									a
394	17.206	17.206	0.0	1	3760	NC			a
396	17.206	17.206	0.0		0		1.0- 1.0		
32 DCB Decachlorobiphenyl									a
498	21.799	21.799	0.0	1	5123	0			a
500	21.799	21.799	0.0		0		0.9- 1.3		
430	21.799	21.799	0.0		3908		0.0- 0.0	1.0	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
a - User Assigned ID

Reagents:

SM680WDM_00031 Amount Added: 1.00 Units: mL

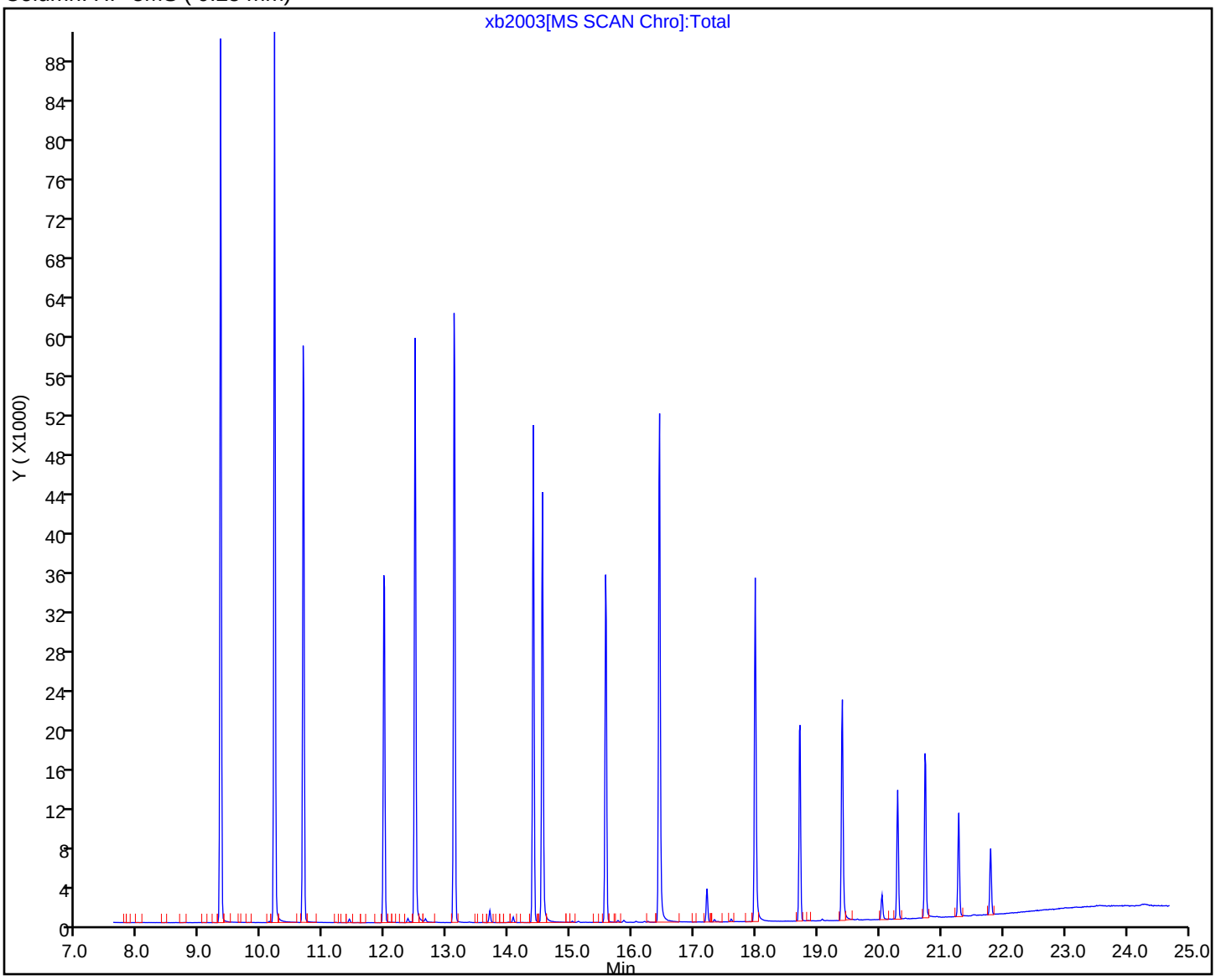
Report Date: 22-Feb-2019 08:58:04 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2003.D

Injection Date:	20-Feb-2019 17:46:30	Instrument ID:	CMSX		
Lims ID:	wdm				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2028.D				
Lims ID:	dftpp				
Client ID:					
Sample Type:	DFTPP				
Inject. Date:	21-Feb-2019 05:43:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	DFTPP				
Misc. Info.:	680-0053932-001				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53932.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:24:48	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:24:48		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags

8 DFTPP

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

SM680dftpp_00038 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
8 DFTPP									a
198	13.528	13.528	0.0	0	170418		-1.0- -1.0		

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

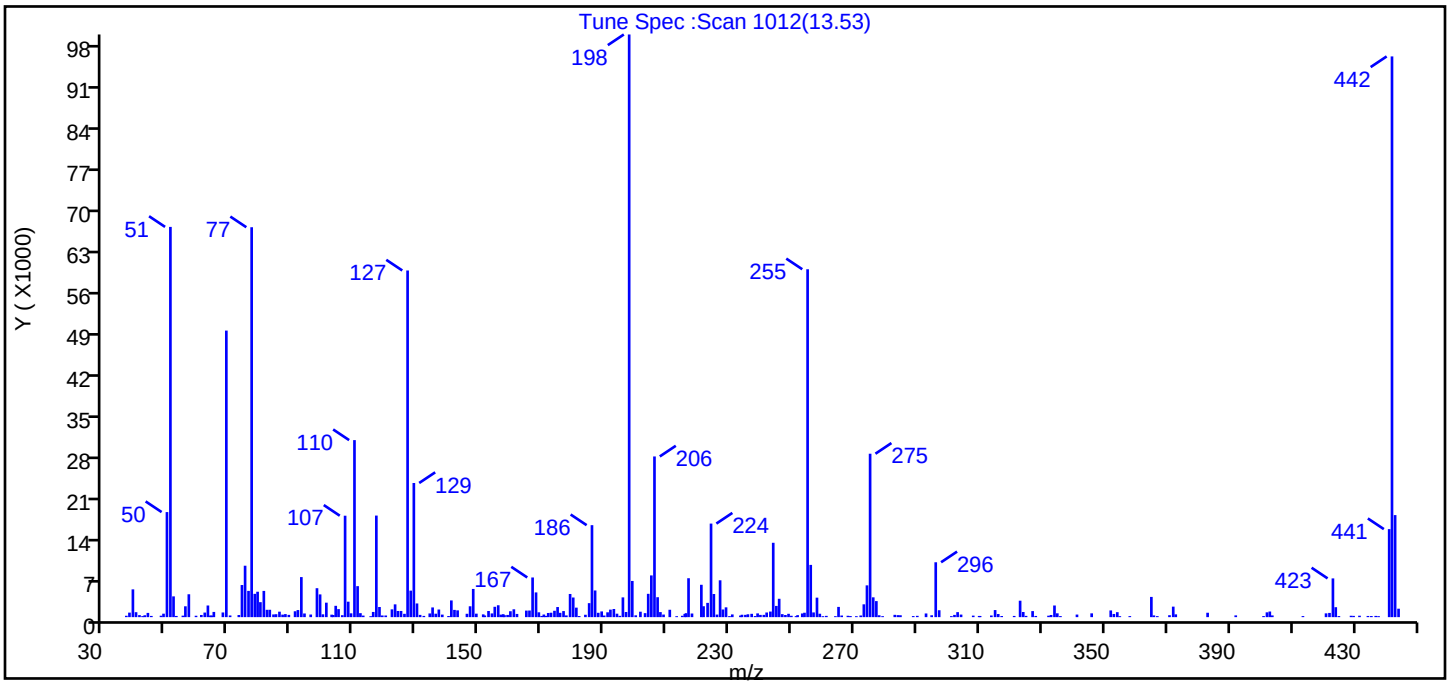
SM680dftpp_00038 Amount Added: 1.00 Units: mL

MS Tune Report

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2028.D
Injection Date: 21-Feb-2019 05:43:30 Instrument ID: CMSX
Lims ID: dftpp
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Tune Method: DFTPP Method 680

8 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	100% (Base Peak)	100.0
127	40-60% of m/z 198	59.5
197	<1% of m/z 198	0.9
199	5-9% of m/z 198	6.2
275	10-30% of m/z 198	28.0
365	>1% of m/z 198	3.5
441	Present and <m/z 443	15.1 (86.3)
442	>40% of m/z 198	96.2
443	17-23% of m/z 442	17.5 (18.2)

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2028.D\680_CMSX.rslt\spectra.d
Injection Date: 21-Feb-2019 05:43:30
Spectrum: Tune Spec :Scan 1012(13.53)
Base Peak: 197.90
Minimum % Base Peak: 0
Number of Points: 281

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	235	120.00	279	197.90	99032	279.00	168
38.00	767	122.00	1325	198.90	6150	282.90	392
39.10	4723	123.00	2175	200.00	311	283.90	341
40.10	842	123.90	1048	201.50	924	284.70	322
41.20	347	124.90	1054	203.00	679	288.80	181
42.20	176	126.00	564	204.00	3963	290.10	223
42.90	320	127.00	58920	205.00	7091	292.90	626
43.90	721	128.00	4506	206.00	27312	294.70	318
45.00	209	129.00	22800	207.00	3387	296.00	9327
48.10	244	130.00	2326	207.90	858	297.10	1175
48.90	589	131.00	384	208.90	440	301.00	170
50.00	17856	132.20	210	210.90	1255	302.00	381
51.10	66328	134.10	627	213.10	162	303.00	849
52.10	3530	135.00	1650	214.90	232	304.10	435
53.00	206	136.00	584	215.70	553	308.00	259
55.10	253	137.00	1297	216.10	672	309.90	205
55.90	1844	138.10	432	216.90	6615	310.20	200
57.00	3889	140.10	191	218.00	619	313.80	281
59.30	238	141.00	2841	221.00	5501	315.00	1203
61.00	367	142.00	1233	221.70	1852	316.00	531
62.10	777	143.00	1153	223.00	2424	317.10	189
63.10	1980	146.00	572	224.10	15903	321.10	206
63.90	271	147.00	1847	225.00	3931	323.00	2795
64.30	268	148.00	4794	226.00	438	324.00	875
65.00	887	149.00	592	227.00	6263	324.90	216
67.90	795	151.20	471	227.90	1299	327.00	1028
69.00	48704	151.70	284	228.90	1667	328.00	204
70.20	285	152.90	1043	230.00	177	332.10	247
73.00	359	154.00	633	230.90	462	332.90	366
74.00	5456	154.90	1760	233.50	271	334.00	1980
75.00	8741	156.00	2020	234.00	408	334.90	652
76.10	4463	156.80	428	235.10	392	335.90	179
77.10	66272	157.60	503	235.90	486	341.20	439

Report Date: 22-Feb-2019 09:24:48 Chrom Revision: 2.3 11-Feb-2019 16:31:10
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2028.D\680_CMSX.rslt\spectra.d
Injection Date: 21-Feb-2019 05:43:30
Spectrum: Tune Spec :Scan 1012(13.53)
Base Peak: 197.90
Minimum % Base Peak: 0
Number of Points: 281

m/z	Y	m/z	Y	m/z	Y	m/z	Y
78.10	3960	158.00	337	237.10	566	345.90	647
79.00	4320	159.00	378	238.20	186	352.00	1139
79.90	2546	159.90	1004	239.00	638	353.00	539
81.00	4459	161.00	1334	239.90	381	354.10	843
82.00	1248	162.00	545	241.00	386	354.90	165
82.90	1252	165.00	1113	241.90	789	358.10	178
84.10	460	166.00	1125	243.10	950	365.00	3438
84.90	498	167.00	6742	244.00	12639	365.80	294
86.00	930	168.10	4205	245.00	1907	366.90	173
87.00	429	169.00	820	245.90	3121	370.80	330
87.90	518	169.90	205	246.90	508	372.00	1786
89.00	386	170.60	446	247.90	365	372.80	475
91.00	999	171.20	217	248.90	567	383.00	747
91.90	1205	172.00	708	249.80	235	392.00	299
93.00	6808	172.90	750	251.30	175	400.90	180
94.00	623	174.00	1082	251.80	339	402.00	818
96.00	446	175.00	1717	253.30	624	402.90	958
98.00	4920	175.80	735	254.00	749	403.70	290
99.00	3867	176.90	1031	255.00	59128	413.50	183
99.90	482	177.80	294	256.00	8881	420.90	644
101.00	2460	179.00	3937	256.90	802	422.00	716
102.70	420	180.00	3338	258.00	3313	423.10	6585
103.20	368	181.00	1616	258.90	578	424.00	1691
104.00	1925	181.90	189	259.90	161	425.00	183
104.90	1361	183.90	406	261.00	218	428.90	237
106.10	329	185.10	2378	263.90	163	429.70	215
107.00	17240	186.00	15632	264.90	1741	431.60	245
108.00	2628	187.00	4534	265.90	275	434.30	202
108.90	650	188.00	738	267.90	235	435.40	191
110.00	30088	189.10	973	268.70	185	436.80	211
111.00	5268	189.90	272	270.60	163	437.70	167
111.90	678	191.00	822	272.00	277	441.10	14960
112.80	265	191.90	1277	273.00	2181	442.00	95304
115.20	160	193.00	1385	274.00	5402	443.00	17344

Report Date: 22-Feb-2019 09:24:48 Chrom Revision: 2.3 11-Feb-2019 16:31:10
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2028.D\680_CMSX.rslt\spectra.d
Injection Date: 21-Feb-2019 05:43:30
Spectrum: Tune Spec :Scan 1012(13.53)
Base Peak: 197.90
Minimum % Base Peak: 0
Number of Points: 281

m/z	Y	m/z	Y	m/z	Y	m/z	Y
116.00	883	194.00	587	275.00	27776	444.10	1436
117.00	17264	194.90	223	276.00	3368		
118.00	1724	195.90	3358	277.00	2726		
118.90	283	196.90	872	277.90	322		

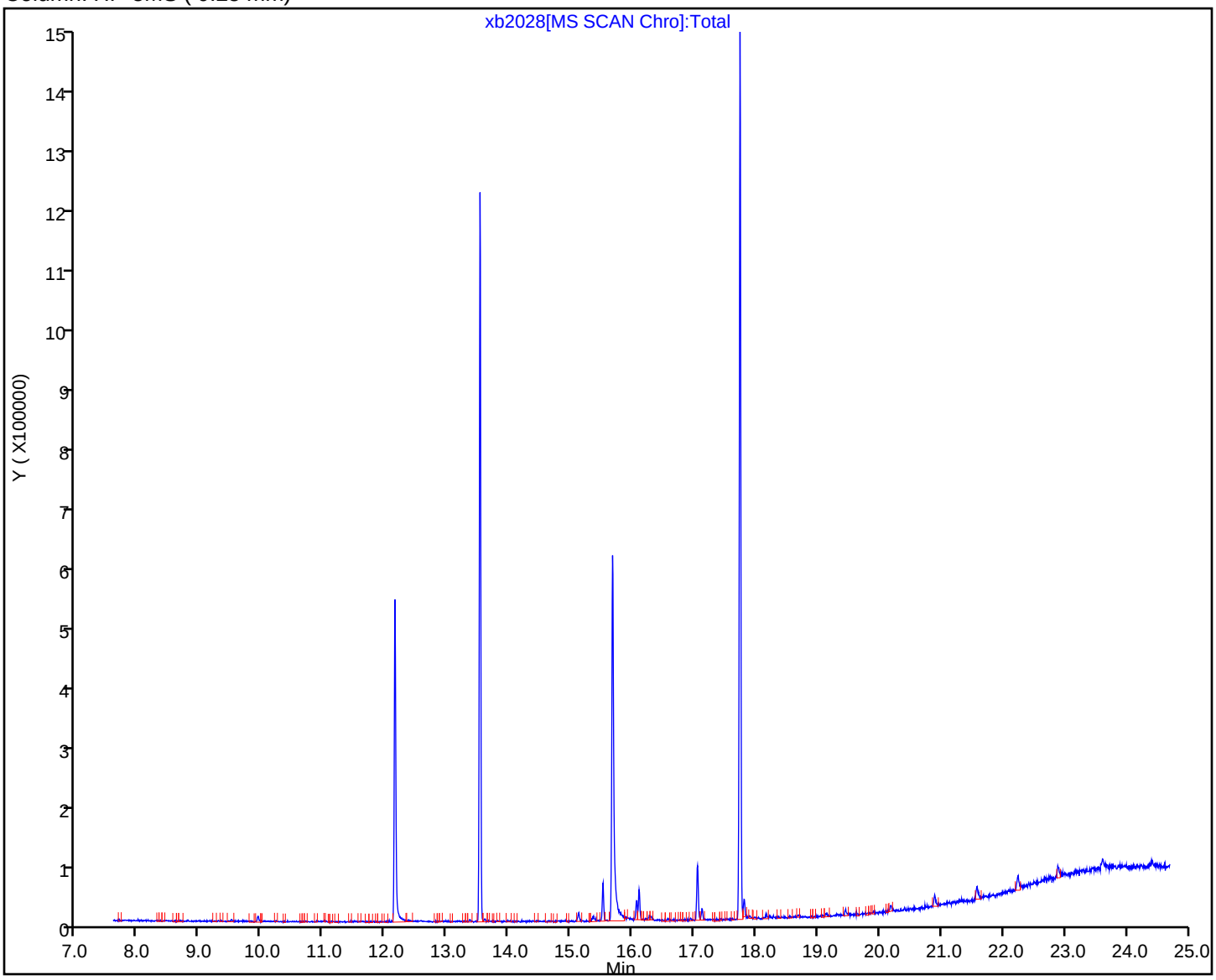
Report Date: 22-Feb-2019 09:24:48 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2028.D

Injection Date:	21-Feb-2019 05:43:30	Instrument ID:	CMSX		
Lims ID:	dftpp				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2029.D
Lims ID: wdm
Client ID:
Sample Type: WDM
Inject. Date: 21-Feb-2019 06:14:30 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM
Misc. Info.: 680-0053932-002
Operator ID: Instrument ID: CMSX

Method: \\chromna\Savannah\ChromData\CMSX\20190220-53932.b\680_CMSX.m
Limit Group: 680
Last Update: 22-Feb-2019 09:24:57 Calib Date: 08-Jan-2019 18:02:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0319

First Level Reviewer: davisn Date: 22-Feb-2019 09:24:57

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
1 PCB-1	188	9.325	9.325	0.0	1	142930	NC	
2 PCB-3	188	10.200	10.200	0.0	1	145008	NC	
3 PCB-10	222	10.663	10.663	0.0	1	97664	NC	
4 PCB-19	256	11.970	11.970	0.0	1	42449	NC	
6 PCB-15	222	12.475	12.475	0.0	1	100684	NC	
7 PCB-54	292	13.107	13.107	0.0	1	56037	NC	
9 PCB-104	326	14.393	14.393	0.0	4	53857	0	
10 PCB-37	256	14.540	14.540	0.0	1	63908	NC	
11 PCB-155	360	15.562	15.562	0.0	1	45979	NC	
12 PCB-77	292	16.437	16.437	0.0	5	53715	0	
13 PCB-188	394	17.206	17.206	0.0	1	3666	NC	a
14 PCB-126	326	17.985	17.985	0.0	0	44268	NC	
16 PCB-202	430	18.702	18.702	0.0	0	20920	NC	
17 PCB-169	360	19.397	19.397	0.0	0	31678	NC	
19 PCB-208	464	20.293	20.293	0.0	15	9547	0	
18 PCB-189	394	20.293	20.293	0.0	0	9916	NC	
20 PCB-205	430	20.735	20.735	0.0	0	17090	NC	
21 PCB-206	464	21.283	21.283	0.0	0	6351	NC	
32 DCB Decachlorobiphenyl	498	21.799	21.799	0.0	1	4719	0	a

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
a - User Assigned ID

Reagents:

SM680WDM_00031 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
13 PCB-188									a
394	17.206	17.206	0.0	1	3666	NC			a
396	17.206	17.206	0.0		0		1.0- 1.0		
32 DCB Decachlorobiphenyl									a
498	21.799	21.799	0.0	1	4719	0			a
500	21.796	21.799	-0.003		0		0.9- 1.3		
430	21.799	21.799	0.0		3631		0.0- 0.0	1.0	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
a - User Assigned ID

Reagents:

SM680WDM_00031 Amount Added: 1.00 Units: mL

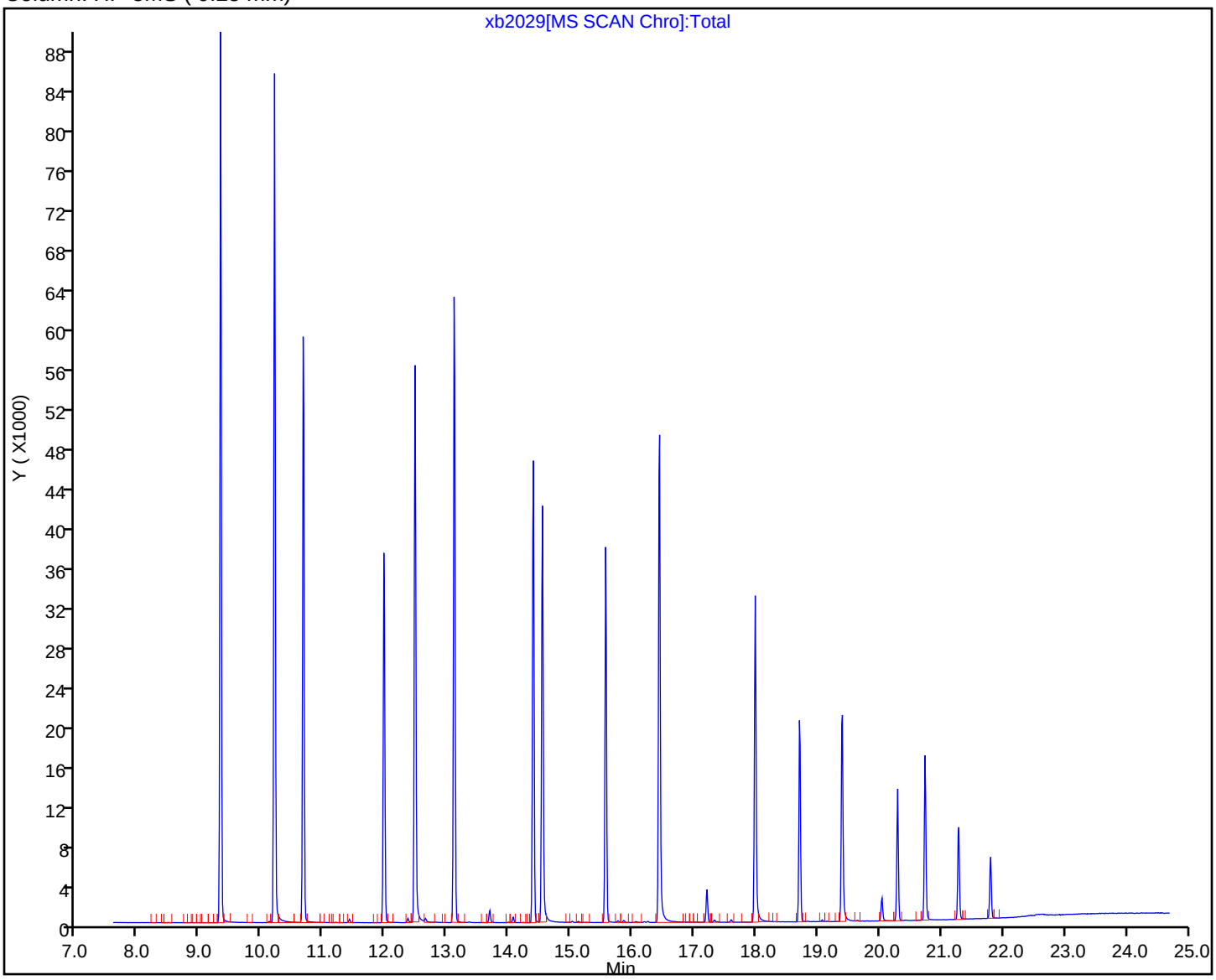
Report Date: 22-Feb-2019 09:24:57 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2029.D

Injection Date:	21-Feb-2019 06:14:30	Instrument ID:	CMSX		
Lims ID:	wdm				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2502.D				
Lims ID:	dftpp				
Client ID:					
Sample Type:	DFTPP				
Inject. Date:	25-Feb-2019 11:57:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	DFTPP				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190225-54006.b\680_CMSX.m				
Limit Group:	680				
Last Update:	26-Feb-2019 09:41:33	Calib Date:	25-Feb-2019 15:59:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0318				
First Level Reviewer: davisn		Date:	25-Feb-2019 13:03:50		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags

8 DFTPP

Reagents:

SM680dftpp_00038 Amount Added: 1.00 Units: mL

Report Date: 26-Feb-2019 09:41:33 Chrom Revision: 2.3 11-Feb-2019 16:31:10
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2502.D

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
8 DFTPP									
198	13.510	13.510	0.0	0	481020		-1.0- -1.0		

Reagents:

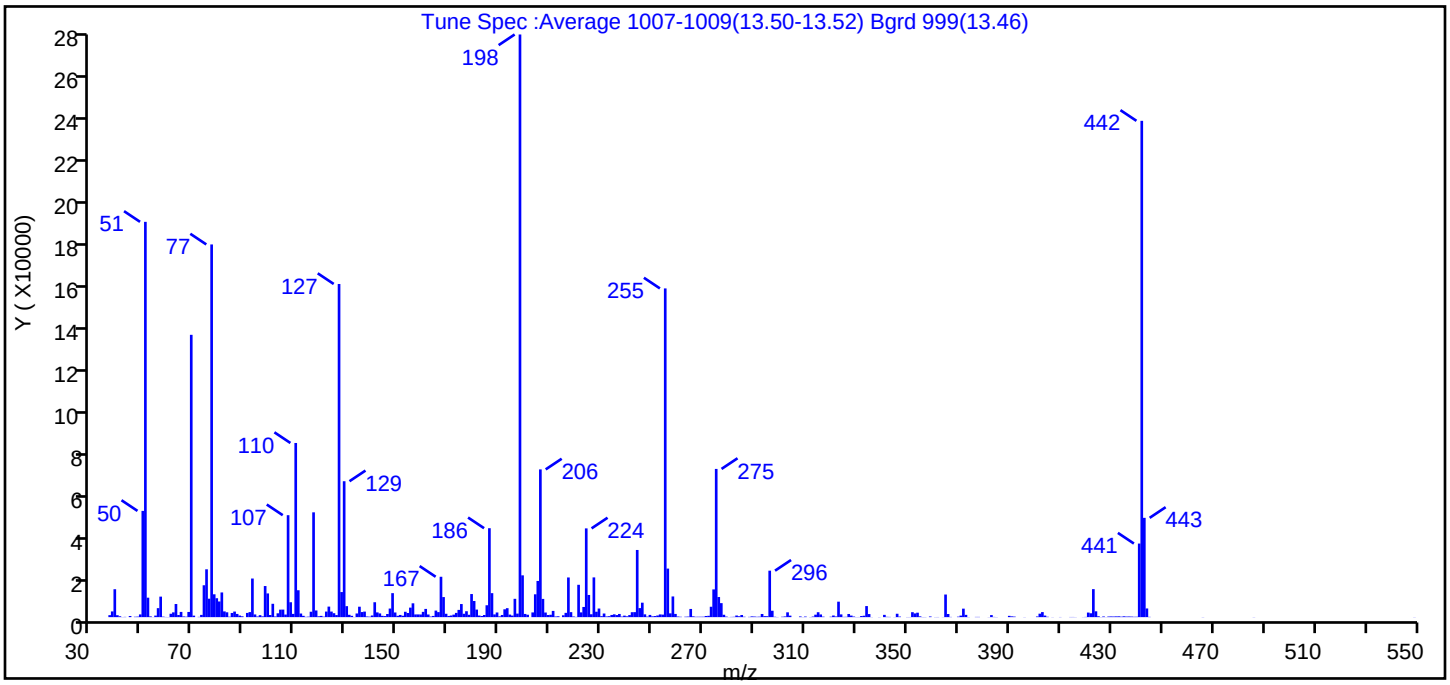
SM680dftpp_00038 Amount Added: 1.00 Units: mL

MS Tune Report

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2502.D
Injection Date: 25-Feb-2019 11:57:30 Instrument ID: CMSX
Lims ID: dftpp
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Tune Method: DFTPP Method 680

8 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	100% (Base Peak)	100.0
127	40-60% of m/z 198	57.2
197	<1% of m/z 198	0.6
199	5-9% of m/z 198	7.2
275	10-30% of m/z 198	25.4
365	>1% of m/z 198	3.9
441	Present and <m/z 443	12.6 (74.1)
442	>40% of m/z 198	85.2
443	17-23% of m/z 442	17.0 (20.0)

Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2502.D\680_CMSX.rslt\spectra.d
Injection Date: 25-Feb-2019 11:57:30
Spectrum: Tune Spec :Average 1007-1009(13.50-13.52) Bgrd 999(13.46)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 362

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	940	132.00	624	225.00	10555	325.00	129
38.00	2725	133.00	60	226.00	1371	326.00	158
39.00	13284	134.00	1748	227.00	18912	327.00	1503
40.00	918	135.00	4969	228.00	2571	328.00	742
41.00	415	136.00	2416	229.00	4099	329.00	282
42.00	58	137.00	2641	230.00	465	330.00	67
43.00	124	138.00	310	231.00	1726	331.00	82
45.00	536	139.00	221	232.00	321	332.00	534
47.00	185	140.00	784	233.00	454	333.00	673
48.00	249	141.00	7094	234.00	1041	334.00	5271
49.00	1298	142.00	2257	235.00	1343	335.00	1465
50.00	50552	143.00	1774	236.00	994	336.00	56
51.00	188096	144.00	625	237.00	1517	339.00	64
52.00	9260	145.00	513	238.00	272	341.00	1083
53.00	361	146.00	1496	239.00	720	342.00	153
54.00	50	147.00	4087	240.00	394	343.00	115
55.00	733	148.00	11418	241.00	978	345.00	55
56.00	4280	149.00	2221	242.00	2347	346.00	1617
57.00	9764	150.00	645	243.00	2379	347.00	266
58.00	239	151.00	1044	244.00	31960	350.00	72
59.00	85	152.00	668	245.00	4302	351.00	75
60.00	70	153.00	2556	246.00	6881	352.00	2355
61.00	1610	154.00	1982	247.00	1337	353.00	1774
62.00	2271	155.00	4529	248.00	269	354.00	2117
63.00	6246	156.00	6583	249.00	1060	355.00	373
64.00	1016	157.00	1286	250.00	383	356.00	72
65.00	2489	158.00	1292	251.00	521	357.00	71
66.00	332	159.00	1254	252.00	786	359.00	318
67.00	214	160.00	2513	253.00	1292	361.00	61
68.00	2468	161.00	3917	254.00	1200	362.00	79
69.00	134336	162.00	1257	255.00	156416	364.00	52
70.00	712	163.00	286	256.00	23104	365.00	10765
72.00	125	164.00	579	257.00	1799	366.00	1488

Report Date: 26-Feb-2019 09:41:33 Chrom Revision: 2.3 11-Feb-2019 16:31:10
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2502.D\680_CMSX.rslt\spectra.d
Injection Date: 25-Feb-2019 11:57:30
Spectrum: Tune Spec :Average 1007-1009(13.50-13.52) Bgrd 999(13.46)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 362

m/z	Y	m/z	Y	m/z	Y	m/z	Y
73.00	1067	165.00	3116	258.00	9845	367.00	108
74.00	15173	166.00	2389	259.00	1531	370.00	226
75.00	22768	167.00	19216	260.00	296	371.00	727
76.00	8779	168.00	9547	261.00	179	372.00	4043
77.00	177344	169.00	1606	263.00	205	373.00	1081
78.00	10874	170.00	571	264.00	261	374.00	67
79.00	8997	171.00	780	265.00	3902	377.00	114
80.00	7455	172.00	1185	266.00	377	378.00	116
81.00	11752	173.00	2020	267.00	177	382.00	58
82.00	2730	174.00	3451	268.00	190	383.00	973
83.00	2302	175.00	6234	269.00	199	384.00	110
84.00	217	176.00	1609	270.00	207	385.00	68
85.00	1983	177.00	2817	271.00	548	390.00	616
86.00	2657	178.00	1123	272.00	635	391.00	376
87.00	1529	179.00	10995	273.00	4942	392.00	260
88.00	744	180.00	7681	274.00	13195	396.00	59
89.00	404	181.00	3598	275.00	70528	401.00	316
91.00	2006	182.00	774	276.00	9572	402.00	1650
92.00	2402	183.00	555	277.00	6664	403.00	2403
93.00	18376	184.00	1020	278.00	1135	404.00	749
94.00	1284	185.00	5655	279.00	260	405.00	184
95.00	314	186.00	42320	280.00	50	407.00	54
96.00	940	187.00	11415	281.00	118	410.00	78
97.00	368	188.00	1304	282.00	171	414.00	85
98.00	14801	189.00	2217	283.00	774	415.00	89
99.00	11284	190.00	381	284.00	430	416.00	58
100.00	1007	191.00	1031	285.00	1013	419.00	50
101.00	6355	192.00	3733	286.00	196	420.00	109
102.00	310	193.00	4268	288.00	132	421.00	2175
103.00	1826	194.00	1214	289.00	355	422.00	1844
104.00	3565	195.00	752	290.00	287	423.00	13327
105.00	3592	196.00	8720	291.00	177	424.00	2778
106.00	1227	197.00	1682	292.00	225	425.00	417
107.00	48512	198.00	277248	293.00	1505	426.00	68

Report Date: 26-Feb-2019 09:41:33 Chrom Revision: 2.3 11-Feb-2019 16:31:10
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2502.D\680_CMSX.rslt\spectra.d
Injection Date: 25-Feb-2019 11:57:30
Spectrum: Tune Spec :Average 1007-1009(13.50-13.52) Bgrd 999(13.46)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 362

m/z	Y	m/z	Y	m/z	Y	m/z	Y
108.00	7088	199.00	19888	294.00	475	427.00	316
109.00	1554	200.00	1524	295.00	442	428.00	51
110.00	82872	201.00	1140	296.00	22112	429.00	289
111.00	12802	203.00	2245	297.00	3042	430.00	336
112.00	1722	204.00	10867	298.00	183	431.00	302
113.00	625	205.00	17224	299.00	76	432.00	354
114.00	145	206.00	70304	301.00	201	433.00	388
115.00	229	207.00	8678	302.00	334	434.00	220
116.00	2579	208.00	2198	303.00	2291	435.00	398
117.00	49872	209.00	1016	304.00	711	436.00	272
118.00	3184	210.00	1135	308.00	329	437.00	312
119.00	401	211.00	2968	309.00	58	438.00	262
120.00	604	212.00	297	310.00	281	439.00	179
121.00	227	213.00	413	312.00	72	440.00	195
122.00	2652	215.00	883	313.00	275	441.00	35016
123.00	5018	216.00	2040	314.00	1169	442.00	236160
124.00	2654	217.00	18880	315.00	2335	443.00	47248
125.00	1872	218.00	2381	316.00	1277	444.00	4128
126.00	989	219.00	307	317.00	234	445.00	130
127.00	158528	220.00	118	320.00	205	466.00	63
128.00	11934	221.00	15397	321.00	779	486.00	58
129.00	64672	222.00	2265	322.00	326	549.00	56
130.00	5228	223.00	4846	323.00	7362		
131.00	1118	224.00	42232	324.00	1308		

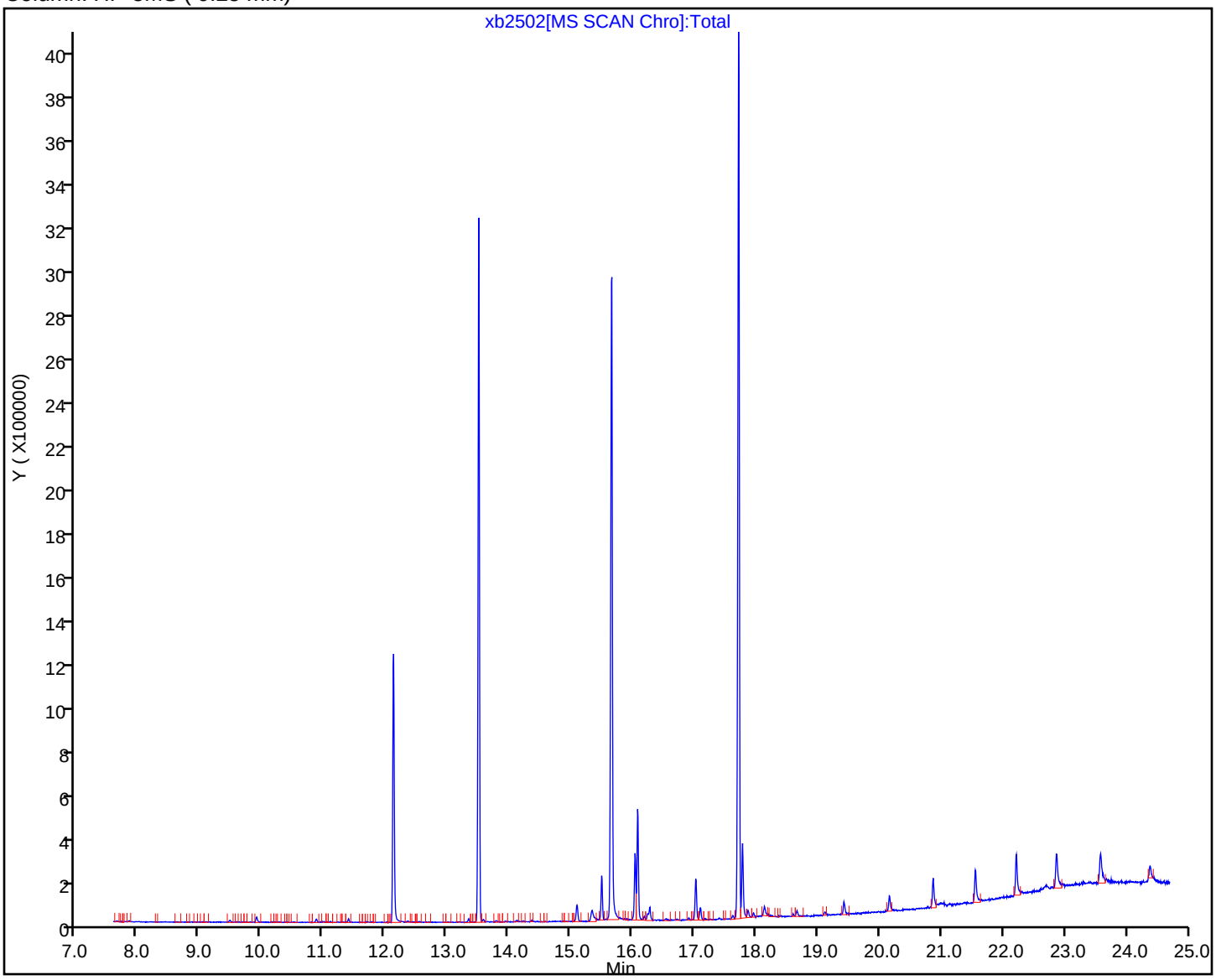
Report Date: 26-Feb-2019 09:41:33 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2502.D

Injection Date:	25-Feb-2019 11:57:30	Instrument ID:	CMSX		
Lims ID:	dftpp				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2702.D				
Lims ID:	dftpp				
Client ID:					
Sample Type:	DFTPP				
Inject. Date:	27-Feb-2019 14:22:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	DFTPP				
Misc. Info.:	680-0054053-001				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190227-54053.b\680_CMSX.m				
Limit Group:	680				
Last Update:	27-Feb-2019 14:52:21	Calib Date:	25-Feb-2019 15:59:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0310				
First Level Reviewer: davisn		Date:	27-Feb-2019 14:52:21		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags

8 DFTPP

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

SM680dftpp_00038 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
8 DFTPP									a
198	13.504	13.504	0.0	0	154159		-1.0- -1.0		

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

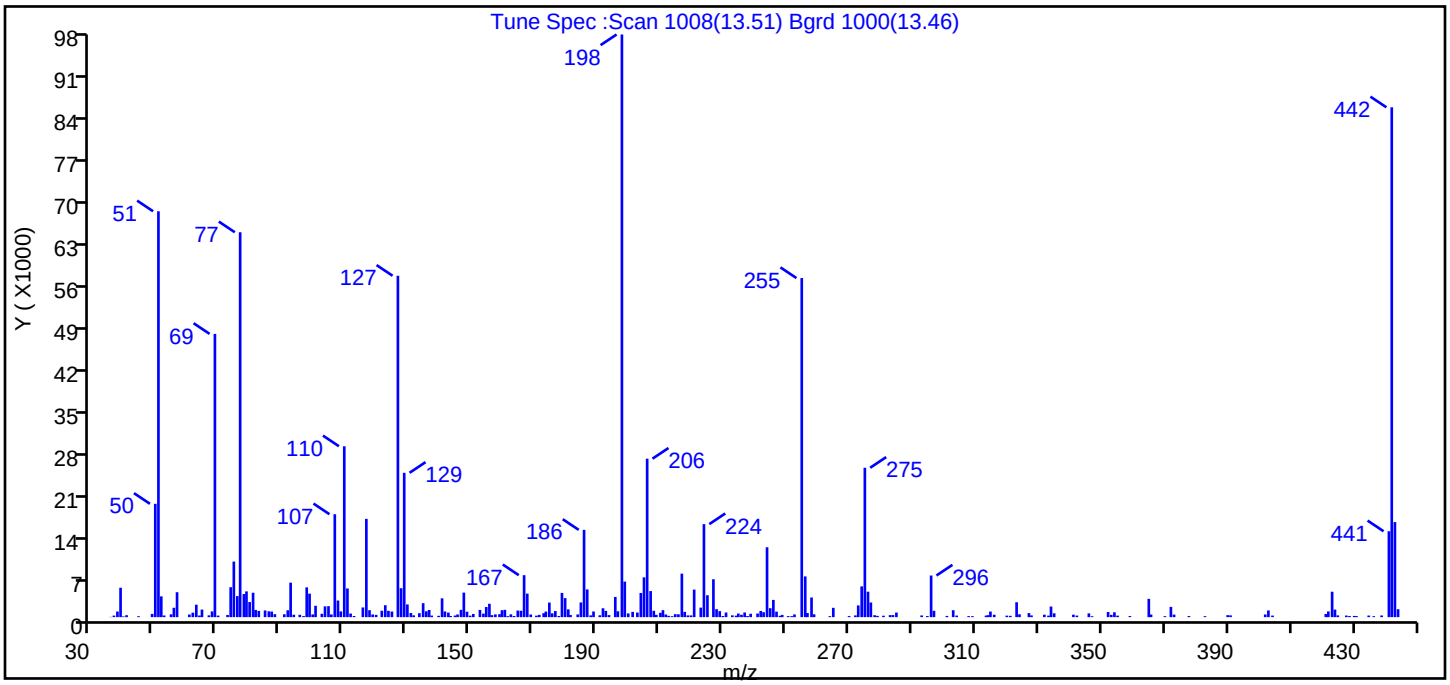
SM680dftpp_00038 Amount Added: 1.00 Units: mL

MS Tune Report

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2702.D
Injection Date: 27-Feb-2019 14:22:30 Instrument ID: CMSX
Lims ID: dftpp
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Tune Method: DFTPP Method 680

8 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	100% (Base Peak)	100.0
127	40-60% of m/z 198	58.6
197	<1% of m/z 198	1.0
199	5-9% of m/z 198	6.1
275	10-30% of m/z 198	25.6
365	>1% of m/z 198	3.1
441	Present and <m/z 443	14.7 (90.3)
442	>40% of m/z 198	87.5
443	17-23% of m/z 442	16.3 (18.6)

Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2702.D\680_CMSX.rslt\spectra.d
Injection Date: 27-Feb-2019 14:22:30
Spectrum: Tune Spec :Scan 1008(13.51) Bgrd 1000(13.46)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 263

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	44	123.00	1997	196.70	982	279.00	214
37.00	261	124.00	1057	198.00	97600	280.90	239
38.10	940	125.10	941	198.90	5953	283.00	343
39.10	4923	127.00	57184	200.00	627	283.90	347
40.00	119	128.00	4850	201.40	878	285.00	770
41.00	326	129.00	24176	202.90	773	293.00	285
44.80	156	130.00	2128	204.00	4045	294.80	184
49.10	544	131.10	701	205.00	6672	296.00	6974
50.10	18984	132.00	301	206.00	26544	296.90	1065
51.10	67984	133.80	659	207.10	4368	301.00	208
52.00	3480	135.00	2342	208.10	1064	303.00	1165
52.90	278	136.00	982	208.90	382	304.10	262
55.10	475	136.90	1199	210.20	725	307.90	173
56.00	1571	137.70	258	211.00	1169	309.10	165
57.00	4175	139.90	224	211.90	439	313.40	257
60.90	443	141.00	3153	212.80	222	314.00	331
62.00	747	141.90	951	213.90	160	314.80	939
63.10	2085	143.00	758	214.90	497	316.00	408
64.10	275	143.70	196	215.90	482	320.00	252
64.90	1267	145.10	268	217.00	7289	321.10	224
67.10	304	145.90	449	217.90	885	323.10	2500
68.10	961	147.00	1220	218.90	294	324.00	475
69.00	47448	147.90	4109	219.90	289	327.00	680
70.00	260	148.90	907	220.90	4615	327.80	287
73.00	364	149.90	247	223.00	1595	331.90	412
74.00	5014	150.90	530	224.00	15580	333.20	252
75.00	9306	153.00	1211	225.10	3668	334.00	1776
76.10	3525	154.10	593	227.00	6351	335.00	642
77.00	64472	155.00	1696	228.00	1339	341.10	416
78.20	3867	156.00	2239	229.00	1010	342.20	265
79.00	4317	156.80	335	230.00	193	346.00	631
80.00	2530	157.90	464	231.00	775	347.00	153
81.10	4085	159.20	495	233.00	301	352.10	858

Report Date: 27-Feb-2019 14:52:22 Chrom Revision: 2.3 11-Feb-2019 16:31:10
Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2702.D\680_CMSX.rslt\spectra.d
Injection Date: 27-Feb-2019 14:22:30
Spectrum: Tune Spec :Scan 1008(13.51) Bgrd 1000(13.46)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 263

m/z	Y	m/z	Y	m/z	Y	m/z	Y
81.90	1209	160.00	1164	234.20	253	353.10	385
82.90	1041	160.90	1221	234.90	607	354.10	813
84.90	1124	161.80	164	235.90	401	355.10	257
86.10	981	162.80	470	236.90	782	359.00	183
87.00	936	163.80	194	237.80	186	365.00	3063
88.00	500	165.00	1103	238.80	568	365.70	436
91.00	483	166.00	1074	241.00	607	370.10	163
92.10	1154	167.00	7031	242.00	1036	372.00	1722
93.00	5777	168.00	3940	242.90	830	373.00	424
94.00	404	169.10	442	244.00	11705	377.70	186
95.90	397	170.90	251	245.00	1498	382.80	167
97.10	178	171.80	382	246.00	2886	390.00	332
98.10	4985	173.20	662	247.00	921	390.90	296
99.00	3934	173.90	932	248.10	230	401.90	446
100.00	455	175.00	2441	248.80	377	402.90	1121
100.90	1904	175.90	638	250.70	175	404.20	262
102.90	562	176.90	1019	251.80	165	421.10	527
103.90	1808	178.00	198	252.70	455	421.90	961
105.00	1840	179.00	4062	255.00	56800	423.10	4258
105.90	449	180.00	3191	256.10	6825	424.00	1265
107.00	17240	181.00	1301	256.80	688	424.90	299
108.00	2786	181.70	356	258.10	3292	427.60	269
108.90	955	184.00	455	258.90	476	428.60	188
110.00	28624	185.00	2464	263.90	168	430.10	205
111.00	4805	186.00	14620	265.00	1561	430.80	183
112.00	603	187.00	4645	270.00	180	434.70	266
113.10	189	188.10	297	272.00	293	436.30	163
115.90	1625	189.00	947	272.90	1964	438.80	281
117.00	16456	191.00	312	274.00	5149	441.10	14385
118.00	1165	192.00	1490	275.00	25024	442.00	85400
119.00	449	192.90	1047	276.00	4260	443.00	15926
120.10	386	193.90	345	276.90	2453	444.00	1325
121.90	1075	195.90	3385	278.10	323		

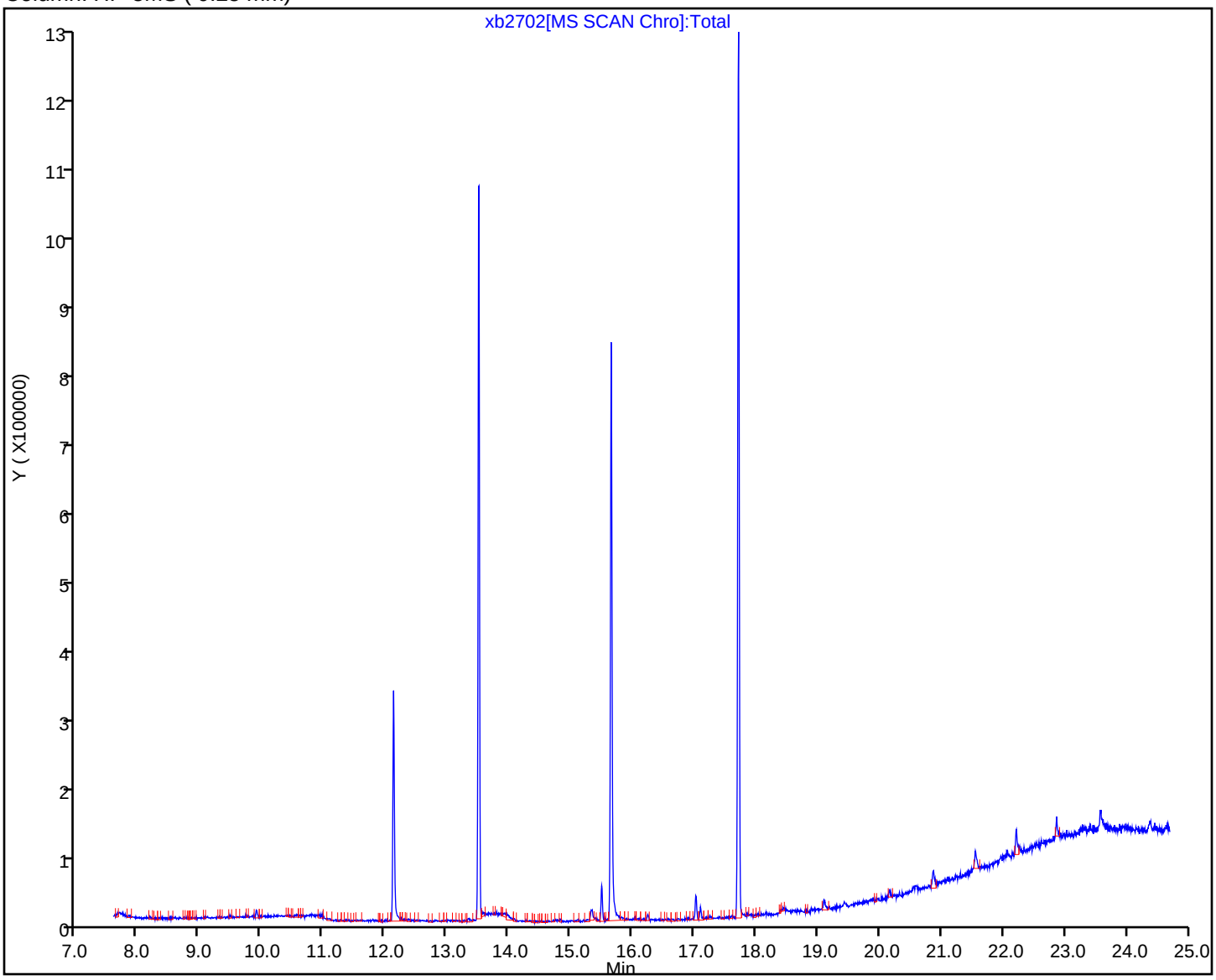
Report Date: 27-Feb-2019 14:52:22 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2702.D

Injection Date:	27-Feb-2019 14:22:30	Instrument ID:	CMSX		
Lims ID:	dftpp				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2703.D
Lims ID: wdm
Client ID:
Sample Type: WDM
Inject. Date: 27-Feb-2019 14:53:30 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM
Misc. Info.: 680-0054053-002
Operator ID: Instrument ID: CMSX

Method: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\680_CMSX.m
Limit Group: 680
Last Update: 27-Feb-2019 15:23:51 Calib Date: 25-Feb-2019 15:59:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0310

First Level Reviewer: davisn Date: 27-Feb-2019 15:23:51

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
1 PCB-1	188	9.304	9.304	0.0	1	128814	NC	
2 PCB-3	188	10.179	10.179	0.0	1	134114	NC	
3 PCB-10	222	10.642	10.642	0.0	1	86668	NC	
4 PCB-19	256	11.949	11.949	0.0	1	37883	NC	
6 PCB-15	222	12.454	12.454	0.0	1	94808	NC	
7 PCB-54	292	13.086	13.086	0.0	1	49039	NC	
9 PCB-104	326	14.361	14.361	0.0	5	46717	0	
10 PCB-37	256	14.509	14.509	0.0	1	61035	NC	
11 PCB-155	360	15.541	15.541	0.0	1	39862	NC	
12 PCB-77	292	16.405	16.405	0.0	5	50439	0	
13 PCB-188	394	17.174	17.174	0.0	1	3280	NC	a
14 PCB-126	326	17.954	17.954	0.0	0	42669	NC	
16 PCB-202	430	18.681	18.681	0.0	0	18309	NC	
17 PCB-169	360	19.366	19.366	0.0	0	30898	NC	
18 PCB-189	394	20.261	20.261	0.0	0	8863	NC	
19 PCB-208	464	20.261	20.261	0.0	16	8317	0	
20 PCB-205	430	20.714	20.714	0.0	0	16086	NC	
21 PCB-206	464	21.251	21.251	0.0	0	5768	NC	
32 DCB Decachlorobiphenyl	498	21.768	21.768	0.0	1	4285	0	a

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
a - User Assigned ID

Reagents:

SM680WDM_00031 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
13 PCB-188									a
394	17.174	17.174	0.0	1	3280	NC			a
396	17.174	17.174	0.0		0		1.0- 1.0		
32 DCB Decachlorobiphenyl									a
498	21.768	21.768	0.0	1	4285	0			a
500	21.768	21.768	0.0		0		0.9- 1.3		
430	21.768	21.768	0.0		3386		0.0- 0.0	1.0	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
a - User Assigned ID

Reagents:

SM680WDM_00031 Amount Added: 1.00 Units: mL

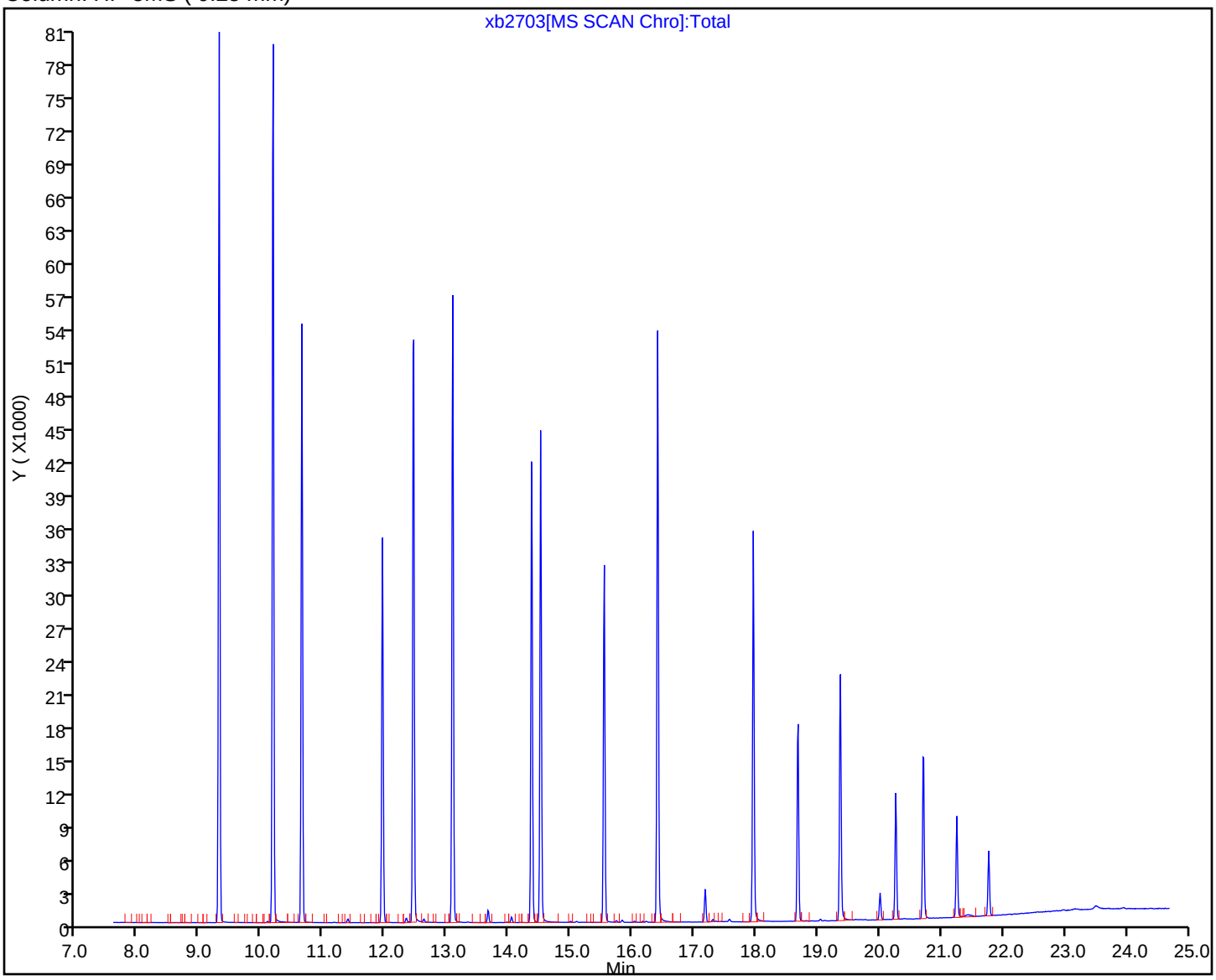
Report Date: 27-Feb-2019 15:23:51 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2703.D

Injection Date:	27-Feb-2019 14:53:30	Instrument ID:	CMSX		
Lims ID:	wdm				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 680-558724/18-A

Matrix: Water | Lab File ID: xb2005.D

Analysis Method: 680 | Date Collected:

Extract. Method: 680 | Date Extracted: 02/19/2019 13:42

Sample wt/vol: 1000(mL) | Date Analyzed: 02/20/2019 18:45

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559058 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	ND		0.30	0.030
26601-64-9	Hexachlorobiphenyl	ND		0.20	0.015
53742-07-7	Nonachlorobiphenyl	ND		0.50	0.049
55722-26-4	Octachlorobiphenyl	ND		0.30	0.038
27323-18-8	Monochlorobiphenyl	ND		0.10	0.0056
2051-24-3	DCB Decachlorobiphenyl	ND		0.50	0.070
25512-42-9	Total Dichlorobiphenyls	ND		0.10	0.0054
25429-29-2	Total Pentachlorobiphenyls	ND		0.20	0.014
26914-33-0	Total Tetrachlorobiphenyls	ND		0.20	0.013
25323-68-6	Total Trichlorobiphenyls	ND		0.10	0.0065

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	64		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2005.D				
Lims ID:	MB 680-558724/18-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	20-Feb-2019 18:45:30	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	MB 680-558724/18-A				
Misc. Info.:	680-0053931-004				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:00:18	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:00:39		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	153674	0.7500	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	131750	0.7500	
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	34	15036	1.59	

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 22-Feb-2019 09:00:39 Chrom Revision: 2.3 11-Feb-2019 16:31:10
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2005.D

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	153674	0.7500			
189	12.409	12.409	0.0		22815		5.9- 7.5	6.7	
* 15 Chrysene-d12									
240	18.668	18.668	0.0	100	131750	0.7500			
241	18.668	18.668	0.0		25097		4.3- 5.9	5.2	
$ 22 Decachlorobiphenyl-13C12									
510	21.796	21.796	0.0	34	15036	1.59			
512	21.796	21.796	0.0		11586		0.9- 1.3	1.3	

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

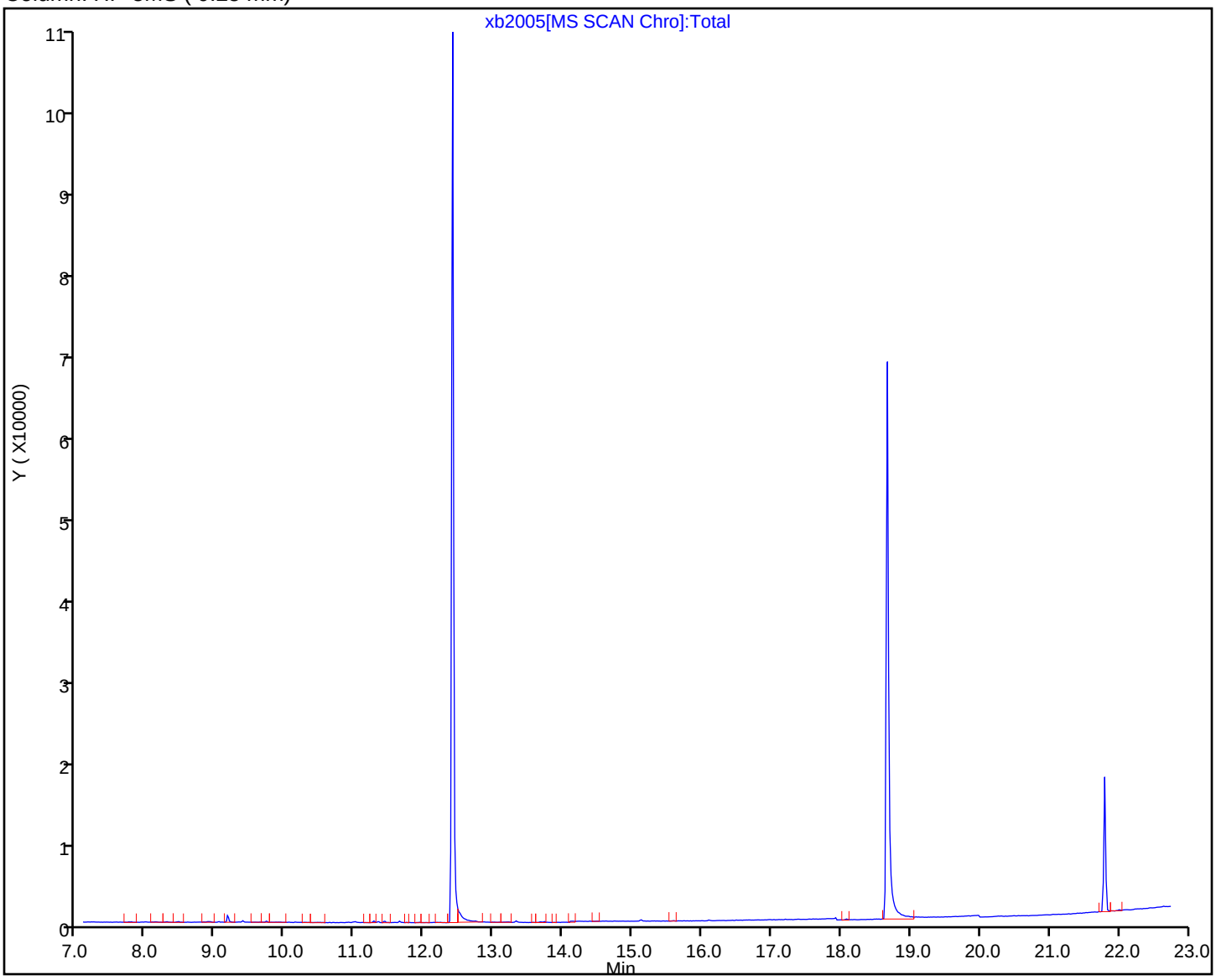
Report Date: 22-Feb-2019 09:00:39 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2005.D

Injection Date:	20-Feb-2019 18:45:30	Instrument ID:	CMSX		
Lims ID:	MB 680-558724/18-A				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2005.D				
Lims ID:	MB 680-558724/18-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	20-Feb-2019 18:45:30	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	MB 680-558724/18-A				
Misc. Info.:	680-0053931-004				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:00:18	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:00:39		

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	1.59	63.53

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 680-559624/3-A

Matrix: Water | Lab File ID: xb2706.D

Analysis Method: 680 | Date Collected:

Extract. Method: 680 | Date Extracted: 02/26/2019 13:54

Sample wt/vol: 1000(mL) | Date Analyzed: 02/27/2019 16:20

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559821 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	ND		0.30	0.030
26601-64-9	Hexachlorobiphenyl	ND		0.20	0.015
53742-07-7	Nonachlorobiphenyl	ND		0.50	0.049
55722-26-4	Octachlorobiphenyl	ND		0.30	0.038
27323-18-8	Monochlorobiphenyl	ND		0.10	0.0056
2051-24-3	DCB Decachlorobiphenyl	ND		0.50	0.070
25512-42-9	Total Dichlorobiphenyls	ND		0.10	0.0054
25429-29-2	Total Pentachlorobiphenyls	ND		0.20	0.014
26914-33-0	Total Tetrachlorobiphenyls	ND		0.20	0.013
25323-68-6	Total Trichlorobiphenyls	ND		0.10	0.0065

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	65		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2706.D				
Lims ID:	MB 680-559624/3-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	27-Feb-2019 16:20:30	ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	MB 680-559624/3-A				
Misc. Info.:	680-0054053-005				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190227-54053.b\680_CMSX.m				
Limit Group:	680				
Last Update:	27-Feb-2019 18:34:35	Calib Date:	25-Feb-2019 15:59:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0311				
First Level Reviewer: davisn		Date:	28-Feb-2019 08:55:55		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
* 5 Phenanthrene-d10	188	12.379	12.380	-0.001	100	157619	0.7500	
* 15 Chrysene-d12	240	18.630	18.629	0.001	100	166079	0.7500	
$ 22 Decachlorobiphenyl-13C12	510	21.769	21.772	-0.003	34	15207	1.63	

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 28-Feb-2019 08:55:55 Chrom Revision: 2.3 11-Feb-2019 16:31:10
Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2706.D

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
* 5 Phenanthrene-d10									
188	12.379	12.380	-0.001	100	157619	0.7500			
189	12.379	12.380	-0.001		23337		5.9- 7.5	6.8	
* 15 Chrysene-d12									
240	18.630	18.629	0.001	100	166079	0.7500			
241	18.630	18.629	0.001		31787		4.3- 5.9	5.2	
$ 22 Decachlorobiphenyl-13C12									
510	21.769	21.772	-0.003	34	15207	1.63			
512	21.769	21.772	-0.003		11940		0.9- 1.3	1.3	

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

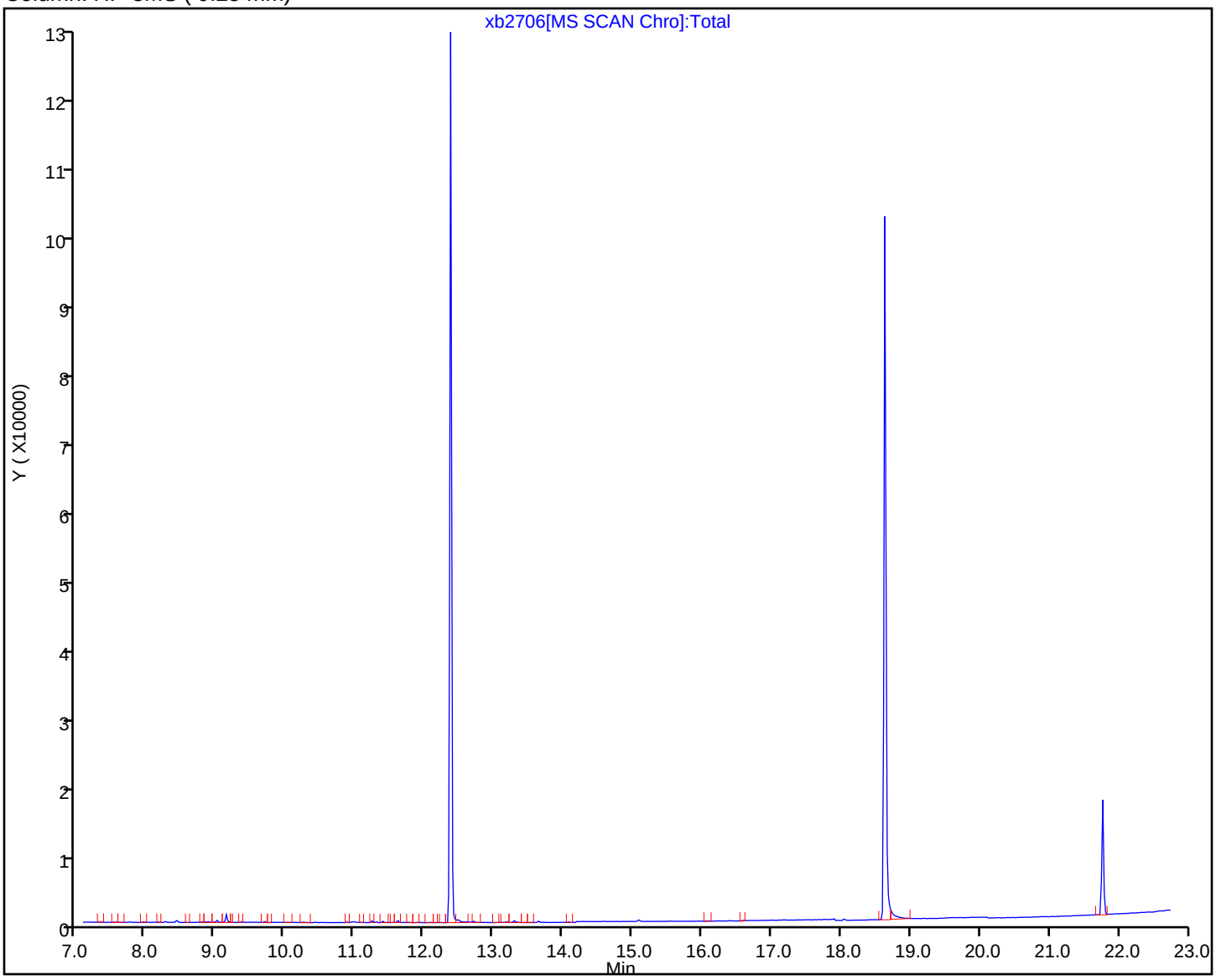
Report Date: 28-Feb-2019 08:55:55 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2706.D

Injection Date:	27-Feb-2019 16:20:30	Instrument ID:	CMSX		
Lims ID:	MB 680-559624/3-A				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2706.D				
Lims ID:	MB 680-559624/3-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	27-Feb-2019 16:20:30	ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	MB 680-559624/3-A				
Misc. Info.:	680-0054053-005				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190227-54053.b\680_CMSX.m				
Limit Group:	680				
Last Update:	27-Feb-2019 18:34:35	Calib Date:	25-Feb-2019 15:59:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0311				
First Level Reviewer: davisn		Date:	28-Feb-2019 08:55:55		

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	1.63	65.13

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 680-558724/19-A

Matrix: Water | Lab File ID: xb2006.D

Analysis Method: 680 | Date Collected:

Extract. Method: 680 | Date Extracted: 02/19/2019 13:42

Sample wt/vol: 1000(mL) | Date Analyzed: 02/20/2019 19:13

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559058 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	4.56		0.30	0.030
26601-64-9	Hexachlorobiphenyl	3.28		0.20	0.015
53742-07-7	Nonachlorobiphenyl	14.1		0.50	0.049
55722-26-4	Octachlorobiphenyl	4.96		0.30	0.038
27323-18-8	Monochlorobiphenyl	1.33		0.10	0.0056
2051-24-3	DCB Decachlorobiphenyl	7.57		0.50	0.070
25512-42-9	Total Dichlorobiphenyls	1.43		0.10	0.0054
25429-29-2	Total Pentachlorobiphenyls	3.27		0.20	0.014
26914-33-0	Total Tetrachlorobiphenyls	3.10		0.20	0.013
25323-68-6	Total Trichlorobiphenyls	1.52		0.10	0.0065

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	73		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2006.D
Lims ID: LCS 680-558724/19-A
Client ID:
Sample Type: LCS
Inject. Date: 20-Feb-2019 19:13:30 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 680-558724/19-A
Misc. Info.: 680-0053931-005
Operator ID: Instrument ID: CMSX

Method: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m
Limit Group: 680
Last Update: 22-Feb-2019 09:02:40 Calib Date: 08-Jan-2019 18:02:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0319

First Level Reviewer: davisn Date: 22-Feb-2019 09:02:40

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.762	9.265 - 10.260		0	203392	1.33	
A 24 Total Dichlorobiphenyls	222	11.569	10.603 - 12.535		0	153051	1.43	
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	145226	0.7500	
A 25 Total Trichlorobiphenyls	256	13.260	11.920 - 14.600		0	117305	1.52	
A 26 Total Tetrachlorobiphenyls	292	14.773	13.047 - 16.499		0	167787	3.10	
A 27 Total Pentachlorobiphenyls	326	16.192	14.338 - 18.045		0	144303	3.27	
A 28 Total Hexachlorobiphenyls	360	17.480	15.502 - 19.457		0	143572	3.28	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	137759	0.7500	a
A 29 Total Heptachlorobiphenyls	394	18.749	17.146 - 20.353		0	198871	4.56	
A 30 Total Octachlorobiphenyls	430	19.724	18.652 - 20.795		0	187051	4.96	
A 31 Total Nonachlorobiphenyls	464	20.250	18.500 - 22.000		0	108962	14.1	
19 PCB-208	464	20.282	20.293	-0.011	94	108966	0	
$ 22 Decachlorobiphenyl-13C12	510	21.793	21.796	-0.003	86	18117	1.83	
32 DCB Decachlorobiphenyl	498	21.793	21.799	-0.006	86	58317	7.57	

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.328	9.265 -	10.260	22	203392	1.33			
190	9.328				66040		2.5- 3.5	3.1	
152	9.328				116180		50.7- 50.7	0.6	
153	9.328				48331		23.2- 23.2	1.4	
A 24 Total Dichlorobiphenyls									
222	11.569	10.603 -	12.535	23	153051	1.43			
224	11.569				98513		1.3- 1.7	1.6	
152	11.554				120814		31.7- 111.7	0.8	
153	11.554				15404		0.0- 49.1	6.4	
186	11.554				14524		0.0- 48.9	6.8	
188	11.569				5362		0.0- 43.3	18.4	
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	145226	0.7500			
189	12.409	12.409	0.0		21608		5.9- 7.5	6.7	
A 25 Total Trichlorobiphenyls									
256	13.087	11.920 -	14.600	96	117305	1.52			
258	13.087				112054		0.8- 1.2	1.0	
186	13.087				79345		26.5- 106.5	1.4	
188	13.087				26004		0.0- 61.5	4.3	
A 26 Total Tetrachlorobiphenyls									
292	13.367	13.047 -	16.499	0	167787	3.10			
290	13.367				131657		1.1- 1.5	1.3	
220	13.353				161205		58.1- 138.1	0.8	
222	13.353				104329		22.9- 102.9	1.3	
A 27 Total Pentachlorobiphenyls									
326	16.248	14.338 -	18.045	89	144303	3.27			
324	16.248				91332		1.4- 1.8	1.6	
254	16.248				107213		41.9- 121.9	0.9	
256	16.248				103007		38.2- 118.2	0.9	
258	16.248				33720		0.0- 65.4	2.7	
A 28 Total Hexachlorobiphenyls									
360	16.439	15.502 -	19.457	59	143572	3.28			
362	16.439				114836		1.0- 1.4	1.3	
288	16.439				85061		61.3- 61.3	1.4	
290	16.439				109609		220.6- 220.6	1.0	
292	16.439				52272		0.0- 0.0	2.2	
* 15 Chrysene-d12									a
240	18.668	18.668	0.0	100	137759	0.7500			a
241	18.668	18.668	0.0		26450		4.3- 5.9	5.2	
A 29 Total Heptachlorobiphenyls									
394	17.216	17.146 -	20.353	95	198871	4.56			
396	17.216				188625		0.8- 1.2	1.1	
322	17.198				85672		48.3- 48.3	2.2	
324	17.198				137652		77.4- 77.4	1.4	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.858	18.652	-20.795	94	187051	4.96			
428	18.858				169782		0.9- 1.3	1.1	
356	18.841				67518		39.6- 39.6	2.5	
358	18.841				127268		75.2- 75.2	1.3	
360	18.841				101304		59.6- 59.6	1.7	
A 31 Total Nonachlorobiphenyls									
464	20.282	18.500	-22.000	49	108962	14.1			
466	20.303				76873		1.1- 1.5	1.4	
390	20.282				54685		0.0- 0.0	1.4	
392	20.282				120890		0.0- 0.0	0.6	
394	20.282				114195		0.0- 0.0	0.7	
$ 22 Decachlorobiphenyl-13C12									
510	21.793	21.796	-0.003	86	18117	1.83			
512	21.793	21.796	-0.003		14066		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									
498	21.793	21.799	-0.006	86	58317	7.57			
500	21.793	21.799	-0.006		45702		0.9- 1.3	1.3	
424	21.793	21.799	-0.006		27759		0.0- 0.0	1.0	
426	21.793	21.799	-0.006		67207		0.0- 0.0	1.0	
428	21.793	21.799	-0.006		71326		0.0- 0.0	1.0	
430	21.793	21.799	-0.006		44018		0.0- 0.0	1.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

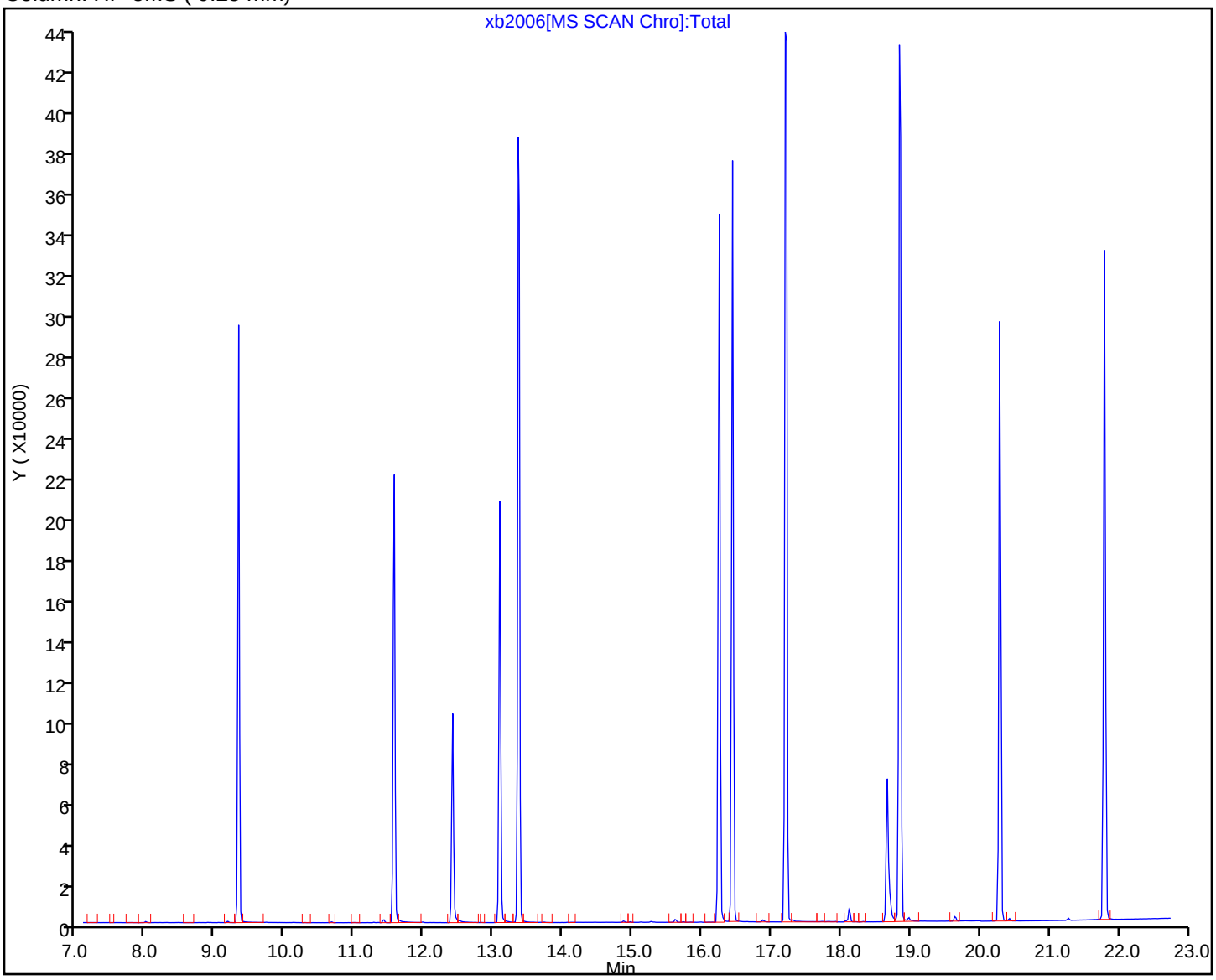
Report Date: 22-Feb-2019 09:02:41 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2006.D

Injection Date:	20-Feb-2019 19:13:30	Instrument ID:	CMSX		
Lims ID:	LCS 680-558724/19-A				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2006.D				
Lims ID:	LCS 680-558724/19-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	20-Feb-2019 19:13:30	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCS 680-558724/19-A				
Misc. Info.:	680-0053931-005				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:02:40	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:02:40		

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	1.83	73.21

TestAmerica Savannah

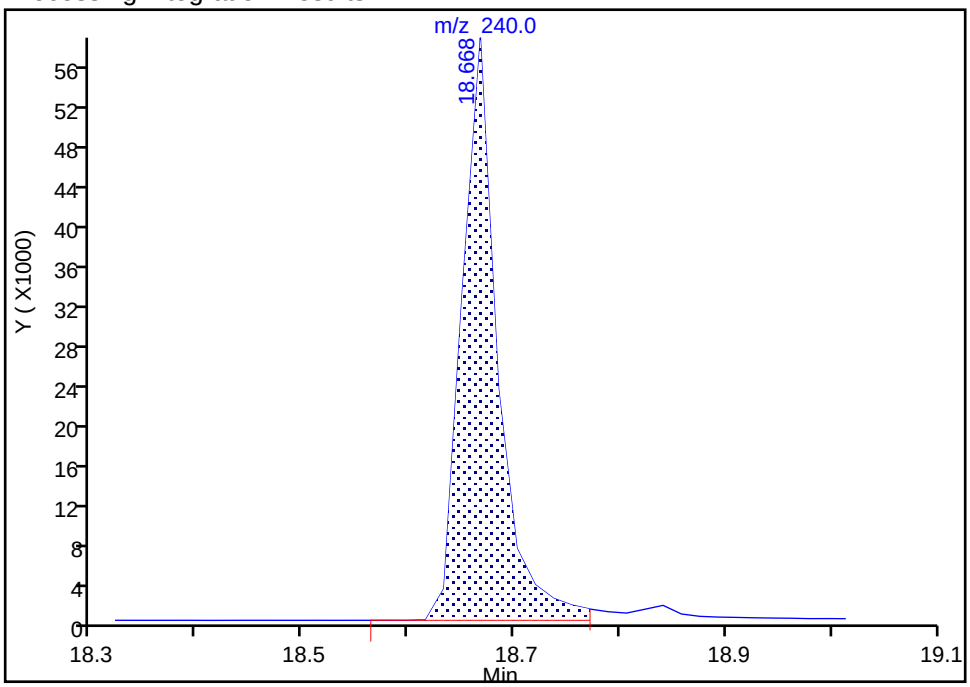
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2006.D
Injection Date: 20-Feb-2019 19:13:30 Instrument ID: CMSX
Lims ID: LCS 680-558724/19-A
Client ID:
Operator ID: ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

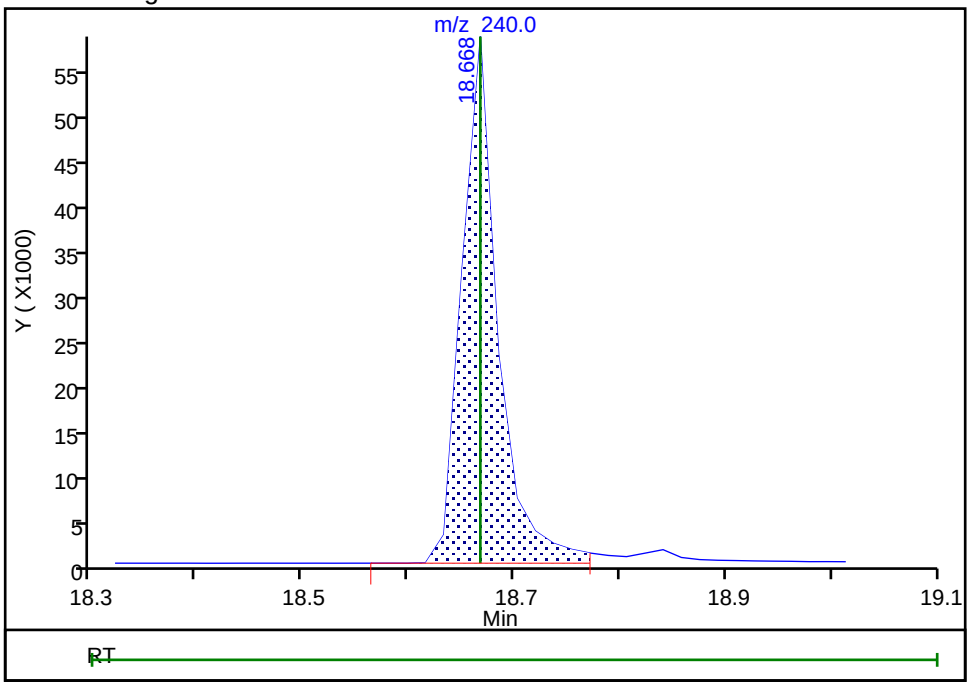
Processing Integration Results

RT: 18.67
Area: 137759
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.67
Area: 137759
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 22-Feb-2019 09:02:10
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 680-559624/4-A

Matrix: Water | Lab File ID: xb2707.D

Analysis Method: 680 | Date Collected:

Extract. Method: 680 | Date Extracted: 02/26/2019 13:54

Sample wt/vol: 1000(mL) | Date Analyzed: 02/27/2019 16:49

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559821 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	4.59		0.30	0.030
26601-64-9	Hexachlorobiphenyl	3.25		0.20	0.015
53742-07-7	Nonachlorobiphenyl	15.2		0.50	0.049
55722-26-4	Octachlorobiphenyl	4.98		0.30	0.038
27323-18-8	Monochlorobiphenyl	1.29		0.10	0.0056
2051-24-3	DCB Decachlorobiphenyl	8.61		0.50	0.070
25512-42-9	Total Dichlorobiphenyls	1.41		0.10	0.0054
25429-29-2	Total Pentachlorobiphenyls	3.26		0.20	0.014
26914-33-0	Total Tetrachlorobiphenyls	2.94		0.20	0.013
25323-68-6	Total Trichlorobiphenyls	1.46		0.10	0.0065

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	82		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2707.D				
Lims ID:	LCS 680-559624/4-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	27-Feb-2019 16:49:30	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCS 680-559624/4-A				
Misc. Info.:	680-0054053-006				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190227-54053.b\680_CMSX.m				
Limit Group:	680				
Last Update:	28-Feb-2019 08:57:47	Calib Date:	25-Feb-2019 15:59:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0311				
First Level Reviewer: davisn		Date:	28-Feb-2019 08:57:47		

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.741	9.244 - 10.239		0	265534	1.29	
A 24 Total Dichlorobiphenyls	222	11.548	10.582 - 12.514		0	201659	1.41	
* 5 Phenanthrene-d10	188	12.379	12.380	-0.001	100	189494	0.7500	
A 25 Total Trichlorobiphenyls	256	13.229	11.889 - 14.569		0	150789	1.46	
A 26 Total Tetrachlorobiphenyls	292	14.746	13.026 - 16.466		0	207447	2.94	
A 27 Total Pentachlorobiphenyls	326	16.160	14.306 - 18.014		0	182330	3.26	
A 28 Total Hexachlorobiphenyls	360	17.453	15.481 - 19.426		0	173598	3.25	
* 15 Chrysene-d12	240	18.630	18.629	0.001	100	201227	0.7500	a
A 29 Total Heptachlorobiphenyls	394	18.718	17.114 - 20.321		0	238580	4.59	
A 30 Total Octachlorobiphenyls	430	19.697	18.621 - 20.774		0	223630	4.98	
A 31 Total Nonachlorobiphenyls	464	20.250	18.500 - 22.000		0	126581	15.2	
19 PCB-208	464	20.262	20.261	0.001	90	126581	8.76	
$ 22 Decachlorobiphenyl-13C12	510	21.772	21.772	0.0	70	23340	2.06	
32 DCB Decachlorobiphenyl	498	21.772	21.772	0.0	70	71830	8.61	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.298	9.244 -	10.239	23	265534	1.29			
190	9.298				85724		2.5- 3.5	3.1	
152	9.298				149863		50.7- 50.7	0.6	
153	9.298				62006		23.2- 23.2	1.4	
A 24 Total Dichlorobiphenyls									
222	11.539	10.582 -	12.514	24	201659	1.41			
224	11.539				129651		1.3- 1.7	1.6	
152	11.539				156475		31.7- 111.7	0.8	
153	11.539				19797		0.0- 49.1	6.5	
186	11.539				18869		0.0- 48.9	6.9	
188	11.539				7014		0.0- 43.3	18.5	
* 5 Phenanthrene-d10									
188	12.379	12.380	-0.001	100	189494	0.7500			
189	12.379	12.380	-0.001		28051		5.9- 7.5	6.8	
A 25 Total Trichlorobiphenyls									
256	13.057	11.889 -	14.569	97	150789	1.46			
258	13.057				144682		0.8- 1.2	1.0	
186	13.057				103215		26.5- 106.5	1.4	
188	13.057				33039		0.0- 61.5	4.4	
A 26 Total Tetrachlorobiphenyls									
292	13.337	13.026 -	16.466	0	207447	2.94			
290	13.337				163256		1.1- 1.5	1.3	
220	13.323				203993		58.1- 138.1	0.8	
222	13.337				130974		22.9- 102.9	1.2	
A 27 Total Pentachlorobiphenyls									
326	16.215	14.306 -	18.014	74	182330	3.26			
324	16.215				113949		1.4- 1.8	1.6	
254	16.215				136104		41.9- 121.9	0.8	
256	16.215				131184		38.2- 118.2	0.9	
258	16.215				42915		0.0- 65.4	2.7	
A 28 Total Hexachlorobiphenyls									
360	16.423	15.481 -	19.426	50	173598	3.25			
362	16.423				137421		1.0- 1.4	1.3	
288	16.406				103300		61.3- 61.3	1.3	
290	16.406				132656		220.6- 220.6	1.0	
292	16.406				65123		0.0- 0.0	2.1	
* 15 Chrysene-d12									a
240	18.630	18.629	0.001	100	201227	0.7500			a
241	18.630	18.629	0.001		38598		4.3- 5.9	5.2	
A 29 Total Heptachlorobiphenyls									
394	17.177	17.114 -	20.321	80	238580	4.59			
396	17.177				224577		0.8- 1.2	1.1	
322	17.177				103681		48.3- 48.3	2.2	
324	17.177				164478		77.4- 77.4	1.4	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.820	18.621	-20.774	80	223630	4.98			
428	18.820				205142		0.9- 1.3	1.1	
356	18.820				80998		39.6- 39.6	2.5	
358	18.820				152491		75.2- 75.2	1.3	
360	18.820				121953		59.6- 59.6	1.7	
A 31 Total Nonachlorobiphenyls									
464	20.262	18.500	-22.000	71	126581	15.2			
466	20.262				90206		1.1- 1.5	1.4	
390	20.262				64749		0.0- 0.0	1.4	
392	20.262				140409		0.0- 0.0	0.6	
394	20.262				132354		0.0- 0.0	0.7	
$ 22 Decachlorobiphenyl-13C12									
510	21.772	21.772	0.0	70	23340	2.06			
512	21.772	21.772	0.0		17719		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									
498	21.772	21.772	0.0	70	71830	8.61			
500	21.772	21.772	0.0		57146		0.9- 1.3	1.3	
424	21.772	21.772	0.0		32597		0.0- 0.0	1.0	
426	21.772	21.772	0.0		81125		0.0- 0.0	1.0	
428	21.772	21.772	0.0		87885		0.0- 0.0	1.0	
430	21.772	21.772	0.0		54249		0.0- 0.0	1.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

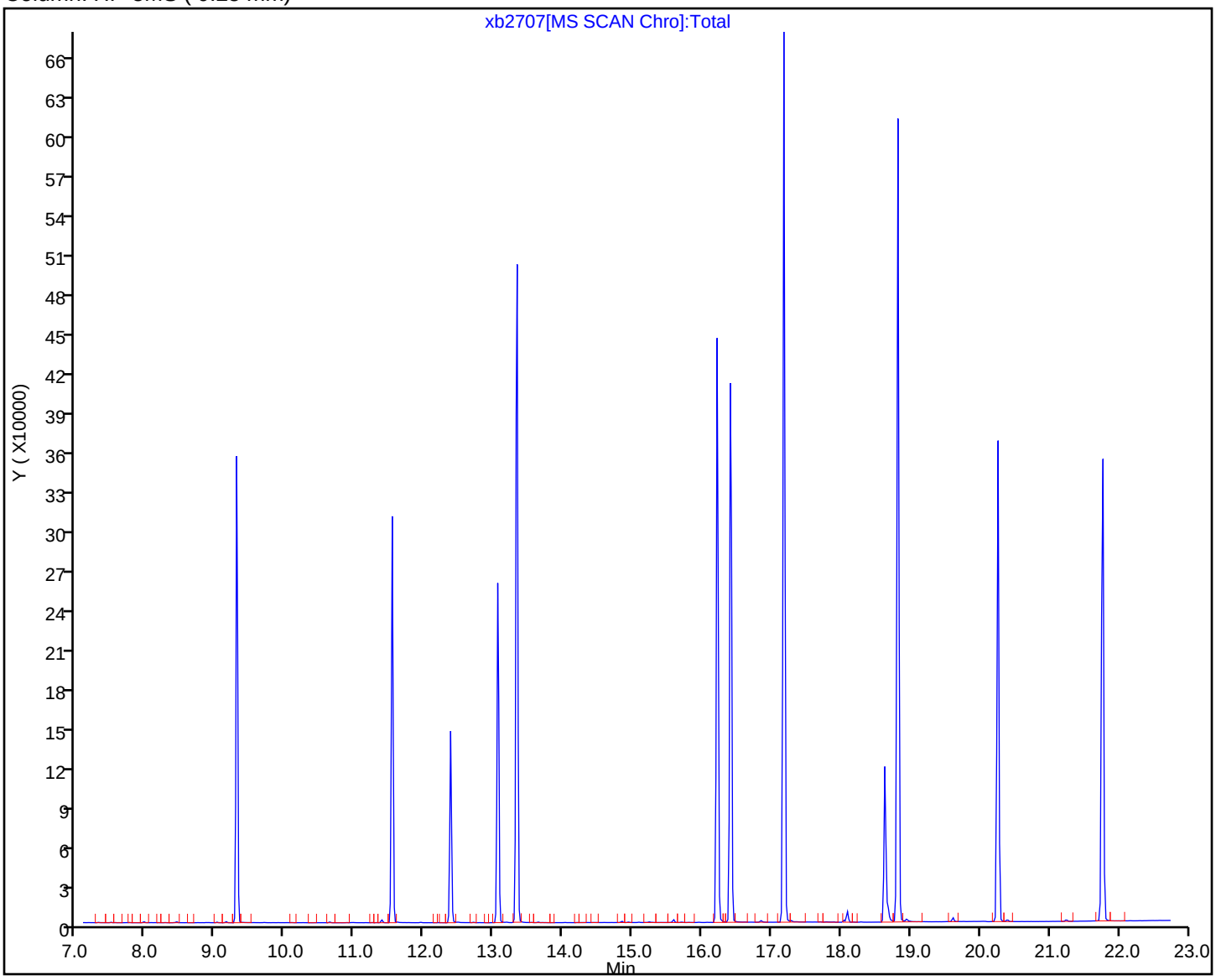
Report Date: 28-Feb-2019 08:57:48 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2707.D

Injection Date:	27-Feb-2019 16:49:30	Instrument ID:	CMSX		
Lims ID:	LCS 680-559624/4-A				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2707.D				
Lims ID:	LCS 680-559624/4-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	27-Feb-2019 16:49:30	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCS 680-559624/4-A				
Misc. Info.:	680-0054053-006				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190227-54053.b\680_CMSX.m				
Limit Group:	680				
Last Update:	28-Feb-2019 08:57:47	Calib Date:	25-Feb-2019 15:59:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0311				

First Level Reviewer: davisn Date: 28-Feb-2019 08:57:47

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	2.06	82.50

Manual Integration/User Assign Peak Report

TestAmerica Savannah

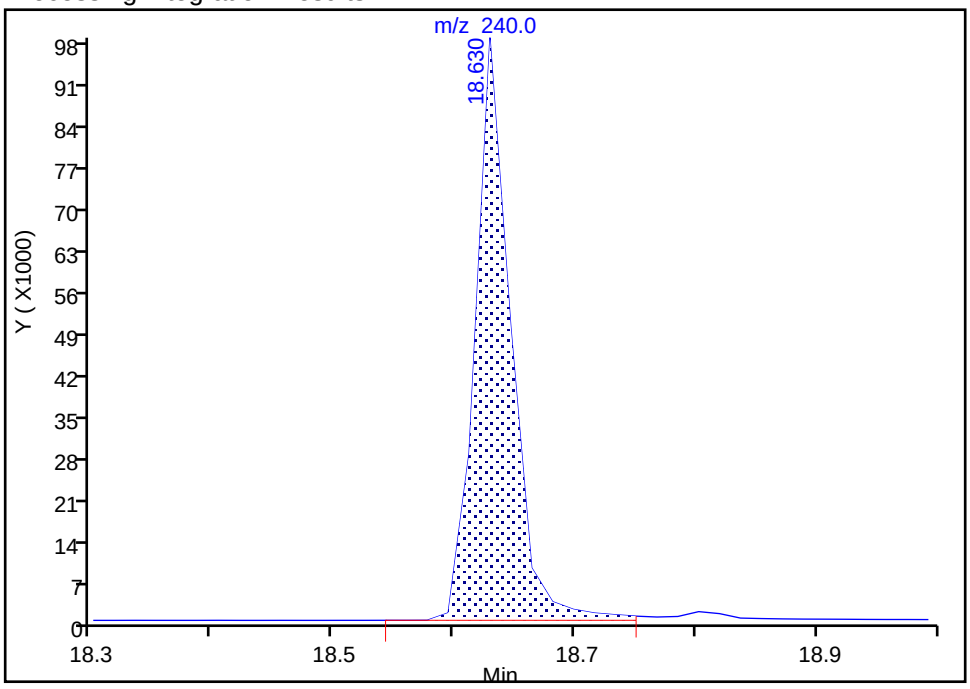
Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2707.D
Injection Date: 27-Feb-2019 16:49:30 Instrument ID: CMSX
Lims ID: LCS 680-559624/4-A
Client ID:
Operator ID: ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

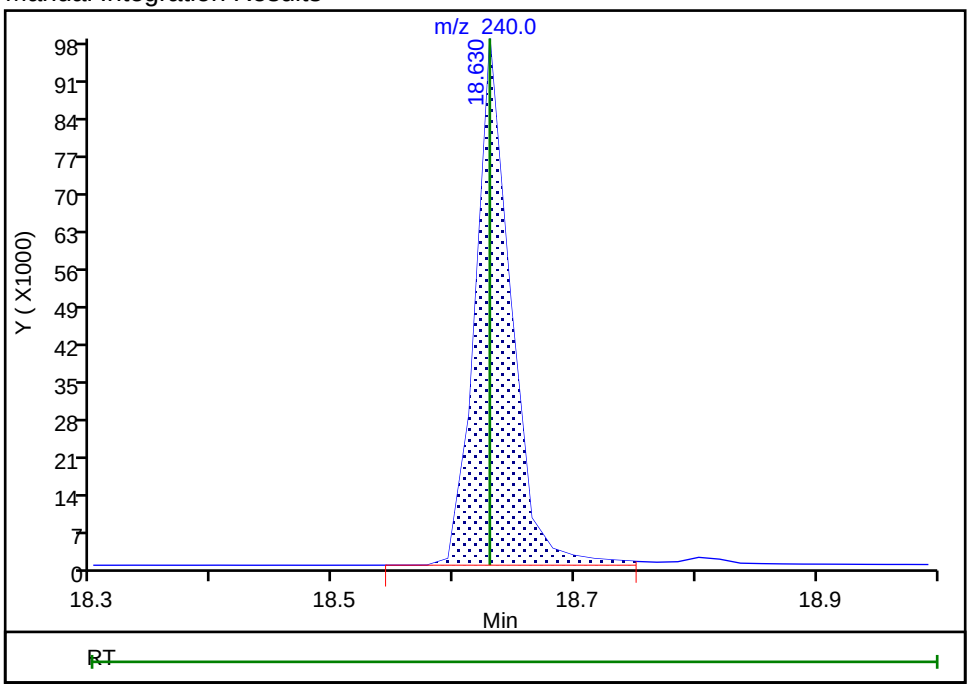
Processing Integration Results

RT: 18.63
Area: 201227
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.63
Area: 201227
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 28-Feb-2019 08:57:10
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 680-559624/5-A

Matrix: Water | Lab File ID: xb2708.D

Analysis Method: 680 | Date Collected:

Extract. Method: 680 | Date Extracted: 02/26/2019 13:54

Sample wt/vol: 1000(mL) | Date Analyzed: 02/27/2019 17:18

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559821 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	4.93		0.30	0.030
26601-64-9	Hexachlorobiphenyl	3.53		0.20	0.015
53742-07-7	Nonachlorobiphenyl	16.1		0.50	0.049
55722-26-4	Octachlorobiphenyl	5.33		0.30	0.038
27323-18-8	Monochlorobiphenyl	1.43		0.10	0.0056
2051-24-3	DCB Decachlorobiphenyl	9.10		0.50	0.070
25512-42-9	Total Dichlorobiphenyls	1.56		0.10	0.0054
25429-29-2	Total Pentachlorobiphenyls	3.51		0.20	0.014
26914-33-0	Total Tetrachlorobiphenyls	3.25		0.20	0.013
25323-68-6	Total Trichlorobiphenyls	1.59		0.10	0.0065

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	85		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2708.D
Lims ID: LCSD 680-559624/5-A
Client ID:
Sample Type: LCSD
Inject. Date: 27-Feb-2019 17:18:30 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 680-559624/5-A
Misc. Info.: 680-0054053-007
Operator ID: Instrument ID: CMSX

Method: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\680_CMSX.m
Limit Group: 680
Last Update: 28-Feb-2019 08:59:27 Calib Date: 25-Feb-2019 15:59:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0311

First Level Reviewer: davisn Date: 28-Feb-2019 08:59:27

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.741	9.244 - 10.239		0	215858	1.43	
A 24 Total Dichlorobiphenyls	222	11.548	10.582 - 12.514		0	163708	1.56	
* 5 Phenanthrene-d10	188	12.379	12.380	-0.001	100	142733	0.7500	
A 25 Total Trichlorobiphenyls	256	13.229	11.889 - 14.569		0	120733	1.59	
A 26 Total Tetrachlorobiphenyls	292	14.746	13.026 - 16.466		0	168452	3.25	
A 27 Total Pentachlorobiphenyls	326	16.160	14.306 - 18.014		0	144344	3.51	
A 28 Total Hexachlorobiphenyls	360	17.453	15.481 - 19.426		0	138199	3.53	
* 15 Chrysene-d12	240	18.630	18.629	0.001	100	147833	0.7500	a
A 29 Total Heptachlorobiphenyls	394	18.718	17.114 - 20.321		0	187947	4.93	
A 30 Total Octachlorobiphenyls	430	19.697	18.621 - 20.774		0	176000	5.33	
A 31 Total Nonachlorobiphenyls	464	20.250	18.500 - 22.000		0	98639	16.1	
19 PCB-208	464	20.262	20.261	0.001	86	98639	9.30	
$ 22 Decachlorobiphenyl-13C12	510	21.773	21.772	0.001	69	17740	2.13	a
32 DCB Decachlorobiphenyl	498	21.773	21.772	0.001	69	55738	9.10	a

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.298	9.244 -	10.239	23	215858	1.43			
190	9.298				70788		2.5- 3.5	3.0	
152	9.298				119885		50.7- 50.7	0.6	
153	9.298				50285		23.2- 23.2	1.4	
A 24 Total Dichlorobiphenyls									
222	11.539	10.582 -	12.514	24	163708	1.56			
224	11.539				104810		1.3- 1.7	1.6	
152	11.539				126826		31.7- 111.7	0.8	
153	11.539				16233		0.0- 49.1	6.5	
186	11.539				15374		0.0- 48.9	6.8	
188	11.539				5626		0.0- 43.3	18.6	
* 5 Phenanthrene-d10									
188	12.379	12.380	-0.001	100	142733	0.7500			
189	12.379	12.380	-0.001		21282		5.9- 7.5	6.7	
A 25 Total Trichlorobiphenyls									
256	13.058	11.889 -	14.569	97	120733	1.59			
258	13.058				116239		0.8- 1.2	1.0	
186	13.058				83713		26.5- 106.5	1.4	
188	13.058				26802		0.0- 61.5	4.3	
A 26 Total Tetrachlorobiphenyls									
292	13.338	13.026 -	16.466	0	168452	3.25			
290	13.338				131651		1.1- 1.5	1.3	
220	13.323				164534		58.1- 138.1	0.8	
222	13.338				105047		22.9- 102.9	1.3	
A 27 Total Pentachlorobiphenyls									
326	16.216	14.306 -	18.014	77	144344	3.51			
324	16.216				90470		1.4- 1.8	1.6	
254	16.216				106954		41.9- 121.9	0.8	
256	16.216				103061		38.2- 118.2	0.9	
258	16.216				34273		0.0- 65.4	2.6	
A 28 Total Hexachlorobiphenyls									
360	16.423	15.481 -	19.426	49	138199	3.53			
362	16.423				109557		1.0- 1.4	1.3	
288	16.406				81170		61.3- 61.3	1.3	
290	16.406				103676		220.6- 220.6	1.1	
292	16.406				50406		0.0- 0.0	2.2	
* 15 Chrysene-d12									a
240	18.630	18.629	0.001	100	147833	0.7500			a
241	18.630	18.629	0.001		28160		4.3- 5.9	5.2	
A 29 Total Heptachlorobiphenyls									
394	17.177	17.114 -	20.321	82	187947	4.93			
396	17.177				177420		0.8- 1.2	1.1	
322	17.177				82331		48.3- 48.3	2.2	
324	17.177				132914		77.4- 77.4	1.3	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.820	18.621	-20.774	84	176000	5.33			
428	18.820				159653		0.9- 1.3	1.1	
356	18.820				64011		39.6- 39.6	2.5	
358	18.820				121906		75.2- 75.2	1.3	
360	18.820				96201		59.6- 59.6	1.7	
A 31 Total Nonachlorobiphenyls									
464	20.262	18.500	-22.000	74	98639	16.1			
466	20.262				71063		1.1- 1.5	1.4	
390	20.262				49606		0.0- 0.0	1.4	
392	20.262				107287		0.0- 0.0	0.7	
394	20.262				101822		0.0- 0.0	0.7	
$ 22 Decachlorobiphenyl-13C12									a
510	21.773	21.772	0.001	69	17740	2.13			a
512	21.773	21.772	0.001		13428		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									a
498	21.773	21.772	0.001	69	55738	9.10			a
500	21.773	21.772	0.001		43642		0.9- 1.3	1.3	
424	21.752	21.772	-0.020		25576		0.0- 0.0	1.0	
426	21.773	21.772	0.001		62559		0.0- 0.0	1.0	
428	21.773	21.772	0.001		68304		0.0- 0.0	1.0	
430	21.773	21.772	0.001		42482		0.0- 0.0	1.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 28-Feb-2019 08:59:28 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2708.D

Injection Date: 27-Feb-2019 17:18:30 Instrument ID: CMSX

Lims ID: LCSD 680-559624/5-A

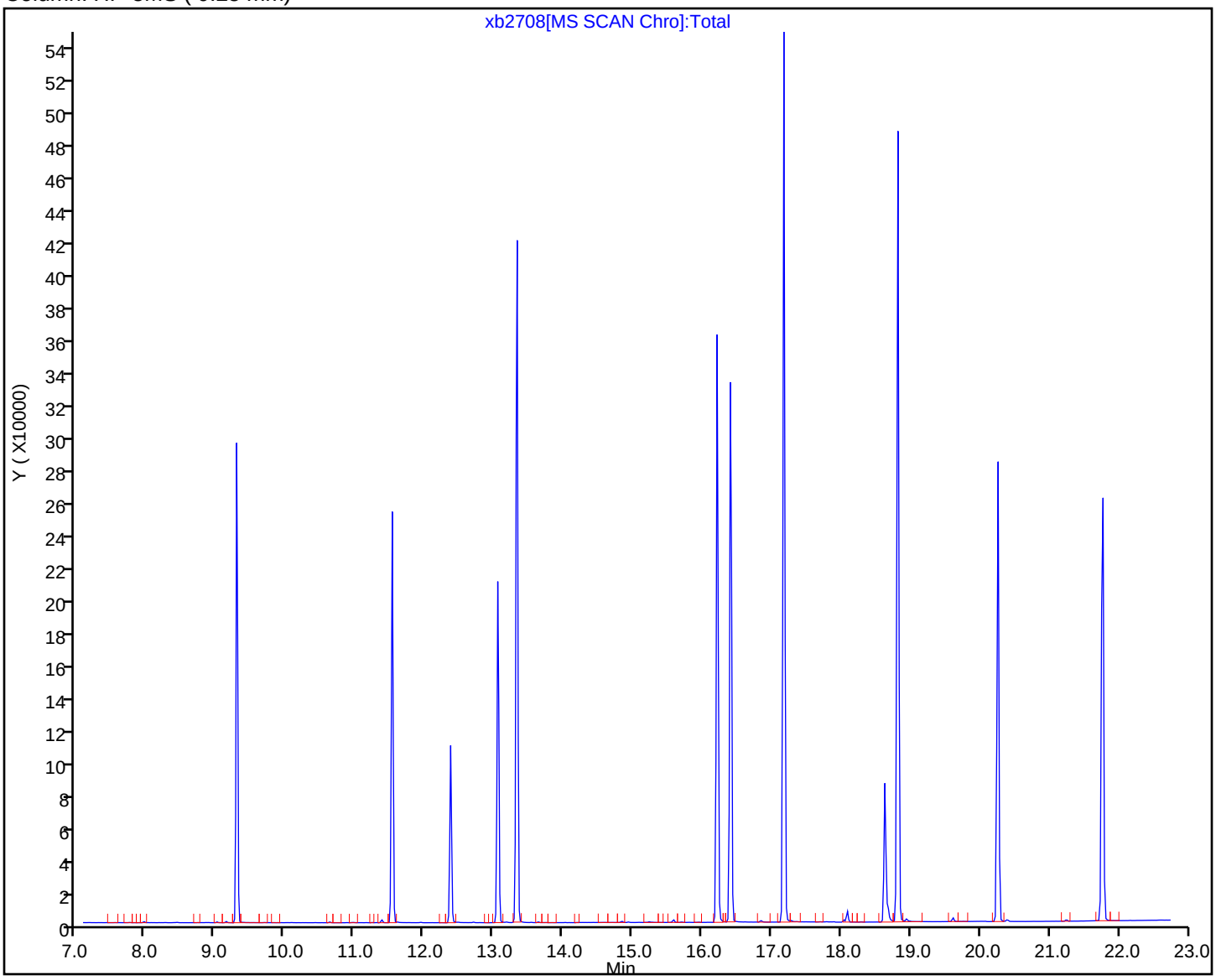
Client ID:

Operator ID: ALS Bottle#: 7 Worklist Smp#: 7

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: 680_CMSX Limit Group: 680

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2708.D				
Lims ID:	LCSD 680-559624/5-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	27-Feb-2019 17:18:30	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCSD 680-559624/5-A				
Misc. Info.:	680-0054053-007				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190227-54053.b\680_CMSX.m				
Limit Group:	680				
Last Update:	28-Feb-2019 08:59:27	Calib Date:	25-Feb-2019 15:59:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0311				
First Level Reviewer: davisn		Date:	28-Feb-2019 08:59:27		

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	2.13	85.35

TestAmerica Savannah

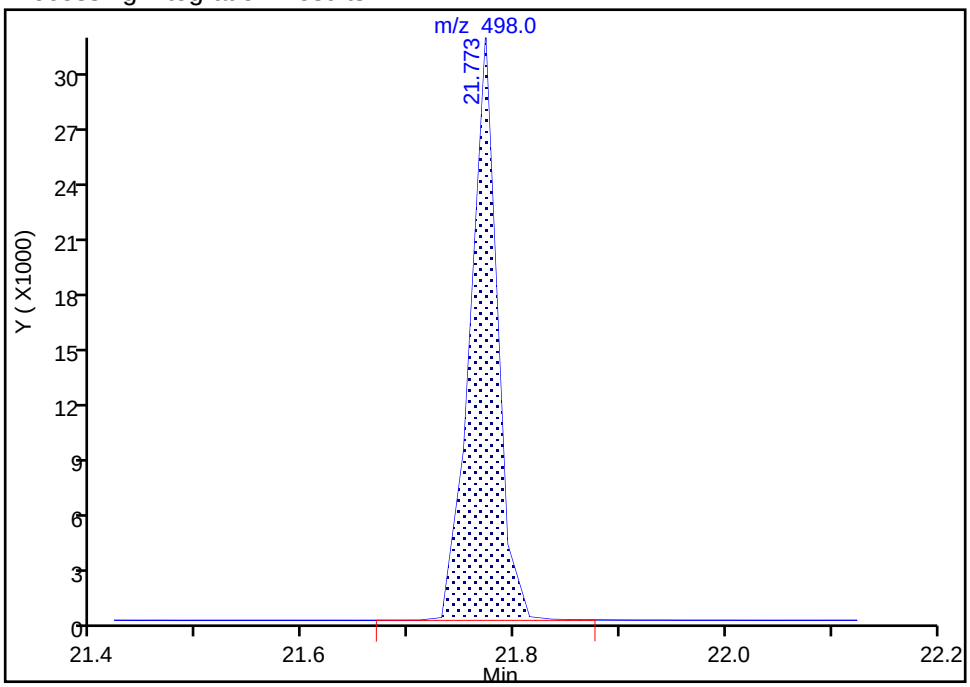
Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2708.D
Injection Date: 27-Feb-2019 17:18:30 Instrument ID: CMSX
Lims ID: LCSD 680-559624/5-A
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

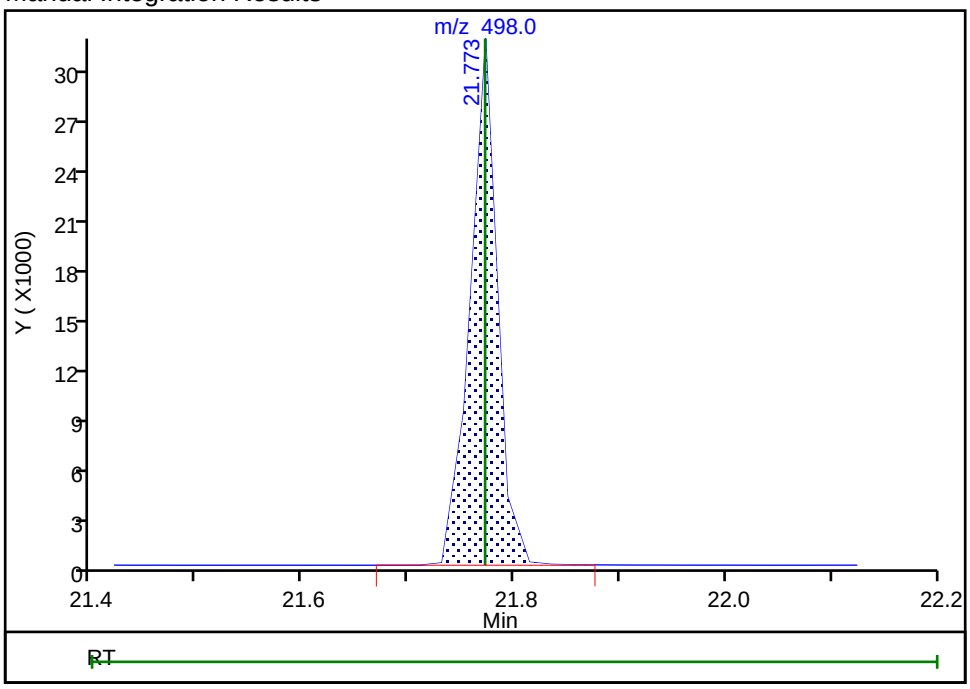
Processing Integration Results

RT: 21.77
Area: 55738
Amount: 9.095527
Amount Units: ug/ml



Manual Integration Results

RT: 21.77
Area: 55738
Amount: 9.095527
Amount Units: ug/ml



Reviewer: davisn, 28-Feb-2019 08:59:12
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

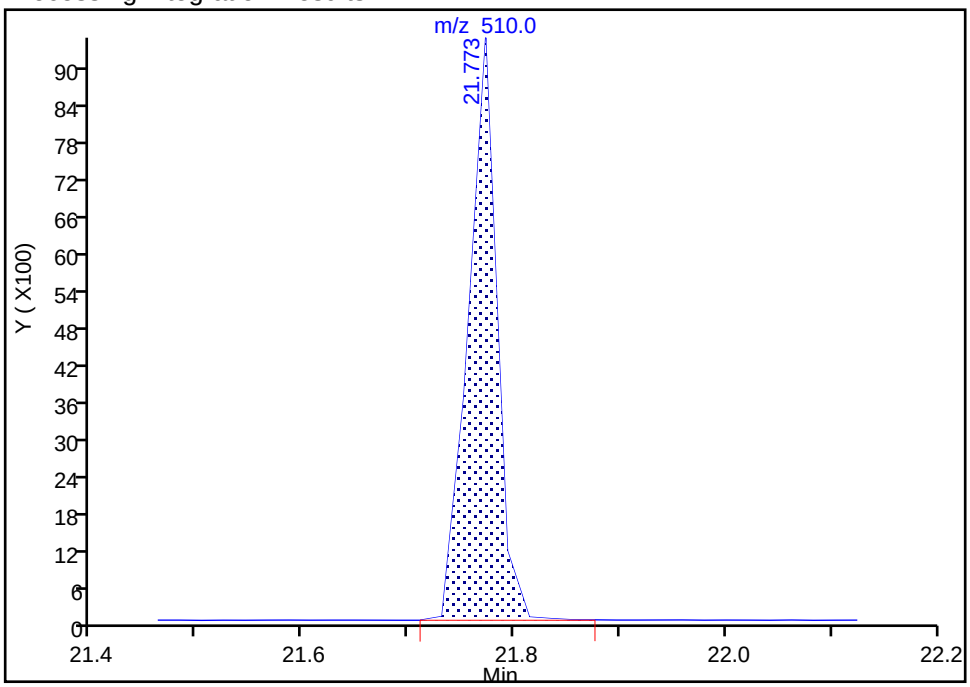
Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2708.D
Injection Date: 27-Feb-2019 17:18:30 Instrument ID: CMSX
Lims ID: LCSD 680-559624/5-A
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

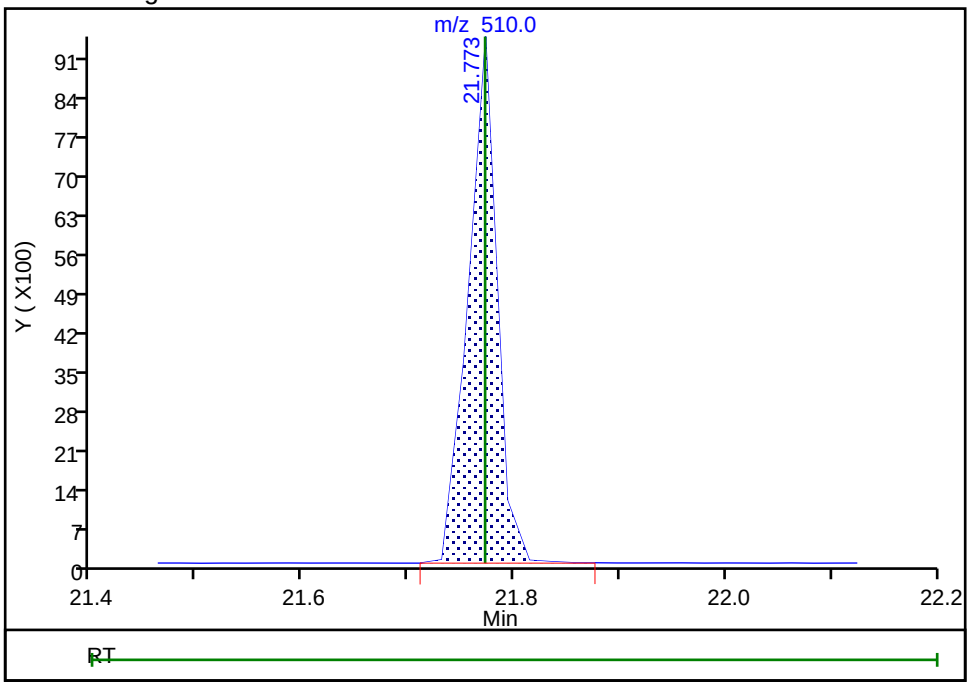
Processing Integration Results

RT: 21.77
Area: 17740
Amount: 2.133785
Amount Units: ug/ml



Manual Integration Results

RT: 21.77
Area: 17740
Amount: 2.133785
Amount Units: ug/ml



Reviewer: davisn, 28-Feb-2019 08:59:10
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah

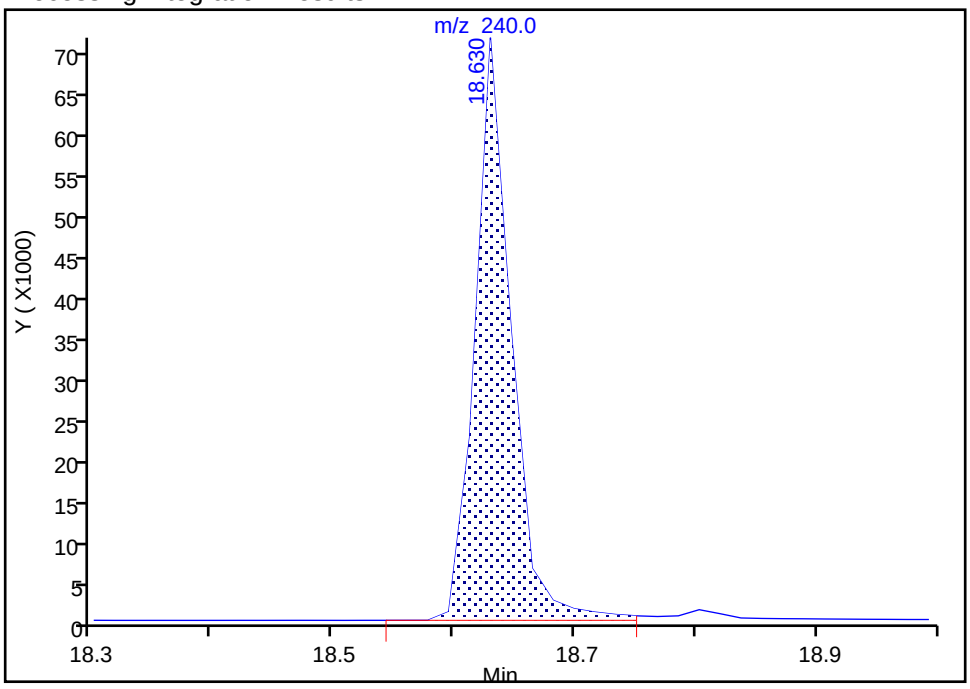
Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2708.D
Injection Date: 27-Feb-2019 17:18:30 Instrument ID: CMSX
Lims ID: LCSD 680-559624/5-A
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

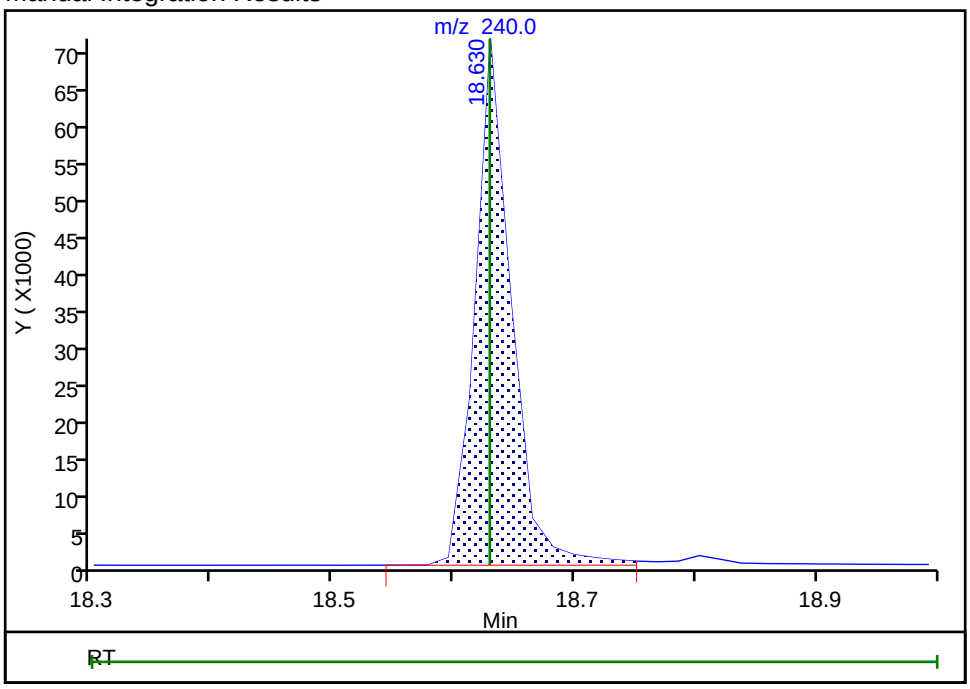
Processing Integration Results

RT: 18.63
Area: 147833
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.63
Area: 147833
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 28-Feb-2019 08:58:36
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: MRC-SW7A-S-021419-T MS | Lab Sample ID: 680-164605-9 MS

Matrix: Water | Lab File ID: xb2007.D

Analysis Method: 680 | Date Collected: 02/14/2019 13:42

Extract. Method: 680 | Date Extracted: 02/19/2019 13:42

Sample wt/vol: 1023.4(mL) | Date Analyzed: 02/20/2019 19:42

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559058 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	3.76		0.29	0.029
26601-64-9	Hexachlorobiphenyl	2.67		0.20	0.015
53742-07-7	Nonachlorobiphenyl	11.9		0.49	0.048
55722-26-4	Octachlorobiphenyl	4.19		0.29	0.037
27323-18-8	Monochlorobiphenyl	0.829		0.098	0.0055
2051-24-3	DCB Decachlorobiphenyl	6.46		0.49	0.068
25512-42-9	Total Dichlorobiphenyls	0.965		0.098	0.0053
25429-29-2	Total Pentachlorobiphenyls	4.30		0.20	0.014
26914-33-0	Total Tetrachlorobiphenyls	2.13		0.20	0.013
25323-68-6	Total Trichlorobiphenyls	1.06		0.098	0.0064

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	65		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2007.D
Lims ID: 680-164605-A-9-A MS
Client ID: MRC-SW7A-S-021419-T
Sample Type: MS
Inject. Date: 20-Feb-2019 19:42:30 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 680-164605-A-9-A MS
Misc. Info.: 680-0053931-006
Operator ID: Instrument ID: CMSX

Method: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m
Limit Group: 680
Last Update: 22-Feb-2019 09:05:18 Calib Date: 08-Jan-2019 18:02:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0319

First Level Reviewer: davisn Date: 22-Feb-2019 09:05:18

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
1 PCB-1	188	9.328	9.325	0.003	1	184955	NC	
A 23 Total Monochlorobiphenyls	188	9.762	9.265 -	10.260	0	184955	0.8489	
2 PCB-3	188	10.198	10.200	-0.002	15	74	NC	
3 PCB-10	222	10.670	10.663	0.007	1	164	NC	
126 PCB-5	222	11.422	10.875	0.547	1	1225	NC	
A 24 Total Dichlorobiphenyls	222	11.569	10.603 -	12.535	0	151498	0.9876	
4 PCB-19	256	11.982	11.980	0.002	1	116	NC	
125 PCB-29	256	11.982	12.393	-0.411	1	118	NC	
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	174301	0.7500	
7 PCB-54	292	13.368	13.107	0.261	1	167216	NC	
A 25 Total Trichlorobiphenyls	256	13.260	11.920 -	14.600	0	119755	1.09	
9 PCB-104	326	14.105	14.393	-0.288	62	269	0	
10 PCB-37	256	14.969	14.540	0.429	51	81	NC	
A 26 Total Tetrachlorobiphenyls	292	14.773	13.047 -	16.499	0	168412	2.18	
121 PCB-87	326	15.730	15.539	0.191	1	146	NC	
123 PCB-154	360	15.989	15.746	0.243	1	74	NC	
A 27 Total Pentachlorobiphenyls	326	16.192	14.338 -	18.045	0	277216	4.40	
12 PCB-77	292	16.439	16.437	0.002	56	62102	0	
13 PCB-188	394	17.216	17.206	0.010	1	236378	NC	
A 28 Total Hexachlorobiphenyls	360	17.480	15.502 -	19.457	0	170657	2.73	
14 PCB-126	326	18.115	17.985	0.130	0	2275	NC	
124 PCB-200	430	17.959	18.141	-0.182	1	577	NC	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	196762	0.7500	s
16 PCB-202	430	18.720	18.712	0.008	0	2979	NC	
A 29 Total Heptachlorobiphenyls	394	18.749	17.146 -	20.353	0	239772	3.85	
17 PCB-169	360	19.636	19.397	0.239	0	751	NC	
A 30 Total Octachlorobiphenyls	430	19.724	18.652 -	20.795	0	231308	4.29	
A 31 Total Nonachlorobiphenyls	464	20.250	18.500 -	22.000	0	134077	12.2	
19 PCB-208	464	20.286	20.293	-0.007	100	131772	0	
18 PCB-189	394	20.286	20.293	-0.007	0	139559	NC	
20 PCB-205	430	20.286	20.735	-0.449	0	1939	NC	

Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
21 PCB-206	464	21.279	21.283	-0.004	0	408	NC
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	78	23021	1.63
32 DCB Decachlorobiphenyl	498	21.796	21.799	-0.003	78	72766	6.61

QC Flag Legend

Processing Flags

NC - Not Calibrated

s - Failed ISTD Recovery Test

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.328	9.265 -	10.260	22	184955	0.8489			
190	9.328				60130		2.5- 3.5	3.1	
152	9.328				104561		50.7- 50.7	0.6	
153	9.328				44141		23.2- 23.2	1.4	
126 PCB-5									
222	11.422	10.875	0.547	1	1225	NC			
224	11.422	10.875	0.547		714		1.6- 1.6	1.7	
A 24 Total Dichlorobiphenyls									
222	11.422	10.603 -	12.535	38	997	0.006499			
224	11.422				681		1.3- 1.7	1.5	
152	11.407				885		31.7- 111.7	0.8	
186	11.407				160		0.0- 48.9	4.3	
188	11.422				201		0.0- 43.3	3.4	
222	11.569	10.603 -	12.535	23	150501	0.9811			
224	11.569				96604		1.3- 1.7	1.6	
152	11.554				116765		31.7- 111.7	0.8	
153	11.554				14788		0.0- 49.1	6.5	
186	11.554				14352		0.0- 48.9	6.7	
188	11.569				5110		0.0- 43.3	18.9	
125 PCB-29									
256	11.982	12.393	-0.411	1	118	NC			
258	11.982	12.393	-0.411		93		1.0- 1.0	1.3	
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	174301	0.7500			
189	12.409	12.409	0.0		26040		5.9- 7.5	6.7	
A 25 Total Trichlorobiphenyls									
256	13.087	11.920 -	14.600	96	119755	1.09			
258	13.087				115627		0.8- 1.2	1.0	
186	13.087				81844		26.5- 106.5	1.4	
188	13.087				26505		0.0- 61.5	4.4	
A 26 Total Tetrachlorobiphenyls									
292	13.368	13.047 -	16.499	0	167242	2.16			
290	13.368				131338		1.1- 1.5	1.3	
220	13.353				162475		58.1- 138.1	0.8	
222	13.353				104303		22.9- 102.9	1.3	
292	15.609	13.047 -	16.499	0	1170	0.0151			
290	15.609				966		1.1- 1.5	1.2	
220	15.609				651		58.1- 138.1	1.5	
222	15.609				584		22.9- 102.9	1.7	
121 PCB-87									
326	15.730	15.539	0.191	1	146	NC			
324	15.730	15.539	0.191		117		1.6- 1.6	1.2	
123 PCB-154									
360	15.989	15.746	0.243	1	74	NC			
362	15.989	15.746	0.243		61		1.3- 1.3	1.2	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 27 Total Pentachlorobiphenyls									
326	16.249	14.338	-18.045	89	173685	2.76			
324	16.249				108860		1.4- 1.8	1.6	
254	16.231				130302		41.9- 121.9	0.8	
256	16.249				124499		38.2- 118.2	0.9	
258	16.249				41410		0.0- 65.4	2.6	
326	17.198	14.338	-18.045	30	103531	1.64			
324	17.198				161913		1.4- 1.8	0.6	
254	17.198				69853		41.9- 121.9	2.3	
256	17.198				22611		38.2- 118.2	7.2	
13 PCB-188									
394	17.216	17.206	0.010	1	236378	NC			
396	17.216	17.206	0.010		224597		1.0- 1.0	1.1	
A 28 Total Hexachlorobiphenyls									
360	16.439	15.502	-19.457	59	170657	2.73			
362	16.439				135733		1.0- 1.4	1.3	
288	16.439				99509		61.3- 61.3	1.4	
290	16.439				128432		220.6- 220.6	1.1	
292	16.439				62102		0.0- 0.0	2.2	
124 PCB-200									
430	17.959	18.141	-0.182	1	577	NC			
428	17.942	18.141	-0.199		232		1.1- 1.1	2.5	
* 15 Chrysene-d12									s
240	18.668	18.668	0.0	100	196762	0.7500			
241	18.668	18.668	0.0		37330		4.3- 5.9	5.3	
A 29 Total Heptachlorobiphenyls									
394	17.216	17.146	-20.353	95	236314	3.79			
396	17.216				224544		0.8- 1.2	1.1	
322	17.198				102383		48.3- 48.3	2.2	
324	17.198				161913		77.4- 77.4	1.4	
394	18.132	17.146	-20.353	79	3458	0.0555			
396	18.132				3247		0.8- 1.2	1.1	
322	18.115				1834		48.3- 48.3	1.8	
324	18.115				2983		77.4- 77.4	1.1	
A 30 Total Octachlorobiphenyls									
430	18.720	18.652	-20.795	61	3032	0.0563			
428	18.703				2674		0.9- 1.3	1.1	
356	18.703				1222		39.6- 39.6	2.2	
358	18.703				2125		75.2- 75.2	1.3	
360	18.703				1639		59.6- 59.6	1.6	
430	18.858	18.652	-20.795	94	228276	4.24			
428	18.858				206507		0.9- 1.3	1.1	
356	18.841				83926		39.6- 39.6	2.5	
358	18.841				158809		75.2- 75.2	1.3	
360	18.841				126039		59.6- 59.6	1.6	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 31 Total Nonachlorobiphenyls									
464	20.286	18.500	-22.000	58	131712	12.0			
466	20.286				94477		1.1- 1.5	1.4	
390	20.286				68369		0.0- 0.0	1.4	
392	20.286				148208		0.0- 0.0	0.6	
394	20.286				139504		0.0- 0.0	0.7	
464	20.431	18.500	-22.000	74	868	0.0788			
466	20.431				683		1.1- 1.5	1.3	
390	20.431				408		0.0- 0.0	1.7	
392	20.431				790		0.0- 0.0	0.9	
394	20.431				740		0.0- 0.0	0.9	
464	21.796	18.500	-22.000	18	1497	0.1360			
466	21.796				1034		1.1- 1.5	1.4	
390	21.796				2121		0.0- 0.0	0.5	
392	21.796				4070		0.0- 0.0	0.3	
394	21.796				3556		0.0- 0.0	0.3	
$ 22 Decachlorobiphenyl-13C12									
510	21.796	21.796	0.0	78	23021	1.63			
512	21.796	21.796	0.0		17901		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									
498	21.796	21.799	-0.003	78	72766	6.61			
500	21.796	21.799	-0.003		58810		0.9- 1.3	1.2	
424	21.796	21.799	-0.003		31964		0.0- 0.0	1.0	
426	21.796	21.799	-0.003		79627		0.0- 0.0	1.0	
428	21.796	21.799	-0.003		86179		0.0- 0.0	1.0	
430	21.796	21.799	-0.003		53640		0.0- 0.0	1.0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

s - Failed ISTD Recovery Test

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

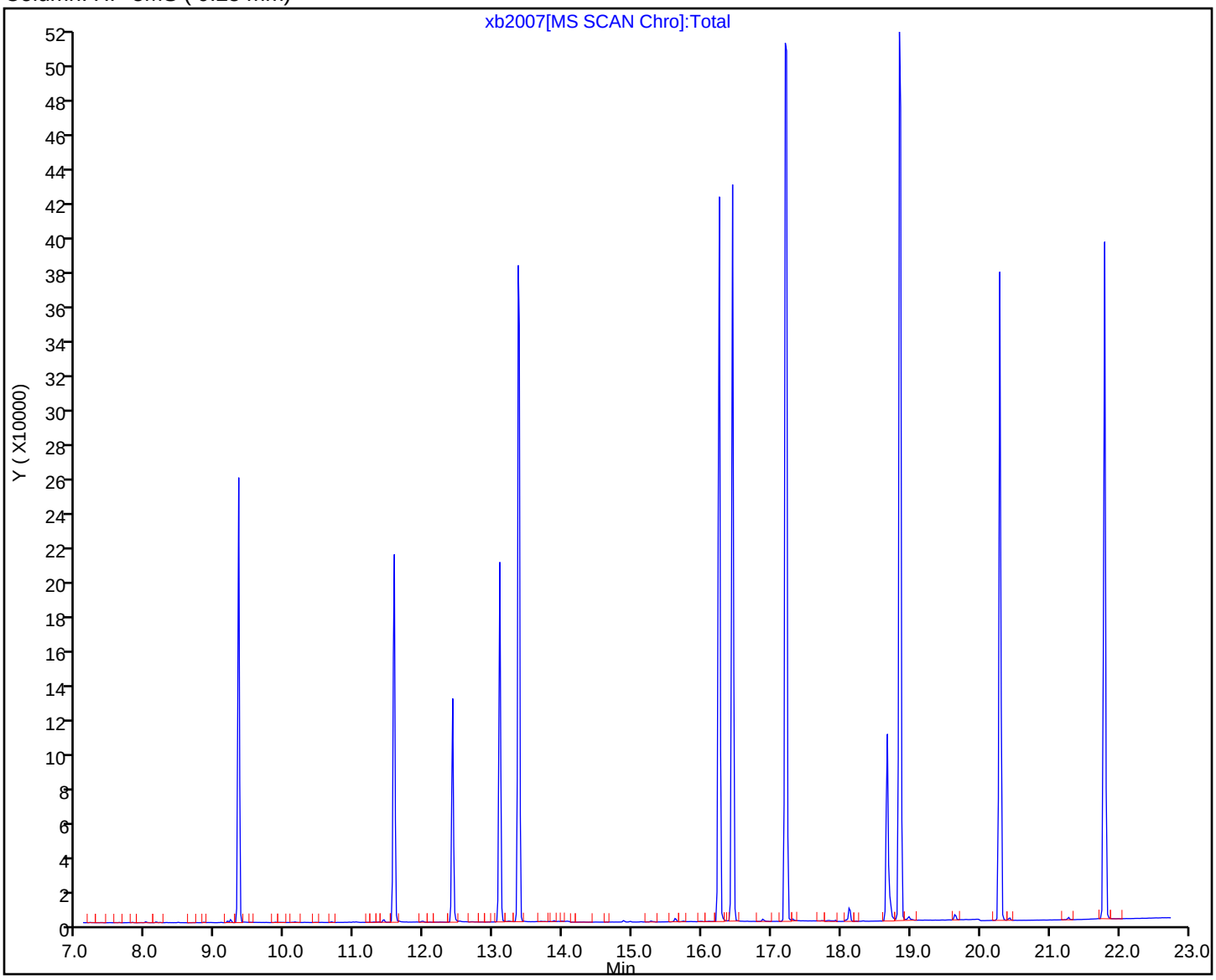
Report Date: 22-Feb-2019 09:05:18 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2007.D

Injection Date:	20-Feb-2019 19:42:30	Instrument ID:	CMSX		
Lims ID:	680-164605-A-9-A MS				
Client ID:	MRC-SW7A-S-021419-T				
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2007.D				
Lims ID:	680-164605-A-9-A MS				
Client ID:	MRC-SW7A-S-021419-T				
Sample Type:	MS				
Inject. Date:	20-Feb-2019 19:42:30	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-A-9-A MS				
Misc. Info.:	680-0053931-006				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:05:18	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:05:18		

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	1.63	65.13

FORM I

PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-164605-1

SDG No.:

Client Sample ID: MRC-SW7A-S-021419-T MSD | Lab Sample ID: 680-164605-9 MSD

Matrix: Water | Lab File ID: xb2008.D

Analysis Method: 680 | Date Collected: 02/14/2019 13:42

Extract. Method: 680 | Date Extracted: 02/19/2019 13:42

Sample wt/vol: 1033.9(mL) | Date Analyzed: 02/20/2019 20:10

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 559058 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	3.46		0.29	0.029
26601-64-9	Hexachlorobiphenyl	2.44		0.19	0.015
53742-07-7	Nonachlorobiphenyl	11.4		0.48	0.047
55722-26-4	Octachlorobiphenyl	3.92		0.29	0.037
27323-18-8	Monochlorobiphenyl	0.726		0.097	0.0054
2051-24-3	DCB Decachlorobiphenyl	6.19		0.48	0.068
25512-42-9	Total Dichlorobiphenyls	0.859		0.097	0.0052
25429-29-2	Total Pentachlorobiphenyls	2.54		0.19	0.014
26914-33-0	Total Tetrachlorobiphenyls	1.91		0.19	0.013
25323-68-6	Total Trichlorobiphenyls	0.954		0.097	0.0063

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	61		25-113

TestAmerica Savannah

Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2008.D
Lims ID: 680-164605-A-9-B MSD
Client ID: MRC-SW7A-S-021419-T
Sample Type: MSD
Inject. Date: 20-Feb-2019 20:10:30 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 680-164605-A-9-B MSD
Misc. Info.: 680-0053931-007
Operator ID: Instrument ID: CMSX

Method: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m
Limit Group: 680
Last Update: 22-Feb-2019 09:06:54 Calib Date: 08-Jan-2019 18:02:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0319

First Level Reviewer: davisn Date: 22-Feb-2019 09:06:54

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
1 PCB-1	188	9.328	9.325	0.003	1	160838	NC	
A 23 Total Monochlorobiphenyls	188	9.762	9.265 - 10.260		0	160838	0.7505	
2 PCB-3	188	10.109	10.200	-0.091	11	125	NC	
3 PCB-10	222	10.670	10.663	0.007	1	154	NC	
126 PCB-5	222	11.421	10.875	0.546	1	1181	NC	
A 24 Total Dichlorobiphenyls	222	11.569	10.603 - 12.535		0	134027	0.8883	
4 PCB-19	256	11.982	11.980	0.002	1	116	NC	
125 PCB-29	256	11.982	12.393	-0.411	1	105	NC	
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	162822	0.7500	
7 PCB-54	292	13.368	13.107	0.261	1	148938	NC	
A 25 Total Trichlorobiphenyls	256	13.260	11.920 - 14.600		0	106873	0.9866	
9 PCB-104	326	14.122	14.393	-0.271	62	493	0	
10 PCB-37	256	13.987	14.540	-0.553	1	145	NC	
A 26 Total Tetrachlorobiphenyls	292	14.773	13.047 - 16.499		0	150054	1.97	
121 PCB-87	326	15.730	15.539	0.191	1	148	NC	
11 PCB-155	360	15.989	15.562	0.427	1	71	NC	
123 PCB-154	360	15.989	15.746	0.243	1	70	NC	
A 27 Total Pentachlorobiphenyls	326	16.192	14.338 - 18.045		0	162390	2.62	
12 PCB-77	292	16.439	16.437	0.002	56	57085	0	
13 PCB-188	394	17.217	17.206	0.011	1	213298	NC	
A 28 Total Hexachlorobiphenyls	360	17.480	15.502 - 19.457		0	155313	2.52	
14 PCB-126	326	17.924	17.985	-0.061	0	140	NC	
124 PCB-200	430	18.703	18.141	0.562	1	2741	NC	
* 15 Chrysene-d12	240	18.669	18.668	0.001	100	193533	0.7500	s
16 PCB-202	430	18.703	18.712	-0.009	0	2901	NC	
A 29 Total Heptachlorobiphenyls	394	18.749	17.146 - 20.353		0	219103	3.57	
17 PCB-169	360	19.637	19.397	0.240	0	755	NC	
A 30 Total Octachlorobiphenyls	430	19.724	18.652 - 20.795		0	214704	4.05	
A 31 Total Nonachlorobiphenyls	464	20.250	18.500 - 22.000		0	127730	11.8	
19 PCB-208	464	20.287	20.293	-0.006	98	126647	0	
18 PCB-189	394	20.287	20.293	-0.006	0	130904	NC	

Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
20 PCB-205	430	20.287	20.735	-0.448	0	1686	NC
21 PCB-206	464	21.280	21.283	-0.003	0	513	NC
$ 22 Decachlorobiphenyl-13C12	510	21.797	21.796	0.001	77	21354	1.54
32 DCB Decachlorobiphenyl	498	21.797	21.799	-0.002	77	69351	6.40

QC Flag Legend

Processing Flags

NC - Not Calibrated

s - Failed ISTD Recovery Test

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.328	9.265 -	10.260	22	160838	0.7505			
190	9.328				52167		2.5- 3.5	3.1	
152	9.328				91017		50.7- 50.7	0.6	
153	9.328				38605		23.2- 23.2	1.4	
126 PCB-5									
222	11.421	10.875	0.546	1	1181	NC			
224	11.421	10.875	0.546		701		1.6- 1.6	1.7	
A 24 Total Dichlorobiphenyls									
222	11.421	10.603 -	12.535	40	918	0.006084			
224	11.421				577		1.3- 1.7	1.6	
152	11.407				732		31.7- 111.7	0.8	
186	11.407				134		0.0- 48.9	4.3	
188	11.421				179		0.0- 43.3	3.2	
222	11.569	10.603 -	12.535	23	133109	0.8822			
224	11.569				85628		1.3- 1.7	1.6	
152	11.554				103529		31.7- 111.7	0.8	
153	11.554				13155		0.0- 49.1	6.5	
186	11.554				12535		0.0- 48.9	6.8	
188	11.569				4548		0.0- 43.3	18.8	
125 PCB-29									
256	11.982	12.393	-0.411	1	105	NC			
258	11.982	12.393	-0.411		66		1.0- 1.0	1.6	
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	162822	0.7500			
189	12.409	12.409	0.0		24134		5.9- 7.5	6.7	
A 25 Total Trichlorobiphenyls									
256	13.087	11.920 -	14.600	95	106873	0.9866			
258	13.087				103124		0.8- 1.2	1.0	
186	13.087				72922		26.5- 106.5	1.4	
188	13.087				23968		0.0- 61.5	4.3	
A 26 Total Tetrachlorobiphenyls									
292	13.368	13.047 -	16.499	0	148980	1.96			
290	13.368				116716		1.1- 1.5	1.3	
220	13.353				142721		58.1- 138.1	0.8	
222	13.353				91595		22.9- 102.9	1.3	
292	15.609	13.047 -	16.499	0	1074	0.0141			
290	15.609				849		1.1- 1.5	1.3	
220	15.609				654		58.1- 138.1	1.3	
222	15.609				512		22.9- 102.9	1.7	
121 PCB-87									
326	15.730	15.539	0.191	1	148	NC			
324	15.730	15.539	0.191		95		1.6- 1.6	1.6	
123 PCB-154									
360	15.989	15.746	0.243	1	70	NC			
362	15.989	15.746	0.243		37		1.3- 1.3	1.9	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 27 Total Pentachlorobiphenyls									
326	16.249	14.338	-18.045	91	162390	2.62			
324	16.249				101297		1.4- 1.8	1.6	
254	16.231				119778		41.9- 121.9	0.8	
256	16.249				114633		38.2- 118.2	0.9	
258	16.249				37846		0.0- 65.4	2.7	
13 PCB-188									
394	17.217	17.206	0.011	1	213298	NC			
396	17.217	17.206	0.011		201768		1.0- 1.0	1.1	
A 28 Total Hexachlorobiphenyls									
360	16.439	15.502	-19.457	59	155313	2.52			
362	16.439				122966		1.0- 1.4	1.3	
288	16.439				93036		61.3- 61.3	1.3	
290	16.439				119578		220.6- 220.6	1.0	
292	16.439				57085		0.0- 0.0	2.2	
124 PCB-200									
430	18.703	18.141	0.562	1	2741	NC			
428	18.703	18.141	0.562		2439		1.1- 1.1	1.1	
* 15 Chrysene-d12									s
240	18.669	18.668	0.001	100	193533	0.7500			
241	18.669	18.668	0.001		37023		4.3- 5.9	5.2	
A 29 Total Heptachlorobiphenyls									
394	17.217	17.146	-20.353	96	213194	3.48			
396	17.217				201717		0.8- 1.2	1.1	
322	17.199				96680		48.3- 48.3	2.1	
324	17.199				151320		77.4- 77.4	1.3	
394	18.115	17.146	-20.353	59	3266	0.0533			
396	18.133				3290		0.8- 1.2	1.0	
322	18.115				1768		48.3- 48.3	1.9	
324	18.115				2911		77.4- 77.4	1.1	
394	18.842	17.146	-20.353	12	2643	0.0431			
396	18.842				2223		0.8- 1.2	1.2	
322	18.842				9983		48.3- 48.3	0.2	
324	18.842				8619		77.4- 77.4	0.3	
A 30 Total Octachlorobiphenyls									
430	18.703	18.652	-20.795	47	2760	0.0521			
428	18.703				2453		0.9- 1.3	1.1	
356	18.703				1134		39.6- 39.6	2.2	
358	18.703				2057		75.2- 75.2	1.2	
360	18.703				1622		59.6- 59.6	1.5	
430	18.859	18.652	-20.795	95	211944	4.00			
428	18.859				191509		0.9- 1.3	1.1	
356	18.842				76886		39.6- 39.6	2.5	
358	18.842				149150		75.2- 75.2	1.3	
360	18.842				118572		59.6- 59.6	1.6	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 31 Total Nonachlorobiphenyls									
464	20.287	18.500	-22.000	63	126239	11.7			
466	20.287				90392		1.1- 1.5	1.4	
390	20.287				63730		0.0- 0.0	1.4	
392	20.287				138899		0.0- 0.0	0.7	
394	20.287				130831		0.0- 0.0	0.7	
464	21.797	18.500	-22.000	18	1491	0.1377			
466	21.797				1049		1.1- 1.5	1.4	
390	21.797				2219		0.0- 0.0	0.5	
392	21.797				3936		0.0- 0.0	0.3	
394	21.797				3494		0.0- 0.0	0.3	
$ 22 Decachlorobiphenyl-13C12									
510	21.797	21.796	0.001	77	21354	1.54			
512	21.797	21.796	0.001		16465		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									
498	21.797	21.799	-0.002	77	69351	6.40			
500	21.797	21.799	-0.002		55273		0.9- 1.3	1.3	
424	21.797	21.799	-0.002		31031		0.0- 0.0	1.0	
426	21.797	21.799	-0.002		76292		0.0- 0.0	1.0	
428	21.797	21.799	-0.002		82731		0.0- 0.0	1.0	
430	21.797	21.799	-0.002		51048		0.0- 0.0	1.0	

QC Flag Legend

Processing Flags

NC - Not Calibrated

s - Failed ISTD Recovery Test

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

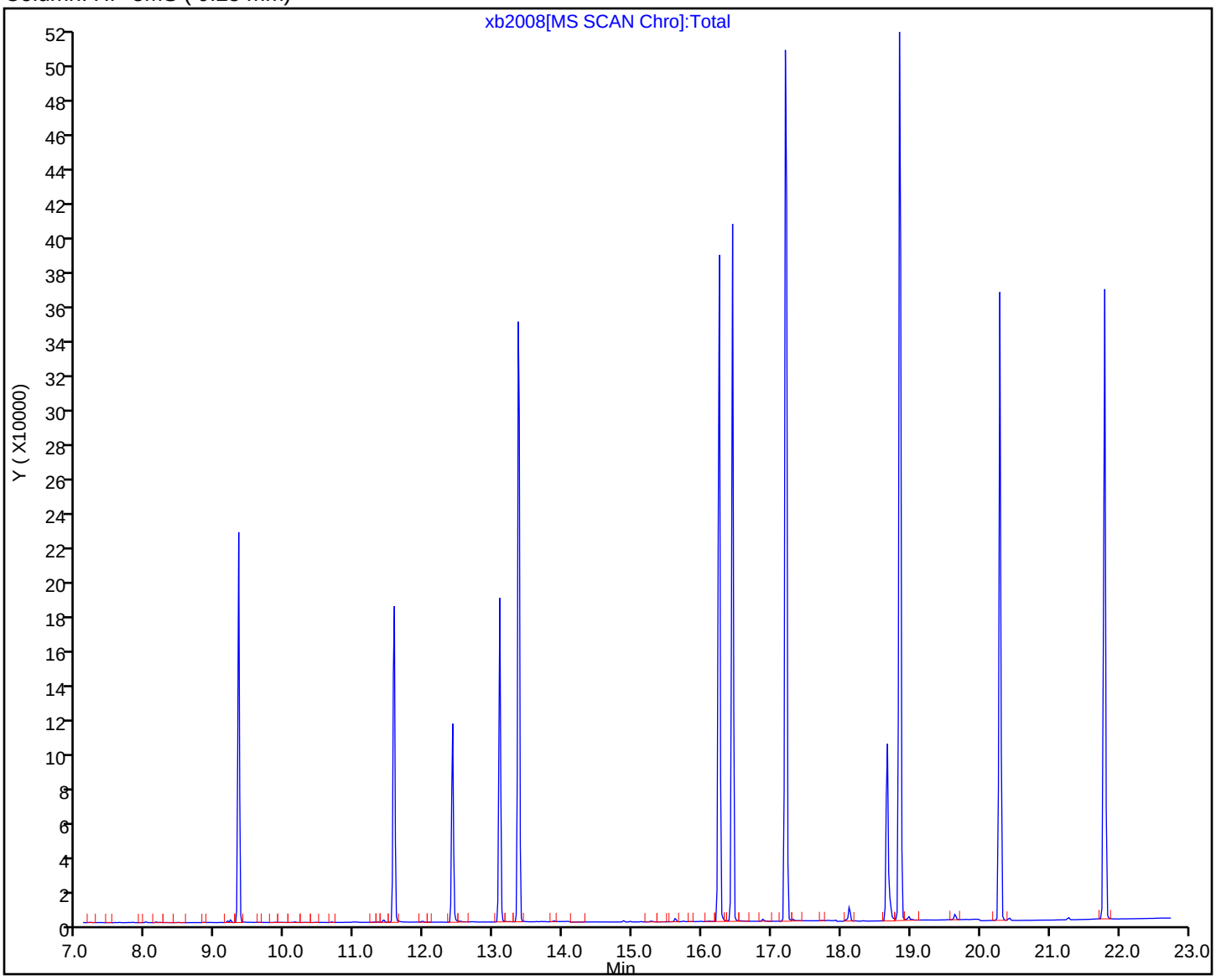
Report Date: 22-Feb-2019 09:06:55 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2008.D

Injection Date:	20-Feb-2019 20:10:30	Instrument ID:	CMSX		
Lims ID:	680-164605-A-9-B MSD				
Client ID:	MRC-SW7A-S-021419-T				
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2008.D				
Lims ID:	680-164605-A-9-B MSD				
Client ID:	MRC-SW7A-S-021419-T				
Sample Type:	MSD				
Inject. Date:	20-Feb-2019 20:10:30	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-164605-A-9-B MSD				
Misc. Info.:	680-0053931-007				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190220-53931.b\680_CMSX.m				
Limit Group:	680				
Last Update:	22-Feb-2019 09:06:54	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0319				
First Level Reviewer: davisn		Date:	22-Feb-2019 09:06:54		

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	1.54	61.42

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Instrument ID: CMSX Start Date: 01/08/2019 14:10

Analysis Batch Number: 554469 End Date: 01/08/2019 18:31

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 680-554469/25		01/08/2019 14:10	1	xa0805.D	HP-5MS 0.25(mm)
WDM 680-554469/26		01/08/2019 14:41	1		HP-5MS 0.25(mm)
ICISAV 680-554469/3		01/08/2019 15:11	1	xa0807.D	HP-5MS 0.25(mm)
IC 680-554469/5		01/08/2019 16:08	1	xa0809.D	HP-5MS 0.25(mm)
IC 680-554469/6		01/08/2019 16:37	1	xa0810.D	HP-5MS 0.25(mm)
IC 680-554469/27		01/08/2019 17:05	1	xa0850.D	HP-5MS 0.25(mm)
IC 680-554469/7		01/08/2019 17:34	1	xa0811.D	HP-5MS 0.25(mm)
IC 680-554469/8		01/08/2019 18:02	1	xa0812.D	HP-5MS 0.25(mm)
ICV 680-554469/9		01/08/2019 18:31	1	xa0813.D	HP-5MS 0.25(mm)

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Instrument ID: CMSX Start Date: 02/20/2019 17:15

Analysis Batch Number: 559058 End Date: 02/21/2019 04:44

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 680-559058/1		02/20/2019 17:15	1	xb2002.D	HP-5MS 0.25(mm)
WDM 680-559058/2		02/20/2019 17:46	1	xb2003.D	HP-5MS 0.25(mm)
CCVIS 680-559058/3		02/20/2019 18:16	1	xb2004.D	HP-5MS 0.25(mm)
MB 680-558724/18-A		02/20/2019 18:45	1	xb2005.D	HP-5MS 0.25(mm)
LCS 680-558724/19-A		02/20/2019 19:13	1	xb2006.D	HP-5MS 0.25(mm)
680-164605-9 MS		02/20/2019 19:42	1	xb2007.D	HP-5MS 0.25(mm)
680-164605-9 MSD		02/20/2019 20:10	1	xb2008.D	HP-5MS 0.25(mm)
680-164605-1		02/20/2019 20:39	1	xb2009.D	HP-5MS 0.25(mm)
680-164605-2		02/20/2019 21:07	1	xb2010.D	HP-5MS 0.25(mm)
680-164605-3		02/20/2019 21:36	1	xb2011.D	HP-5MS 0.25(mm)
680-164605-4		02/20/2019 22:04	1	xb2012.D	HP-5MS 0.25(mm)
680-164605-5		02/20/2019 22:33	1	xb2013.D	HP-5MS 0.25(mm)
680-164605-6		02/20/2019 23:02	1	xb2014.D	HP-5MS 0.25(mm)
680-164605-7		02/20/2019 23:30	1	xb2015.D	HP-5MS 0.25(mm)
680-164605-8		02/20/2019 23:59	1	xb2016.D	HP-5MS 0.25(mm)
680-164605-9		02/21/2019 00:27	1	xb2017.D	HP-5MS 0.25(mm)
680-164605-11		02/21/2019 01:24	1	xb2019.D	HP-5MS 0.25(mm)
680-164605-12		02/21/2019 01:53	1	xb2020.D	HP-5MS 0.25(mm)
680-164605-14		02/21/2019 02:50	1	xb2022.D	HP-5MS 0.25(mm)
680-164605-15		02/21/2019 03:18	1	xb2023.D	HP-5MS 0.25(mm)
680-164605-16		02/21/2019 03:47	1	xb2024.D	HP-5MS 0.25(mm)
680-164605-17		02/21/2019 04:16	1	xb2025.D	HP-5MS 0.25(mm)
CCV 680-559058/25		02/21/2019 04:44	1	xb2026.D	HP-5MS 0.25(mm)

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Instrument ID: CMSX Start Date: 02/21/2019 05:43

Analysis Batch Number: 559059 End Date: 02/21/2019 16:43

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 680-559059/1		02/21/2019 05:43	1	xb2028.D	HP-5MS 0.25(mm)
WDM 680-559059/2		02/21/2019 06:14	1	xb2029.D	HP-5MS 0.25(mm)
CCVIS 680-559059/3		02/21/2019 06:44	1	xb2030.D	HP-5MS 0.25(mm)
ZZZZZ		02/21/2019 07:13	1		HP-5MS 0.25(mm)
ZZZZZ		02/21/2019 07:41	1		HP-5MS 0.25(mm)
ZZZZZ		02/21/2019 08:10	1		HP-5MS 0.25(mm)
680-164605-10		02/21/2019 08:38	1	xb2034.D	HP-5MS 0.25(mm)
680-164605-13		02/21/2019 09:07	1	xb2035.D	HP-5MS 0.25(mm)
ZZZZZ		02/21/2019 09:35	1		HP-5MS 0.25(mm)
ZZZZZ		02/21/2019 10:04	1		HP-5MS 0.25(mm)
ZZZZZ		02/21/2019 10:32	1		HP-5MS 0.25(mm)
ZZZZZ		02/21/2019 11:01	1		HP-5MS 0.25(mm)
ZZZZZ		02/21/2019 11:58	1		HP-5MS 0.25(mm)
ZZZZZ		02/21/2019 12:26	1		HP-5MS 0.25(mm)
ZZZZZ		02/21/2019 12:55	1		HP-5MS 0.25(mm)
ZZZZZ		02/21/2019 13:52	1		HP-5MS 0.25(mm)
ZZZZZ		02/21/2019 14:21	1		HP-5MS 0.25(mm)
CCV 680-559059/21		02/21/2019 16:43	1	xb2051.D	HP-5MS 0.25(mm)

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Instrument ID: CMSX Start Date: 02/25/2019 11:57

Analysis Batch Number: 559536 End Date: 02/25/2019 17:53

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 680-559536/1		02/25/2019 11:57	1	xb2502.D	HP-5MS 0.25(mm)
WDM 680-559536/2		02/25/2019 12:28	1		HP-5MS 0.25(mm)
ICISAV 680-559536/3		02/25/2019 13:07	1	xb2504.D	HP-5MS 0.25(mm)
IC 680-559536/4		02/25/2019 14:04	1	xb2507.D	HP-5MS 0.25(mm)
IC 680-559536/8		02/25/2019 14:33	1	xb2508.D	HP-5MS 0.25(mm)
IC 680-559536/9		02/25/2019 15:02	1	xb2509.D	HP-5MS 0.25(mm)
IC 680-559536/10		02/25/2019 15:30	1	xb2510.D	HP-5MS 0.25(mm)
IC 680-559536/11		02/25/2019 15:59	1	xb2511.D	HP-5MS 0.25(mm)
ICV 680-559536/12		02/25/2019 16:27	1	xb2512.D	HP-5MS 0.25(mm)
ZZZZZ		02/25/2019 16:56	1		HP-5MS 0.25(mm)
ZZZZZ		02/25/2019 17:24	1		HP-5MS 0.25(mm)
CCV 680-559536/7		02/25/2019 17:53	1		HP-5MS 0.25(mm)

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Instrument ID: CMSX Start Date: 02/27/2019 14:22

Analysis Batch Number: 559821 End Date: 02/27/2019 20:09

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 680-559821/1		02/27/2019 14:22	1	xb2702.D	HP-5MS 0.25(mm)
WDM 680-559821/2		02/27/2019 14:53	1	xb2703.D	HP-5MS 0.25(mm)
CCVIS 680-559821/3		02/27/2019 15:23	1	xb2704.D	HP-5MS 0.25(mm)
MB 680-559624/3-A		02/27/2019 16:20	1	xb2706.D	HP-5MS 0.25(mm)
LCS 680-559624/4-A		02/27/2019 16:49	1	xb2707.D	HP-5MS 0.25(mm)
LCSD 680-559624/5-A		02/27/2019 17:18	1	xb2708.D	HP-5MS 0.25(mm)
ZZZZZ		02/27/2019 17:46	1		HP-5MS 0.25(mm)
680-164605-6 RE		02/27/2019 18:15	1	xb2710.D	HP-5MS 0.25(mm)
ZZZZZ		02/27/2019 18:43	1		HP-5MS 0.25(mm)
ZZZZZ		02/27/2019 19:12	1		HP-5MS 0.25(mm)
ZZZZZ		02/27/2019 19:40	1		HP-5MS 0.25(mm)
ZZZZZ		02/27/2019 19:40	1		HP-5MS 0.25(mm)
CCV 680-559821/13		02/27/2019 20:09	1	xb2714.D	HP-5MS 0.25(mm)

PCBS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Batch Number: 558724 Batch Start Date: 02/19/19 13:42 Batch Analyst: Wilson, Charles E

Batch Method: 680 Batch End Date: 02/20/19 07:53

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ResidualChloCheck	ReceivedpH
680-164605-A-1	MRC-SW5A1-S-021419-T	680, 680	T	1534.6 g	508.6 g	1026 mL	1 mL	N	7 SU
680-164605-A-2	MRC-SW5A2-S-021419-T	680, 680	T	1529.4 g	508.9 g	1020.5 mL	1 mL	N	7 SU
680-164605-A-3	MRC-SW13A-S-021419-T	680, 680	T	1527.5 g	508.2 g	1019.3 mL	1 mL	N	7 SU
680-164605-A-4	MRC-SW8B-S-021419-T	680, 680	T	1515.9 g	506.6 g	1009.3 mL	1 mL	N	7 SU
680-164605-B-5	MRC-SW8A-S-021419-T	680, 680	T	1527.9 g	507.4 g	1020.5 mL	1 mL	N	7 SU
680-164605-B-6	MRC-SW9A-S-021419-T	680, 680	T	1517.9 g	505.8 g	1012.1 mL	1 mL	N	7 SU
680-164605-A-7	MRC-SW33-021419-T	680, 680	T	1556.8 g	514.2 g	1042.6 mL	1 mL	N	7 SU
680-164605-A-8	MRC-SW40-021419-T	680, 680	T	1527.9 g	512.9 g	1015 mL	1 mL	N	7 SU
680-164605-B-9	MRC-SW7A-S-021419-T	680, 680	T	1545.2 g	506.5 g	1038.7 mL	1 mL	N	7 SU
680-164605-A-10	MRC-SW7A-S-021419-T-DUP	680, 680	T	1547.4 g	508.5 g	1038.9 mL	1 mL	N	7 SU
680-164605-A-11	MRC-SW30-021419-T	680, 680	T	1558.3 g	512.9 g	1045.4 mL	1 mL	N	7 SU
680-164605-B-12	MRC-SW15A-S-021419-T	680, 680	T	1532.5 g	508.4 g	1024.1 mL	1 mL	N	7 SU
680-164605-B-13	EB-tube1-021419-T	680, 680	T	1543.2 g	508.6 g	1034.6 mL	1 mL	N	7 SU
680-164605-B-14	EB-tube2-021419-T	680, 680	T	1531.7 g	508.2 g	1023.5 mL	1 mL	N	7 SU
680-164605-B-15	MRC-SW32-021419-T	680, 680	T	1551.6 g	513.8 g	1037.8 mL	1 mL	N	7 SU
680-164605-B-16	FB-SW-021419-T	680, 680	T	1535.0 g	507.5 g	1027.5 mL	1 mL	N	7 SU
680-164605-A-17	MRC-SW31-021419-T	680, 680	T	1546.4 g	514.6 g	1031.8 mL	1 mL	N	7 SU
MB 680-558724/18		680, 680				1000 mL	1 mL	N	7 SU
LCS 680-558724/19		680, 680				1000 mL	1 mL	N	7 SU
680-164605-A-9 MS	MRC-SW7A-S-021419-T	680, 680	T	1528.9 g	505.5 g	1023.4 mL	1 mL	N	7 SU
680-164605-A-9 MSD	MRC-SW7A-S-021419-T	680, 680	T	1539.9 g	506.0 g	1033.9 mL	1 mL	N	7 SU

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Batch Number: 558724 Batch Start Date: 02/19/19 13:42 Batch Analyst: Wilson, Charles E

Batch Method: 680 Batch End Date: 02/20/19 07:53

Lab Sample ID	Client Sample ID	Method Chain	Basis	680wkSPIKE 00120	680wkSURR-NEW 00034	680wkSURR-NEW 00035			
680-164605-A-1	MRC-SW5A1-S-021419-T	680, 680	T		1 mL				
680-164605-A-2	MRC-SW5A2-S-021419-T	680, 680	T		1 mL				
680-164605-A-3	MRC-SW13A-S-021419-T	680, 680	T		1 mL				
680-164605-A-4	MRC-SW8B-S-021419-T	680, 680	T		1 mL				
680-164605-B-5	MRC-SW8A-S-021419-T	680, 680	T		1 mL				
680-164605-B-6	MRC-SW9A-S-021419-T	680, 680	T			1 mL			
680-164605-A-7	MRC-SW33-021419-T	680, 680	T			1 mL			
680-164605-A-8	MRC-SW40-021419-T	680, 680	T			1 mL			
680-164605-B-9	MRC-SW7A-S-021419-T	680, 680	T			1 mL			
680-164605-A-10	MRC-SW7A-S-021419-T-DUP	680, 680	T			1 mL			
680-164605-A-11	MRC-SW30-021419-T	680, 680	T			1 mL			
680-164605-B-12	MRC-SW15A-S-021419-T	680, 680	T			1 mL			
680-164605-B-13	EB-tube1-021419-T	680, 680	T			1 mL			
680-164605-B-14	EB-tube2-021419-T	680, 680	T			1 mL			
680-164605-B-15	MRC-SW32-021419-T	680, 680	T			1 mL			
680-164605-B-16	FB-SW-021419-T	680, 680	T			1 mL			
680-164605-A-17	MRC-SW31-021419-T	680, 680	T			1 mL			
MB 680-558724/18		680, 680				1 mL			
LCS 680-558724/19		680, 680		1 mL		1 mL			
680-164605-A-9 MS	MRC-SW7A-S-021419-T	680, 680	T	1 mL		1 mL			
680-164605-A-9 MSD	MRC-SW7A-S-021419-T	680, 680	T	1 mL		1 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Batch Number: 558724 Batch Start Date: 02/19/19 13:42 Batch Analyst: Wilson, Charles E

Batch Method: 680 Batch End Date: 02/20/19 07:53

Batch Notes	
Balance ID	23
Batch Comment	680 box 125
Boiling Chips ID	901800
Concentration 1 Thermometer ID	50
Analyst ID - Concentration	JC
Exchange Solvent ID	5859923
Analyst ID - Extraction	CEW/CMJ
Extraction 1 End Time	02/20/2019 07:53
Extraction 1 Start Time	02/19/2019 13:42
Method/Fraction	680
pH Indicator ID	5904645
Pipette/Syringe/Dispenser ID	AA06G
Prep Solvent ID	5904693
Residual Chlorine Indicator ID	5775443
Analyst ID - Spike Analyst	CEW
Analyst ID - Spike Witness Analyst	CMJ
Sufficient Volume for Batch QC	Yes

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Batch Number: 559624 Batch Start Date: 02/26/19 13:54 Batch Analyst: Wilson, Charles E

Batch Method: 680 Batch End Date: 02/27/19 08:05

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ResidualChloCheck	ReceivedpH
680-164605-A-6	MRC-SW9A-S-021419-T	680, 680	T	1537.7 g	503.2 g	1034.5 mL	1 mL	N	7 SU
MB 680-559624/3		680, 680				1000 mL	1 mL	N	7 SU
LCS 680-559624/4		680, 680				1000 mL	1 mL	N	7 SU
LCSD 680-559624/5		680, 680				1000 mL	1 mL	N	7 SU

Lab Sample ID	Client Sample ID	Method Chain	Basis	680wkSPIKE 00121	680wkSURR-NEW 00035	AnalysisComment			
680-164605-A-6	MRC-SW9A-S-021419-T	680, 680	T		1 mL	ReWrk			
MB 680-559624/3		680, 680			1 mL				
LCS 680-559624/4		680, 680		1 mL	1 mL				
LCSD 680-559624/5		680, 680		1 mL	1 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 680-164605-1

SDG No.:

Batch Number: 559624 Batch Start Date: 02/26/19 13:54 Batch Analyst: Wilson, Charles E

Batch Method: 680 Batch End Date: 02/27/19 08:05

Batch Notes	
Balance ID	23
Batch Comment	680 box 122
Boiling Chips ID	901800
Concentration 1 Thermometer ID	50
Analyst ID - Concentration	JC
Exchange Solvent ID	5897671
Analyst ID - Extraction	CEW
Extraction 1 End Time	02/27/2019 08:05
Extraction 1 Start Time	02/26/2019 13:54
Method/Fraction	680
pH Indicator ID	5904644
Pipette/Syringe/Dispenser ID	AA06G
Prep Solvent ID	5904693
Residual Chlorine Indicator ID	5775443
Analyst ID - Spike Analyst	CEW
Analyst ID - Spike Witness Analyst	JAM

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Phone (912) 354-7858 Fax (912) 352-0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Zach Neigh	Lab PM: Barnett, Eddie T	Carrier Tracking No(s):	COC No:
Client Contact: Mr. Naoum Tavantzis	Phone: 301-674-3199	E-Mail: eddie.barnett@testamericainc.com		Page: 1 of 1
Company: AECOM				Job #: 60555202
Address: 1600 Perimeter Park Drive Suite 400	Due Date Requested: By 2-22-19			
City: Morrisville	TAT Requested (days): Rush 5 day			
State, Zip: NC, 27560				
Phone: 443-737-1299(Tel)	PO #: Purchase Order Requested			
Email: Naoum.Tavantzis@aecom.com	WO #:			
Project Name: MRC Surface Water Sampling	Project #: 68021277			
Site: Dark Head Cove	SSOW#:			

680-164605 Chain of Custody

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	680 - Routine 680 Sublist	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N		
MRC-SW5A1-S-021419-T	2-14-19	1107	G	SW	N	N	2		Also email results to: ravi.damera@aecom.com holly.braun@aecom.com zachary.neighe aecom.com
MRC-SW5A2-S-021419-T	2-14-19	1124	G	SW	N	N	2		
MRC-SW13A-S-021419-T	2-14-19	1144	G	SW	N	N	2		
~~MRC-SW15A-S-021419-T~~	~~2-14-19~~	~~1214~~	~~G~~	~~SW~~	~~N~~		2		HB 2-14-19
~~MRC-SW8A-S-021419-T~~	~~2-14-19~~	~~1232~~	~~G~~	~~SW~~	~~N~~		2		HB 2-14-19
MRC-SW8B-S-021419-T	2-14-19	1254	G	SW	N	N	2		total of 4 coolers being shipped

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) EQuIS

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Holly Braun	2-14-19 1830	AECOM	C Damera	02-15-19 0730	Savi
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 3.3 (CF) 3.5°

Ver: 08/04/2016

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Phone (912) 354-7858 Fax (912) 352-0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Zach Neigh	Lab PM: Barnett, Eddie T	Carrier Tracking No(s):	COC No:
Client Contact: Mr. Naoum Tavantzis	Phone: 301-674-3199	E-Mail: eddie.barnett@testamericainc.com		Page: 1 of 1
Company: AECOM		Analysis Requested		Job #: 60555202
Address: 1600 Perimeter Park Drive Suite 400	Due Date Requested: Rush by 2-22-19			Preservation Codes:
City: Morrisville	TAT Requested (days): Rush 5-day			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: NC, 27560				
Phone: 443-737-1299(Tel)	PO #: Purchase Order Requested			Other:
Email: Naoum.Tavantzis@aecom.com	WO #:			
Project Name: MRC Surface Water Sampling	Project #: 68021277			
Site: Dark Head Cove	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	680 - Routine 680 Sublist	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N		
~~FB-SW-021419-A~~	~~2/14/19~~	2N							total of 4 coolers being shipped
MRC-SW8A-S-021419-T	2/14/19	1232	G	SW	N	N	X	2	
MRC-SW9A-S-021419-T	2/14/19	1314	G	SW	N	N	X	2	
MRC-SW33-021419-T	2/14/19	1730	G	SW	N	N	X	2	
MRC-SW40-021419-T	2/14/19	1600	G	SW	N	N	X	2	
									Email results to: Holly.Brown@aecom.com Ravi.Damera@aecom.com zachary.neigh@aecom.com

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, (IV) Other (specify) EQuIS

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Holly Brown	2-14-19 / 1830	AECOM	Ravida	2-15-19 0730	Sae.
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.7 (cf) 3.9c

Ver: 08/04/2016

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Phone (912) 354-7858 Fax (912) 352-0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Zach Neigh	Lab PM: Barnett, Eddie T	Carrier Tracking No(s):	COC No:
Client Contact: Mr. Naoum Tavantzis	Phone: 301-674-3799	E-Mail: eddie.barnett@testamericainc.com		Page: 1 of 1
Company: AECOM				Job #: 60555202
Address: 1600 Perimeter Park Drive Suite 400	Due Date Requested: By 2-22-19			
City: Morrisville	TAT Requested (days): Rush 5-day			
State, Zip: NC, 27560				
Phone: 443-737-1299(Tel)	PO #: Purchase Order Requested			
Email: Naoum.Tavantzis@aecom.com	WO #:			
Project Name: MRC Surface Water Sampling	Project #: 68021277			
Site: Park Head Cove	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	680 - Routine 680 Sublist	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N		
MRC-SW7A-S-021419-T-MSD	2-14-19	1342	G	SW	N	N	2		Also e-mail results to: ravi.dasera@aecom.com holly.brown@aecom.com zachary.neigh@aecom.com
MRC-SW7A-S-021419-T-Dup	2-14-19	1344	G	SW	N	N	2		
MRC-SW7A-S-021419-T-MS	2-14-19	1342	G	SW	N	N	2		
MRC-SW7A-S-021419-T	2-14-19	1342	G	SW	N	N	2		
MRC-SW30-021419-T	2-14-19	1630	G	SW	N	N	2		total of 4 coolers being shipped

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, (IV), Other (specify) EQuIS

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Holly Brown	2-14-19 1830	AECOM	Ravi Dasera	02-15-19 0735	SAV
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 3.6(CF) 3.8C

Ver: 08/04/2016

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Phone (912) 354-7858 Fax (912) 352-0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Zach Neigh	Lab PM: Barnett, Eddie T	Carrier Tracking No(s):	COC No:
Client Contact: Mr. Naoum Tavantzis	Phone: 301-674-3199	E-Mail: eddie.barnett@testamericainc.com		Page: 1 of 1
Company: AECOM				Job #: 60555202
Address: 1600 Perimeter Park Drive Suite 400	Due Date Requested: Due by 2-22-19	Analysis Requested		Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify); Other:
City: Morrisville	TAT Requested (days): Rush 5-day			
State, Zip: NC, 27560				
Phone: 443-737-1299(Tel)	PO #: Purchase Order Requested			
Email: Naoum.Tavantzis@aecom.com	WO #:			
Project Name: MRC Surface Water Sampling	Project #: 68021277			
Site: Dark Head Cove	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	680 - Routine 680 Sublist	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N		total of 4 coolers being shipped.
MRC-SW15A-S-021419-T	2-14-19	1214	G	SW	N	N	2		
EB-tube1-021419-T	2-14-19	1435	N/A	DI	N	N	2		equipment blank
EB-tube2-021419-T	2-14-19	1450	N/A	DI	N	N	2		equipment blank
MRC-SW32-021419-T	2-14-19	1715	G	SW	N	N	2		
FB-SW-021419-T	2-14-19	1430	G	DI	N	N	2		field blank
									Email results to:
									Holly.Brown@aecom.com
									Ravi.Japera@aecom.com
									zachary.neigh@aecom.com

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Holly Brown	2-14-19 / 1830	AECOM	[signature]	02-15-19 0730	SW
2						
3						

Custody Seals Intact: △ Yes △ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3.3/3.5

Ver: 08/04/2016

Login Sample Receipt Checklist

Client: AECOM

Job Number: 680-164605-1

Login Number: 164605
List Number: 1
Creator: Banda, Christy S

List Source: TestAmerica Savannah

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Received extra samples not listed on COC.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

February 28, 2019 Service Request No:R1901380

Naoum Tavantzis
AECOM
1600 Perimeter Park Drive
Suite 400
Morrisville, NC 27560

Laboratory Results for: Lockheed Martin Middle River Comparison Study SW

Dear Naoum,

Enclosed are the results of the sample(s) submitted to our laboratory February 15, 2019
For your reference, these analyses have been assigned our service request number **R1901380.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janice Jaeger
Project Manager

CC: Holly Brown

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

ALS Environmental
ALS Group USA, Corp
1565 Jefferson Road, Building 300, Suite 360
Rochester, NY 14623
T : +1 585 288 5380
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www.alsglobal.com

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Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: AECOM **Service Request:** R1901380
Project: Lockheed Martin Middle River Comparison Study SW **Date Received:** 02/15/2019
Sample Matrix: Water

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV, validation deliverables including all summary forms and associated raw data. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt:

Fifteen water samples were received for analysis at ALS Environmental on 02/15/2019. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at 0 to 6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature. If any samples were received for the analysis of pH, chlorine residual, sulfite, dissolved oxygen, or ferrous iron, the samples were analyzed past their holding time expiration since these analyses are required to be analyzed within 15 minutes of sampling.

Semivolatiles by GC/MS:

Method 680, 02/22/2019: The control limit was exceeded for one or more surrogates in the Continuing Calibration Verification (CCV). The surrogates were within acceptance limits for the associated field samples. The data quality was not significantly affected and no further corrective action was taken.

Approved by _____ Date 02/28/2019

SAMPLE DETECTION SUMMARY

CLIENT ID: MRC-SW7A-S-021419-A-DUP			Lab ID: R1901380-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0052		0.0023	0.0047	ug/L	680

CLIENT ID: MRC-SW8A-S-021419-A			Lab ID: R1901380-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0066		0.0023	0.0047	ug/L	680

CLIENT ID: MRC-SW5A1-S-021419-A			Lab ID: R1901380-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0042	J	0.0023	0.0047	ug/L	680

CLIENT ID: MRC-SW5A2-S-021419-A			Lab ID: R1901380-005			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0042	J	0.0023	0.0047	ug/L	680

CLIENT ID: MRC-SW13A-S-021419-A			Lab ID: R1901380-006			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0047		0.0023	0.0047	ug/L	680

CLIENT ID: MRC-SW8B-S-021419-A			Lab ID: R1901380-007			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0064		0.0023	0.0049	ug/L	680

CLIENT ID: MRC-SW15A-S-021419-A			Lab ID: R1901380-009			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0043	J	0.0023	0.0048	ug/L	680

CLIENT ID: MRC-SW9A-S-021419-A			Lab ID: R1901380-010			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0087		0.0023	0.0048	ug/L	680

CLIENT ID: MRC-SW40-S-021419-A			Lab ID: R1901380-015			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.026		0.0023	0.0048	ug/L	680
Monochlorobiphenyls, Total	0.026		0.0027	0.0048	ug/L	680
Tetrachlorobiphenyls, Total	0.049		0.0030	0.0096	ug/L	680
Trichlorobiphenyls, Total	0.019		0.0011	0.0048	ug/L	680

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: AECOM **Service Request:**R1901380

Project: Lockheed Martin Middle River Comparison Study SW/60555202

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1901380-001	MRC-SW7A-S-021419-A-DUP	2/14/2019	1334
R1901380-002	MRC-SW8A-S-021419-A	2/14/2019	1230
R1901380-003	FB-SW-021419-A	2/14/2019	1425
R1901380-004	MRC-SW5A1-S-021419-A	2/14/2019	1105
R1901380-005	MRC-SW5A2-S-021419-A	2/14/2019	1122
R1901380-006	MRC-SW13A-S-021419-A	2/14/2019	1142
R1901380-007	MRC-SW8B-S-021419-A	2/14/2019	1252
R1901380-008	MRC-SW30-021419-A	2/14/2019	1630
R1901380-009	MRC-SW15A-S-021419-A	2/14/2019	1212
R1901380-010	MRC-SW9A-S-021419-A	2/14/2019	1312
R1901380-011	EB-Tube 2-021419-A	2/14/2019	1445
R1901380-012	EB-Tube 1-021419-A	2/14/2019	1440
R1901380-013	MRC-SW31-021419-A	2/14/2019	1635
R1901380-014	MRC-SW7A-S-021419-A	2/14/2019	1332
R1901380-015	MRC-SW40-S-021419-A	2/14/2019	1600

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 55?99

ALS

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 1

Project Name: LM MRC SW	Project Number: 60555202
Project Manager: Ravi Damera	Report CC:
Company/Address: AECOM	
12420 Milestone Center Drive, Suite 150	
Germantown, MD 20876	
Phone #: 301-674-3199	Email: ravi.damera@aecom.com
Sampler's Signature:	Sampler's Printed Name: Zach Neigh

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: O

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ○ 8260 ○ 624 ○ CLP	GC/MS SVOAs ○ 8270 ○ 625	GC VOAs ○ 8021 ○ 601/602	PESTICIDES ○ 8081 ○ 608	PCBs ○ 8082 ○ 680	METALS: TOTAL (List in comments below)	METALS: DISSOLVED (List in comments below)	REMARKS/ ALTERNATE DESCRIPTION
~~MRC-SW7A~~ ZN 2-14-19													
MRC-SW7A-S-021419-A-DUP		2/14/19	1334	SW	2					X			
MRC-SW8A-S-021419-A		2/14/19	1230	SW	2					X			
FB-SW-021419-A		2/14/19	1425	SW	2					X			

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS
Metals
Please also email results to:
naoum.tawntzis@aecom.com
holly.brown@aecom.com
zachary.neigh@aecom.com

See QAPP ☐

TURNAROUND REQUIREMENTS
X RUSH (SURCHARGES APPLY)
___ 1 day ___ 2 day ___ 3 day
___ 4 day X 5 day
___ Standard (10 business days-No Surcharge)
REQUESTED REPORT DATE
By 2-22-19

REPORT REQUIREMENTS
___ I. Results Only
___ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
___ III. Results + QC and Calibration Summaries
X IV. Data Validation Report with Raw Data
Equis
Edata X Yes ___ No

INVOICE INFORMATION
PO #
BILL TO:

STATE WHERE SAMPLES WERE COLLECTED

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature	Signature	Signature	Signature	Signature
Printed Name: Holly Brown	Printed Name: Gregory G. Emerson	Printed Name	Printed Name	Printed Name	
Firm: AECOM	Firm: ALS	Firm	Firm	Firm	
Date/Time: 2-14-19 1830	Date/Time: 2/15/19 07:45	Date/Time	Date/Time	Date/Time	

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AECOM
Lockheed Martin Middle River Comparison Study S

Distribution: White - Lab Copy; Yellow - Return to Originator

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 55301

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 1

Project Name: LM MRC SW	Project Number: 60555202
Project Manager: Ravi Damera	Report CC:
Company/Address: AECOM 12420 Milestone Center Drive, Suite 150 Germantown, MD 20876	
Phone #: 301-674-3199	Email: ravi.damera@aecom.com
Sampler's Signature:	Sampler's Printed Name: Zach Neigh

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 0

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	PCBs • 8082	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	REMARKS/ ALTERNATE DESCRIPTION
MRC-SW5A1-S-021419-A		2-14-19	1105	SW	2	2			
MRC-SW5A2-S-021419-A		2-14-19	1122	SW	2	2			
MRC-SW13A-S-021419-A		2-14-19	1142	SW	2	2			HB 2-14-19
~~MRC-SW15A-S-021419-A~~		~~2-14-19~~	~~1212~~	~~SW~~		~~2~~			
~~MRC-SW8A-S-021419-A~~		~~2-14-19~~	~~1230~~	~~SW~~		~~2~~			HB 2-14-19
MRC-SW8B-S-021419-A		2-14-19	1252	SW	2	2			
MRC-SW30-021419-A		2-14-19	1630	SW	2	2			
									4 coolers total

Preservative Key: 0. NONE; 1. HCL; 2. HNO_3; 3. H_2SO_4; 4. NaOH; 5. Zn. Acetate; 6. MeOH; 7. $NaHSO_4$; 8. Other

680 Hontags

SPECIAL INSTRUCTIONS/COMMENTS

~~Metals~~ Please also email results to:
raoum.tavantzis@aecom.com
holly.braun@aecom.com
zachary.neigh@aecom.com

See QAPP ☐

TURNAROUND REQUIREMENTS
X RUSH (SURCHARGES APPLY)
___ 1 day ___ 2 day ___ 3 day
___ 4 day X 5 day
___ Standard (10 business days-No Surcharge)
REQUESTED REPORT DATE
By 2-22-19

REPORT REQUIREMENTS
___ I. Results Only
___ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
___ III. Results + QC and Calibration Summaries
X IV. Data Validation Report with Raw Data
Edata X Yes ___ No

INVOICE INFORMATION
PO #
BILL TO:

STATE WHERE SAMPLES WERE COLLECTED

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature	Signature	Signature	Signature	Signature
Printed Name: Holly Braun	Printed Name: Gregory O. Ermenian	Printed Name	Printed Name	Printed Name	Printed Name
Firm: AECOM	Firm: ALS	Firm	Firm	Firm	
Date/Time: 2-14-19 1830	Date/Time: 2/15/19 07:45	Date/Time	Date/Time	Date/Time	

Distribution: White - Lab Copy; Yellow - Return to Originator

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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 55300

ALS

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 1

Project Name: LM MRC SW	Project Number: 60555202
Project Manager: Ravi Damera	Report CC:
Company/Address: AECOM	
12420 Milestone Center Drive, Suite 150	
Germantown, MD 20876	
Phone #: 301-674-3199	Email: ravi.damera@aecom.com
Sampler's Signature:	Sampler's Printed Name: Zach Neigh

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 0

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	PCBs • 8082 • 608 (680 Homologs)	REMARKS/ ALTERNATE DESCRIPTION
MRC-SW15A-S-021419-A		2-14-19	1212	SW	2	X	
MRC-SW9A-S-021419-A		2-14-19	1312	SW	2	X	
EB-tube 2-021419-A		2-14-19	1445	DI	2	X	equipment blank
EB-tube 1-021419-A		2-14-19	1440	DI	2	X	equipment blank
MRC-SW31-021419-A		2-14-19	1635	SW	2	X	
							4 coolers total

Preservative Key: 0. NONE; 1. HCL; 2. HNO_3; 3. H_2SO_4; 4. NaOH; 5. Zn. Acetate; 6. MeOH; 7. $NaHSO_4$; 8. Other

SPECIAL INSTRUCTIONS/COMMENTS

~~Metals~~ Please also email results to:
naum.tuvantzis@aecom.com
holly.braun@aecom.com
zachary.neigh@aecom.com

See QAPP ☐

TURNAROUND REQUIREMENTS
X RUSH (SURCHARGES APPLY)
___ 1 day ___ 2 day ___ 3 day
___ 4 day X 5 day
___ Standard (10 business days-No Surcharge)
REQUESTED REPORT DATE: By 2-22-19

REPORT REQUIREMENTS
___ I. Results Only
___ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
___ III. Results + QC and Calibration Summaries
___ IV. Data Validation Report with Raw Data
Edata ___ Yes ___ No

INVOICE INFORMATION
PO #
BILL TO:

STATE WHERE SAMPLES WERE COLLECTED

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature	Signature	Signature	Signature	Signature
Printed Name: Holly Braun	Printed Name: Gregory O. Esmerian	Printed Name	Printed Name	Printed Name	
Firm: AECOM	Firm: ALS	Firm	Firm	Firm	
Date/Time: 2-14-19 1830	Date/Time: 2-15-19 07:45	Date/Time	Date/Time	Date/Time	

Distribution: White - Lab Copy; Yellow - Return to Originator

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AECOM
Lockheed Martin Middle River Comparison Study

ALS - Rochester

~~TestAmerica Savannah~~
5102 LaRoche Avenue
Savannah, GA 31404
Phone (912) 354-7858 Fax (912) 352-0165

APPENDIX D - Laboratory Reports

Chain of Custody Record

~~TestAmerica~~
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Zach Neigh	Lab PM: ~~Barnett, Eddie T~~	Carrier Tracking No(s):	COC No:
Client Contact: Mr. Naoum Tavantzis	Phone: 301-674-3199	E-Mail: ~~eddie.barnett@testamericainc.com~~		Page: 1 of 1
Company: AECOM		Analysis Requested		Job #:
Address: 1600 Perimeter Park Drive Suite 400	Due Date Requested: 3w 2-22-19			Preservation Codes:
City: Morrisville	TAT Requested (days): Rush 5-day			A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; (I - Ice); J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify); Other:
State, Zip: NC, 27560				
Phone: 443-737-1299(Tel)	PO #: Purchase Order Requested			
Email: Naoum.Tavantzis@aecom.com	WO #:			
Project Name: MRC Surface Water Sampling	Project #: 68021277			
Site: Dark Head Cove	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	680 - Routine 680 Sublist	Total Number of containers	Special Instructions/Note:
			Preservation Code:			N			
MRC-SW7A-S-021419-A	2/14/19	1332	G	SW	N	Y	X	2	MS/MSD
MRC-SW40-S-021419-A	2/14/19	1600	G	SW	N	N	X	2	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, (IV) Other (specify) Equis

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Holly Barnett	Date/Time: 2-14-19 1830	Company: AECOM	Received by:	Date/Time: 2/15/19 07:45	Company: ALS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

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AECOM
Lockheed Martin Middle River Comparison Study E

Cooler Receipt and Preservation Check Form

R1901380 5
AECOM
Lockheed Martin Middle River Comparison Study

Project/Client AECOM Folder Number

Cooler received on 2-15-19 by: HE

COURIER: ALS UPS (FEDEX) VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	(Y) N	5a	**Perchlorate** samples have required headspace?	Y N NA
2	**Custody papers** properly completed (ink, signed)?	(Y) N	5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y N NA
3	Did all bottles arrive in good **condition** (unbroken)?	Y N	6	Where did the bottles originate?	(ALS/ROC) (CLIENT)
4	Circle: **Wet Ice Dry Ice Gel packs** present?	(Y) N	7	Soil VOA received as: Bulk Encore 5035set NA	

8. Temperature Readings Date: 2-15-19 Time: 07:50 ID: IR#7 (IR#10) From: (Temp Blank) (Sample Bottle)

Observed Temp (°C)	1.0	3.1	2.9	2.8			
Correction Factor (°C)	0	-0.2	+0.3	-0.2			
Corrected Temp (°C)	1.0	2.9	3.2	2.6			
Temp from:Type of bottle	—	1 liter Amber	Cent tube	1 liter Amber			
Within 0-6°C?	(Y) N	(Y) N	Y N	(Y) N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-002 by HE on 2/15/19 at 0750
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown/Preservation Check**: Date: 2/15/19 Time: 1647 by: [signature]

9.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(YES)	NO
10.	Did all bottle labels and tags agree with custody papers?	(YES)	NO
11.	Were correct containers used for the tests indicated?	(YES)	NO
12.	Were 5035 vials acceptable (no extra labels, not leaking)?	YES	NO (N/A)
13.	Air Samples: Cassettes / Tubes Intact with MS? Canisters Pressurized		Tedlar® Bags Inflated (N/A)

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-						
		HCl	**	**						

**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: Client, 162218-10K

Explain all Discrepancies/ Other Comments:

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

Labels secondary reviewed by: [signature]
PC Secondary Review: [signature] 2/19/19 *significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

Internal Chain of Custody Report

Client: AECOM **Service Request:** R1901380

Project: Lockheed Martin Middle River Comparison Study SW/60555202

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1901380-001.01					
	680				
		2/15/2019	1648	SMO / DWARD	
		2/15/2019	1648	R-002 / DWARD	
R1901380-002.01					
	680				
		2/15/2019	1648	SMO / DWARD	
		2/15/2019	1648	R-002 / DWARD	
R1901380-003.01					
	680				
		2/15/2019	1648	SMO / DWARD	
		2/15/2019	1648	R-002 / DWARD	
R1901380-004.01					
	680				
		2/15/2019	1648	SMO / DWARD	
		2/15/2019	1648	R-002 / DWARD	
R1901380-005.01					
	680				
		2/15/2019	1648	SMO / DWARD	
		2/15/2019	1648	R-002 / DWARD	
R1901380-006.01					
	680				
		2/15/2019	1648	SMO / DWARD	
		2/15/2019	1648	R-002 / DWARD	
R1901380-007.01					
	680				
		2/15/2019	1648	SMO / DWARD	
		2/15/2019	1648	R-002 / DWARD	
R1901380-008.01					
	680				
		2/15/2019	1648	SMO / DWARD	
		2/15/2019	1648	R-002 / DWARD	
R1901380-009.01					
	680				
		2/15/2019	1648	SMO / DWARD	
		2/15/2019	1648	R-002 / DWARD	
R1901380-010.01					
	680				
		2/15/2019	1648	SMO / DWARD	
		2/15/2019	1648	R-002 / DWARD	

Internal Chain of Custody Report

Client: AECOM **Service Request:** R1901380

Project: Lockheed Martin Middle River Comparison Study SW/60555202

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R1901380-011.01					
	680				
		2/15/2019	1648	SMO / DWARD	
		2/15/2019	1648	R-002 / DWARD	
R1901380-012.01					
	680				
		2/15/2019	1648	SMO / DWARD	
		2/15/2019	1648	R-002 / DWARD	
R1901380-013.01					
	680				
		2/15/2019	1648	SMO / DWARD	
		2/15/2019	1648	R-002 / DWARD	
R1901380-014.01					
	680				
		2/15/2019	1648	SMO / DWARD	
		2/15/2019	1648	R-002 / DWARD	
R1901380-014.02					
		2/15/2019	1648	SMO / DWARD	
		2/15/2019	1648	R-002 / DWARD	
R1901380-014.03					
		2/15/2019	1648	SMO / DWARD	
		2/15/2019	1648	R-002 / DWARD	
R1901380-015.01					
	680				
		2/15/2019	1648	SMO / DWARD	
		2/15/2019	1648	R-002 / DWARD	

Miscellaneous Forms

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www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.

J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).

B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.

E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.

E Organics- Concentration has exceeded the calibration range for that specific analysis.

D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.

* Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.

H Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.

Spike was diluted out.

\+ Correlation coefficient for MSA is <0.995.

N Inorganics- Matrix spike recovery was outside laboratory limits.

N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.

S Concentration has been determined using Method of Standard Additions (MSA).

W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.

P Concentration >40% difference between the two GC columns.

C Confirmed by GC/MS

Q DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).

X See Case Narrative for discussion.

MRL Method Reporting Limit. Also known as:
LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.

MDL Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).

LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.

ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	Pennsylvania ID# 68-786
Delaware Approved	New Hampshire ID # 2941	Rhode Island ID # 158
DoD ELAP #65817	New York ID # 10145	Virginia #460167
Florida ID # E87674	North Carolina #676	

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Analyst Summary report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202		

Sample Name:	MRC-SW7A-S-021419-A-DUP	**Date Collected:**	02/14/19
Lab Code:	R1901380-001	**Date Received:**	02/15/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Sample Name:	MRC-SW8A-S-021419-A	**Date Collected:**	02/14/19
Lab Code:	R1901380-002	**Date Received:**	02/15/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Sample Name:	FB-SW-021419-A	**Date Collected:**	02/14/19
Lab Code:	R1901380-003	**Date Received:**	02/15/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Sample Name:	MRC-SW5A1-S-021419-A	**Date Collected:**	02/14/19
Lab Code:	R1901380-004	**Date Received:**	02/15/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Sample Name:	MRC-SW5A2-S-021419-A	**Date Collected:**	02/14/19
Lab Code:	R1901380-005	**Date Received:**	02/15/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Analyst Summary report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202		

Sample Name:	MRC-SW13A-S-021419-A	**Date Collected:**	02/14/19
Lab Code:	R1901380-006	**Date Received:**	02/15/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Sample Name:	MRC-SW8B-S-021419-A	**Date Collected:**	02/14/19
Lab Code:	R1901380-007	**Date Received:**	02/15/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Sample Name:	MRC-SW30-021419-A	**Date Collected:**	02/14/19
Lab Code:	R1901380-008	**Date Received:**	02/15/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Sample Name:	MRC-SW15A-S-021419-A	**Date Collected:**	02/14/19
Lab Code:	R1901380-009	**Date Received:**	02/15/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Sample Name:	MRC-SW9A-S-021419-A	**Date Collected:**	02/14/19
Lab Code:	R1901380-010	**Date Received:**	02/15/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Client: AECOM **Service Request:** R1901380
Project: Lockheed Martin Middle River Comparison Study SW/60555202

Sample Name: EB-Tube 2-021419-A **Date Collected:** 02/14/19
Lab Code: R1901380-011 **Date Received:** 02/15/19
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Sample Name: EB-Tube 1-021419-A **Date Collected:** 02/14/19
Lab Code: R1901380-012 **Date Received:** 02/15/19
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Sample Name: MRC-SW31-021419-A **Date Collected:** 02/14/19
Lab Code: R1901380-013 **Date Received:** 02/15/19
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Sample Name: MRC-SW7A-S-021419-A **Date Collected:** 02/14/19
Lab Code: R1901380-014 **Date Received:** 02/15/19
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Sample Name: MRC-SW40-S-021419-A **Date Collected:** 02/14/19
Lab Code: R1901380-015 **Date Received:** 02/15/19
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

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Semivolatile Organic Compounds by GC/MS

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www.alsglobal.com

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 13:34
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW7A-S-021419-A-DUP	**Units:**	ug/L
Lab Code:	R1901380-001	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.024	0.011	1	02/22/19 00:30	2/15/19	
Dichlorobiphenyls, Total	**0.0052**	0.0047	0.0023	1	02/22/19 00:30	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.014	0.0041	1	02/22/19 00:30	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.0094	0.0027	1	02/22/19 00:30	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0047	0.0027	1	02/22/19 00:30	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.019	0.0074	1	02/22/19 00:30	2/15/19	
Octachlorobiphenyls, Total	ND U	0.014	0.0048	1	02/22/19 00:30	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.0094	0.0016	1	02/22/19 00:30	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.0094	0.0030	1	02/22/19 00:30	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0047	0.0011	1	02/22/19 00:30	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	90	46 - 130	02/22/19 00:30	
4,4'-DDT	102	30 - 194	02/22/19 00:30	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 12:30
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW8A-S-021419-A	**Units:**	ug/L
Lab Code:	R1901380-002	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.024	0.011	1	02/22/19 01:28	2/15/19	
Dichlorobiphenyls, Total	**0.0066**	0.0047	0.0023	1	02/22/19 01:28	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.014	0.0041	1	02/22/19 01:28	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.0094	0.0027	1	02/22/19 01:28	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0047	0.0027	1	02/22/19 01:28	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.019	0.0074	1	02/22/19 01:28	2/15/19	
Octachlorobiphenyls, Total	ND U	0.014	0.0048	1	02/22/19 01:28	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.0094	0.0016	1	02/22/19 01:28	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.0094	0.0030	1	02/22/19 01:28	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0047	0.0011	1	02/22/19 01:28	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	95	46 - 130	02/22/19 01:28	
4,4'-DDT	91	30 - 194	02/22/19 01:28	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 14:25
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	FB-SW-021419-A	**Units:**	ug/L
Lab Code:	R1901380-003	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.024	0.011	1	02/21/19 17:57	2/15/19	
Dichlorobiphenyls, Total	ND U	0.0047	0.0023	1	02/21/19 17:57	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.014	0.0041	1	02/21/19 17:57	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.0094	0.0027	1	02/21/19 17:57	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0047	0.0027	1	02/21/19 17:57	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.019	0.0074	1	02/21/19 17:57	2/15/19	
Octachlorobiphenyls, Total	ND U	0.014	0.0048	1	02/21/19 17:57	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.0094	0.0016	1	02/21/19 17:57	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.0094	0.0030	1	02/21/19 17:57	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0047	0.0011	1	02/21/19 17:57	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	78	46 - 130	02/21/19 17:57	
4,4'-DDT	117	30 - 194	02/21/19 17:57	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 11:05
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW5A1-S-021419-A	**Units:**	ug/L
Lab Code:	R1901380-004	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND	U	0.024	0.011	1	02/22/19 02:25	2/15/19	
Dichlorobiphenyls, Total	**0.0042**	**J**	0.0047	0.0023	1	02/22/19 02:25	2/15/19	
Heptachlorobiphenyls, Total	ND	U	0.014	0.0041	1	02/22/19 02:25	2/15/19	
Hexachlorobiphenyls, Total	ND	U	0.0094	0.0027	1	02/22/19 02:25	2/15/19	
Monochlorobiphenyls, Total	ND	U	0.0047	0.0027	1	02/22/19 02:25	2/15/19	
Nonachlorobiphenyls, Total	ND	U	0.019	0.0074	1	02/22/19 02:25	2/15/19	
Octachlorobiphenyls, Total	ND	U	0.014	0.0048	1	02/22/19 02:25	2/15/19	
Pentachlorobiphenyls, Total	ND	U	0.0094	0.0016	1	02/22/19 02:25	2/15/19	
Tetrachlorobiphenyls, Total	ND	U	0.0094	0.0030	1	02/22/19 02:25	2/15/19	
Trichlorobiphenyls, Total	ND	U	0.0047	0.0011	1	02/22/19 02:25	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	88	46 - 130	02/22/19 02:25	
4,4'-DDT	81	30 - 194	02/22/19 02:25	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 11:22
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW5A2-S-021419-A	**Units:**	ug/L
Lab Code:	R1901380-005	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND	U	0.024	0.011	1	02/22/19 03:22	2/15/19	
Dichlorobiphenyls, Total	**0.0042**	**J**	0.0047	0.0023	1	02/22/19 03:22	2/15/19	
Heptachlorobiphenyls, Total	ND	U	0.014	0.0041	1	02/22/19 03:22	2/15/19	
Hexachlorobiphenyls, Total	ND	U	0.0094	0.0027	1	02/22/19 03:22	2/15/19	
Monochlorobiphenyls, Total	ND	U	0.0047	0.0027	1	02/22/19 03:22	2/15/19	
Nonachlorobiphenyls, Total	ND	U	0.019	0.0074	1	02/22/19 03:22	2/15/19	
Octachlorobiphenyls, Total	ND	U	0.014	0.0048	1	02/22/19 03:22	2/15/19	
Pentachlorobiphenyls, Total	ND	U	0.0094	0.0016	1	02/22/19 03:22	2/15/19	
Tetrachlorobiphenyls, Total	ND	U	0.0094	0.0030	1	02/22/19 03:22	2/15/19	
Trichlorobiphenyls, Total	ND	U	0.0047	0.0011	1	02/22/19 03:22	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	87	46 - 130	02/22/19 03:22	
4,4'-DDT	78	30 - 194	02/22/19 03:22	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 11:42
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW13A-S-021419-A	**Units:**	ug/L
Lab Code:	R1901380-006	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.024	0.011	1	02/22/19 04:19	2/15/19	
Dichlorobiphenyls, Total	**0.0047**	0.0047	0.0023	1	02/22/19 04:19	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.014	0.0041	1	02/22/19 04:19	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.0094	0.0027	1	02/22/19 04:19	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0047	0.0027	1	02/22/19 04:19	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.019	0.0074	1	02/22/19 04:19	2/15/19	
Octachlorobiphenyls, Total	ND U	0.014	0.0048	1	02/22/19 04:19	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.0094	0.0016	1	02/22/19 04:19	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.0094	0.0030	1	02/22/19 04:19	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0047	0.0011	1	02/22/19 04:19	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	83	46 - 130	02/22/19 04:19	
4,4'-DDT	76	30 - 194	02/22/19 04:19	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 12:52
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW8B-S-021419-A	**Units:**	ug/L
Lab Code:	R1901380-007	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.025	0.011	1	02/22/19 05:16	2/15/19	
Dichlorobiphenyls, Total	**0.0064**	0.0049	0.0023	1	02/22/19 05:16	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.015	0.0041	1	02/22/19 05:16	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.0098	0.0027	1	02/22/19 05:16	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0049	0.0027	1	02/22/19 05:16	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.020	0.0074	1	02/22/19 05:16	2/15/19	
Octachlorobiphenyls, Total	ND U	0.015	0.0048	1	02/22/19 05:16	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.0098	0.0016	1	02/22/19 05:16	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.0098	0.0030	1	02/22/19 05:16	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0049	0.0011	1	02/22/19 05:16	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	87	46 - 130	02/22/19 05:16	
4,4'-DDT	81	30 - 194	02/22/19 05:16	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 16:30
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW30-021419-A	**Units:**	ug/L
Lab Code:	R1901380-008	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.024	0.011	1	02/21/19 18:26	2/15/19	
Dichlorobiphenyls, Total	ND U	0.0047	0.0023	1	02/21/19 18:26	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.014	0.0041	1	02/21/19 18:26	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.0094	0.0027	1	02/21/19 18:26	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0047	0.0027	1	02/21/19 18:26	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.019	0.0074	1	02/21/19 18:26	2/15/19	
Octachlorobiphenyls, Total	ND U	0.014	0.0048	1	02/21/19 18:26	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.0094	0.0016	1	02/21/19 18:26	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.0094	0.0030	1	02/21/19 18:26	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0047	0.0011	1	02/21/19 18:26	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	81	46 - 130	02/21/19 18:26	
4,4'-DDT	122	30 - 194	02/21/19 18:26	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 12:12
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW15A-S-021419-A	**Units:**	ug/L
Lab Code:	R1901380-009	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND	U	0.024	0.011	1	02/22/19 06:14	2/15/19	
Dichlorobiphenyls, Total	**0.0043**	**J**	0.0048	0.0023	1	02/22/19 06:14	2/15/19	
Heptachlorobiphenyls, Total	ND	U	0.014	0.0041	1	02/22/19 06:14	2/15/19	
Hexachlorobiphenyls, Total	ND	U	0.0096	0.0027	1	02/22/19 06:14	2/15/19	
Monochlorobiphenyls, Total	ND	U	0.0048	0.0027	1	02/22/19 06:14	2/15/19	
Nonachlorobiphenyls, Total	ND	U	0.019	0.0074	1	02/22/19 06:14	2/15/19	
Octachlorobiphenyls, Total	ND	U	0.014	0.0048	1	02/22/19 06:14	2/15/19	
Pentachlorobiphenyls, Total	ND	U	0.0096	0.0016	1	02/22/19 06:14	2/15/19	
Tetrachlorobiphenyls, Total	ND	U	0.0096	0.0030	1	02/22/19 06:14	2/15/19	
Trichlorobiphenyls, Total	ND	U	0.0048	0.0011	1	02/22/19 06:14	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	83	46 - 130	02/22/19 06:14	
4,4'-DDT	77	30 - 194	02/22/19 06:14	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 13:12
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW9A-S-021419-A	**Units:**	ug/L
Lab Code:	R1901380-010	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.024	0.011	1	02/22/19 07:11	2/15/19	
Dichlorobiphenyls, Total	**0.0087**	0.0048	0.0023	1	02/22/19 07:11	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.014	0.0041	1	02/22/19 07:11	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.0096	0.0027	1	02/22/19 07:11	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0048	0.0027	1	02/22/19 07:11	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.019	0.0074	1	02/22/19 07:11	2/15/19	
Octachlorobiphenyls, Total	ND U	0.014	0.0048	1	02/22/19 07:11	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.0096	0.0016	1	02/22/19 07:11	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.0096	0.0030	1	02/22/19 07:11	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0048	0.0011	1	02/22/19 07:11	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	83	46 - 130	02/22/19 07:11	
4,4'-DDT	72	30 - 194	02/22/19 07:11	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 14:45
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	EB-Tube 2-021419-A	**Units:**	ug/L
Lab Code:	R1901380-011	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.024	0.011	1	02/21/19 18:55	2/15/19	
Dichlorobiphenyls, Total	ND U	0.0048	0.0023	1	02/21/19 18:55	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.014	0.0041	1	02/21/19 18:55	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.0096	0.0027	1	02/21/19 18:55	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0048	0.0027	1	02/21/19 18:55	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.019	0.0074	1	02/21/19 18:55	2/15/19	
Octachlorobiphenyls, Total	ND U	0.014	0.0048	1	02/21/19 18:55	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.0096	0.0016	1	02/21/19 18:55	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.0096	0.0030	1	02/21/19 18:55	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0048	0.0011	1	02/21/19 18:55	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	77	46 - 130	02/21/19 18:55	
4,4'-DDT	111	30 - 194	02/21/19 18:55	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 14:40
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	EB-Tube 1-021419-A	**Units:**	ug/L
Lab Code:	R1901380-012	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.025	0.011	1	02/21/19 19:24	2/15/19	
Dichlorobiphenyls, Total	ND U	0.0049	0.0023	1	02/21/19 19:24	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.015	0.0041	1	02/21/19 19:24	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.0098	0.0027	1	02/21/19 19:24	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0049	0.0027	1	02/21/19 19:24	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.020	0.0074	1	02/21/19 19:24	2/15/19	
Octachlorobiphenyls, Total	ND U	0.015	0.0048	1	02/21/19 19:24	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.0098	0.0016	1	02/21/19 19:24	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.0098	0.0030	1	02/21/19 19:24	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0049	0.0011	1	02/21/19 19:24	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	82	46 - 130	02/21/19 19:24	
4,4'-DDT	123	30 - 194	02/21/19 19:24	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 16:35
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW31-021419-A	**Units:**	ug/L
Lab Code:	R1901380-013	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.024	0.011	1	02/21/19 19:53	2/15/19	
Dichlorobiphenyls, Total	ND U	0.0047	0.0023	1	02/21/19 19:53	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.014	0.0041	1	02/21/19 19:53	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.0094	0.0027	1	02/21/19 19:53	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0047	0.0027	1	02/21/19 19:53	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.019	0.0074	1	02/21/19 19:53	2/15/19	
Octachlorobiphenyls, Total	ND U	0.014	0.0048	1	02/21/19 19:53	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.0094	0.0016	1	02/21/19 19:53	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.0094	0.0030	1	02/21/19 19:53	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0047	0.0011	1	02/21/19 19:53	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	86	46 - 130	02/21/19 19:53	
4,4'-DDT	123	30 - 194	02/21/19 19:53	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 13:32
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW7A-S-021419-A	**Units:**	ug/L
Lab Code:	R1901380-014	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.024	0.011	1	02/22/19 08:09	2/15/19	
Dichlorobiphenyls, Total	ND U	0.0047	0.0023	1	02/22/19 08:09	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.014	0.0041	1	02/22/19 08:09	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.0094	0.0027	1	02/22/19 08:09	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0047	0.0027	1	02/22/19 08:09	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.019	0.0074	1	02/22/19 08:09	2/15/19	
Octachlorobiphenyls, Total	ND U	0.014	0.0048	1	02/22/19 08:09	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.0094	0.0016	1	02/22/19 08:09	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.0094	0.0030	1	02/22/19 08:09	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0047	0.0011	1	02/22/19 08:09	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	84	46 - 130	02/22/19 08:09	
4,4'-DDT	60	30 - 194	02/22/19 08:09	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 16:00
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW40-S-021419-A	**Units:**	ug/L
Lab Code:	R1901380-015	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND	U	0.024	0.011	1	02/21/19 20:22	2/15/19	
Dichlorobiphenyls, Total	**0.026**		0.0048	0.0023	1	02/21/19 20:22	2/15/19	
Heptachlorobiphenyls, Total	ND	U	0.014	0.0041	1	02/21/19 20:22	2/15/19	
Hexachlorobiphenyls, Total	ND	U	0.0096	0.0027	1	02/21/19 20:22	2/15/19	
Monochlorobiphenyls, Total	**0.026**		0.0048	0.0027	1	02/21/19 20:22	2/15/19	
Nonachlorobiphenyls, Total	ND	U	0.019	0.0074	1	02/21/19 20:22	2/15/19	
Octachlorobiphenyls, Total	ND	U	0.014	0.0048	1	02/21/19 20:22	2/15/19	
Pentachlorobiphenyls, Total	ND	U	0.0096	0.0016	1	02/21/19 20:22	2/15/19	
Tetrachlorobiphenyls, Total	**0.049**		0.0096	0.0030	1	02/21/19 20:22	2/15/19	
Trichlorobiphenyls, Total	**0.019**		0.0048	0.0011	1	02/21/19 20:22	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	91	46 - 130	02/21/19 20:22	
4,4'-DDT	125	30 - 194	02/21/19 20:22	

QC Summary Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

QA/QC Report

Client: AECOM **Service Request:** R1901380

Project: Lockheed Martin Middle River Comparison Study SW/60555202

Sample Matrix: Water

SURROGATE RECOVERY SUMMARY

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680

Extraction Method: EPA 3510C

Sample Name	Lab Code	gamma-BHC (Lindane) 46-130	4,4'-DDT 30-194
MRC-SW7A-S-021419-A-DUP	R1901380-001	90	102
MRC-SW8A-S-021419-A	R1901380-002	95	91
FB-SW-021419-A	R1901380-003	78	117
MRC-SW5A1-S-021419-A	R1901380-004	88	81
MRC-SW5A2-S-021419-A	R1901380-005	87	78
MRC-SW13A-S-021419-A	R1901380-006	83	76
MRC-SW8B-S-021419-A	R1901380-007	87	81
MRC-SW30-021419-A	R1901380-008	81	122
MRC-SW15A-S-021419-A	R1901380-009	83	77
MRC-SW9A-S-021419-A	R1901380-010	83	72
EB-Tube 2-021419-A	R1901380-011	77	111
EB-Tube 1-021419-A	R1901380-012	82	123
MRC-SW31-021419-A	R1901380-013	86	123
MRC-SW7A-S-021419-A	R1901380-014	84	60
MRC-SW40-S-021419-A	R1901380-015	91	125
Method Blank	RQ1901357-01	85	122
Lab Control Sample	RQ1901357-02	74	105
Duplicate Lab Control Sample	RQ1901357-03	76	111
MRC-SW7A-S-021419-A MS	RQ1901357-04	87	60
MRC-SW7A-S-021419-A DMS	RQ1901357-05	82	56

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19
Sample Matrix:	Water	**Date Received:**	02/15/19
		Date Analyzed:	02/22/19
		Date Extracted:	02/15/19

Duplicate Matrix Spike Summary

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Sample Name:	MRC-SW7A-S-021419-A	**Units:**	ug/L
Lab Code:	R1901380-014	**Basis:**	NA
Analysis Method:	680		
Prep Method:	EPA 3510C		

		Matrix Spike RQ1901357-04			**Duplicate Matrix Spike** RQ1901357-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Decachlorobiphenyl	ND U	0.716	1.18	61	0.782	1.18	66	10-112	9	30
Dichlorobiphenyls, Total	ND U	0.194	0.236	82	0.188	0.236	80	31-119	3	30
Heptachlorobiphenyls, Total	ND U	0.430	0.708	61	0.454	0.708	64	17-118	5	30
Hexachlorobiphenyls, Total	ND U	0.311	0.472	66	0.325	0.472	69	11-160	4	30
Monochlorobiphenyls, Total	ND U	0.178	0.236	75	0.173	0.236	73	28-111	3	30
Octachlorobiphenyls, Total	ND U	0.430	0.708	61	0.455	0.708	64	11-115	6	30
Pentachlorobiphenyls, Total	ND U	0.355	0.472	75	0.355	0.472	75	10-180	<1	30
Tetrachlorobiphenyls, Total	ND U	0.359	0.472	76	0.353	0.472	75	14-153	2	30
Trichlorobiphenyls, Total	ND U	0.192	0.236	82	0.189	0.236	80	10-173	2	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Analyzed:**	02/21/19 17:28
Sample Matrix:	Water	**Date Extracted:**	02/15/19

Method Blank Summary

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Sample Name:	Method Blank	**Instrument ID:**	R-MS-52
Lab Code:	RQ1901357-01	**File ID:**	I:\ACQUDATA\5973B\DATA\022119\DN731.D\
Analysis Method:	680	**Analysis Lot:**	625888,625889
Prep Method:	EPA 3510C	**Extraction Lot:**	331543

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
FB-SW-021419-A	R1901380-003	I:\ACQUDATA\5973B\DATA\022119\DN732.D\	02/21/19 17:57
MRC-SW30-021419-A	R1901380-008	I:\ACQUDATA\5973B\DATA\022119\DN733.D\	02/21/19 18:26
EB-Tube 2-021419-A	R1901380-011	I:\ACQUDATA\5973B\DATA\022119\DN734.D\	02/21/19 18:55
EB-Tube 1-021419-A	R1901380-012	I:\ACQUDATA\5973B\DATA\022119\DN735.D\	02/21/19 19:24
MRC-SW31-021419-A	R1901380-013	I:\ACQUDATA\5973B\DATA\022119\DN736.D\	02/21/19 19:53
MRC-SW40-S-021419-A	R1901380-015	I:\ACQUDATA\5973B\DATA\022119\DN737.D\	02/21/19 20:22
Lab Control Sample	RQ1901357-02	I:\ACQUDATA\5973B\DATA\022119\DN738.D\	02/21/19 20:51
Duplicate Lab Control Sample	RQ1901357-03	I:\ACQUDATA\5973B\DATA\022119\DN739.D\	02/21/19 21:20
Method Detection Limit Verification	RQ1901357-06	I:\ACQUDATA\5973B\DATA\022119\DN740.D\	02/21/19 21:49
Method Detection Limit Verification	RQ1901357-07	I:\ACQUDATA\5973B\DATA\022119\DN741.D\	02/21/19 22:17
Method Detection Limit Verification	RQ1901357-08	I:\ACQUDATA\5973B\DATA\022119\DN742.D\	02/21/19 22:46
MRC-SW7A-S-021419-A-DUP	R1901380-001	I:\ACQUDATA\5973B\DATA\022119\DN746.D\	02/22/19 00:30
MRC-SW8A-S-021419-A	R1901380-002	I:\ACQUDATA\5973B\DATA\022119\DN748.D\	02/22/19 01:28
MRC-SW5A1-S-021419-A	R1901380-004	I:\ACQUDATA\5973B\DATA\022119\DN750.D\	02/22/19 02:25
MRC-SW5A2-S-021419-A	R1901380-005	I:\ACQUDATA\5973B\DATA\022119\DN752.D\	02/22/19 03:22
MRC-SW13A-S-021419-A	R1901380-006	I:\ACQUDATA\5973B\DATA\022119\DN754.D\	02/22/19 04:19
MRC-SW8B-S-021419-A	R1901380-007	I:\ACQUDATA\5973B\DATA\022119\DN756.D\	02/22/19 05:16
MRC-SW15A-S-021419-A	R1901380-009	I:\ACQUDATA\5973B\DATA\022119\DN758.D\	02/22/19 06:14
MRC-SW9A-S-021419-A	R1901380-010	I:\ACQUDATA\5973B\DATA\022119\DN760.D\	02/22/19 07:11
MRC-SW7A-S-021419-A	R1901380-014	I:\ACQUDATA\5973B\DATA\022119\DN762.D\	02/22/19 08:09
MRC-SW7A-S-021419-AMS	RQ1901357-04	I:\ACQUDATA\5973B\DATA\022119\DN764.D\	02/22/19 09:07
MRC-SW7A-S-021419-ADMS	RQ1901357-05	I:\ACQUDATA\5973B\DATA\022119\DN766.D\	02/22/19 10:04

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1901357-01	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.025	0.011	1	02/21/19 17:28	2/15/19	
Dichlorobiphenyls, Total	ND U	0.0050	0.0023	1	02/21/19 17:28	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.015	0.0041	1	02/21/19 17:28	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.010	0.0027	1	02/21/19 17:28	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0050	0.0027	1	02/21/19 17:28	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.020	0.0074	1	02/21/19 17:28	2/15/19	
Octachlorobiphenyls, Total	ND U	0.015	0.0048	1	02/21/19 17:28	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.010	0.0016	1	02/21/19 17:28	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.010	0.0030	1	02/21/19 17:28	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0050	0.0011	1	02/21/19 17:28	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	85	46 - 130	02/21/19 17:28	
4,4'-DDT	122	30 - 194	02/21/19 17:28	

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QA/QC Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Analyzed:**	02/21/19 20:51
Sample Matrix:	Water	**Date Extracted:**	02/15/19

Lab Control Sample Summary

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Sample Name:	Lab Control Sample	**Instrument ID:**	R-MS-52
Lab Code:	RQ1901357-02	**File ID:**	I:\ACQUDATA\5973B\DATA\022119\DN738.D\
Analysis Method:	680	**Analysis Lot:**	625888,625889
Prep Method:	EPA 3510C	**Extraction Lot:**	331543

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	RQ1901357-01	I:\ACQUDATA\5973B\DATA\022119\DN731.D\	02/21/19 17:28
FB-SW-021419-A	R1901380-003	I:\ACQUDATA\5973B\DATA\022119\DN732.D\	02/21/19 17:57
MRC-SW30-021419-A	R1901380-008	I:\ACQUDATA\5973B\DATA\022119\DN733.D\	02/21/19 18:26
EB-Tube 2-021419-A	R1901380-011	I:\ACQUDATA\5973B\DATA\022119\DN734.D\	02/21/19 18:55
EB-Tube 1-021419-A	R1901380-012	I:\ACQUDATA\5973B\DATA\022119\DN735.D\	02/21/19 19:24
MRC-SW31-021419-A	R1901380-013	I:\ACQUDATA\5973B\DATA\022119\DN736.D\	02/21/19 19:53
MRC-SW40-S-021419-A	R1901380-015	I:\ACQUDATA\5973B\DATA\022119\DN737.D\	02/21/19 20:22
Duplicate Lab Control Sample	RQ1901357-03	I:\ACQUDATA\5973B\DATA\022119\DN739.D\	02/21/19 21:20
Method Detection Limit Verification	RQ1901357-06	I:\ACQUDATA\5973B\DATA\022119\DN740.D\	02/21/19 21:49
Method Detection Limit Verification	RQ1901357-07	I:\ACQUDATA\5973B\DATA\022119\DN741.D\	02/21/19 22:17
Method Detection Limit Verification	RQ1901357-08	I:\ACQUDATA\5973B\DATA\022119\DN742.D\	02/21/19 22:46
MRC-SW7A-S-021419-A-DUP	R1901380-001	I:\ACQUDATA\5973B\DATA\022119\DN746.D\	02/22/19 00:30
MRC-SW8A-S-021419-A	R1901380-002	I:\ACQUDATA\5973B\DATA\022119\DN748.D\	02/22/19 01:28
MRC-SW5A1-S-021419-A	R1901380-004	I:\ACQUDATA\5973B\DATA\022119\DN750.D\	02/22/19 02:25
MRC-SW5A2-S-021419-A	R1901380-005	I:\ACQUDATA\5973B\DATA\022119\DN752.D\	02/22/19 03:22
MRC-SW13A-S-021419-A	R1901380-006	I:\ACQUDATA\5973B\DATA\022119\DN754.D\	02/22/19 04:19
MRC-SW8B-S-021419-A	R1901380-007	I:\ACQUDATA\5973B\DATA\022119\DN756.D\	02/22/19 05:16
MRC-SW15A-S-021419-A	R1901380-009	I:\ACQUDATA\5973B\DATA\022119\DN758.D\	02/22/19 06:14
MRC-SW9A-S-021419-A	R1901380-010	I:\ACQUDATA\5973B\DATA\022119\DN760.D\	02/22/19 07:11
MRC-SW7A-S-021419-A	R1901380-014	I:\ACQUDATA\5973B\DATA\022119\DN762.D\	02/22/19 08:09
MRC-SW7A-S-021419-AMS	RQ1901357-04	I:\ACQUDATA\5973B\DATA\022119\DN764.D\	02/22/19 09:07
MRC-SW7A-S-021419-ADMS	RQ1901357-05	I:\ACQUDATA\5973B\DATA\022119\DN766.D\	02/22/19 10:04

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water

Service Request: R1901380
Date Analyzed: 02/21/19

Duplicate Lab Control Sample Summary
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1901357-02			RQ1901357-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Decachlorobiphenyl	680	0.414	1.25	33	0.424	1.25	34	10-112	2	30
Dichlorobiphenyls, Total	680	0.173	0.250	69	0.174	0.250	70	31-119	<1	30
Heptachlorobiphenyls, Total	680	0.404	0.750	54	0.422	0.750	56	17-118	4	30
Hexachlorobiphenyls, Total	680	0.318	0.500	64	0.326	0.500	65	24-119	2	30
Monochlorobiphenyls, Total	680	0.157	0.250	63	0.158	0.250	63	28-111	<1	30
Octachlorobiphenyls, Total	680	0.371	0.750	49	0.364	0.750	49	11-115	2	30
Pentachlorobiphenyls, Total	680	0.378	0.500	76	0.385	0.500	77	33-120	2	30
Tetrachlorobiphenyls, Total	680	0.333	0.500	67	0.344	0.500	69	26-122	3	30
Trichlorobiphenyls, Total	680	0.184	0.250	73	0.186	0.250	74	30-121	1	30

Client: AECOM **Service Request:** R1901380

Project: Lockheed Martin Middle River Comparison Study SW/60555202 **Date Analyzed:** 02/21/19 16:41

Tune Summary

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

File ID: I:\ACQUDATA\5973B\DATA\022119\DN729.D\ **Analytical Method:** 680

Instrument ID: R-MS-52 **Analysis Lot:** 625888

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
127	198	40	60	52.06	501120	Pass
197	198	0.00	1	0.00	0	Pass
198	198	100	100	100.00	962582	Pass
199	198	5	9	7.27	69944	Pass
275	198	10	30	21.30	204992	Pass
365	198	1	100	1.83	17568	Pass
441	443	0.01	100	97.83	164544	Pass
442	198	40	110	87.46	841856	Pass
443	442	17	23	19.98	168192	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	RQ1901484-02	I:\ACQUDATA\5973B\DATA\022119\DN730.D\	02/21/19 16:59	
Method Blank	RQ1901357-01	I:\ACQUDATA\5973B\DATA\022119\DN731.D\	02/21/19 17:28	
FB-SW-021419-A	R1901380-003	I:\ACQUDATA\5973B\DATA\022119\DN732.D\	02/21/19 17:57	
MRC-SW30-021419-A	R1901380-008	I:\ACQUDATA\5973B\DATA\022119\DN733.D\	02/21/19 18:26	
EB-Tube 2-021419-A	R1901380-011	I:\ACQUDATA\5973B\DATA\022119\DN734.D\	02/21/19 18:55	
EB-Tube 1-021419-A	R1901380-012	I:\ACQUDATA\5973B\DATA\022119\DN735.D\	02/21/19 19:24	
MRC-SW31-021419-A	R1901380-013	I:\ACQUDATA\5973B\DATA\022119\DN736.D\	02/21/19 19:53	
MRC-SW40-S-021419-A	R1901380-015	I:\ACQUDATA\5973B\DATA\022119\DN737.D\	02/21/19 20:22	
Lab Control Sample	RQ1901357-02	I:\ACQUDATA\5973B\DATA\022119\DN738.D\	02/21/19 20:51	
Duplicate Lab Control Sample	RQ1901357-03	I:\ACQUDATA\5973B\DATA\022119\DN739.D\	02/21/19 21:20	
Method Detection Limit Verification	RQ1901357-06	I:\ACQUDATA\5973B\DATA\022119\DN740.D\	02/21/19 21:49	
Method Detection Limit Verification	RQ1901357-07	I:\ACQUDATA\5973B\DATA\022119\DN741.D\	02/21/19 22:17	
Method Detection Limit Verification	RQ1901357-08	I:\ACQUDATA\5973B\DATA\022119\DN742.D\	02/21/19 22:46	
Continuing Calibration Verification	RQ1901484-03	I:\ACQUDATA\5973B\DATA\022119\DN743.D\	02/21/19 23:15	

QC/QC Report

Client: AECOM **Service Request:**R1901380
Project: Lockheed Martin Middle River Comparison Study SW/60555202 **Date Analyzed:**02/21/19 23:43

Tune Summary
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

File ID: I:\ACQUDATA\5973B\DATA\022119\DN744.D\ **Analytical Method:** 680
Instrument ID: R-MS-52 **Analysis Lot:** 625889

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
127	198	40	60	54.17	426368	Pass
197	198	0.00	1	0.00	0	Pass
198	198	100	100	100.00	787072	Pass
199	198	5	9	7.46	58680	Pass
275	198	10	30	20.38	160384	Pass
365	198	1	100	1.82	14314	Pass
441	443	0.01	100	90.56	113944	Pass
442	198	40	110	77.34	608704	Pass
443	442	17	23	20.67	125816	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	RQ1901485-02	I:\ACQUDATA\5973B\DATA\022119\DN745.D\	02/22/19 00:02	
MRC-SW7A-S-021419-A-DUP	R1901380-001	I:\ACQUDATA\5973B\DATA\022119\DN746.D\	02/22/19 00:30	
MRC-SW8A-S-021419-A	R1901380-002	I:\ACQUDATA\5973B\DATA\022119\DN748.D\	02/22/19 01:28	
MRC-SW5A1-S-021419-A	R1901380-004	I:\ACQUDATA\5973B\DATA\022119\DN750.D\	02/22/19 02:25	
MRC-SW5A2-S-021419-A	R1901380-005	I:\ACQUDATA\5973B\DATA\022119\DN752.D\	02/22/19 03:22	
MRC-SW13A-S-021419-A	R1901380-006	I:\ACQUDATA\5973B\DATA\022119\DN754.D\	02/22/19 04:19	
MRC-SW8B-S-021419-A	R1901380-007	I:\ACQUDATA\5973B\DATA\022119\DN756.D\	02/22/19 05:16	
MRC-SW15A-S-021419-A	R1901380-009	I:\ACQUDATA\5973B\DATA\022119\DN758.D\	02/22/19 06:14	
MRC-SW9A-S-021419-A	R1901380-010	I:\ACQUDATA\5973B\DATA\022119\DN760.D\	02/22/19 07:11	
MRC-SW7A-S-021419-A	R1901380-014	I:\ACQUDATA\5973B\DATA\022119\DN762.D\	02/22/19 08:09	
MRC-SW7A-S-021419-A	RQ1901357-04	I:\ACQUDATA\5973B\DATA\022119\DN764.D\	02/22/19 09:07	
MRC-SW7A-S-021419-A	RQ1901357-05	I:\ACQUDATA\5973B\DATA\022119\DN766.D\	02/22/19 10:04	
Continuing Calibration Verification	RQ1901485-03	I:\ACQUDATA\5973B\DATA\022119\DN768.D\	02/22/19 11:02	

QA/QC Report

Client: AECOM **Service Request:**R1901380
Project: Lockheed Martin Middle River Comparison Study **Date Analyzed:**02/21/19 16:59

Internal Standard Area and RT SUMMARY

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

File ID: I:\ACQUDATA\5973B\DATA\022119\DN730.D\ **Lab Code:**RQ1901484-02
Instrument ID: R-MS-52 **Analysis Lot:**625888
Analysis Method: 680 **Signal ID:**1

		Phenanthrene-d10		Chrysene-d12	
		Area	**RT**	**Area**	**RT**
	Result ==>	378,563	11.39	297,634	17.13
	Upper Limit ==>	567,845	11.89	446,451	17.63
	Lower Limit ==>	264,994	10.89	208,344	16.63
Associated Analyses					
Continuing Calibration Verification	RQ1901484-02	378563	11.39	297634	17.13
Method Blank	RQ1901357-01	337322	11.39	271749	17.12
FB-SW-021419-A	R1901380-003	330231	11.39	262000	17.12
MRC-SW30-021419-A	R1901380-008	338565	11.39	259077	17.12
EB-Tube 2-021419-A	R1901380-011	339399	11.39	283102	17.12
EB-Tube 1-021419-A	R1901380-012	312927	11.39	252061	17.12
MRC-SW31-021419-A	R1901380-013	332735	11.39	264283	17.12
MRC-SW40-S-021419-A	R1901380-015	315698	11.39	239548	17.12
Lab Control Sample	RQ1901357-02	343081	11.39	277532	17.12
Duplicate Lab Control Sample	RQ1901357-03	325819	11.39	256398	17.12
Method Detection Limit Verification	RQ1901357-06	314234	11.39	245812	17.12
Method Detection Limit Verification	RQ1901357-07	330596	11.39	252545	17.12
Method Detection Limit Verification	RQ1901357-08	326782	11.39	248882	17.12

QA/QC Report

Client: AECOM **Service Request:**R1901380
Project: Lockheed Martin Middle River Comparison Study **Date Analyzed:**02/22/19 00:02

Internal Standard Area and RT SUMMARY

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

File ID: I:\ACQUDATA\5973B\DATA\022119\DN745.D\ **Lab Code:**RQ1901485-02
Instrument ID: R-MS-52 **Analysis Lot:**625889
Analysis Method: 680 **Signal ID:**1

		Phenanthrene-d10		Chrysene-d12	
		Area	**RT**	**Area**	**RT**
	Result ==>	371,071	11.39	283,971	17.12
	Upper Limit ==>	556,607	11.89	425,957	17.62
	Lower Limit ==>	259,750	10.89	198,780	16.62
Associated Analyses					
Continuing Calibration Verification	RQ1901485-02	371071	11.39	283971	17.12
MRC-SW7A-S-021419-A-DUP	R1901380-001	341561	11.39	255937	17.12
MRC-SW8A-S-021419-A	R1901380-002	343715	11.39	258551	17.12
MRC-SW5A1-S-021419-A	R1901380-004	346419	11.39	257868	17.12
MRC-SW5A2-S-021419-A	R1901380-005	357266	11.39	271443	17.12
MRC-SW13A-S-021419-A	R1901380-006	318651	11.39	249786	17.12
MRC-SW8B-S-021419-A	R1901380-007	331454	11.39	252055	17.12
MRC-SW15A-S-021419-A	R1901380-009	345753	11.39	266279	17.12
MRC-SW9A-S-021419-A	R1901380-010	362064	11.39	286901	17.12
MRC-SW7A-S-021419-A	R1901380-014	321241	11.39	253095	17.12
MRC-SW7A-S-021419-AMS	RQ1901357-04	312215	11.39	250372	17.12
MRC-SW7A-S-021419-ADMS	RQ1901357-05	298278	11.39	237185	17.12

Raw Data

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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www.alsglobal.com

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 13:34
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW7A-S-021419-A-DUP	**Units:**	ug/L
Lab Code:	R1901380-001	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.024	0.011	1	02/22/19 00:30	2/15/19	
Dichlorobiphenyls, Total	**0.0052**	0.0047	0.0023	1	02/22/19 00:30	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.014	0.0041	1	02/22/19 00:30	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.0094	0.0027	1	02/22/19 00:30	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0047	0.0027	1	02/22/19 00:30	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.019	0.0074	1	02/22/19 00:30	2/15/19	
Octachlorobiphenyls, Total	ND U	0.014	0.0048	1	02/22/19 00:30	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.0094	0.0016	1	02/22/19 00:30	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.0094	0.0030	1	02/22/19 00:30	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0047	0.0011	1	02/22/19 00:30	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	90	46 - 130	02/22/19 00:30	
4,4'-DDT	102	30 - 194	02/22/19 00:30	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 12:30
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW8A-S-021419-A	**Units:**	ug/L
Lab Code:	R1901380-002	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.024	0.011	1	02/22/19 01:28	2/15/19	
Dichlorobiphenyls, Total	**0.0066**	0.0047	0.0023	1	02/22/19 01:28	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.014	0.0041	1	02/22/19 01:28	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.0094	0.0027	1	02/22/19 01:28	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0047	0.0027	1	02/22/19 01:28	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.019	0.0074	1	02/22/19 01:28	2/15/19	
Octachlorobiphenyls, Total	ND U	0.014	0.0048	1	02/22/19 01:28	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.0094	0.0016	1	02/22/19 01:28	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.0094	0.0030	1	02/22/19 01:28	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0047	0.0011	1	02/22/19 01:28	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	95	46 - 130	02/22/19 01:28	
4,4'-DDT	91	30 - 194	02/22/19 01:28	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 14:25
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	FB-SW-021419-A	**Units:**	ug/L
Lab Code:	R1901380-003	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.024	0.011	1	02/21/19 17:57	2/15/19	
Dichlorobiphenyls, Total	ND U	0.0047	0.0023	1	02/21/19 17:57	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.014	0.0041	1	02/21/19 17:57	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.0094	0.0027	1	02/21/19 17:57	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0047	0.0027	1	02/21/19 17:57	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.019	0.0074	1	02/21/19 17:57	2/15/19	
Octachlorobiphenyls, Total	ND U	0.014	0.0048	1	02/21/19 17:57	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.0094	0.0016	1	02/21/19 17:57	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.0094	0.0030	1	02/21/19 17:57	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0047	0.0011	1	02/21/19 17:57	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	78	46 - 130	02/21/19 17:57	
4,4'-DDT	117	30 - 194	02/21/19 17:57	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 11:05
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW5A1-S-021419-A	**Units:**	ug/L
Lab Code:	R1901380-004	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND	U	0.024	0.011	1	02/22/19 02:25	2/15/19	
Dichlorobiphenyls, Total	**0.0042**	**J**	0.0047	0.0023	1	02/22/19 02:25	2/15/19	
Heptachlorobiphenyls, Total	ND	U	0.014	0.0041	1	02/22/19 02:25	2/15/19	
Hexachlorobiphenyls, Total	ND	U	0.0094	0.0027	1	02/22/19 02:25	2/15/19	
Monochlorobiphenyls, Total	ND	U	0.0047	0.0027	1	02/22/19 02:25	2/15/19	
Nonachlorobiphenyls, Total	ND	U	0.019	0.0074	1	02/22/19 02:25	2/15/19	
Octachlorobiphenyls, Total	ND	U	0.014	0.0048	1	02/22/19 02:25	2/15/19	
Pentachlorobiphenyls, Total	ND	U	0.0094	0.0016	1	02/22/19 02:25	2/15/19	
Tetrachlorobiphenyls, Total	ND	U	0.0094	0.0030	1	02/22/19 02:25	2/15/19	
Trichlorobiphenyls, Total	ND	U	0.0047	0.0011	1	02/22/19 02:25	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	88	46 - 130	02/22/19 02:25	
4,4'-DDT	81	30 - 194	02/22/19 02:25	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 11:22
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW5A2-S-021419-A	**Units:**	ug/L
Lab Code:	R1901380-005	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND	U	0.024	0.011	1	02/22/19 03:22	2/15/19	
Dichlorobiphenyls, Total	**0.0042**	**J**	0.0047	0.0023	1	02/22/19 03:22	2/15/19	
Heptachlorobiphenyls, Total	ND	U	0.014	0.0041	1	02/22/19 03:22	2/15/19	
Hexachlorobiphenyls, Total	ND	U	0.0094	0.0027	1	02/22/19 03:22	2/15/19	
Monochlorobiphenyls, Total	ND	U	0.0047	0.0027	1	02/22/19 03:22	2/15/19	
Nonachlorobiphenyls, Total	ND	U	0.019	0.0074	1	02/22/19 03:22	2/15/19	
Octachlorobiphenyls, Total	ND	U	0.014	0.0048	1	02/22/19 03:22	2/15/19	
Pentachlorobiphenyls, Total	ND	U	0.0094	0.0016	1	02/22/19 03:22	2/15/19	
Tetrachlorobiphenyls, Total	ND	U	0.0094	0.0030	1	02/22/19 03:22	2/15/19	
Trichlorobiphenyls, Total	ND	U	0.0047	0.0011	1	02/22/19 03:22	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	87	46 - 130	02/22/19 03:22	
4,4'-DDT	78	30 - 194	02/22/19 03:22	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 11:42
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW13A-S-021419-A	**Units:**	ug/L
Lab Code:	R1901380-006	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.024	0.011	1	02/22/19 04:19	2/15/19	
Dichlorobiphenyls, Total	**0.0047**	0.0047	0.0023	1	02/22/19 04:19	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.014	0.0041	1	02/22/19 04:19	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.0094	0.0027	1	02/22/19 04:19	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0047	0.0027	1	02/22/19 04:19	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.019	0.0074	1	02/22/19 04:19	2/15/19	
Octachlorobiphenyls, Total	ND U	0.014	0.0048	1	02/22/19 04:19	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.0094	0.0016	1	02/22/19 04:19	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.0094	0.0030	1	02/22/19 04:19	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0047	0.0011	1	02/22/19 04:19	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	83	46 - 130	02/22/19 04:19	
4,4'-DDT	76	30 - 194	02/22/19 04:19	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 12:52
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW8B-S-021419-A	**Units:**	ug/L
Lab Code:	R1901380-007	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.025	0.011	1	02/22/19 05:16	2/15/19	
Dichlorobiphenyls, Total	**0.0064**	0.0049	0.0023	1	02/22/19 05:16	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.015	0.0041	1	02/22/19 05:16	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.0098	0.0027	1	02/22/19 05:16	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0049	0.0027	1	02/22/19 05:16	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.020	0.0074	1	02/22/19 05:16	2/15/19	
Octachlorobiphenyls, Total	ND U	0.015	0.0048	1	02/22/19 05:16	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.0098	0.0016	1	02/22/19 05:16	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.0098	0.0030	1	02/22/19 05:16	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0049	0.0011	1	02/22/19 05:16	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	87	46 - 130	02/22/19 05:16	
4,4'-DDT	81	30 - 194	02/22/19 05:16	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 16:30
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW30-021419-A	**Units:**	ug/L
Lab Code:	R1901380-008	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.024	0.011	1	02/21/19 18:26	2/15/19	
Dichlorobiphenyls, Total	ND U	0.0047	0.0023	1	02/21/19 18:26	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.014	0.0041	1	02/21/19 18:26	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.0094	0.0027	1	02/21/19 18:26	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0047	0.0027	1	02/21/19 18:26	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.019	0.0074	1	02/21/19 18:26	2/15/19	
Octachlorobiphenyls, Total	ND U	0.014	0.0048	1	02/21/19 18:26	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.0094	0.0016	1	02/21/19 18:26	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.0094	0.0030	1	02/21/19 18:26	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0047	0.0011	1	02/21/19 18:26	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	81	46 - 130	02/21/19 18:26	
4,4'-DDT	122	30 - 194	02/21/19 18:26	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 12:12
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW15A-S-021419-A	**Units:**	ug/L
Lab Code:	R1901380-009	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND	U	0.024	0.011	1	02/22/19 06:14	2/15/19	
Dichlorobiphenyls, Total	**0.0043**	**J**	0.0048	0.0023	1	02/22/19 06:14	2/15/19	
Heptachlorobiphenyls, Total	ND	U	0.014	0.0041	1	02/22/19 06:14	2/15/19	
Hexachlorobiphenyls, Total	ND	U	0.0096	0.0027	1	02/22/19 06:14	2/15/19	
Monochlorobiphenyls, Total	ND	U	0.0048	0.0027	1	02/22/19 06:14	2/15/19	
Nonachlorobiphenyls, Total	ND	U	0.019	0.0074	1	02/22/19 06:14	2/15/19	
Octachlorobiphenyls, Total	ND	U	0.014	0.0048	1	02/22/19 06:14	2/15/19	
Pentachlorobiphenyls, Total	ND	U	0.0096	0.0016	1	02/22/19 06:14	2/15/19	
Tetrachlorobiphenyls, Total	ND	U	0.0096	0.0030	1	02/22/19 06:14	2/15/19	
Trichlorobiphenyls, Total	ND	U	0.0048	0.0011	1	02/22/19 06:14	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	83	46 - 130	02/22/19 06:14	
4,4'-DDT	77	30 - 194	02/22/19 06:14	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 13:12
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW9A-S-021419-A	**Units:**	ug/L
Lab Code:	R1901380-010	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.024	0.011	1	02/22/19 07:11	2/15/19	
Dichlorobiphenyls, Total	**0.0087**	0.0048	0.0023	1	02/22/19 07:11	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.014	0.0041	1	02/22/19 07:11	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.0096	0.0027	1	02/22/19 07:11	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0048	0.0027	1	02/22/19 07:11	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.019	0.0074	1	02/22/19 07:11	2/15/19	
Octachlorobiphenyls, Total	ND U	0.014	0.0048	1	02/22/19 07:11	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.0096	0.0016	1	02/22/19 07:11	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.0096	0.0030	1	02/22/19 07:11	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0048	0.0011	1	02/22/19 07:11	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	83	46 - 130	02/22/19 07:11	
4,4'-DDT	72	30 - 194	02/22/19 07:11	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 14:45
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	EB-Tube 2-021419-A	**Units:**	ug/L
Lab Code:	R1901380-011	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.024	0.011	1	02/21/19 18:55	2/15/19	
Dichlorobiphenyls, Total	ND U	0.0048	0.0023	1	02/21/19 18:55	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.014	0.0041	1	02/21/19 18:55	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.0096	0.0027	1	02/21/19 18:55	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0048	0.0027	1	02/21/19 18:55	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.019	0.0074	1	02/21/19 18:55	2/15/19	
Octachlorobiphenyls, Total	ND U	0.014	0.0048	1	02/21/19 18:55	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.0096	0.0016	1	02/21/19 18:55	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.0096	0.0030	1	02/21/19 18:55	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0048	0.0011	1	02/21/19 18:55	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	77	46 - 130	02/21/19 18:55	
4,4'-DDT	111	30 - 194	02/21/19 18:55	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 14:40
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	EB-Tube 1-021419-A	**Units:**	ug/L
Lab Code:	R1901380-012	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.025	0.011	1	02/21/19 19:24	2/15/19	
Dichlorobiphenyls, Total	ND U	0.0049	0.0023	1	02/21/19 19:24	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.015	0.0041	1	02/21/19 19:24	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.0098	0.0027	1	02/21/19 19:24	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0049	0.0027	1	02/21/19 19:24	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.020	0.0074	1	02/21/19 19:24	2/15/19	
Octachlorobiphenyls, Total	ND U	0.015	0.0048	1	02/21/19 19:24	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.0098	0.0016	1	02/21/19 19:24	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.0098	0.0030	1	02/21/19 19:24	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0049	0.0011	1	02/21/19 19:24	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	82	46 - 130	02/21/19 19:24	
4,4'-DDT	123	30 - 194	02/21/19 19:24	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 16:35
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW31-021419-A	**Units:**	ug/L
Lab Code:	R1901380-013	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.024	0.011	1	02/21/19 19:53	2/15/19	
Dichlorobiphenyls, Total	ND U	0.0047	0.0023	1	02/21/19 19:53	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.014	0.0041	1	02/21/19 19:53	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.0094	0.0027	1	02/21/19 19:53	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0047	0.0027	1	02/21/19 19:53	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.019	0.0074	1	02/21/19 19:53	2/15/19	
Octachlorobiphenyls, Total	ND U	0.014	0.0048	1	02/21/19 19:53	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.0094	0.0016	1	02/21/19 19:53	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.0094	0.0030	1	02/21/19 19:53	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0047	0.0011	1	02/21/19 19:53	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	86	46 - 130	02/21/19 19:53	
4,4'-DDT	123	30 - 194	02/21/19 19:53	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 13:32
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW7A-S-021419-A	**Units:**	ug/L
Lab Code:	R1901380-014	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.024	0.011	1	02/22/19 08:09	2/15/19	
Dichlorobiphenyls, Total	ND U	0.0047	0.0023	1	02/22/19 08:09	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.014	0.0041	1	02/22/19 08:09	2/15/19	
Hexachlorobiphenyls, Total	ND U	0.0094	0.0027	1	02/22/19 08:09	2/15/19	
Monochlorobiphenyls, Total	ND U	0.0047	0.0027	1	02/22/19 08:09	2/15/19	
Nonachlorobiphenyls, Total	ND U	0.019	0.0074	1	02/22/19 08:09	2/15/19	
Octachlorobiphenyls, Total	ND U	0.014	0.0048	1	02/22/19 08:09	2/15/19	
Pentachlorobiphenyls, Total	ND U	0.0094	0.0016	1	02/22/19 08:09	2/15/19	
Tetrachlorobiphenyls, Total	ND U	0.0094	0.0030	1	02/22/19 08:09	2/15/19	
Trichlorobiphenyls, Total	ND U	0.0047	0.0011	1	02/22/19 08:09	2/15/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	84	46 - 130	02/22/19 08:09	
4,4'-DDT	60	30 - 194	02/22/19 08:09	

Analytical Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Collected:**	02/14/19 16:00
Sample Matrix:	Water	**Date Received:**	02/15/19 07:45
Sample Name:	MRC-SW40-S-021419-A	**Units:**	ug/L
Lab Code:	R1901380-015	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

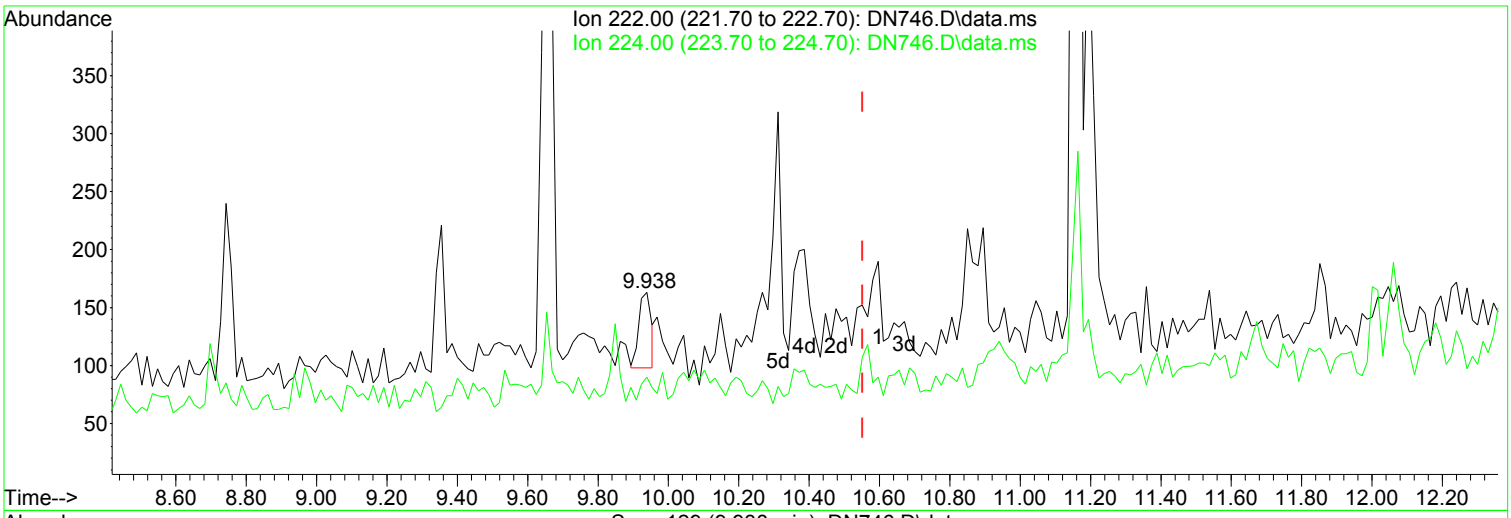
Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND	U	0.024	0.011	1	02/21/19 20:22	2/15/19	
Dichlorobiphenyls, Total	**0.026**		0.0048	0.0023	1	02/21/19 20:22	2/15/19	
Heptachlorobiphenyls, Total	ND	U	0.014	0.0041	1	02/21/19 20:22	2/15/19	
Hexachlorobiphenyls, Total	ND	U	0.0096	0.0027	1	02/21/19 20:22	2/15/19	
Monochlorobiphenyls, Total	**0.026**		0.0048	0.0027	1	02/21/19 20:22	2/15/19	
Nonachlorobiphenyls, Total	ND	U	0.019	0.0074	1	02/21/19 20:22	2/15/19	
Octachlorobiphenyls, Total	ND	U	0.014	0.0048	1	02/21/19 20:22	2/15/19	
Pentachlorobiphenyls, Total	ND	U	0.0096	0.0016	1	02/21/19 20:22	2/15/19	
Tetrachlorobiphenyls, Total	**0.049**		0.0096	0.0030	1	02/21/19 20:22	2/15/19	
Trichlorobiphenyls, Total	**0.019**		0.0048	0.0011	1	02/21/19 20:22	2/15/19	

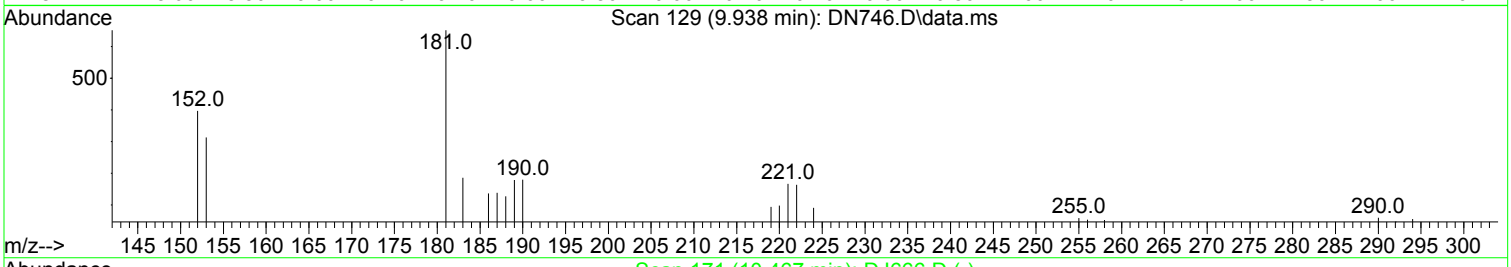
Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	91	46 - 130	02/21/19 20:22	
4,4'-DDT	125	30 - 194	02/21/19 20:22	

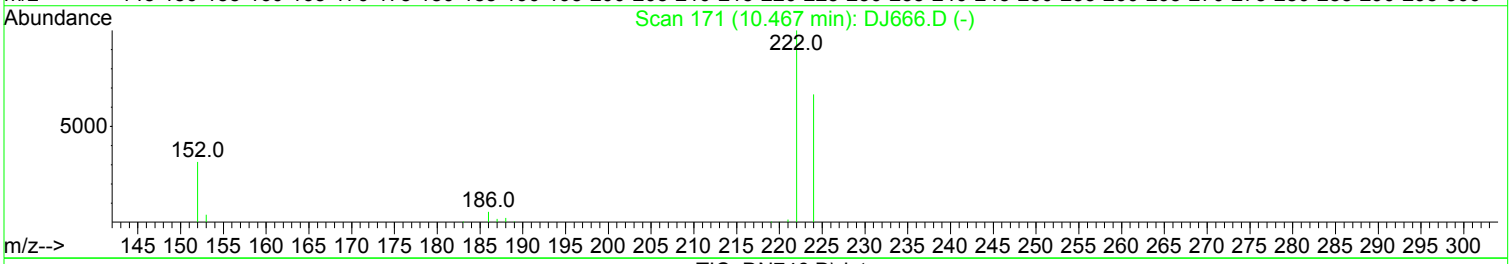
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN746.D
Acq On : 22 Feb 2019 12:30 am
Operator : J.Misiurewicz
Sample : R1901380-001
Misc : 331543 680 PCB
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Feb 22 09:21:31 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN746.D\data.ms

(28) CL2 - #1 (L2)

9.938min (-0.613) 0.00 ppm m

response 161

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	55.21
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

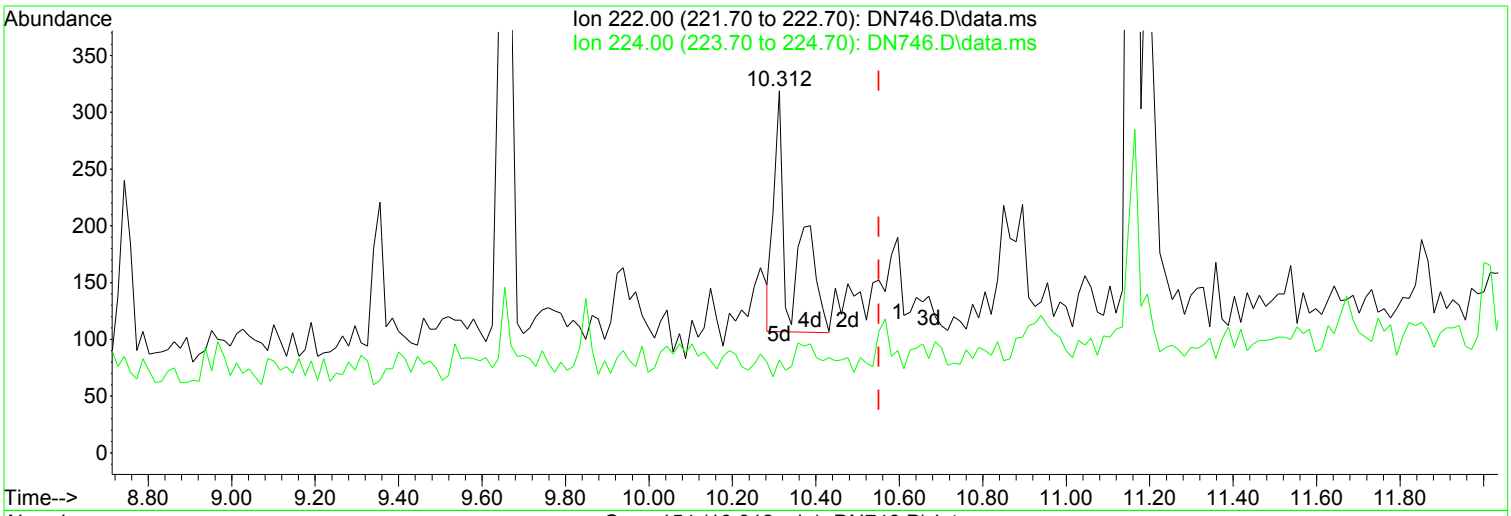
Other -

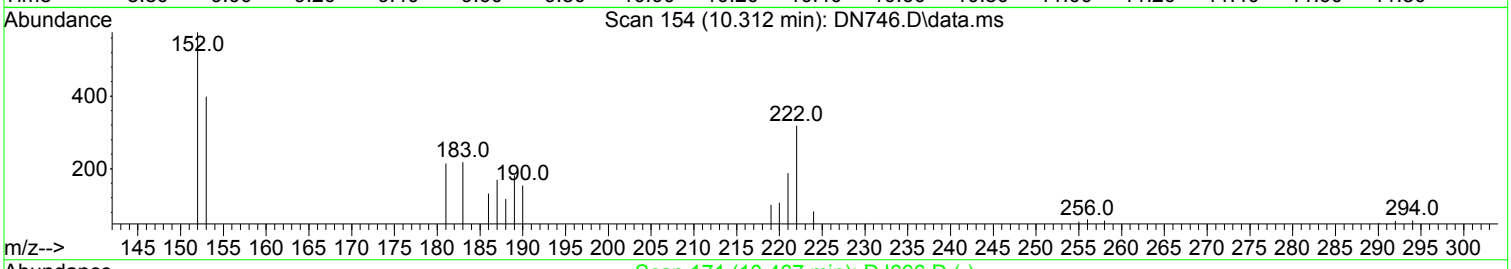
02/22/19

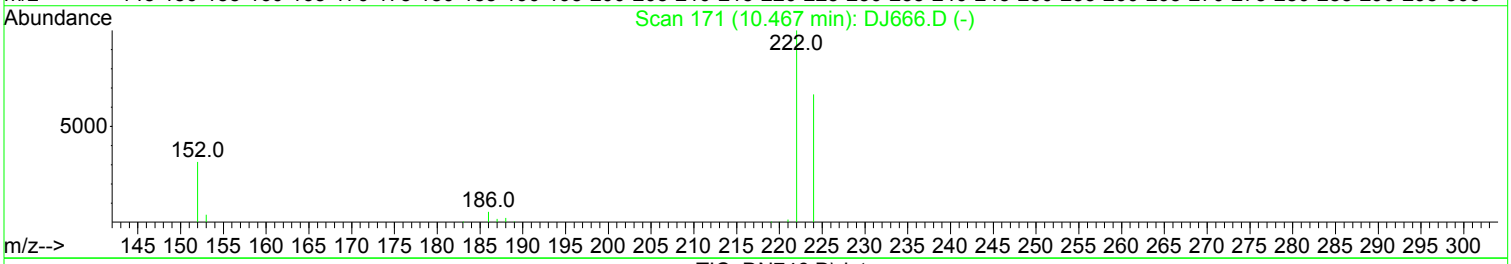
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN746.D
Acq On : 22 Feb 2019 12:30 am
Operator : J.Misiurewicz
Sample : R1901380-001
Misc : 331543 680 PCB
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Feb 22 09:21:31 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN746.D\data.ms

(29) CL2 - #2 (L2)

10.312min (-0.239) 0.00 ppm m

response 603

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	25.71#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

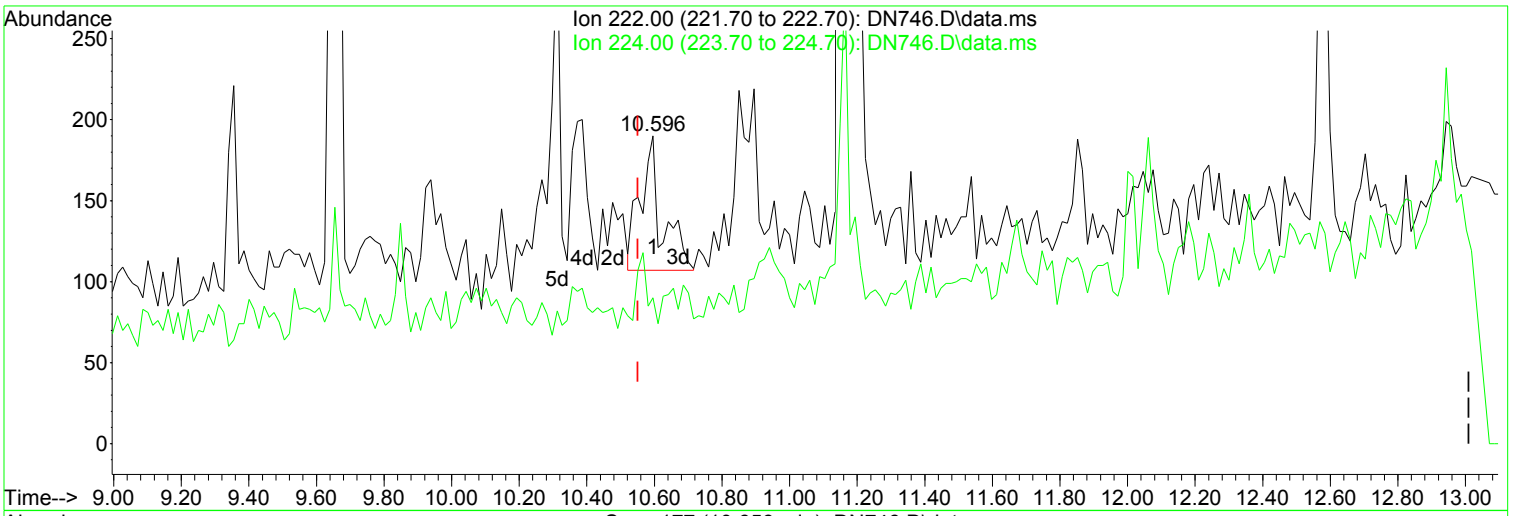
Other -

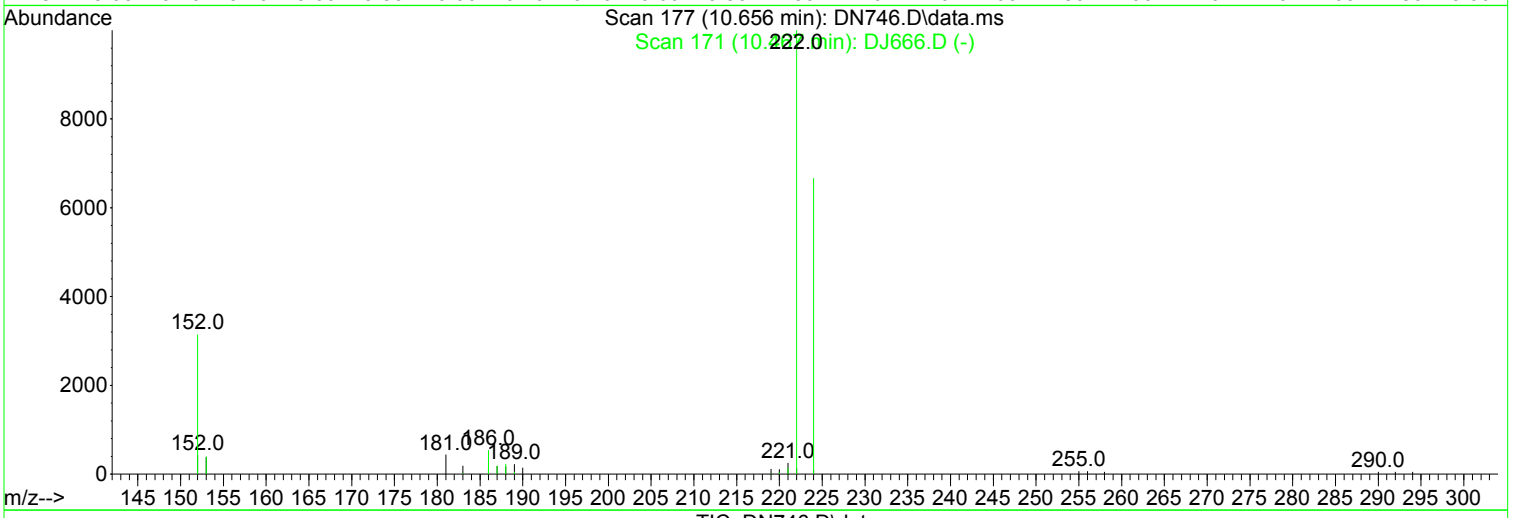
02/22/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN746.D
Acq On : 22 Feb 2019 12:30 am
Operator : J.Misiurewicz
Sample : R1901380-001
Misc : 331543 680 PCB
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Feb 22 09:21:31 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration





TIC: DN746.D\data.ms

(30) CL2 - #3 (L2)

10.596min (+ 0.045) 0.00 ppm m

response 368

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	47.37
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

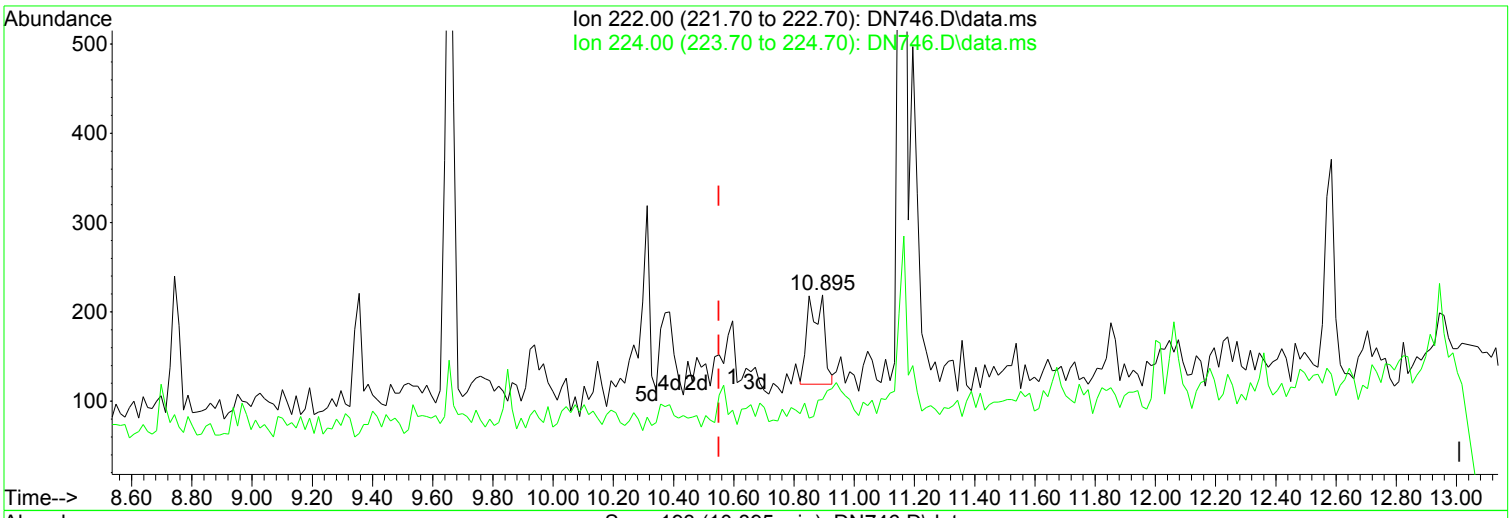
Other -

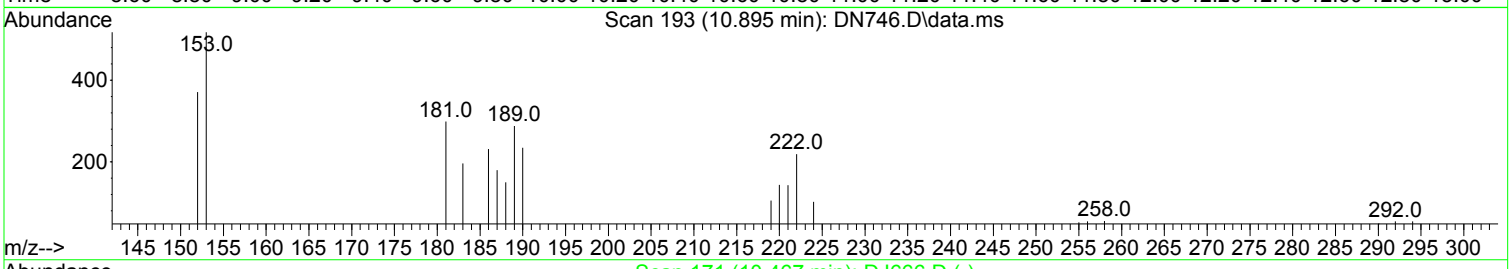
02/22/19

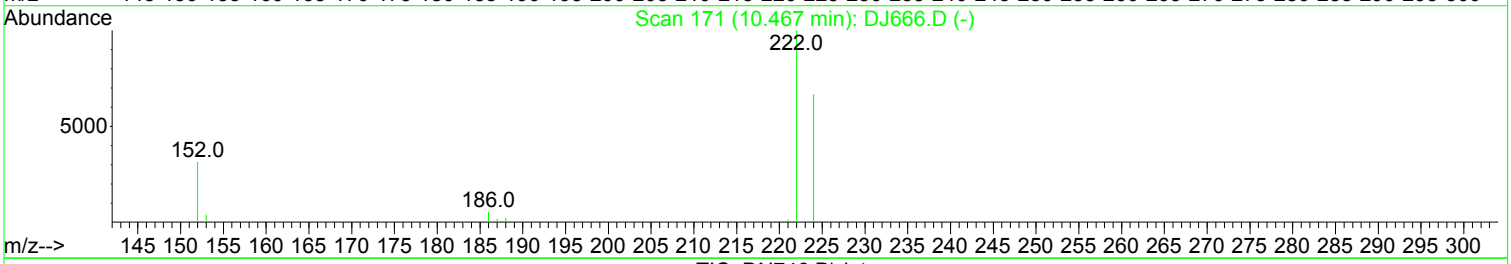
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN746.D
Acq On : 22 Feb 2019 12:30 am
Operator : J.Misiurewicz
Sample : R1901380-001
Misc : 331543 680 PCB
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Feb 22 09:21:31 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN746.D\data.ms

(31) CL2 - #4 (L2)

10.895min (+ 0.344) 0.00 ppm m

response 356

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	46.58
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

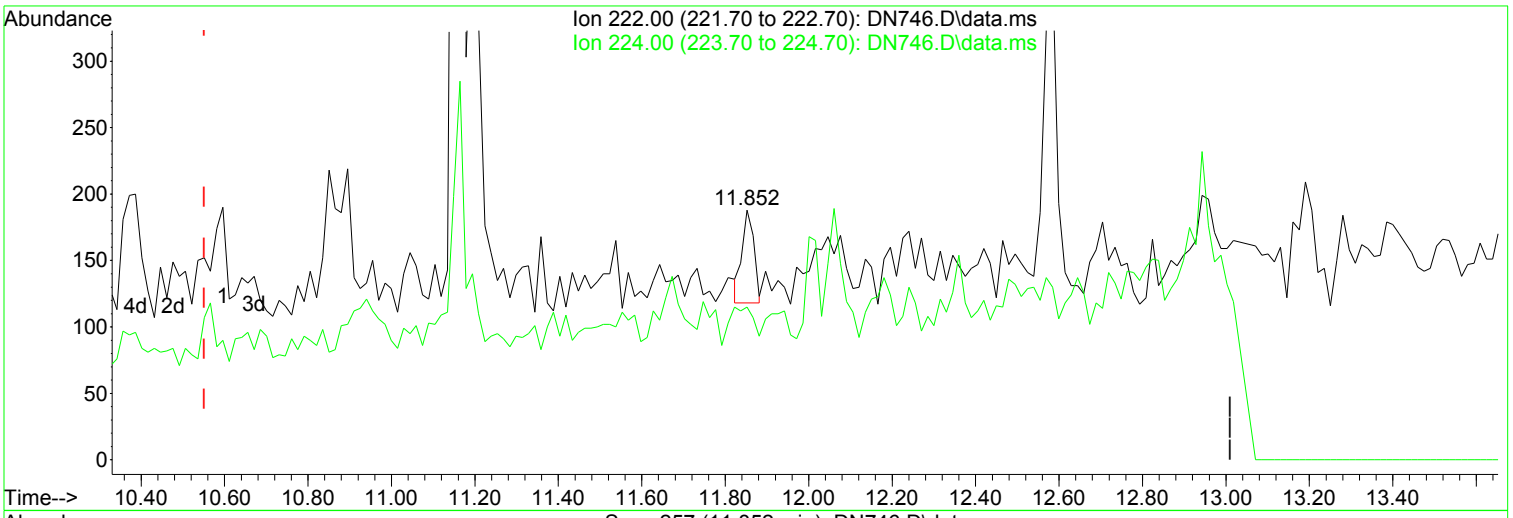
Other -

02/22/19

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN746.D
Acq On : 22 Feb 2019 12:30 am
Operator : J.Misiurewicz
Sample : R1901380-001
Misc : 331543 680 PCB
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Feb 22 09:21:31 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN746.D\data.ms

(32) CL2 - #5 (L2)

11.852min (+ 1.301) 0.00 ppm m

response 140

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	61.17
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

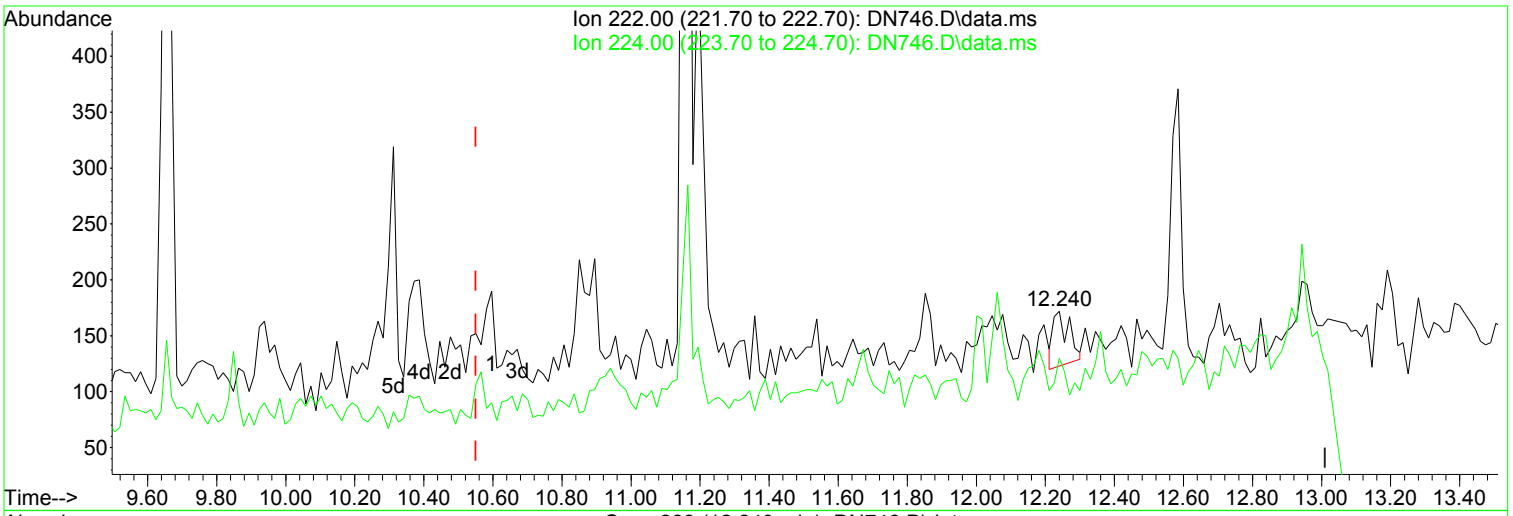
Other -

02/22/19

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN746.D
Acq On : 22 Feb 2019 12:30 am
Operator : J.Misiurewicz
Sample : R1901380-001
Misc : 331543 680 PCB
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Feb 22 09:21:31 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN746.D\data.ms

(33) CL2 - #6 (L2)

12.240min (+ 1.689) 0.00 ppm m

response 159

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	75.58
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

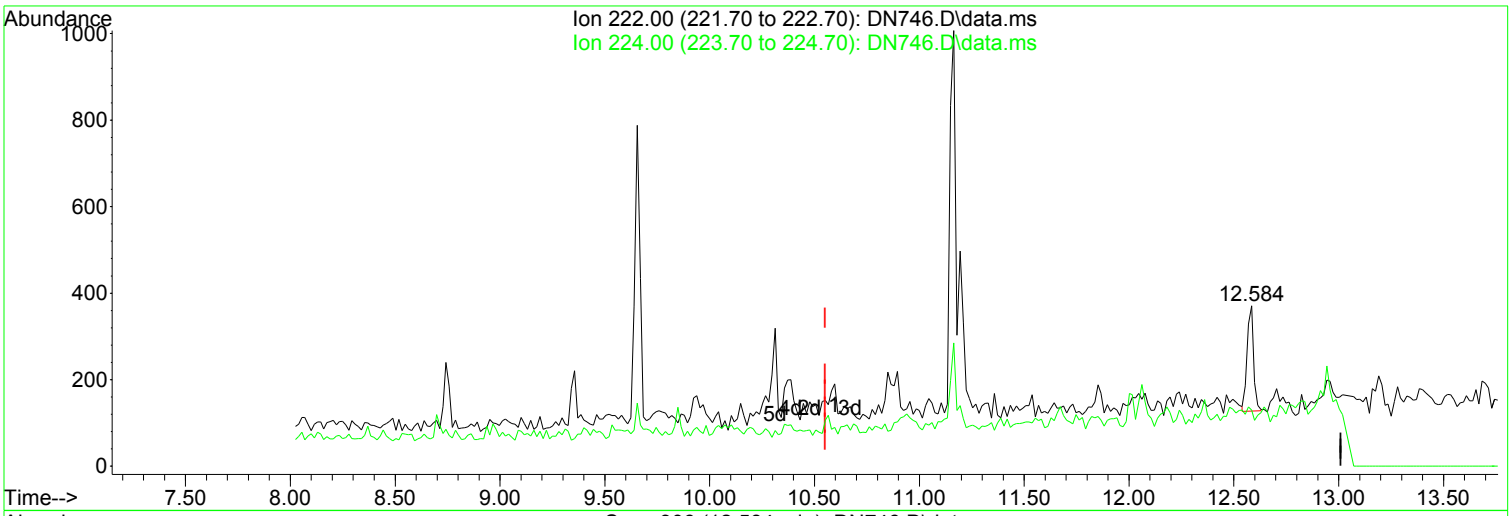
Other -

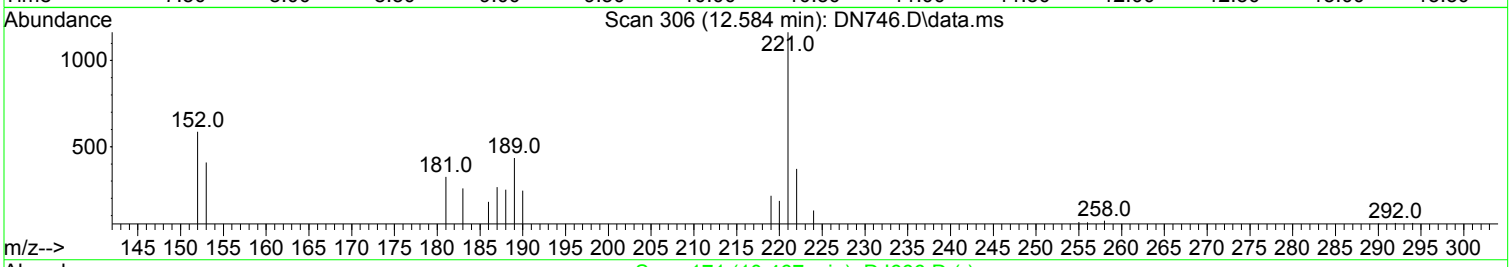
02/22/19

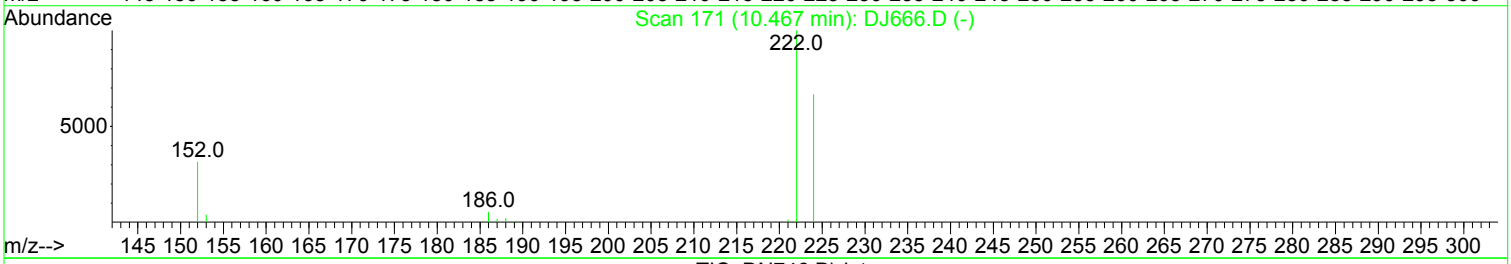
1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN746.D
Acq On : 22 Feb 2019 12:30 am
Operator : J.Misiurewicz
Sample : R1901380-001
Misc : 331543 680 PCB
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Feb 22 09:21:31 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN746.D\data.ms

(34) CL2 - #7 (L2)

12.584min (+ 2.033) 0.00 ppm m

response 526

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	35.04
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Other -

02/22/19

1st DM 02/22/19
2nd MP 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN746.D
Acq On : 22 Feb 2019 12:30 am
Operator : J.Misiurewicz
Sample : R1901380-001
Misc : 331543 680 PCB
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Feb 22 09:21:31 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

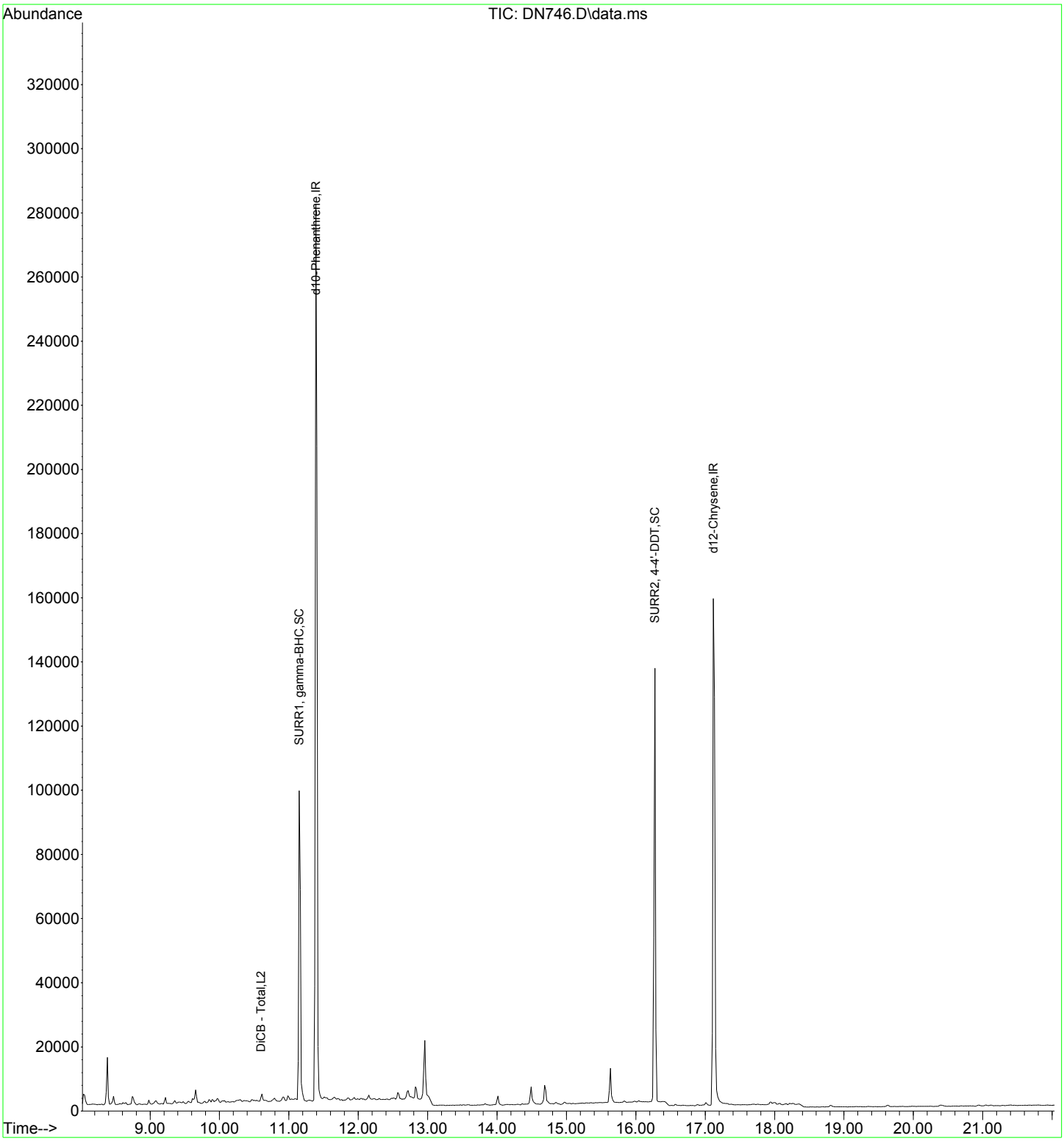
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	341561	0.75	ppm	0.00
2) d12-Chrysene	17.118	240	255937	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.149	219	37425	0.90	ppm	0.00
Spiked Amount 1.000	Range 55 - 133		Recovery = 90.00%			
13) SURR2, 4-4'-DDT	16.274	235	96897	1.02	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 102.00%			
Target Compounds						Qvalue
38) DiCB - Total	10.596	222	2313m	0.011	ppm	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN746.D
Acq On : 22 Feb 2019 12:30 am
Operator : J.Misiurewicz
Sample : R1901380-001
Misc : 331543 680 PCB
ALS Vial : 19 Sample Multiplier: 1

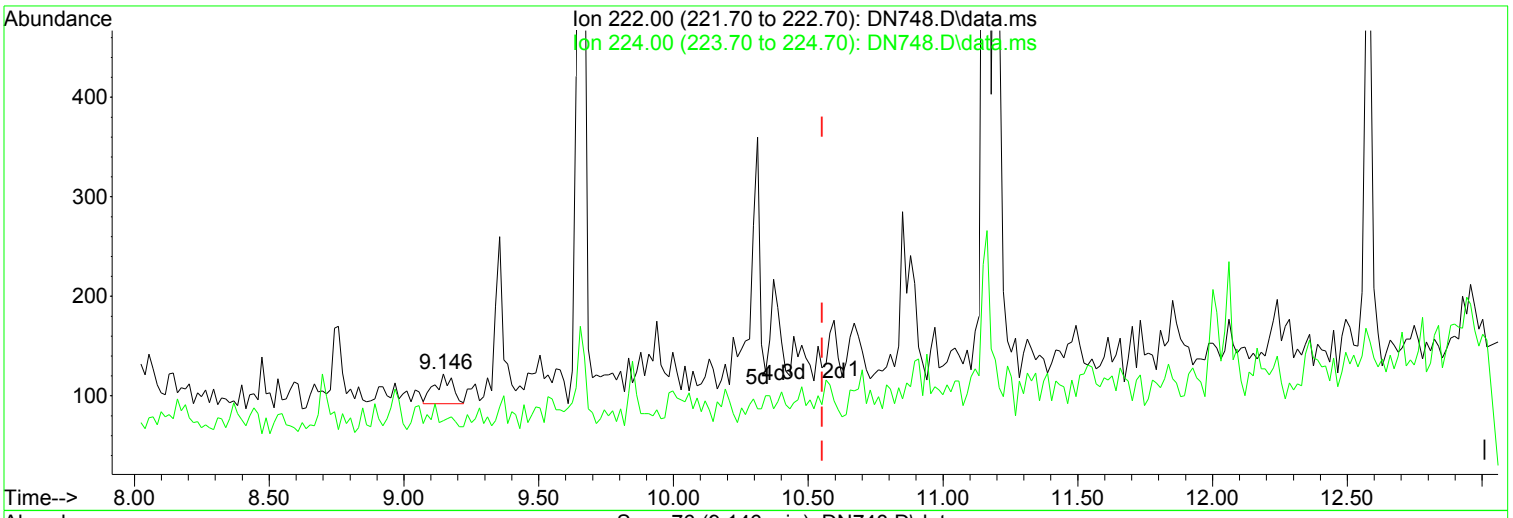
Quant Time: Feb 22 09:21:31 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

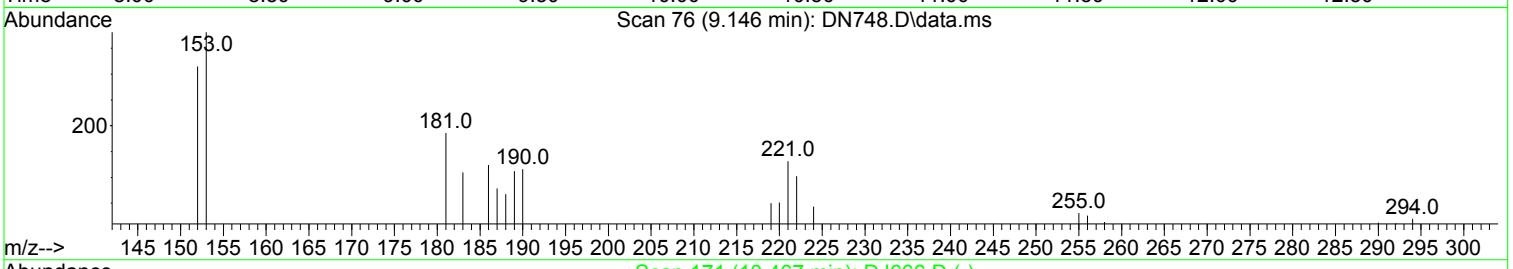


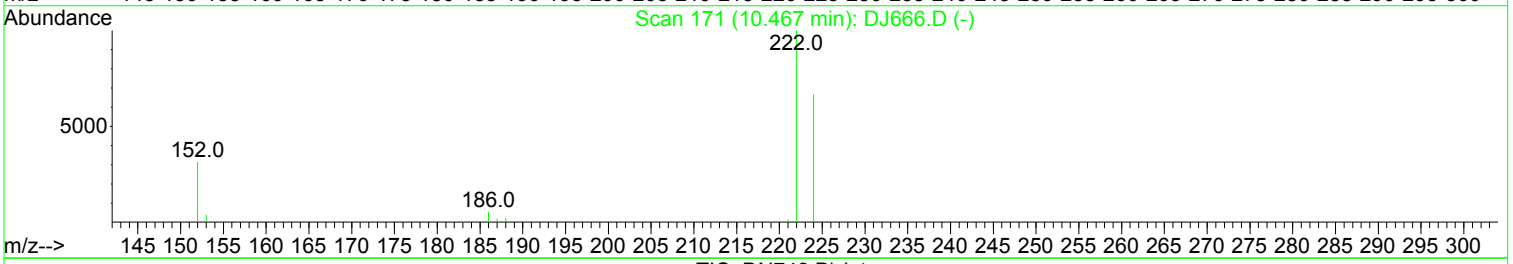
1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN748.D
Acq On : 22 Feb 2019 1:28 am
Operator : J.Misiurewicz
Sample : R1901380-002
Misc : 331543 680 PCB
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 22 09:21:37 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN748.D\data.ms

(28) CL2 - #1 (L2)

9.146min (-1.405) 0.00 ppm m

response 135

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	61.48
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

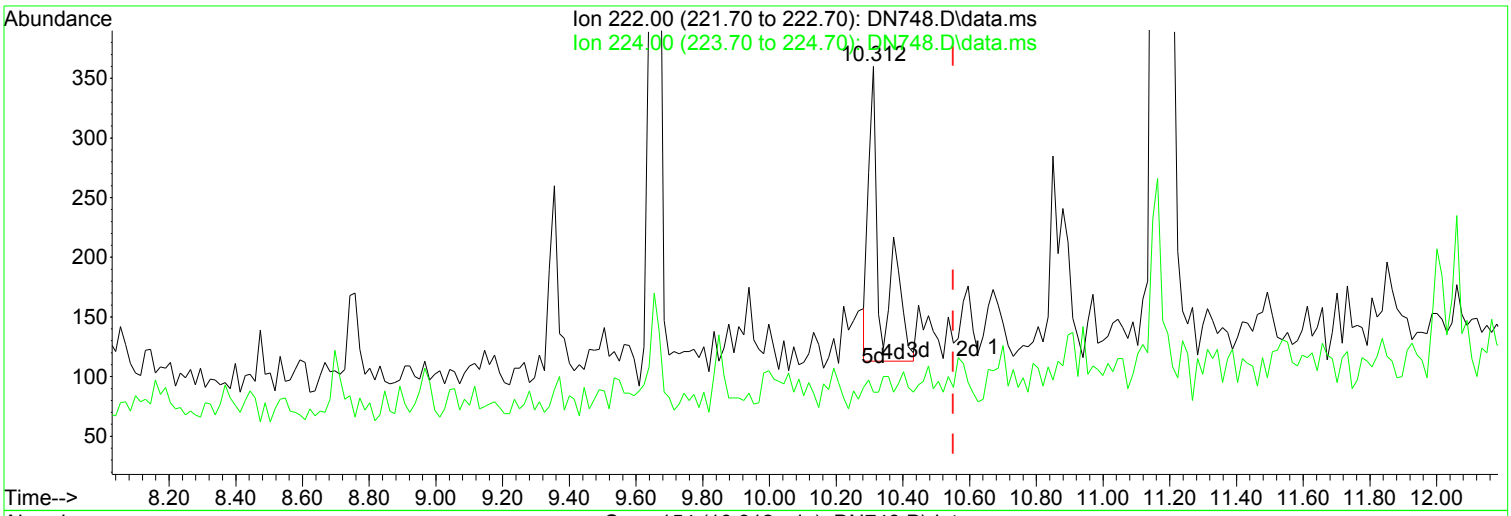
Other -

02/22/19

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN748.D
Acq On : 22 Feb 2019 1:28 am
Operator : J.Misiurewicz
Sample : R1901380-002
Misc : 331543 680 PCB
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 22 09:21:37 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN748.D\data.ms

(29) CL2 - #2 (L2)

10.312min (-0.239) 0.00 ppm m

response 662

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	24.17#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

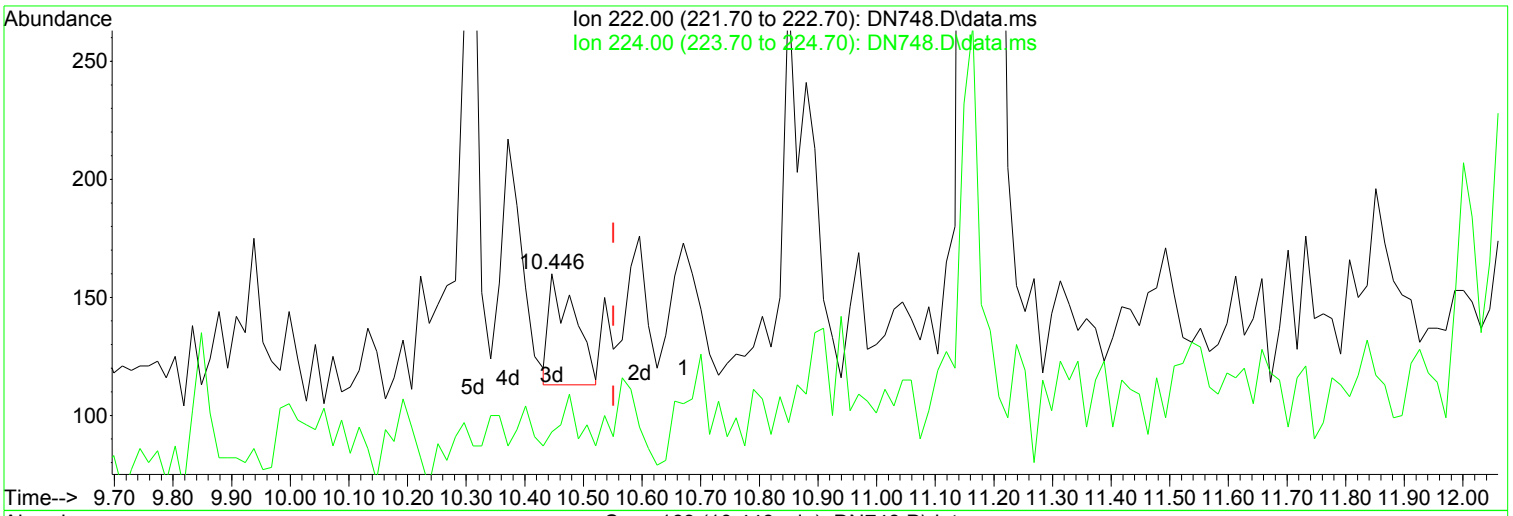
Other -

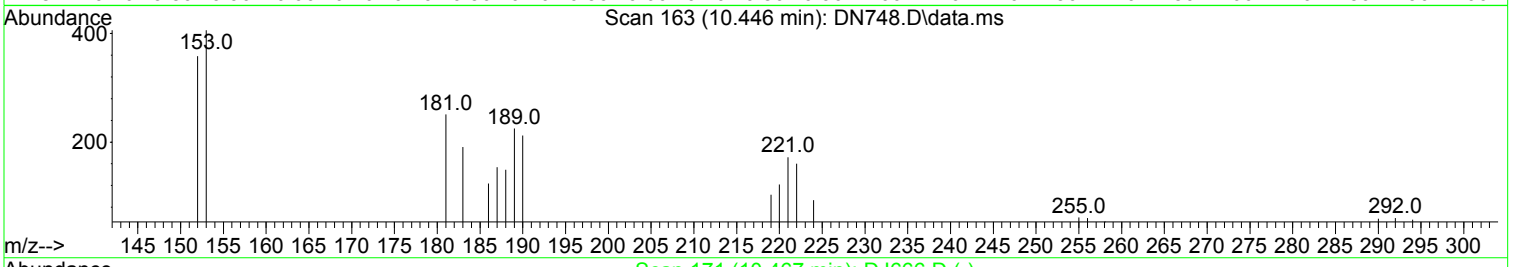
02/22/19

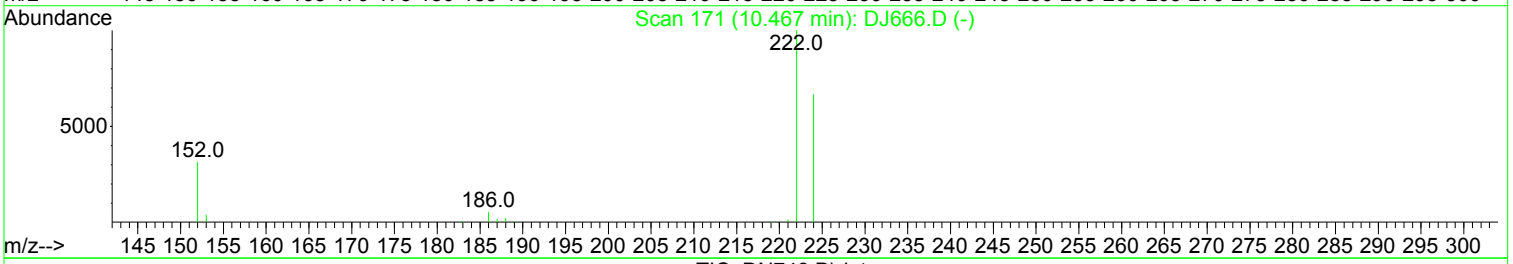
1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN748.D
Acq On : 22 Feb 2019 1:28 am
Operator : J.Misiurewicz
Sample : R1901380-002
Misc : 331543 680 PCB
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 22 09:21:37 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN748.D\data.ms

(30) CL2 - #3 (L2)

10.446min (-0.105) 0.00 ppm m

response 140

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	58.13
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

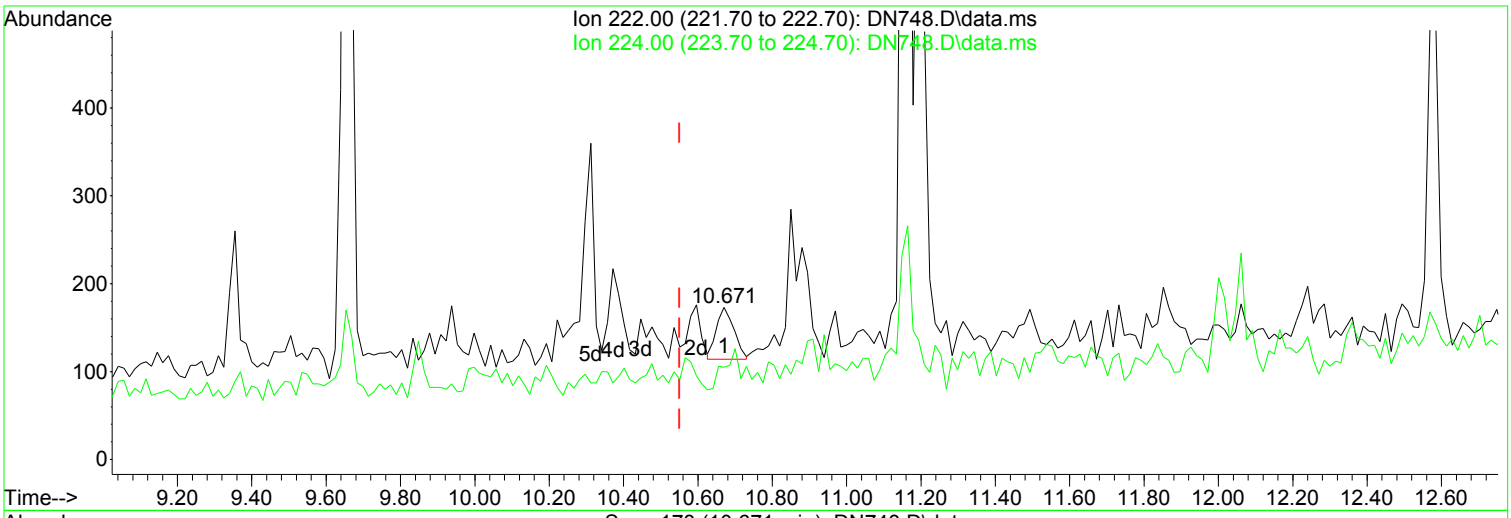
Other -

02/22/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN748.D
Acq On : 22 Feb 2019 1:28 am
Operator : J.Misiurewicz
Sample : R1901380-002
Misc : 331543 680 PCB
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 22 09:21:37 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN748.D\data.ms

(31) CL2 - #4 (L2)

10.671min (+ 0.120) 0.00 ppm m

response 194

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	60.69
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

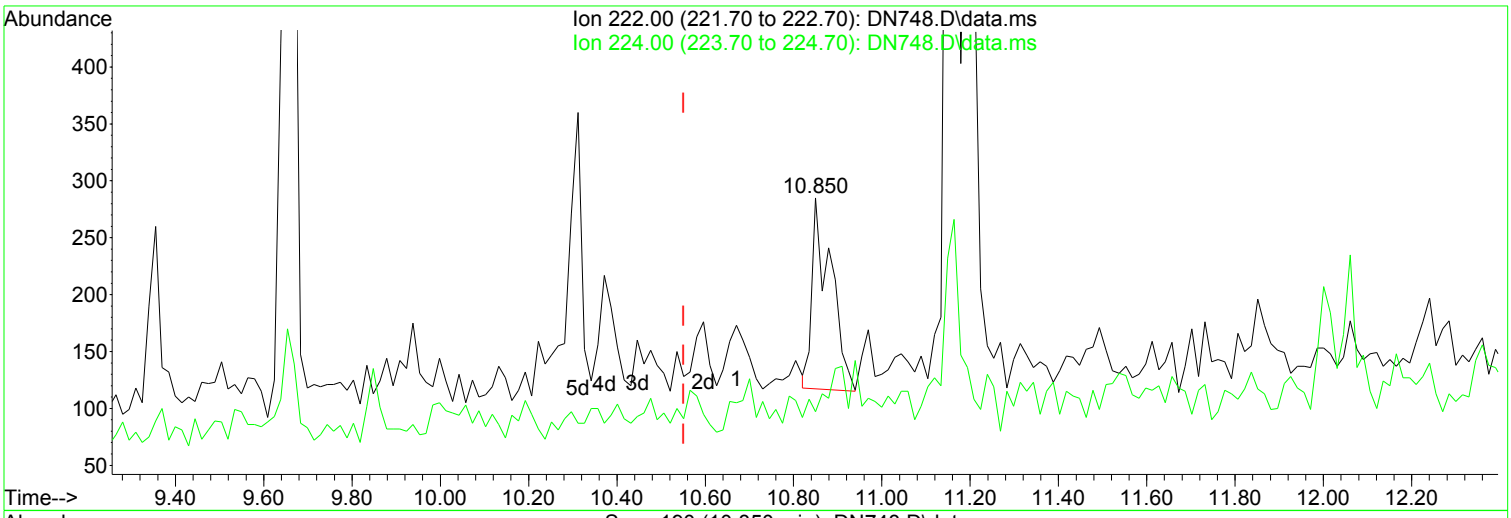
Other -

02/22/19

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN748.D
Acq On : 22 Feb 2019 1:28 am
Operator : J.Misiurewicz
Sample : R1901380-002
Misc : 331543 680 PCB
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 22 09:21:37 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN748.D\data.ms

(32) CL2 - #5 (L2)

10.850min (+ 0.299) 0.00 ppm m

response 500

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	34.04
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

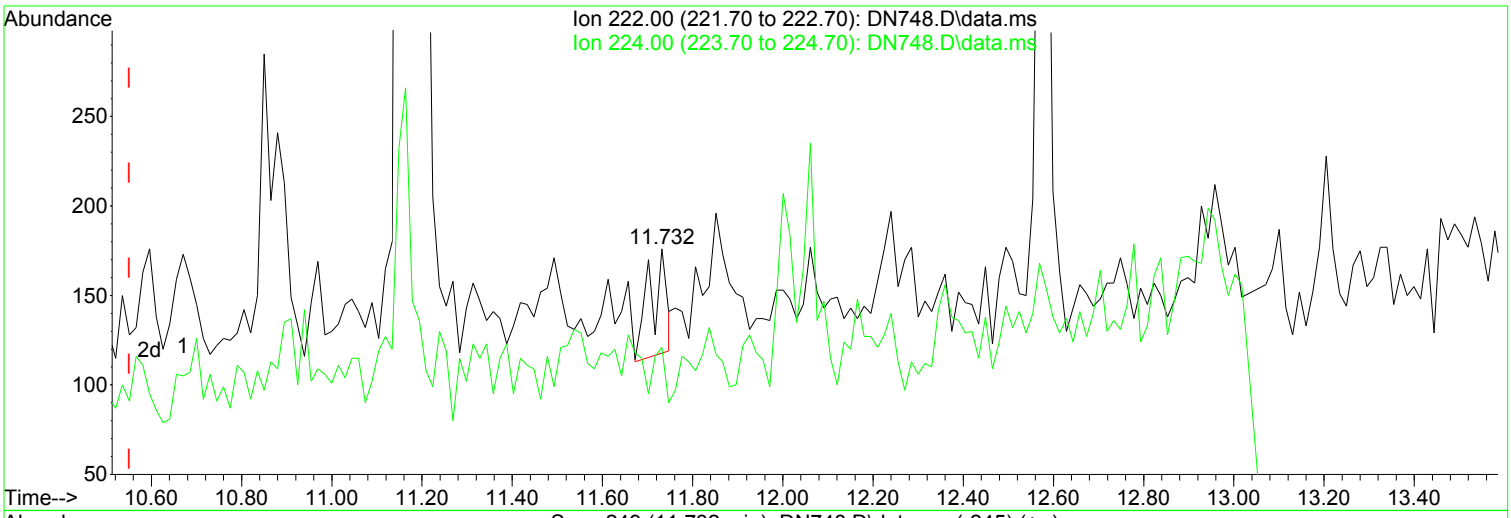
Other -

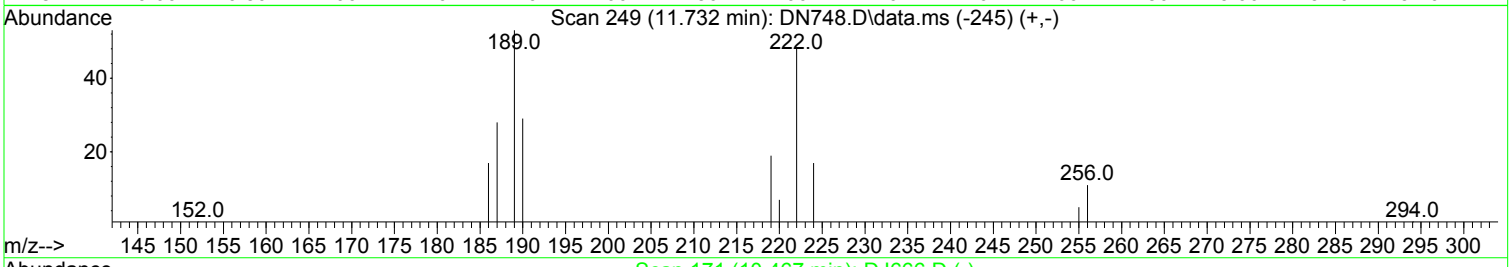
02/22/19

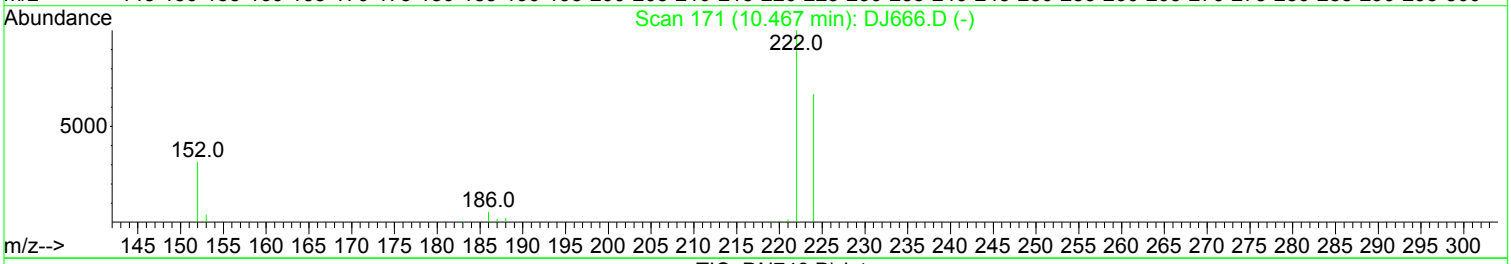
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN748.D
Acq On : 22 Feb 2019 1:28 am
Operator : J.Misiurewicz
Sample : R1901380-002
Misc : 331543 680 PCB
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 22 09:21:37 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN748.D\data.ms

(33) CL2 - #6 (L2)

11.732min (+ 1.181) 0.00 ppm m

response 154

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	68.75
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

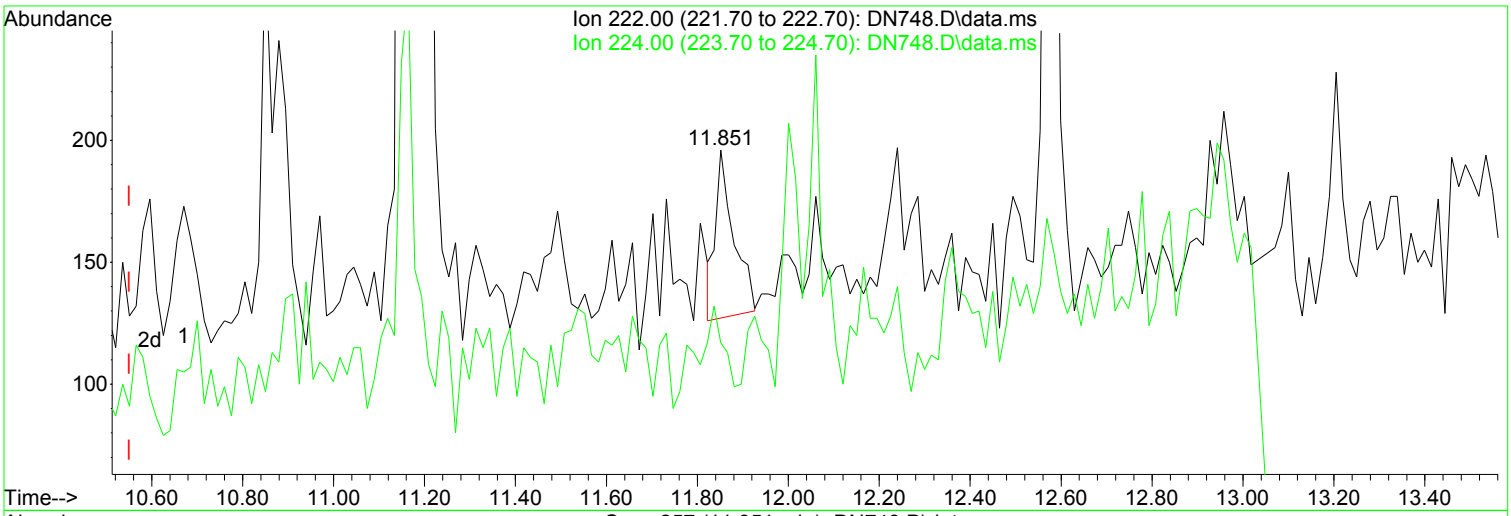
Other -

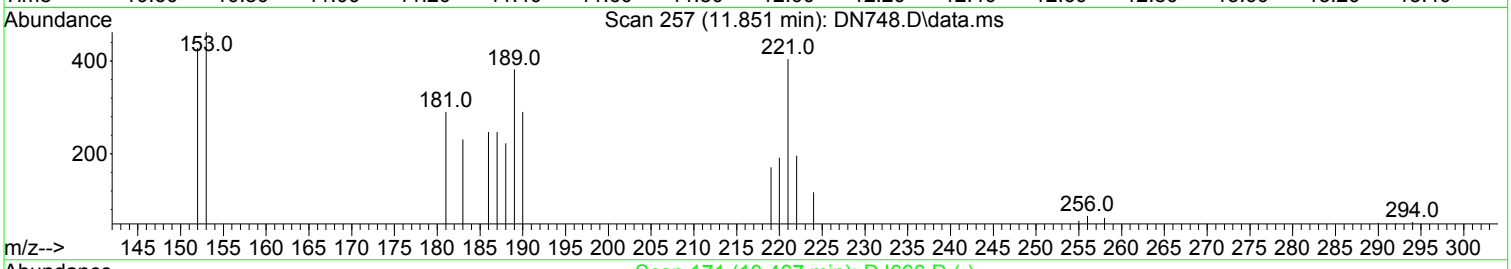
02/22/19

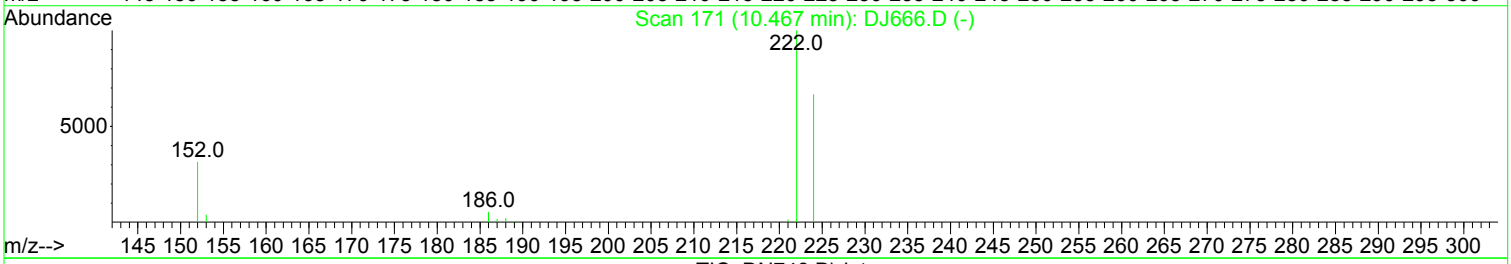
1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN748.D
Acq On : 22 Feb 2019 1:28 am
Operator : J.Misiurewicz
Sample : R1901380-002
Misc : 331543 680 PCB
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 22 09:21:37 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN748.D\data.ms

(34) CL2 - #7 (L2)

11.851min (+ 1.300) 0.00 ppm m

response 194

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	59.69
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

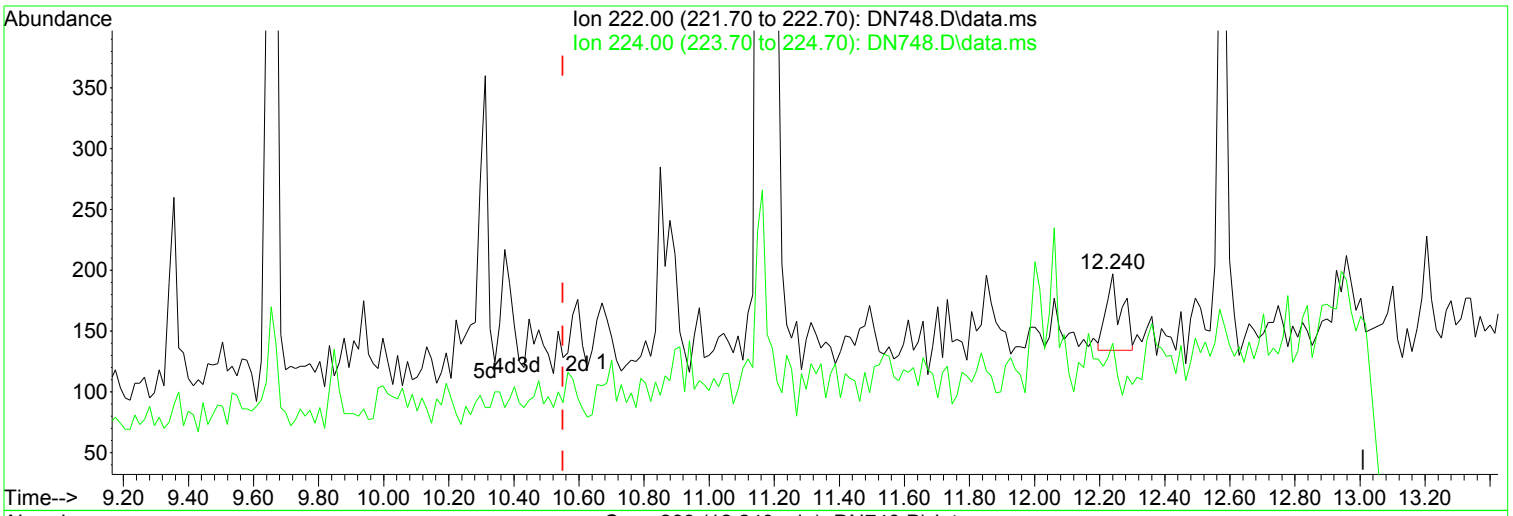
Other -

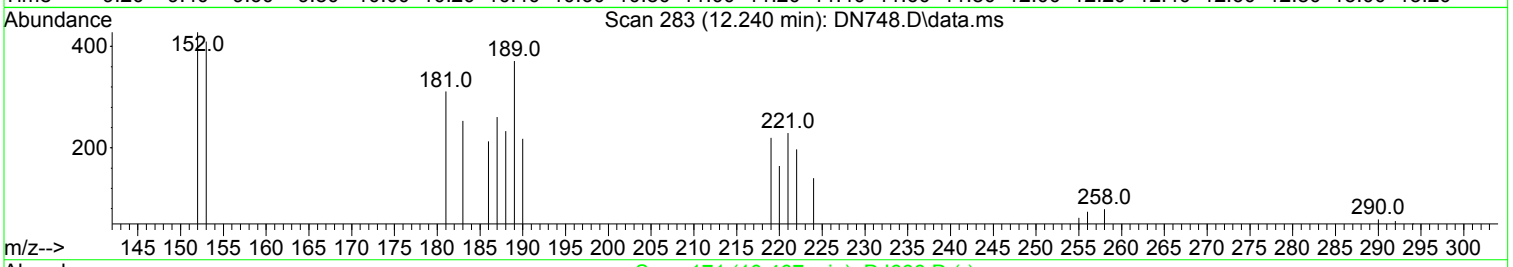
02/22/19

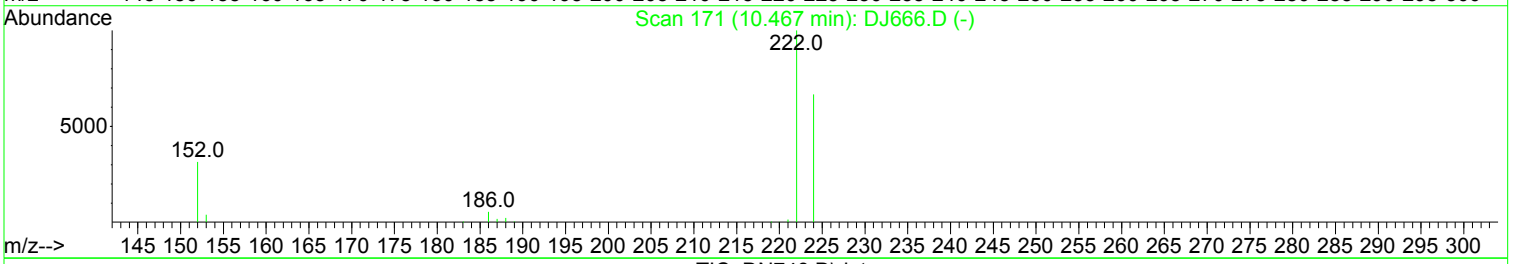
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN748.D
Acq On : 22 Feb 2019 1:28 am
Operator : J.Misiurewicz
Sample : R1901380-002
Misc : 331543 680 PCB
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 22 09:21:37 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN748.D\data.ms

(35) CL2 - #8 (L2)

12.240min (+ 1.689) 0.00 ppm m

response 209

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	71.07
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

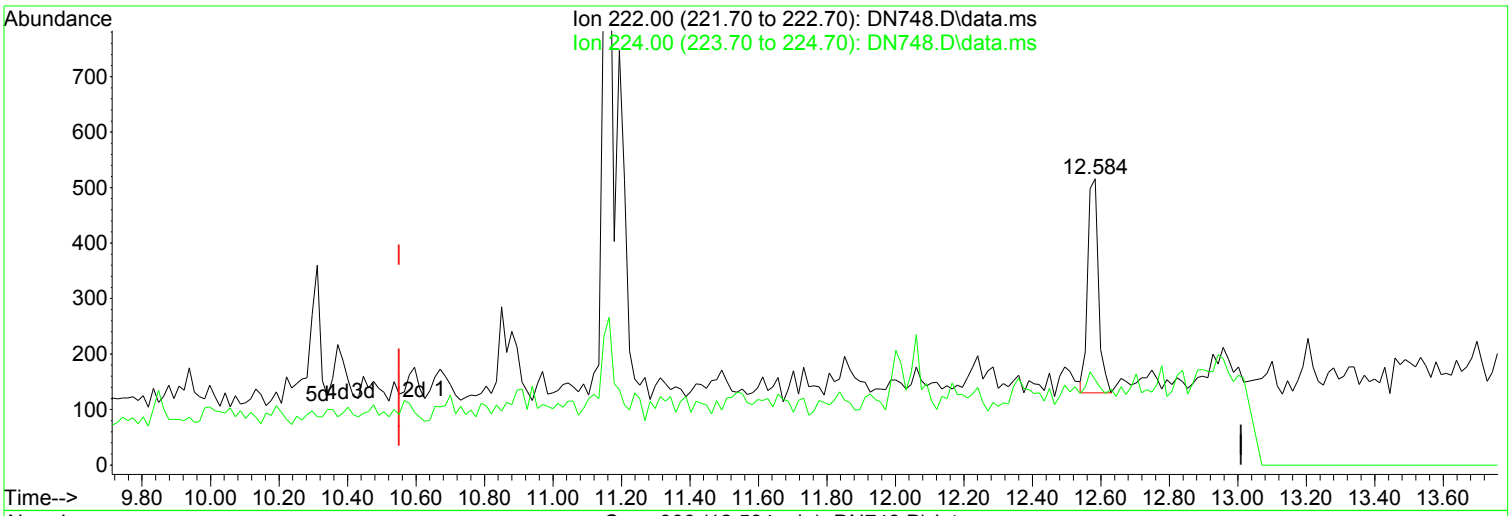
Other -

02/22/19

1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN748.D
Acq On : 22 Feb 2019 1:28 am
Operator : J.Misiurewicz
Sample : R1901380-002
Misc : 331543 680 PCB
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 22 09:21:37 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN748.D\data.ms

(36) CL2 - #9 (L2)

12.584min (+ 2.033) 0.00 ppm m

response 842

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	29.84#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Other -

02/22/19

1st DM 02/22/19
2nd MP 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN748.D
Acq On : 22 Feb 2019 1:28 am
Operator : J.Misiurewicz
Sample : R1901380-002
Misc : 331543 680 PCB
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 22 09:21:37 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

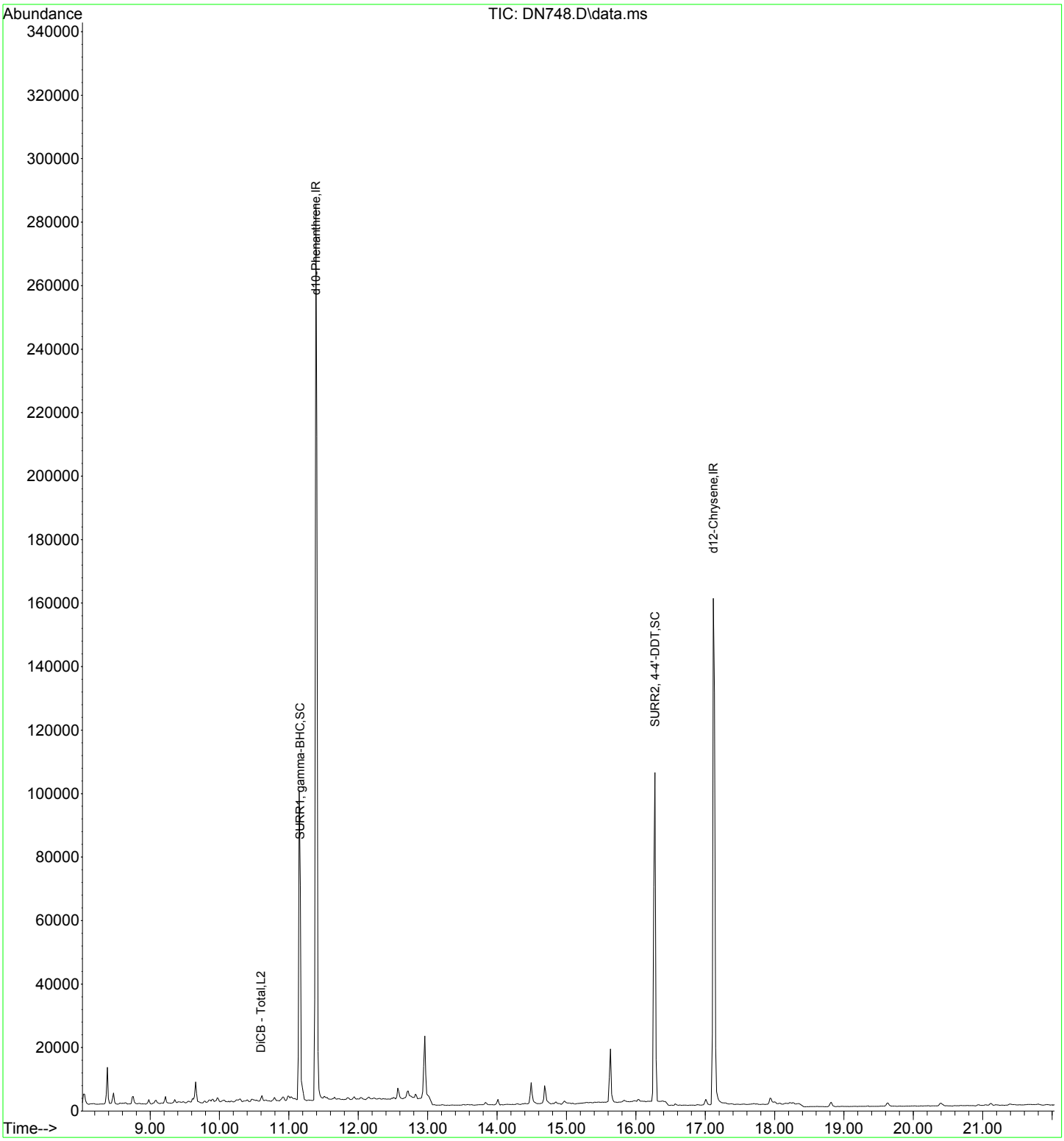
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	343715	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	258551	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.164	219	39975	0.95	ppm	0.01
Spiked Amount 1.000	Range 55 - 133		Recovery = 95.00%			
13) SURR2, 4-4'-DDT	16.275	235	87301	0.91	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 91.00%			
Target Compounds						Qvalue
38) DiCB - Total	10.596	222	3030m	0.014	ppm	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN748.D
Acq On : 22 Feb 2019 1:28 am
Operator : J.Misiurewicz
Sample : R1901380-002
Misc : 331543 680 PCB
ALS Vial : 21 Sample Multiplier: 1

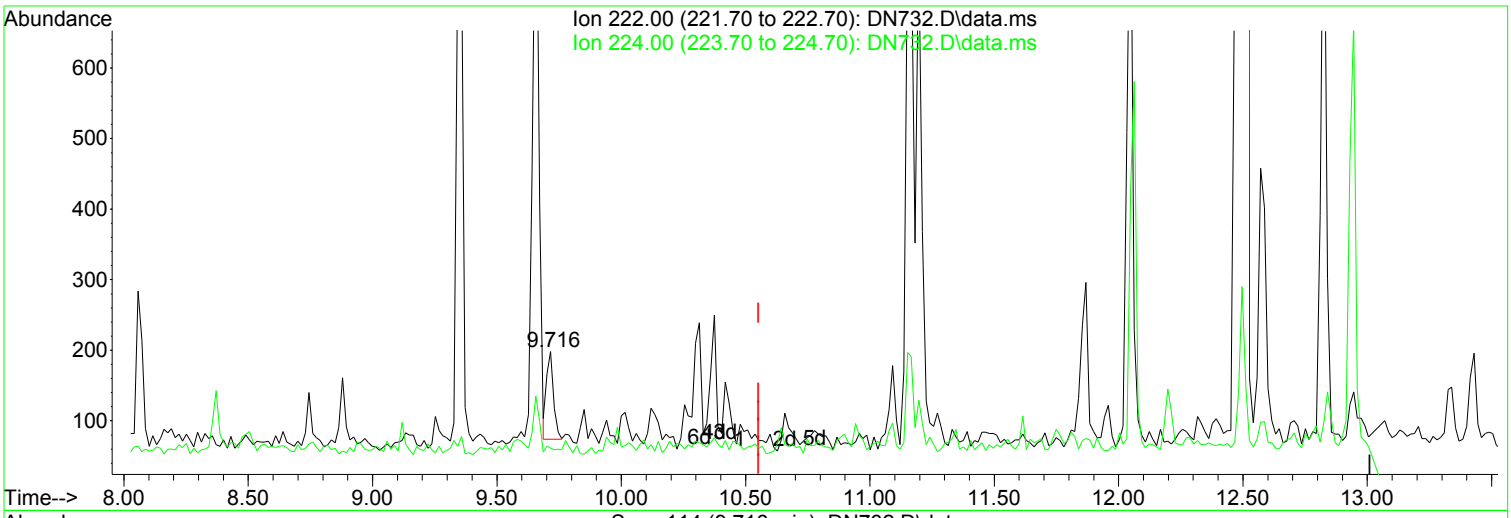
Quant Time: Feb 22 09:21:37 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

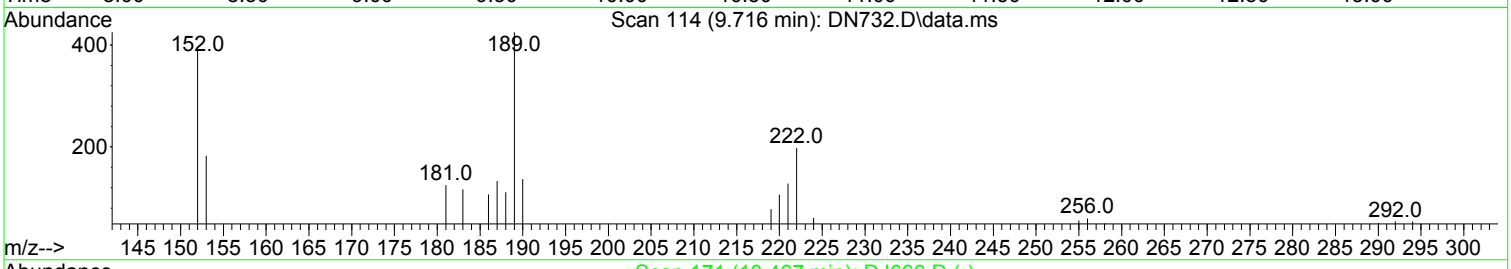


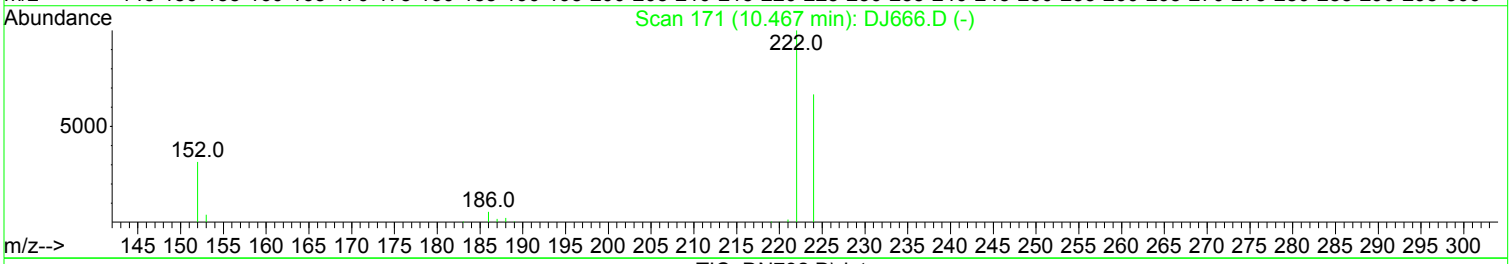
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN732.D
Acq On : 21 Feb 2019 5:57 pm
Operator : J.Misiurewicz
Sample : R1901380-003
Misc : 331543 680 PCB
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 22 08:03:31 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN732.D\data.ms

(28) CL2 - #1 (L2)

9.716min (-0.835) 0.00 ppm m

response 243

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	30.81#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

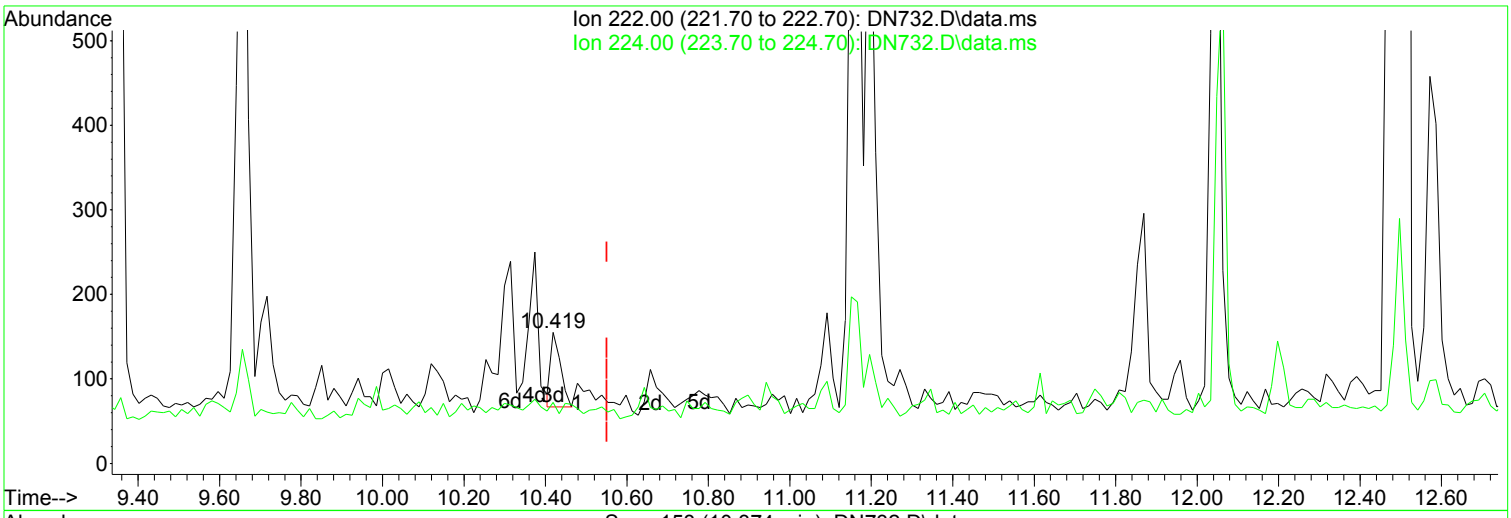
Other -

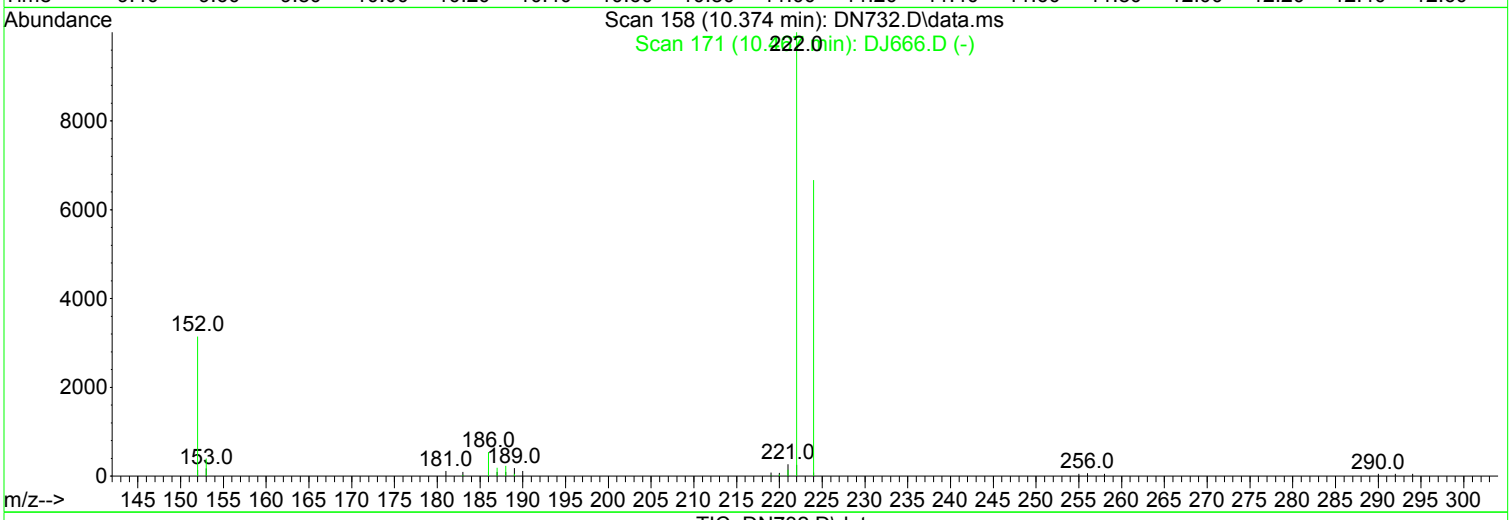
02/22/19

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN732.D
Acq On : 21 Feb 2019 5:57 pm
Operator : J.Misiurewicz
Sample : R1901380-003
Misc : 331543 680 PCB
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 22 08:03:31 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration





TIC: DN732.D\data.ms

(29) CL2 - #2 (L2)

10.419min (-0.132) 0.00 ppm m

response 148

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	46.45
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

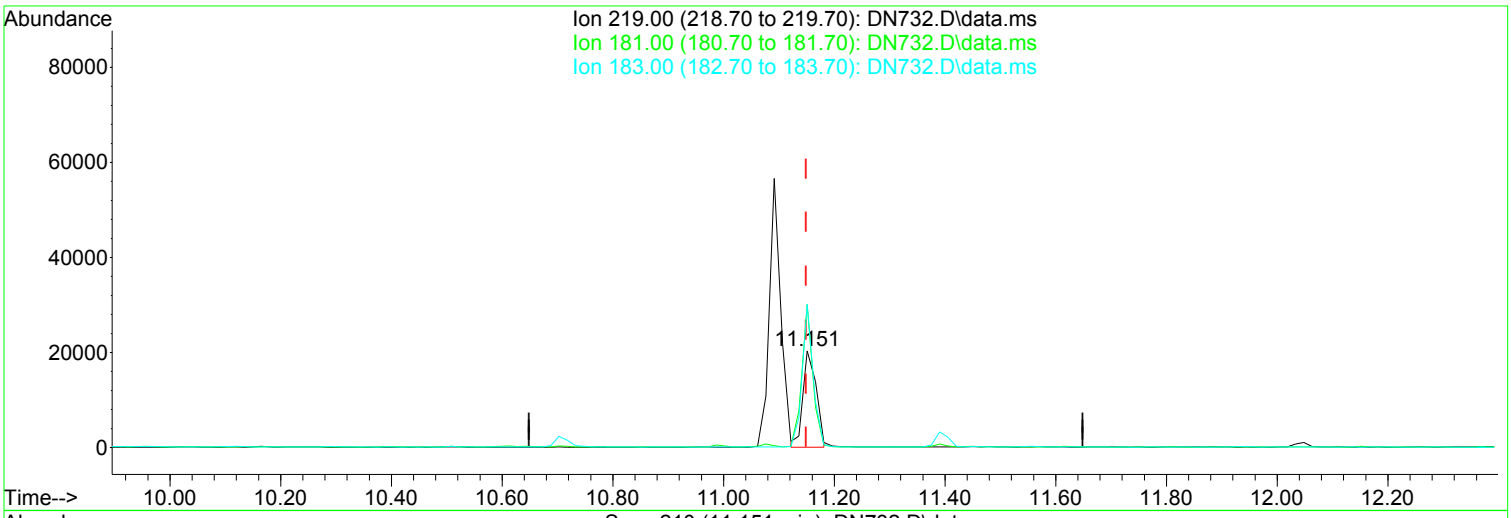
Other -

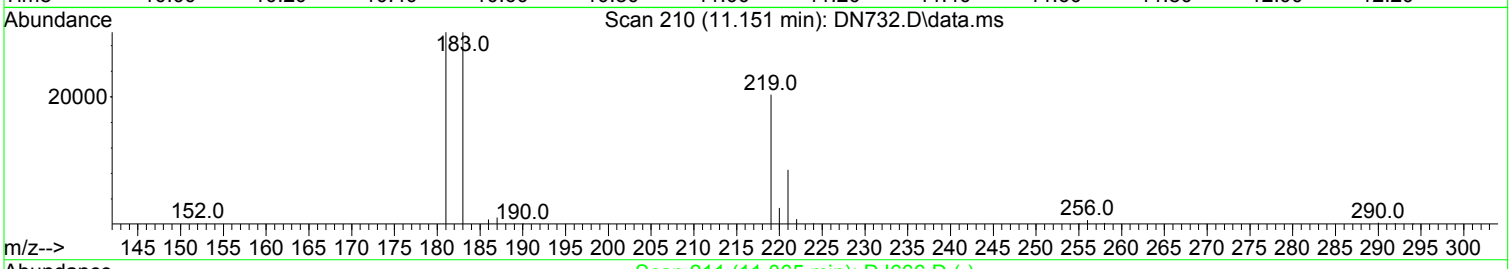
02/22/19

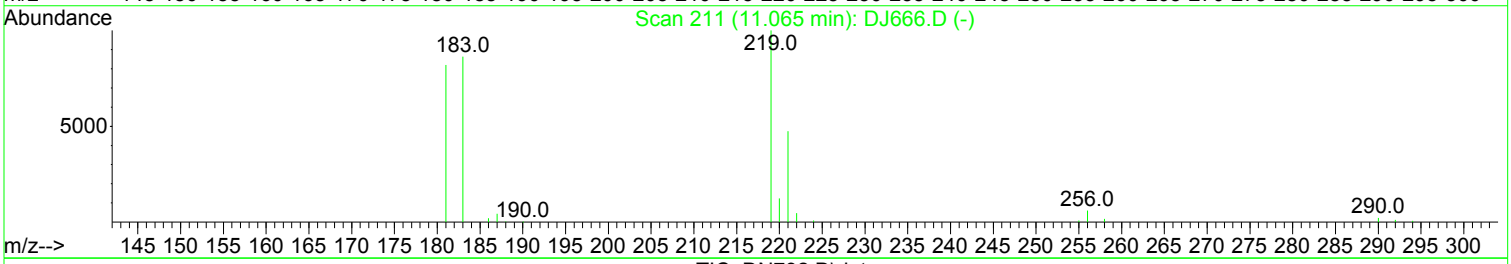
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN732.D
Acq On : 21 Feb 2019 5:57 pm
Operator : J.Misiurewicz
Sample : R1901380-003
Misc : 331543 680 PCB
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 22 08:03:31 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN732.D\data.ms

(5) SURR1, gamma-BHC (SC)

11.151min (+ 0.002) 0.78 ppm m

response 33515

Ion	Exp%	Act%
219.00	100.00	100.00
181.00	137.20	147.84
183.00	135.20	147.84
0.00	0.00	0.00

Manual Integration:

After

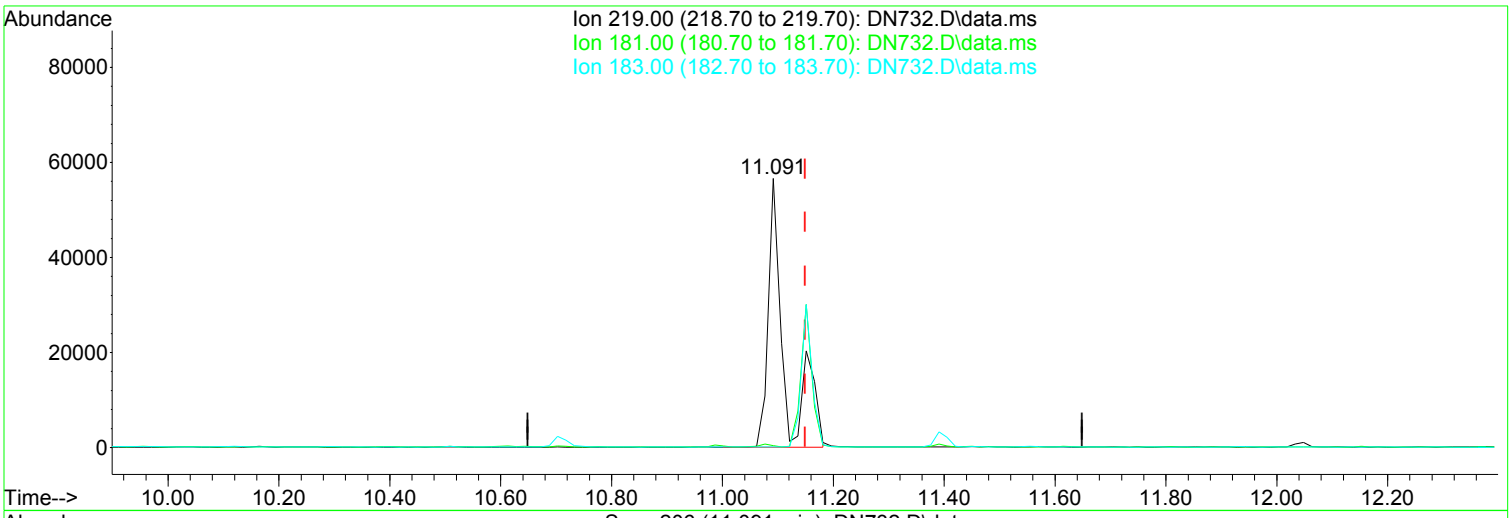
Split Peak.

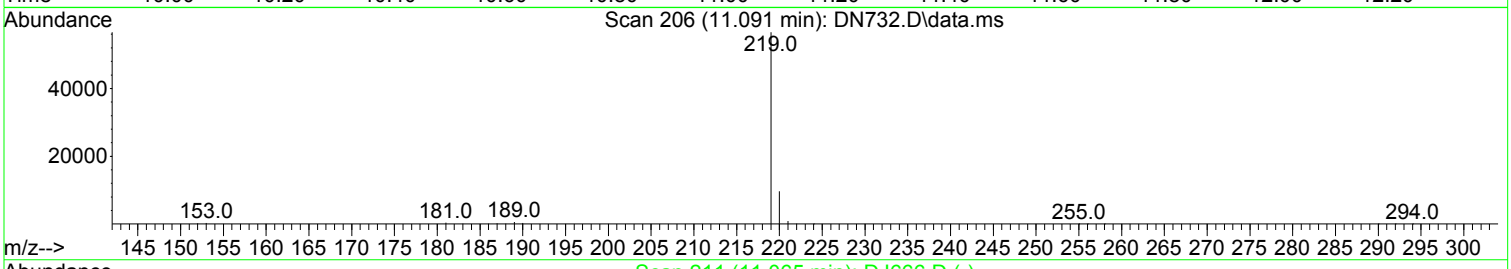
02/22/19

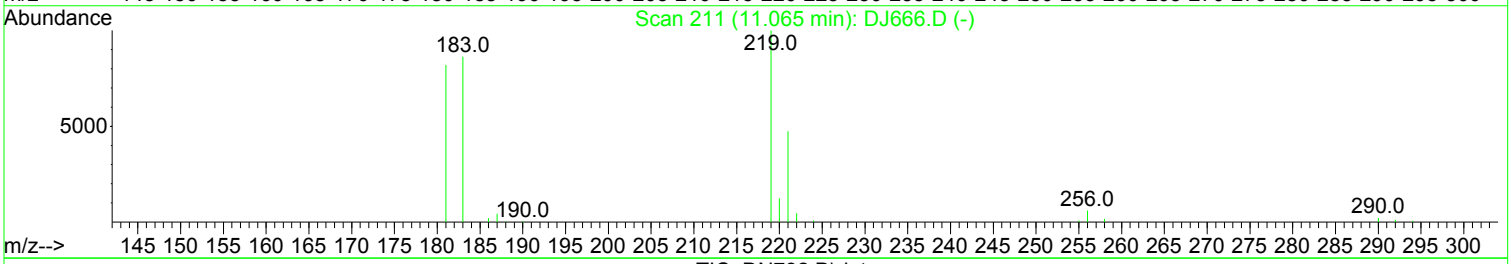
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN732.D
Acq On : 21 Feb 2019 5:57 pm
Operator : J.Misiurewicz
Sample : R1901380-003
Misc : 331543 680 PCB
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 22 08:03:31 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN732.D\data.ms

(5) SURR1, gamma-BHC (SC)

11.091min (-0.058) 2.68 ppm

response 114751

Ion	Exp%	Act%
219.00	100.00	100.00
181.00	137.20	0.73#
183.00	135.20	0.20#
0.00	0.00	0.00

Manual Integration:

Before

02/22/19

1st 02/22/19
2nd 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN732.D
Acq On : 21 Feb 2019 5:57 pm
Operator : J.Misiurewicz
Sample : R1901380-003
Misc : 331543 680 PCB
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 22 08:03:31 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

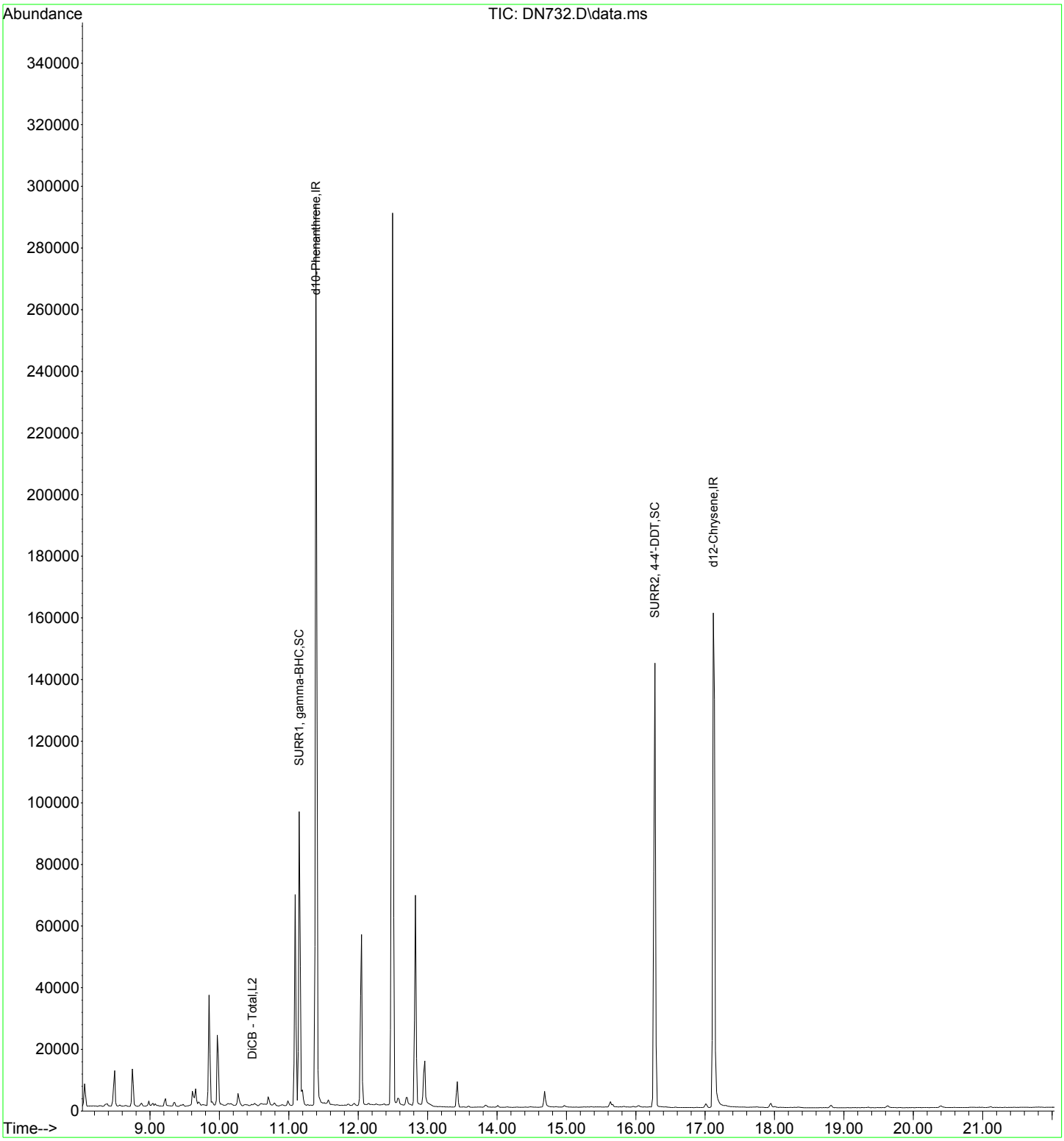
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.390	188	330231	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	262000	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.151	219	33515m	0.78	ppm	0.00
Spiked Amount 1.000	Range 55 - 133		Recovery = 78.00%			
13) SURR2, 4-4'-DDT	16.276	235	113316	1.17	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 117.00%			
Target Compounds						Qvalue
38) DiCB - Total	10.478	222	391m	0.002	ppm	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN732.D
Acq On : 21 Feb 2019 5:57 pm
Operator : J.Misiurewicz
Sample : R1901380-003
Misc : 331543 680 PCB
ALS Vial : 5 Sample Multiplier: 1

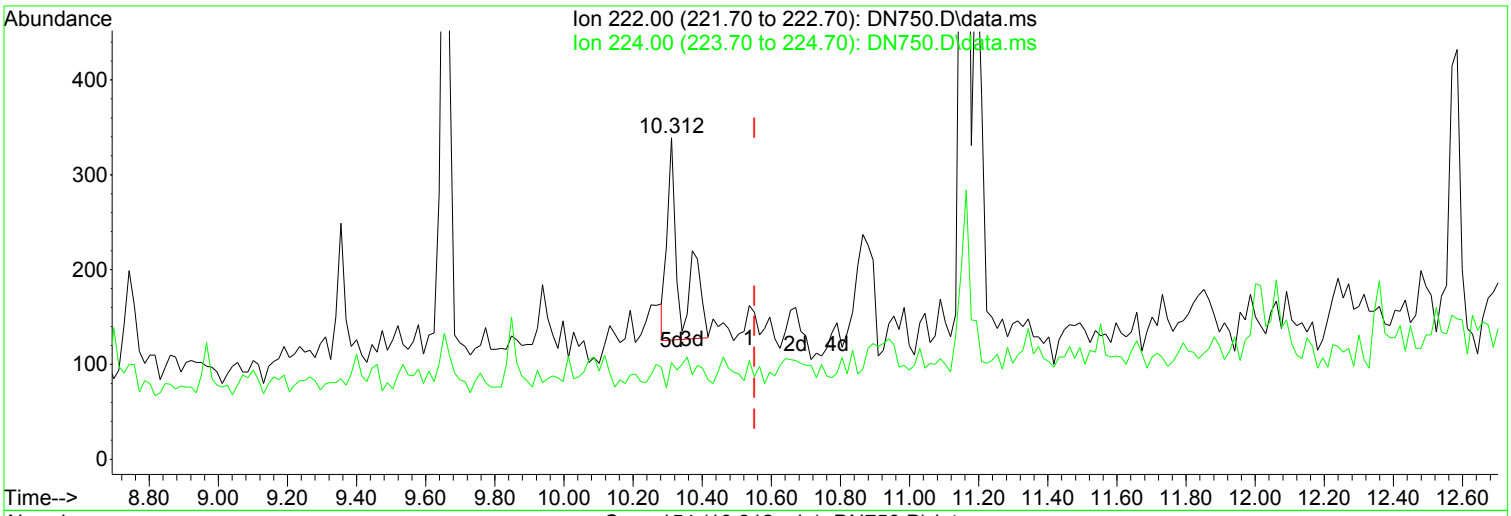
Quant Time: Feb 22 08:03:31 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

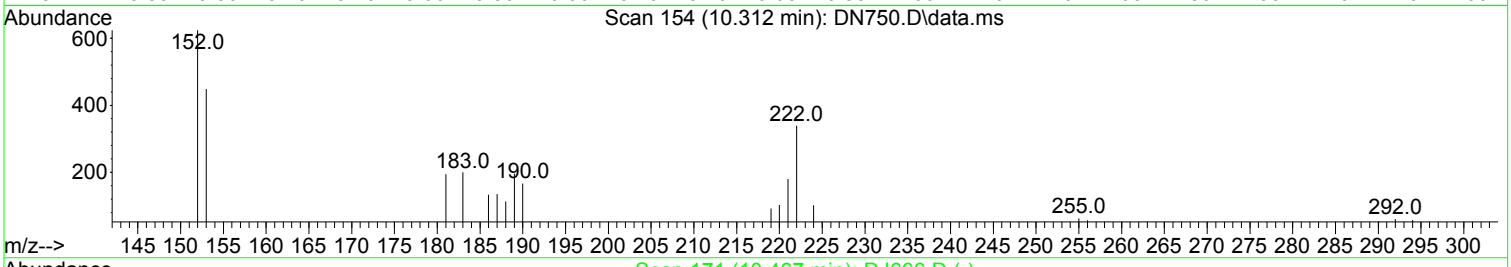


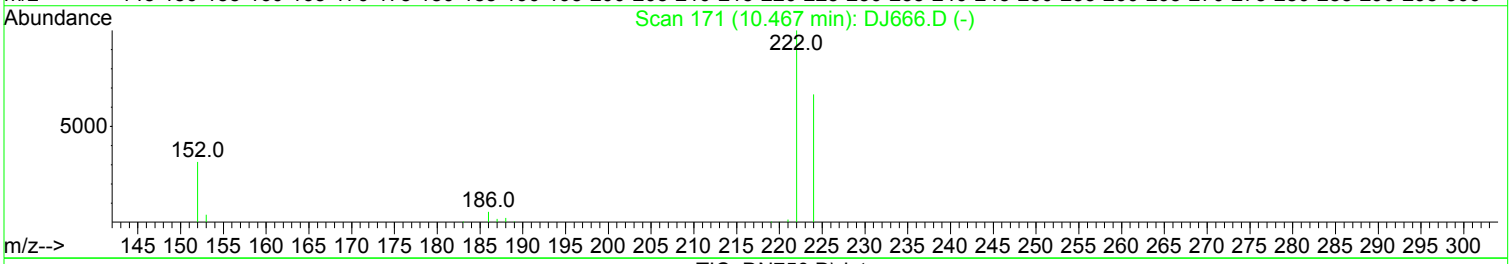
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN750.D
Acq On : 22 Feb 2019 2:25 am
Operator : J.Misiurewicz
Sample : R1901380-004
Misc : 331543 680 PCB
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Feb 22 09:21:43 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN750.D\data.ms

(28) CL2 - #1 (L2)

10.312min (-0.239) 0.00 ppm m

response 561

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	30.09#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

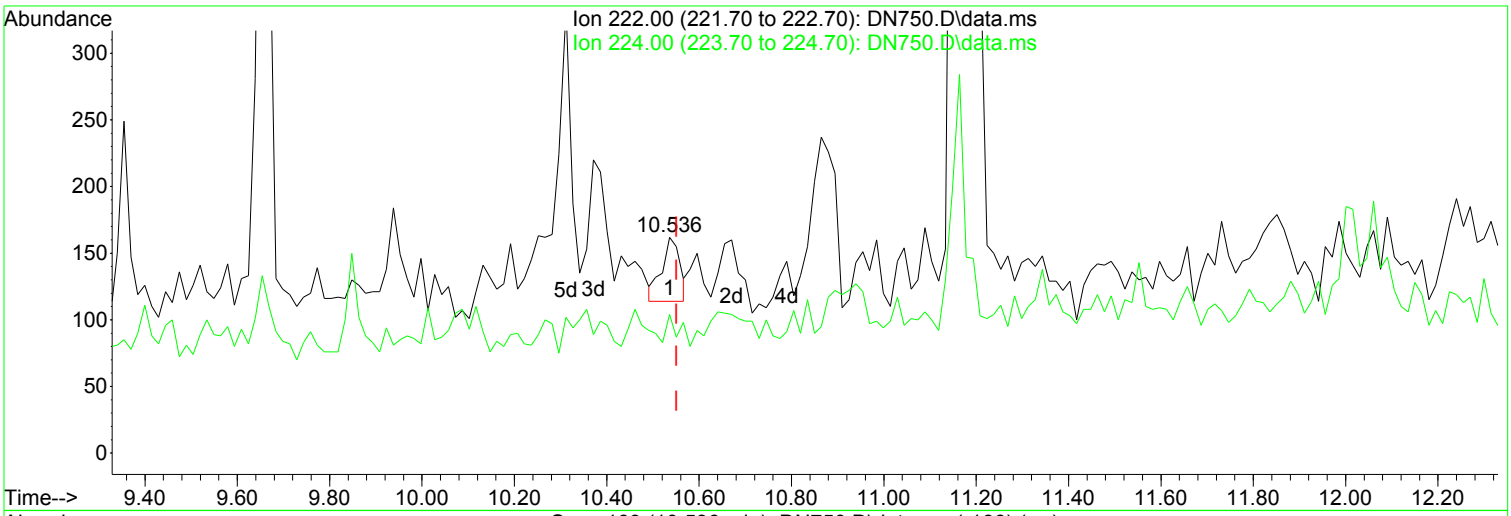
Other -

02/22/19

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN750.D
Acq On : 22 Feb 2019 2:25 am
Operator : J.Misiurewicz
Sample : R1901380-004
Misc : 331543 680 PCB
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Feb 22 09:21:43 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN750.D\data.ms

(29) CL2 - #2 (L2)

10.536min (-0.015) 0.00 ppm m

response 130

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	64.20
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

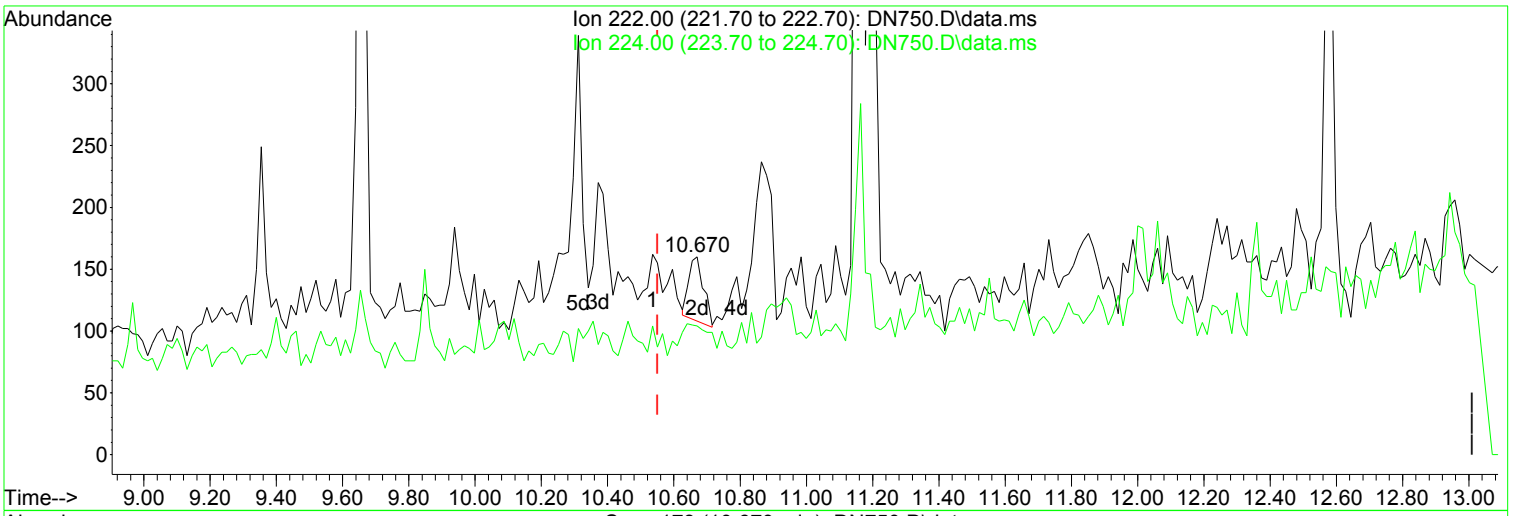
Other -

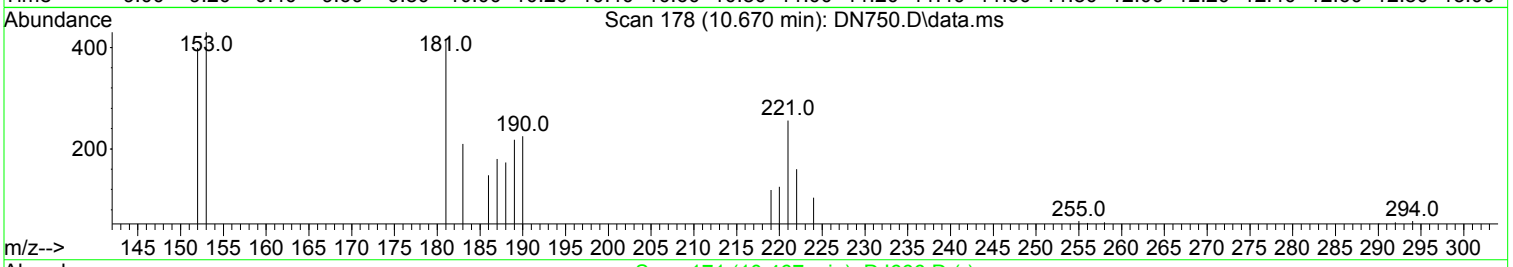
02/22/19

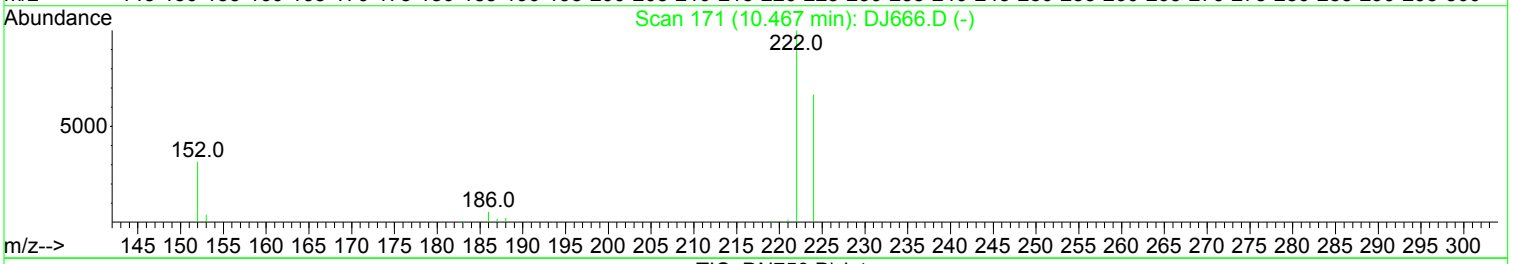
1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN750.D
Acq On : 22 Feb 2019 2:25 am
Operator : J.Misiurewicz
Sample : R1901380-004
Misc : 331543 680 PCB
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Feb 22 09:21:43 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN750.D\data.ms

(30) CL2 - #3 (L2)

10.670min (+ 0.119) 0.00 ppm m

response 156

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	65.00
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

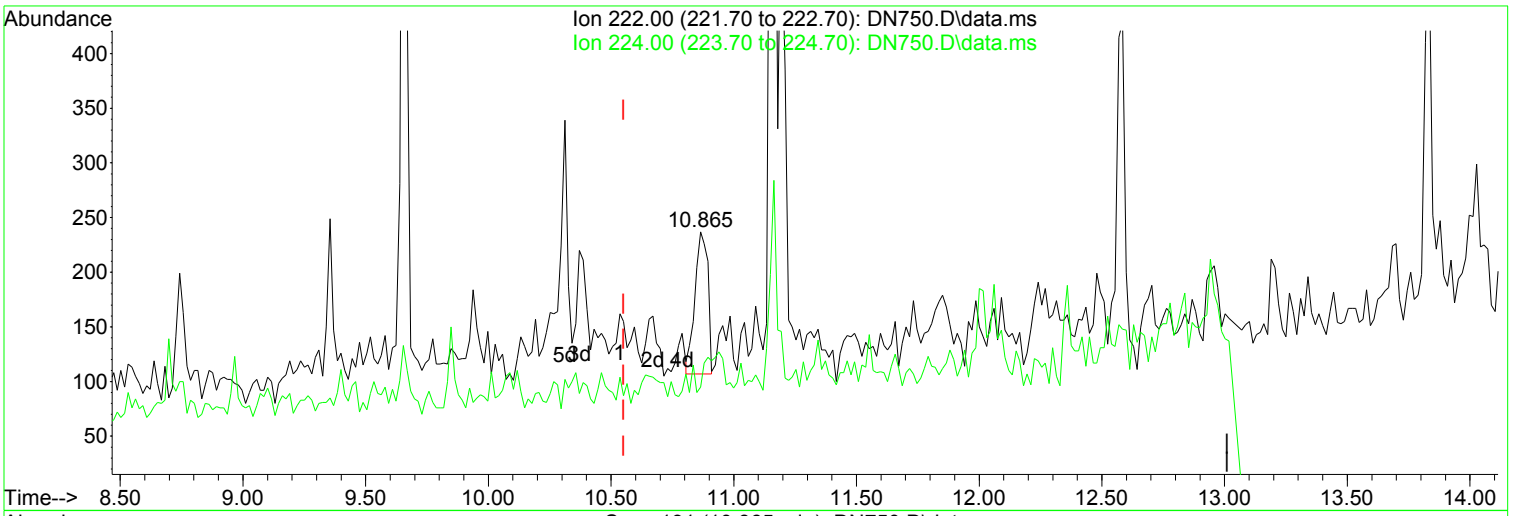
Other -

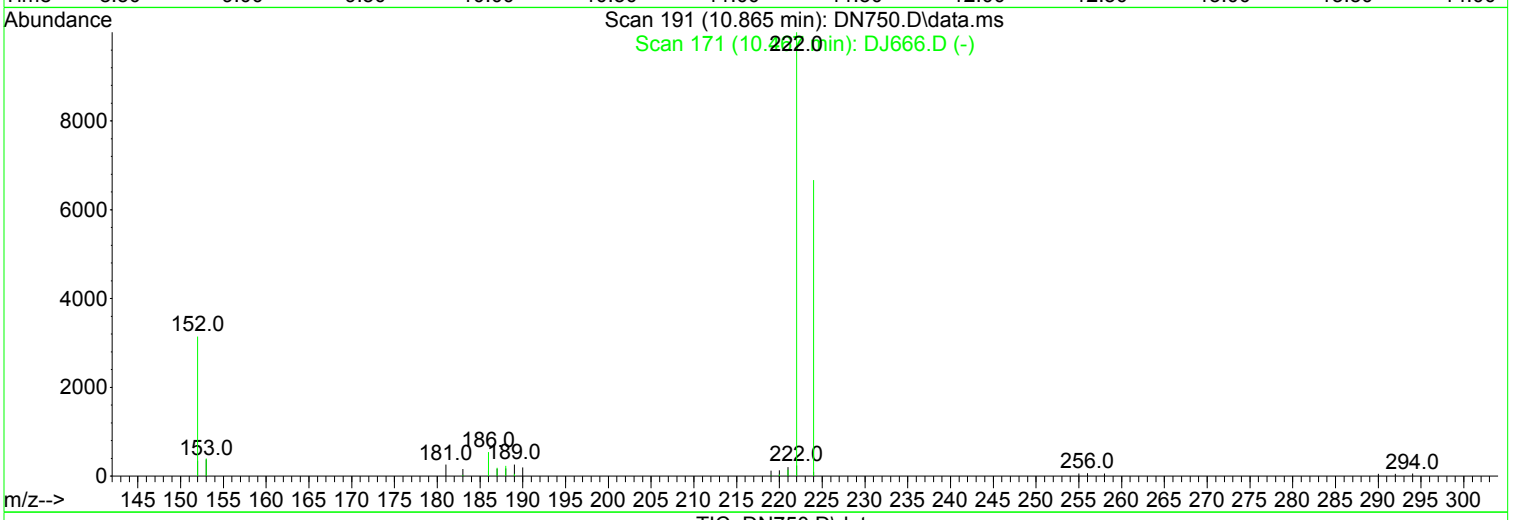
02/22/19

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN750.D
Acq On : 22 Feb 2019 2:25 am
Operator : J.Misiurewicz
Sample : R1901380-004
Misc : 331543 680 PCB
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Feb 22 09:21:43 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration





TIC: DN750.D\data.ms

(31) CL2 - #4 (L2)

10.865min (+ 0.314) 0.00 ppm m

response 471

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	40.08
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

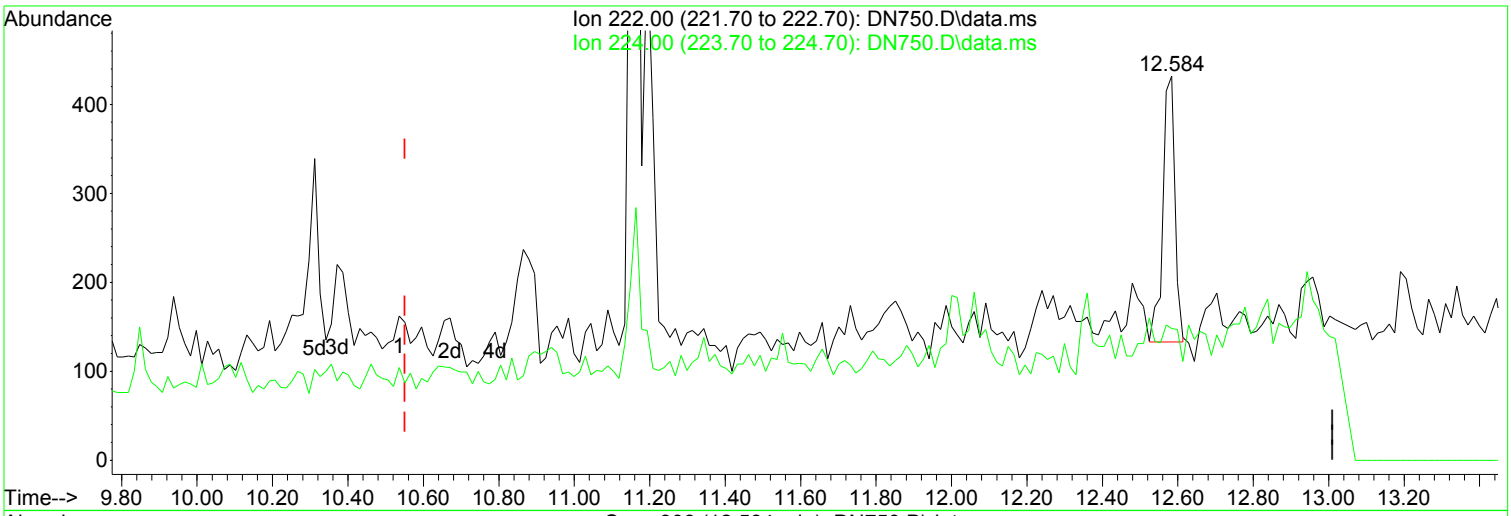
Other -

02/22/19

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN750.D
Acq On : 22 Feb 2019 2:25 am
Operator : J.Misiurewicz
Sample : R1901380-004
Misc : 331543 680 PCB
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Feb 22 09:21:43 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN750.D\data.ms

(32) CL2 - #5 (L2)

12.584min (+ 2.033) 0.00 ppm m

response 666

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	34.26
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Other -

02/22/19

1st 02/22/19
2nd 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN750.D
Acq On : 22 Feb 2019 2:25 am
Operator : J.Misiurewicz
Sample : R1901380-004
Misc : 331543 680 PCB
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Feb 22 09:21:43 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

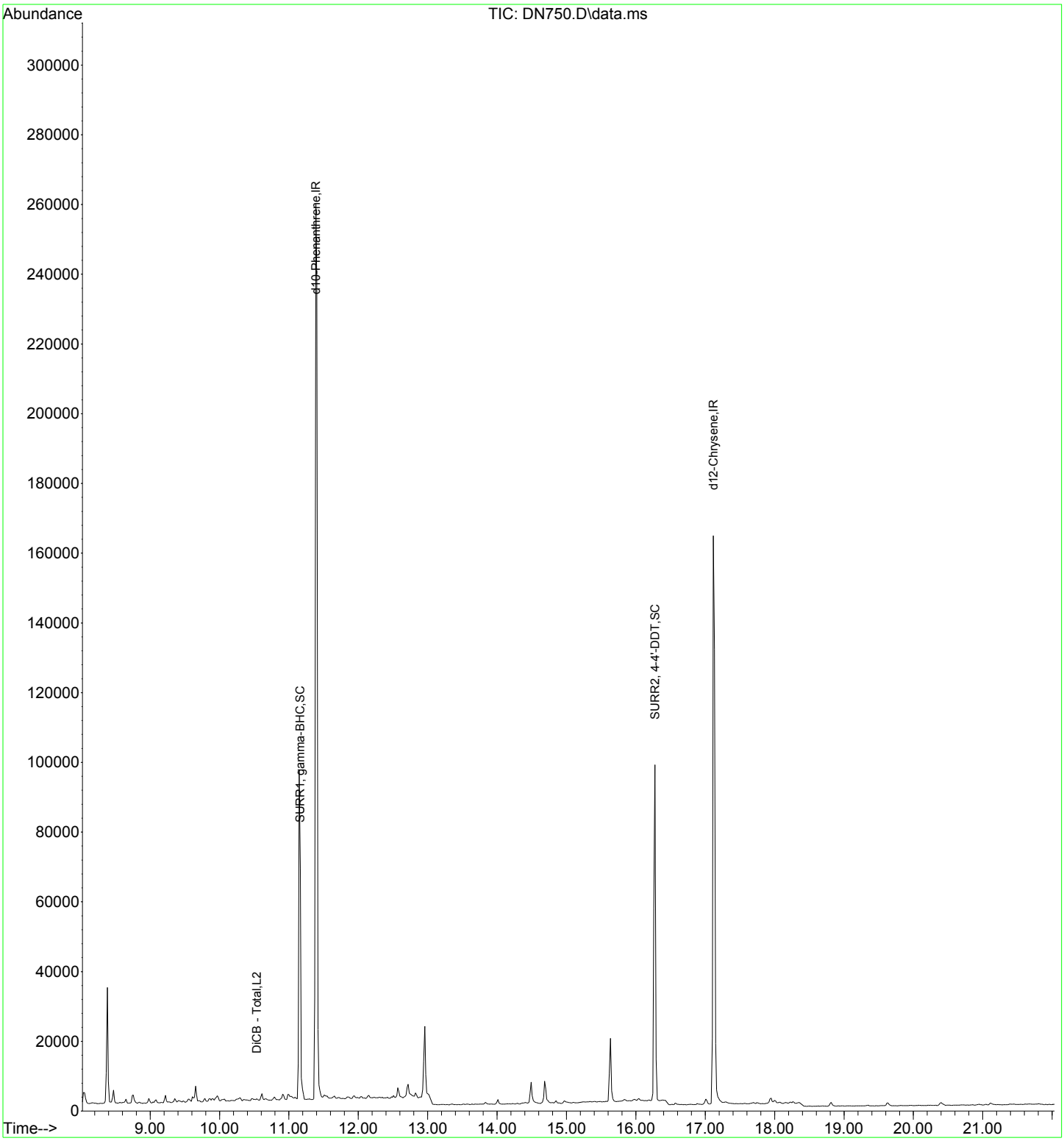
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	346419	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	257868	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.164	219	37244	0.88	ppm	0.01
Spiked Amount 1.000	Range 55 - 133		Recovery = 88.00%			
13) SURR2, 4-4'-DDT	16.276	235	77266	0.81	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 81.00%			
Target Compounds						Qvalue
38) DiCB - Total	10.536	222	1984m	0.009	ppm	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN750.D
Acq On : 22 Feb 2019 2:25 am
Operator : J.Misiurewicz
Sample : R1901380-004
Misc : 331543 680 PCB
ALS Vial : 23 Sample Multiplier: 1

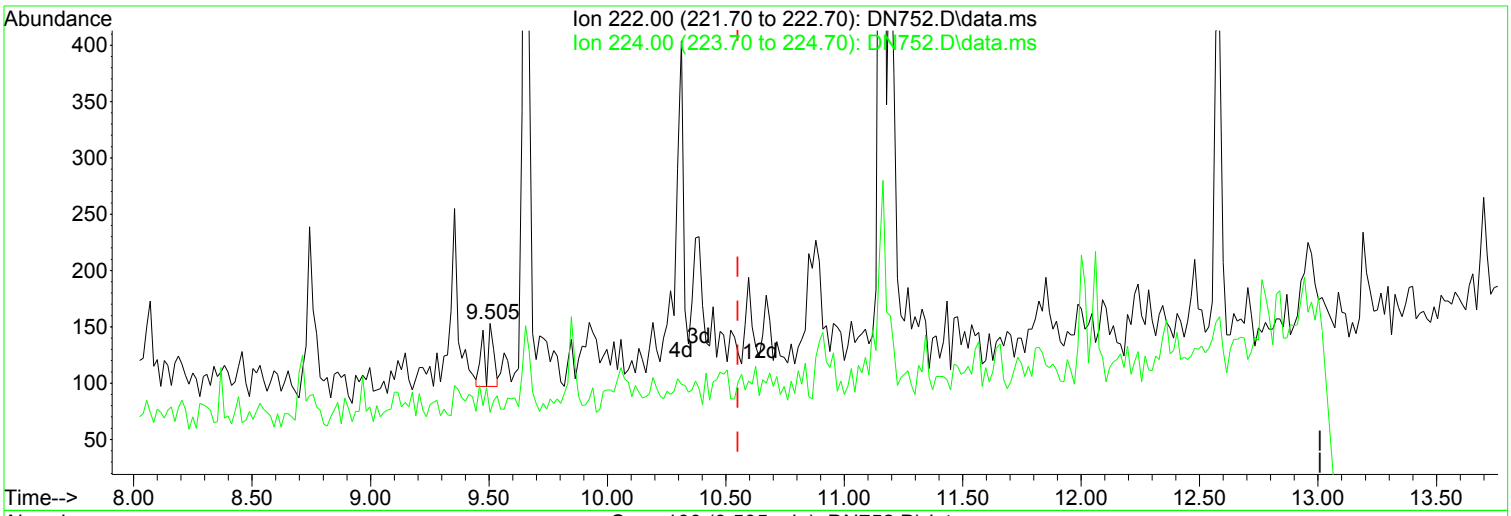
Quant Time: Feb 22 09:21:43 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

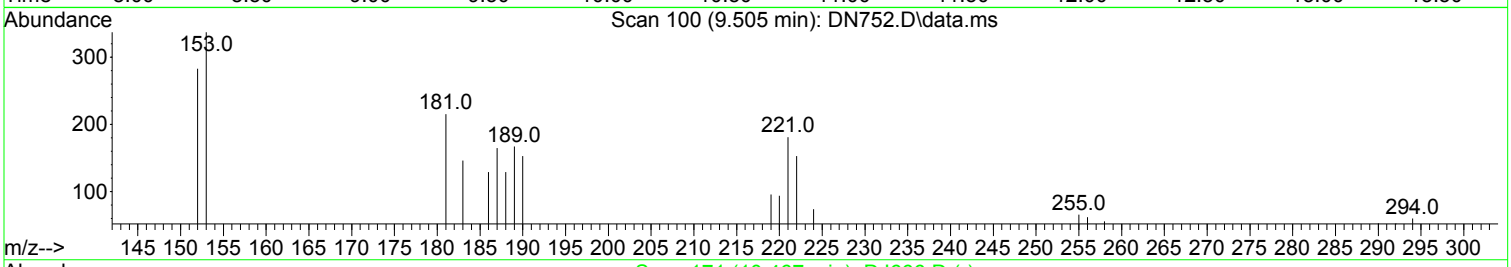


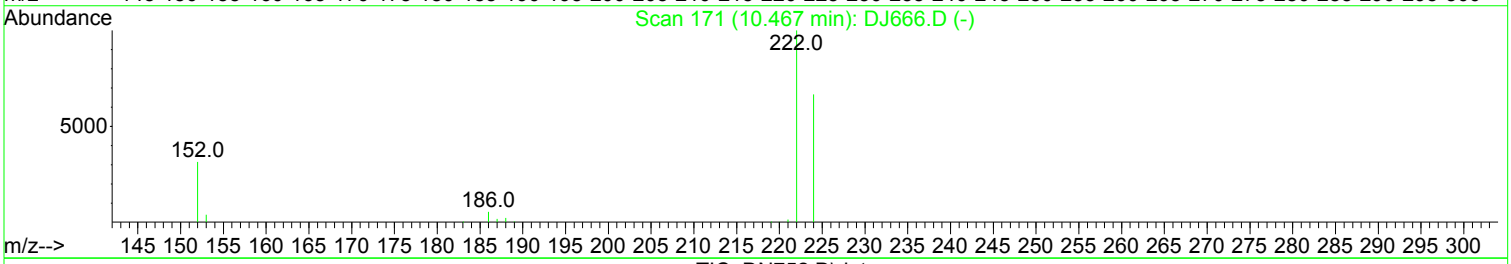
1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN752.D
Acq On : 22 Feb 2019 3:22 am
Operator : J.Misiurewicz
Sample : R1901380-005
Misc : 331543 680 PCB
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Feb 22 09:21:49 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN752.D\data.ms

(28) CL2 - #1 (L2)

9.505min (-1.046) 0.00 ppm m

response 150

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	48.37
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

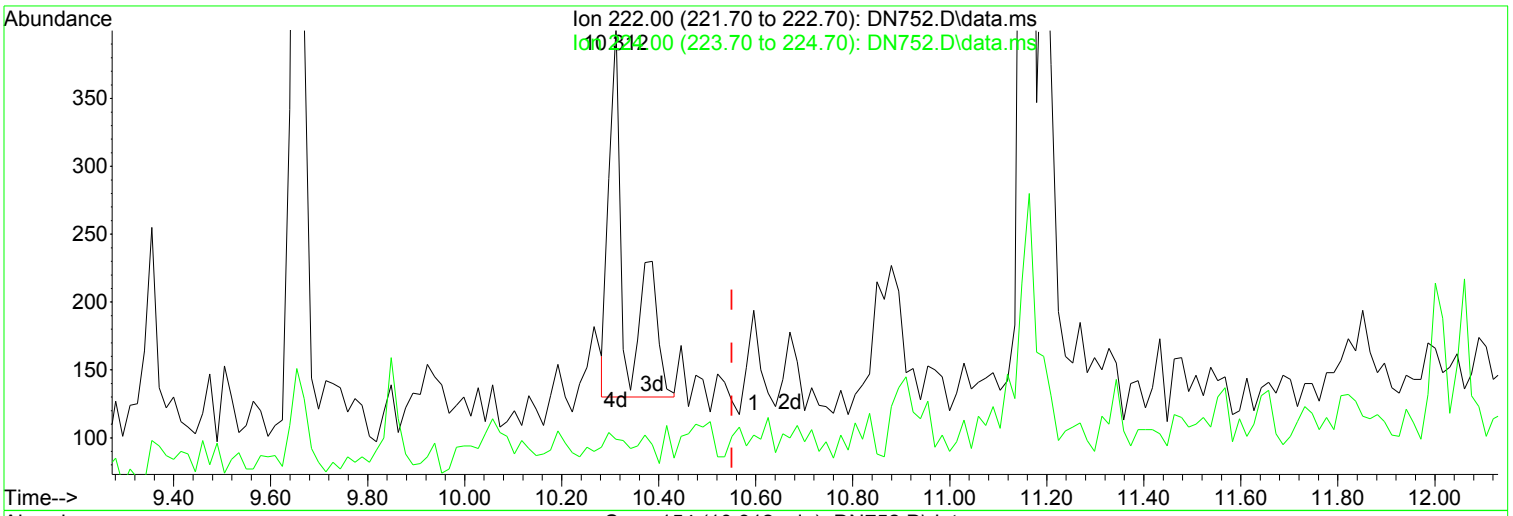
Other -

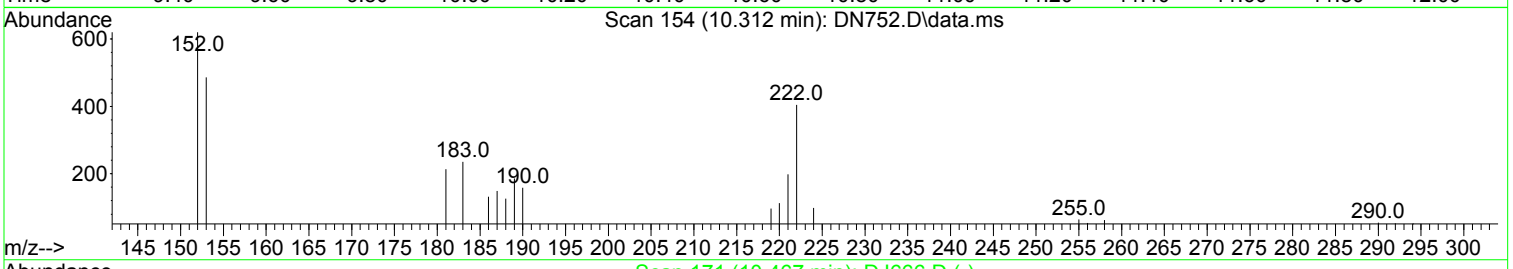
02/22/19

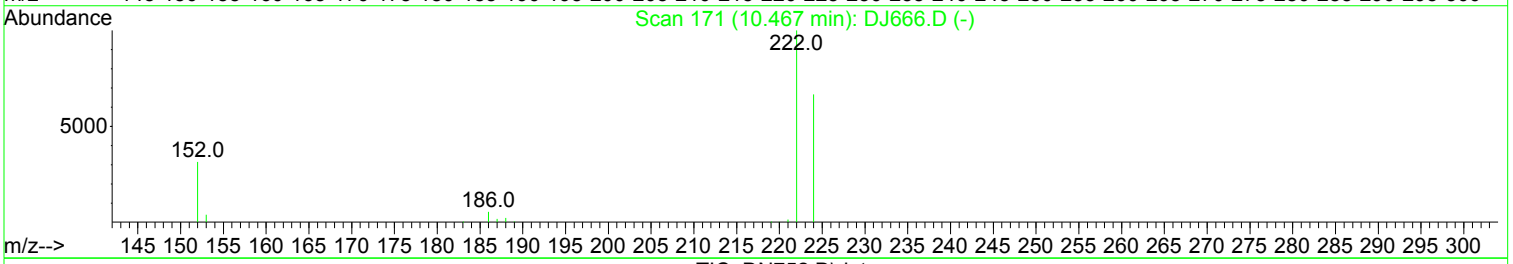
1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN752.D
Acq On : 22 Feb 2019 3:22 am
Operator : J.Misiurewicz
Sample : R1901380-005
Misc : 331543 680 PCB
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Feb 22 09:21:49 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN752.D\data.ms

(29) CL2 - #2 (L2)

10.312min (-0.239) 0.00 ppm m

response 685

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	24.50#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

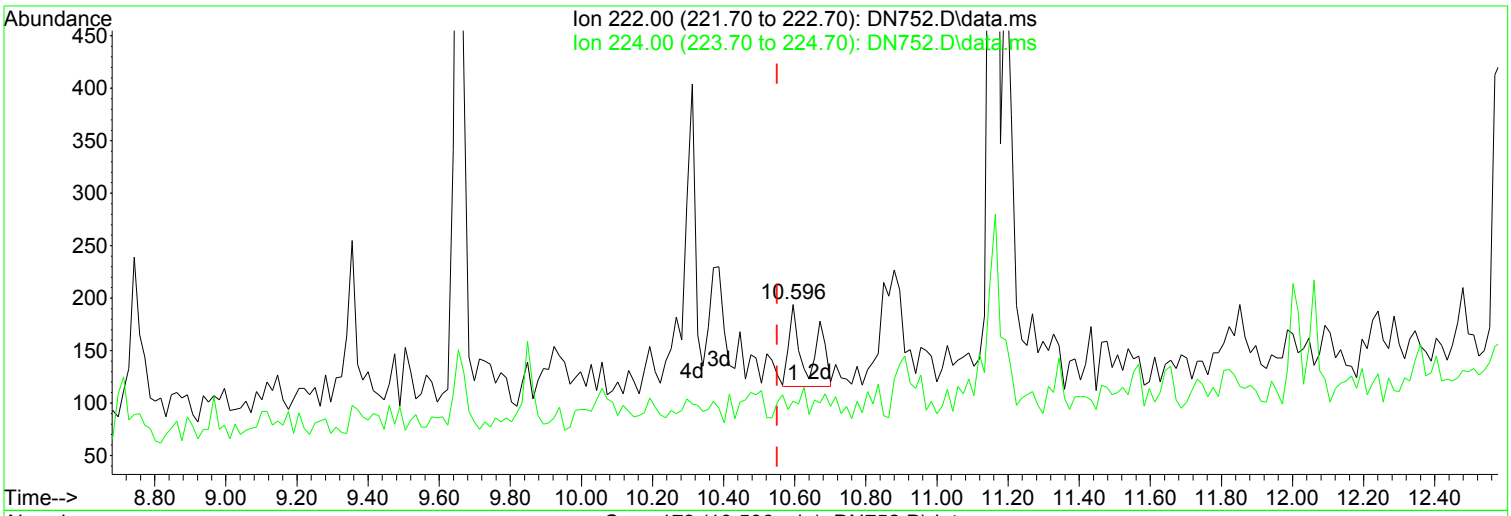
Other -

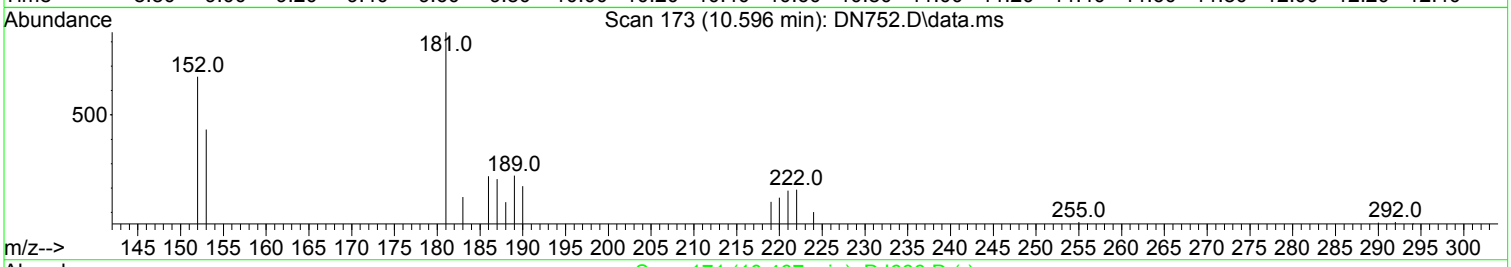
02/22/19

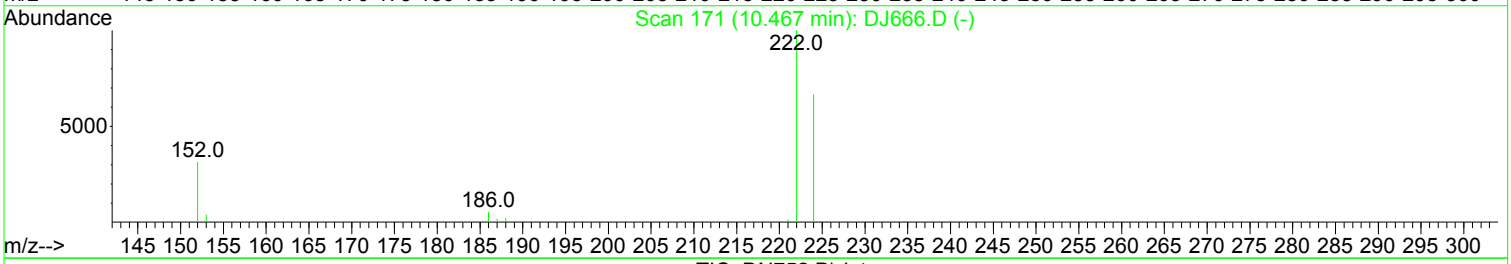
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN752.D
Acq On : 22 Feb 2019 3:22 am
Operator : J.Misiurewicz
Sample : R1901380-005
Misc : 331543 680 PCB
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Feb 22 09:21:49 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN752.D\data.ms

(30) CL2 - #3 (L2)

10.596min (+ 0.045) 0.00 ppm m

response 274

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	52.58
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

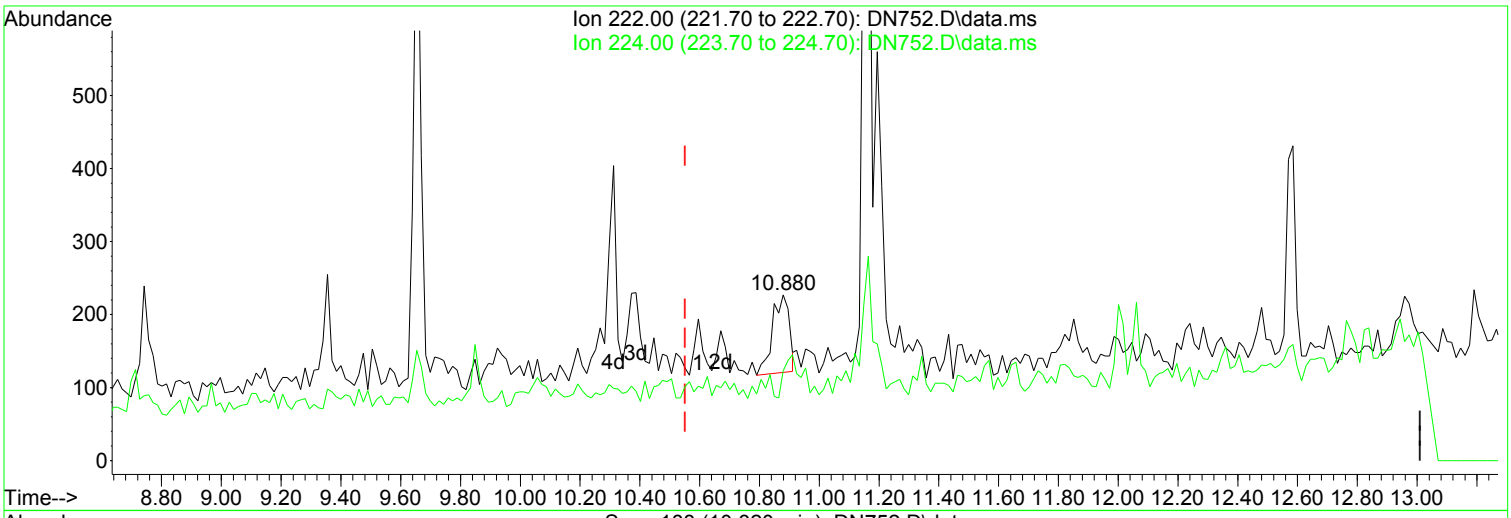
Other -

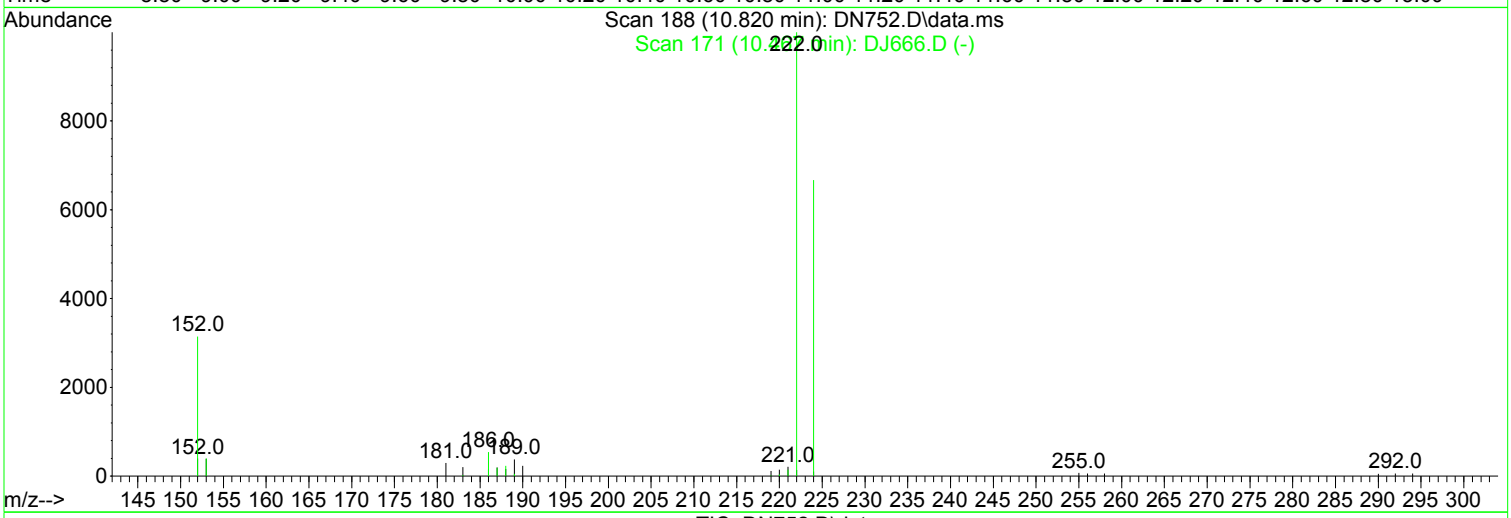
02/22/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN752.D
Acq On : 22 Feb 2019 3:22 am
Operator : J.Misiurewicz
Sample : R1901380-005
Misc : 331543 680 PCB
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Feb 22 09:21:49 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration





TIC: DN752.D\data.ms

(31) CL2 - #4 (L2)

10.880min (+ 0.329) 0.00 ppm m

response 414

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	54.19
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

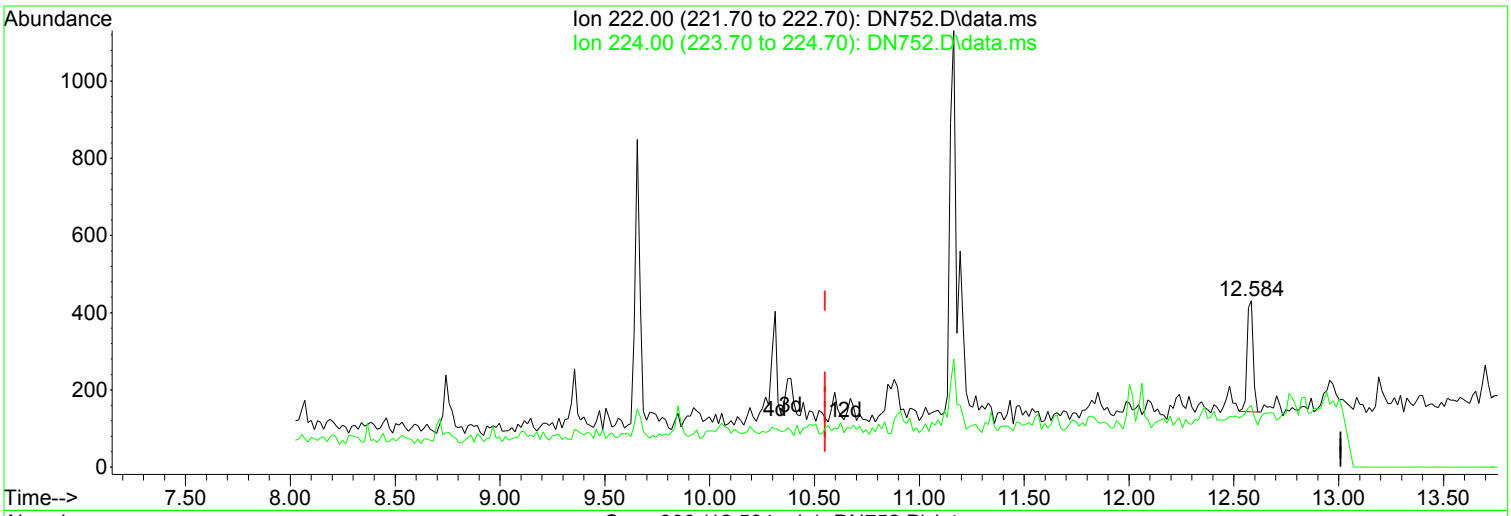
Other -

02/22/19

1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN752.D
Acq On : 22 Feb 2019 3:22 am
Operator : J.Misiurewicz
Sample : R1901380-005
Misc : 331543 680 PCB
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Feb 22 09:21:49 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN752.D\data.ms

(32) CL2 - #5 (L2)

12.584min (+ 2.033) 0.00 ppm m

response 587

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	36.89
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Other -

02/22/19

1st 02/22/19
2nd 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN752.D
Acq On : 22 Feb 2019 3:22 am
Operator : J.Misiurewicz
Sample : R1901380-005
Misc : 331543 680 PCB
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Feb 22 09:21:49 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

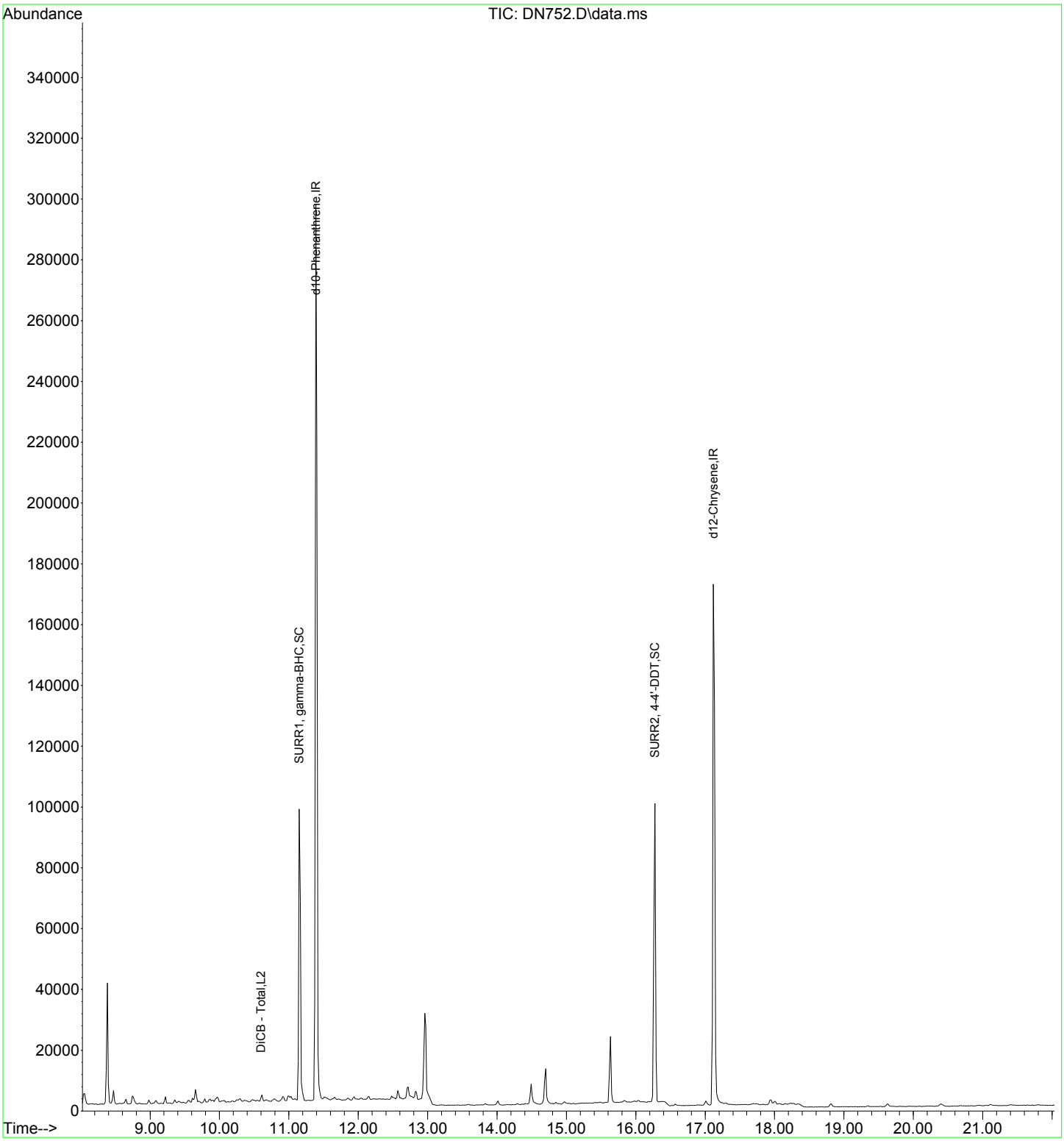
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	357266	0.75	ppm	0.00
2) d12-Chrysene	17.118	240	271443	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.149	219	38592	0.87	ppm	0.00
Spiked Amount 1.000	Range 55 - 133		Recovery = 87.00%			
13) SURR2, 4-4'-DDT	16.275	235	78705	0.78	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 78.00%			
Target Compounds						Qvalue
38) DiCB - Total	10.596	222	2110m	0.009	ppm	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN752.D
Acq On : 22 Feb 2019 3:22 am
Operator : J.Misiurewicz
Sample : R1901380-005
Misc : 331543 680 PCB
ALS Vial : 25 Sample Multiplier: 1

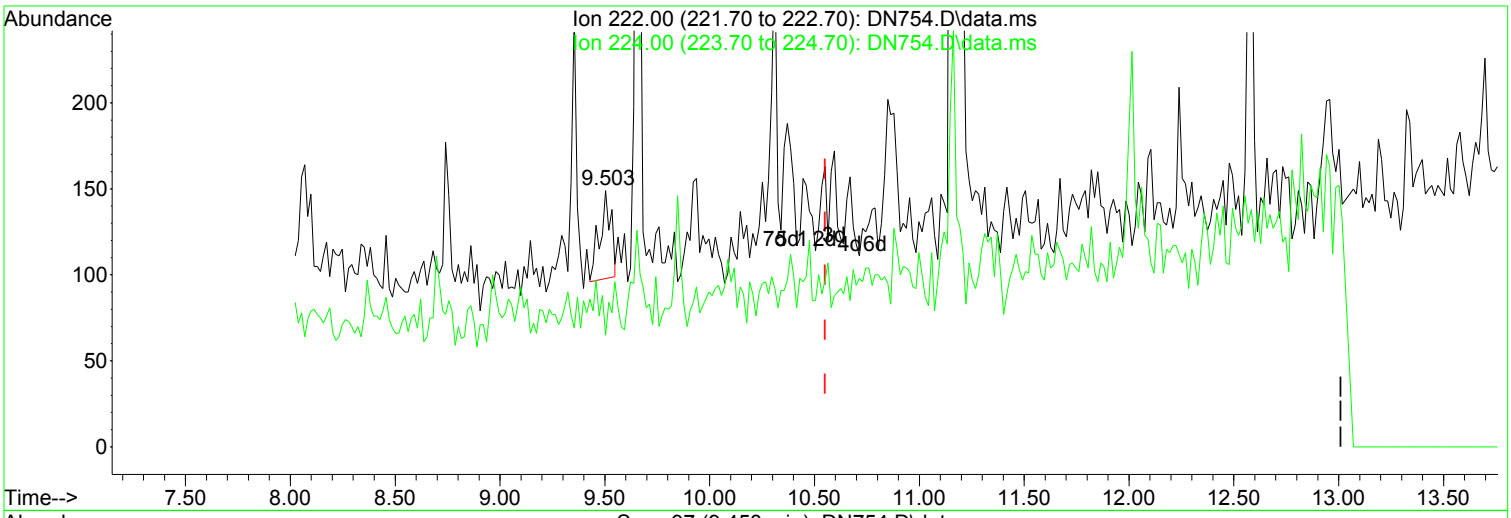
Quant Time: Feb 22 09:21:49 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

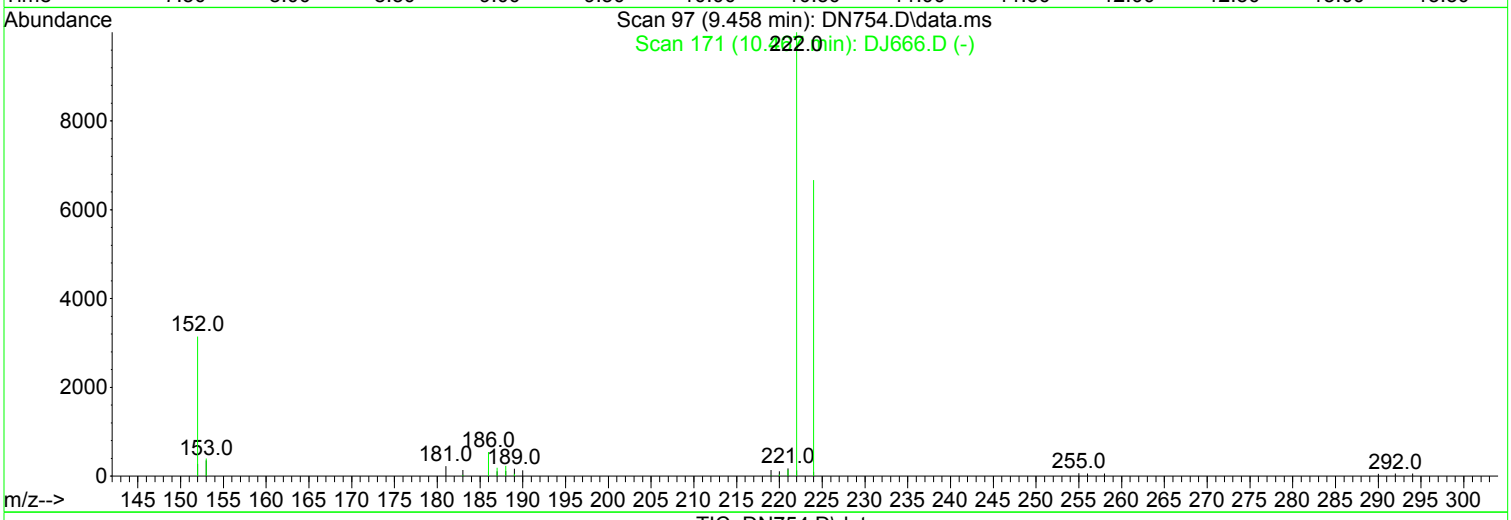


Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN754.D
Acq On : 22 Feb 2019 4:19 am
Operator : J.Misiurewicz
Sample : R1901380-006
Misc : 331543 680 PCB
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Feb 22 09:21:54 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration





TIC: DN754.D\data.ms

(28) CL2 - #1 (L2)

9.503min (-1.048) 0.00 ppm m

response 190

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	43.62
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

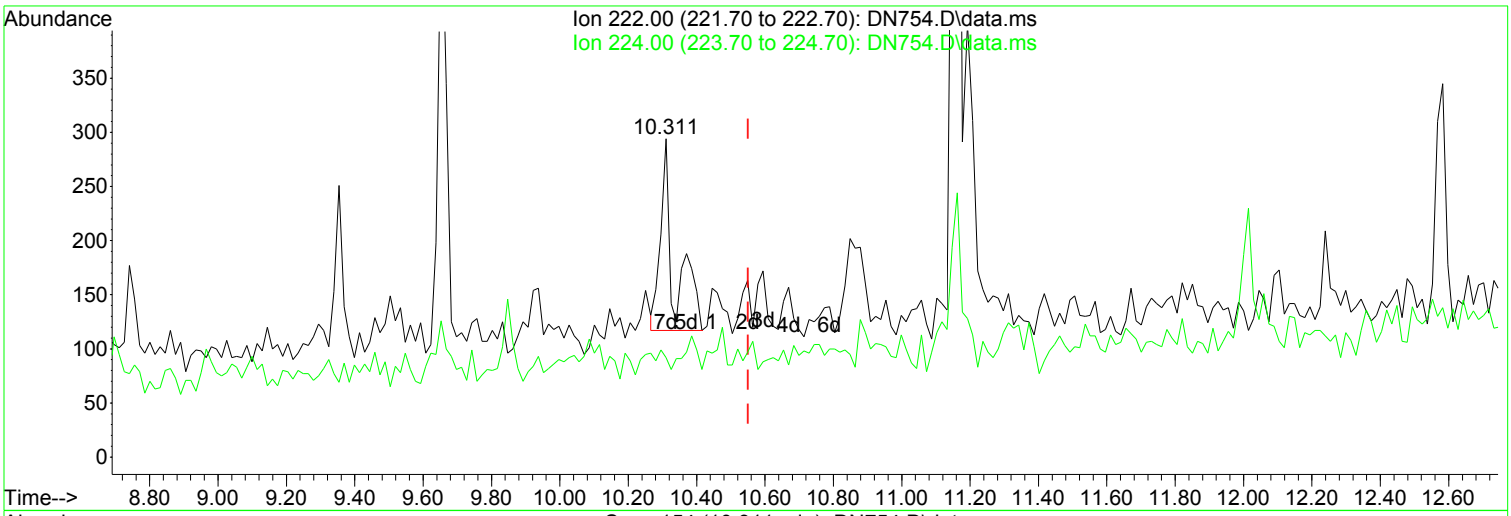
Other -

02/22/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN754.D
Acq On : 22 Feb 2019 4:19 am
Operator : J.Misiurewicz
Sample : R1901380-006
Misc : 331543 680 PCB
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Feb 22 09:21:54 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN754.D\data.ms

(29) CL2 - #2 (L2)

10.311min (-0.240) 0.00 ppm m

response 501

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	31.29
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

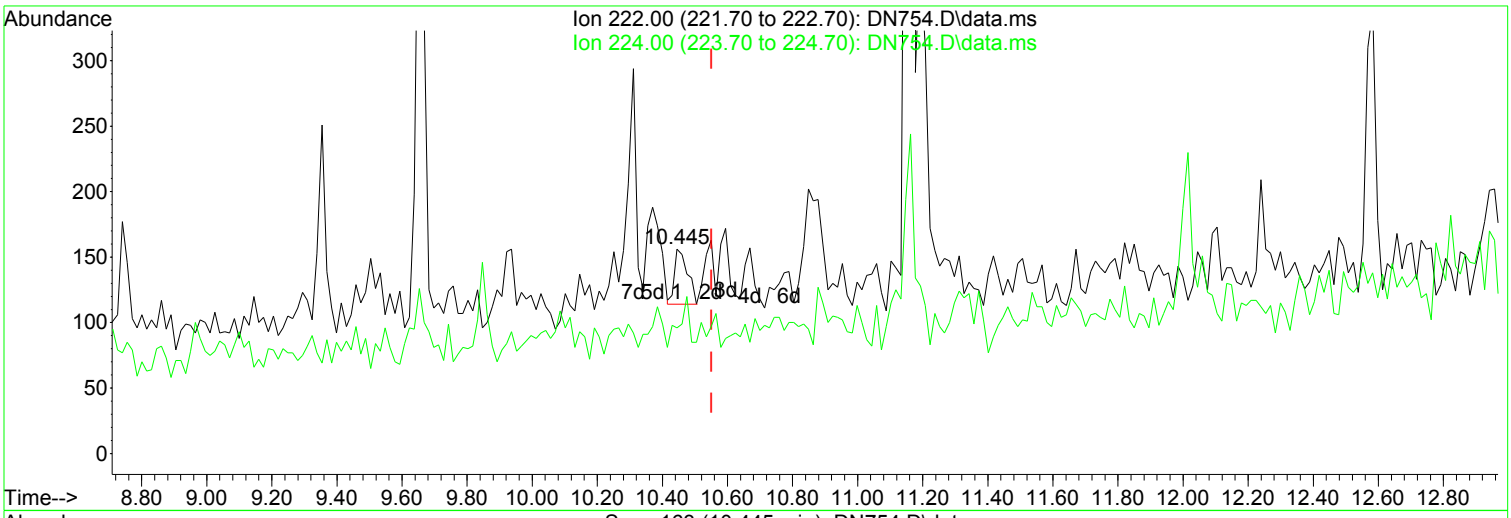
Other -

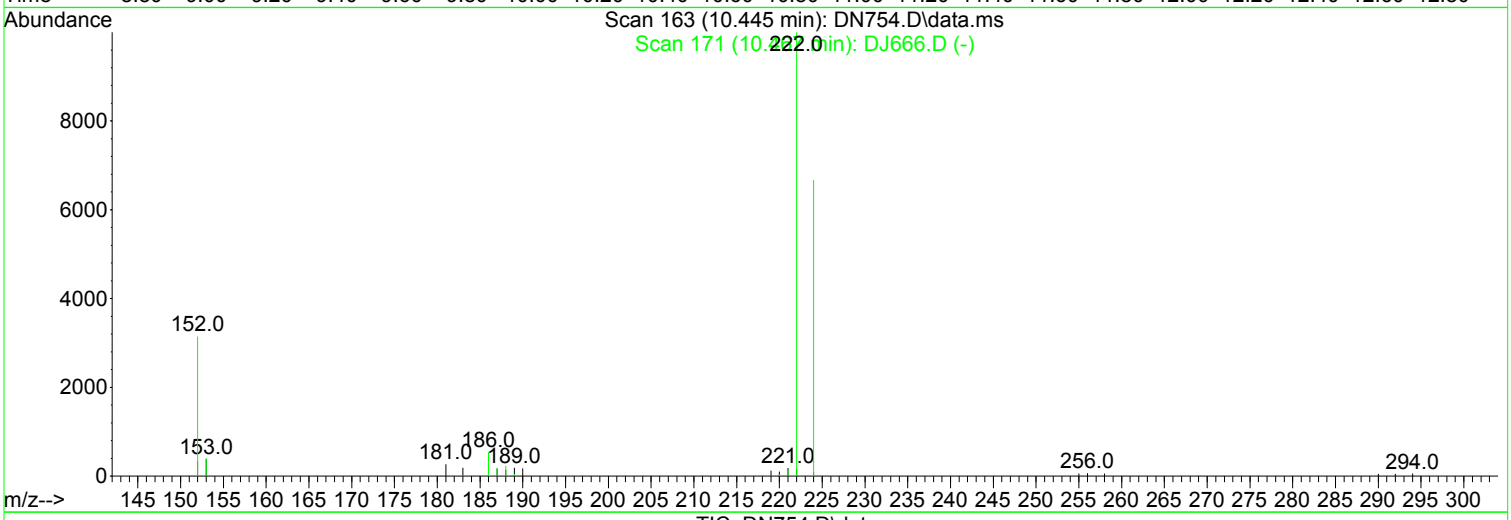
02/22/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN754.D
Acq On : 22 Feb 2019 4:19 am
Operator : J.Misiurewicz
Sample : R1901380-006
Misc : 331543 680 PCB
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Feb 22 09:21:54 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration





TIC: DN754.D\data.ms

(30) CL2 - #3 (L2)

10.445min (-0.106) 0.00 ppm

response 117

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	32.10
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

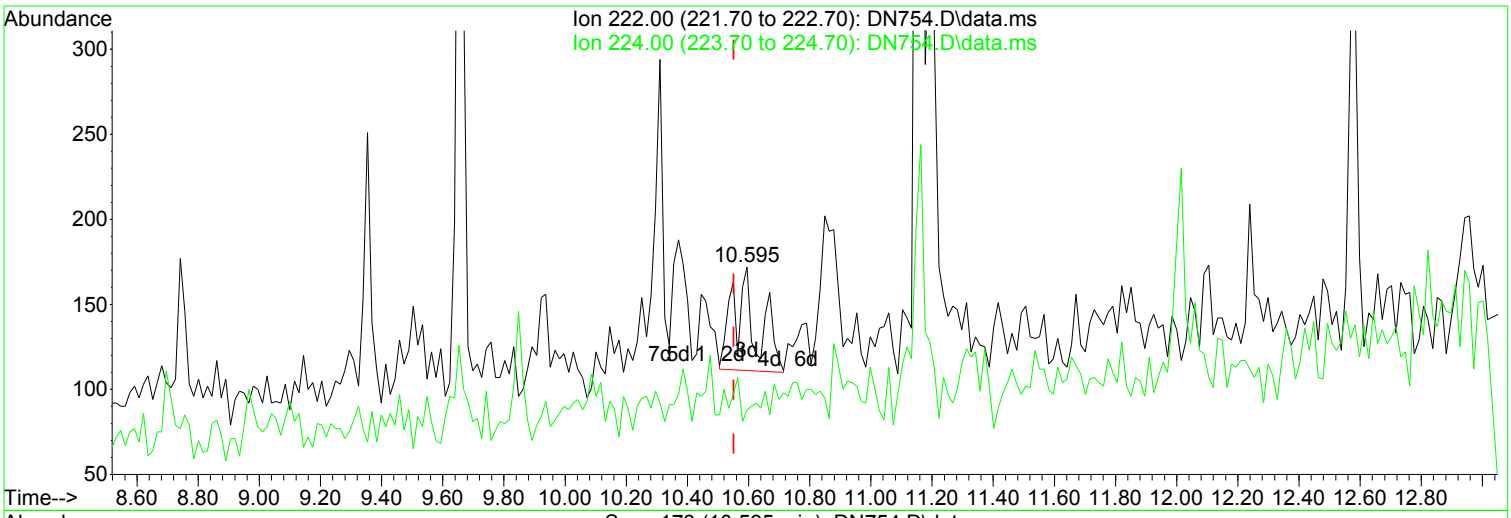
Other -

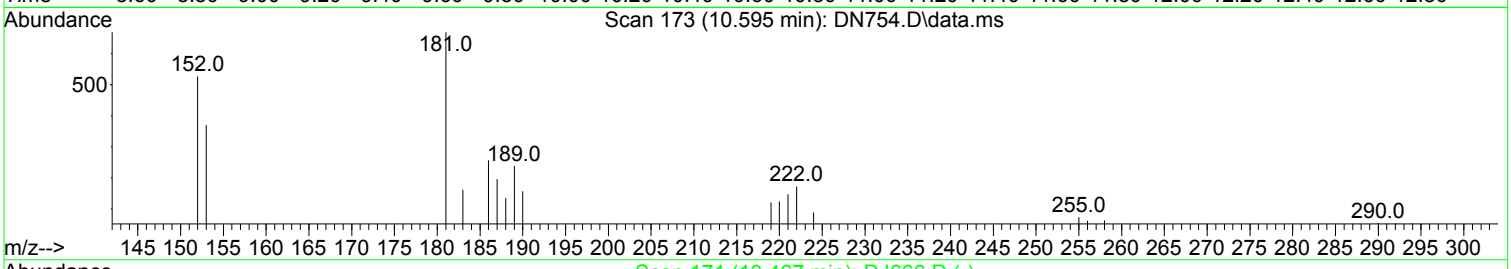
02/22/19

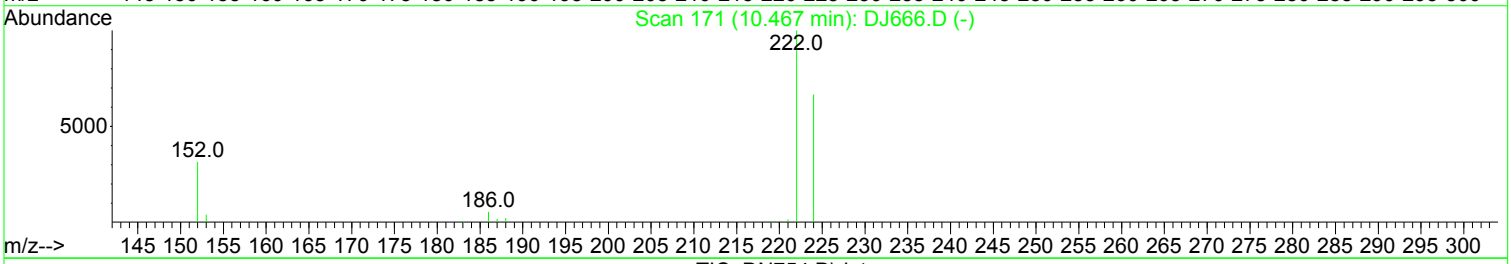
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN754.D
Acq On : 22 Feb 2019 4:19 am
Operator : J.Misiurewicz
Sample : R1901380-006
Misc : 331543 680 PCB
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Feb 22 09:21:54 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN754.D\data.ms

(31) CL2 - #4 (L2)

10.595min (+ 0.044) 0.00 ppm m

response 328

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	51.16
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

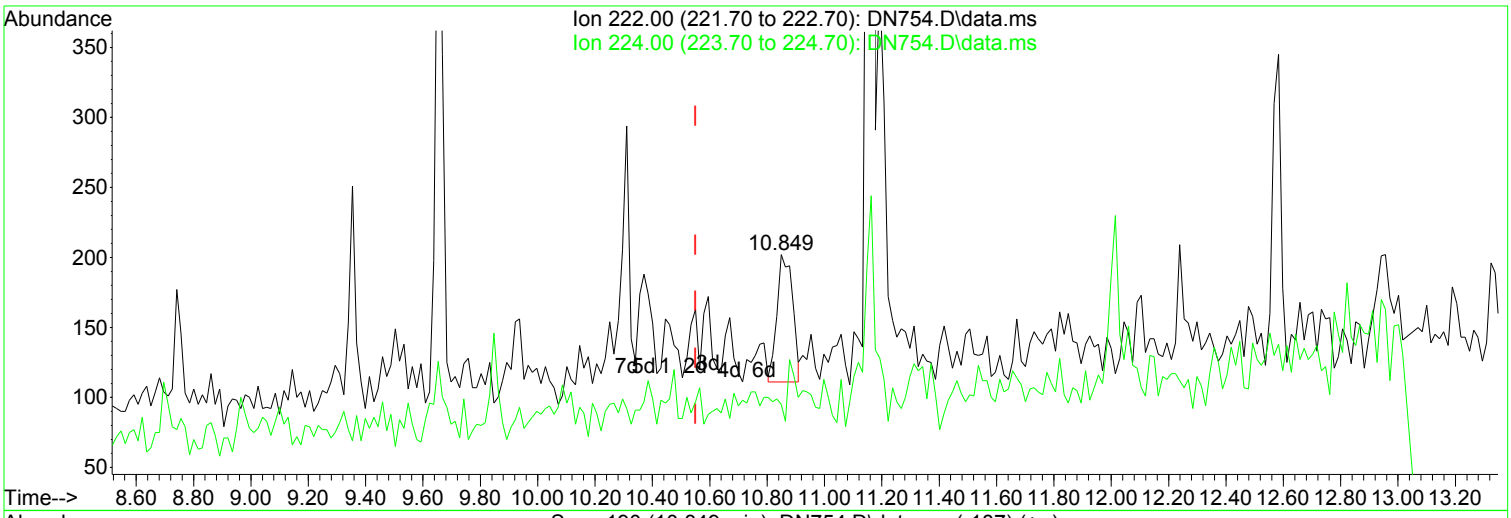
Other -

02/22/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN754.D
Acq On : 22 Feb 2019 4:19 am
Operator : J.Misiurewicz
Sample : R1901380-006
Misc : 331543 680 PCB
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Feb 22 09:21:54 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN754.D\data.ms

(32) CL2 - #5 (L2)

10.849min (+ 0.298) 0.00 ppm m

response 345

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	47.03
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

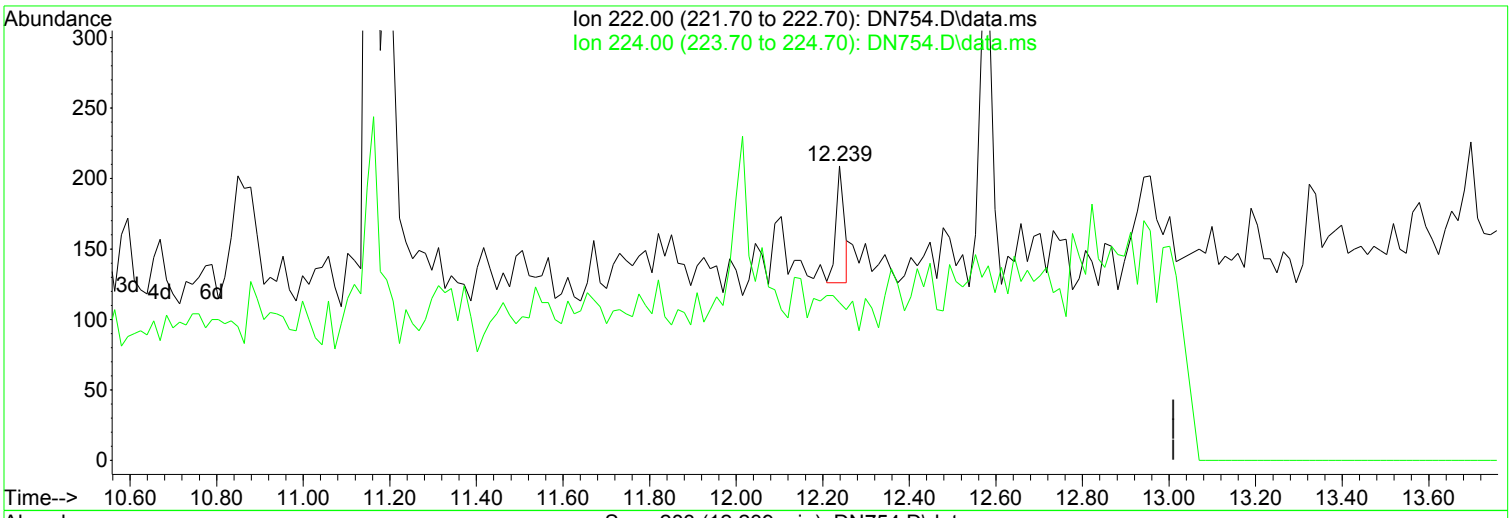
Other -

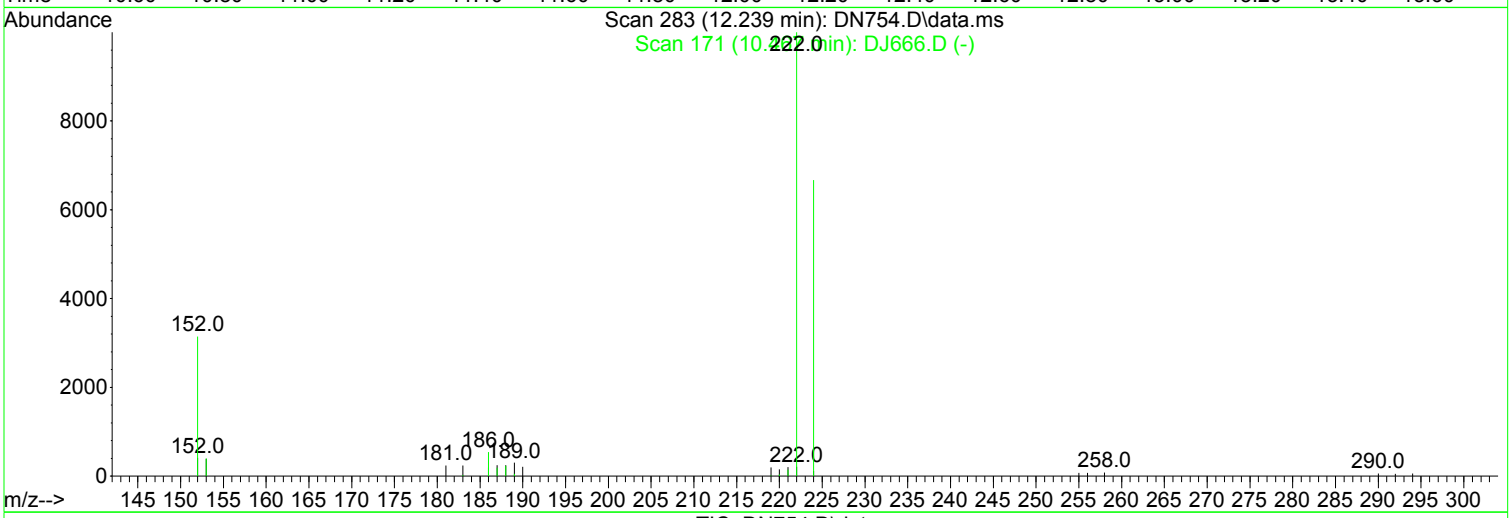
02/22/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN754.D
Acq On : 22 Feb 2019 4:19 am
Operator : J.Misiurewicz
Sample : R1901380-006
Misc : 331543 680 PCB
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Feb 22 09:21:54 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration





TIC: DN754.D\data.ms

(33) CL2 - #6 (L2)

12.239min (+ 1.688) 0.00 ppm m

response 113

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	53.59
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

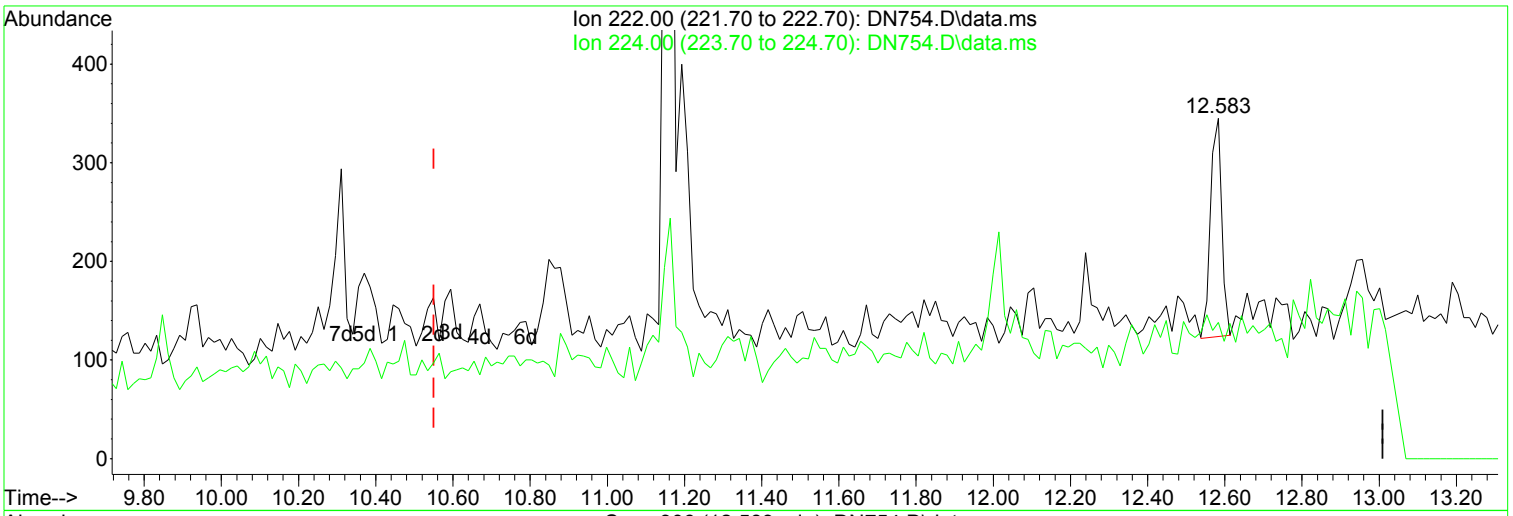
Other -

02/22/19

1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN754.D
Acq On : 22 Feb 2019 4:19 am
Operator : J.Misiurewicz
Sample : R1901380-006
Misc : 331543 680 PCB
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Feb 22 09:21:54 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN754.D\data.ms

(34) CL2 - #7 (L2)

12.583min (+ 2.032) 0.00 ppm m

response 449

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	40.00
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Other -

02/22/19

1st 02/22/19
2nd 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN754.D
Acq On : 22 Feb 2019 4:19 am
Operator : J.Misiurewicz
Sample : R1901380-006
Misc : 331543 680 PCB
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Feb 22 09:21:54 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

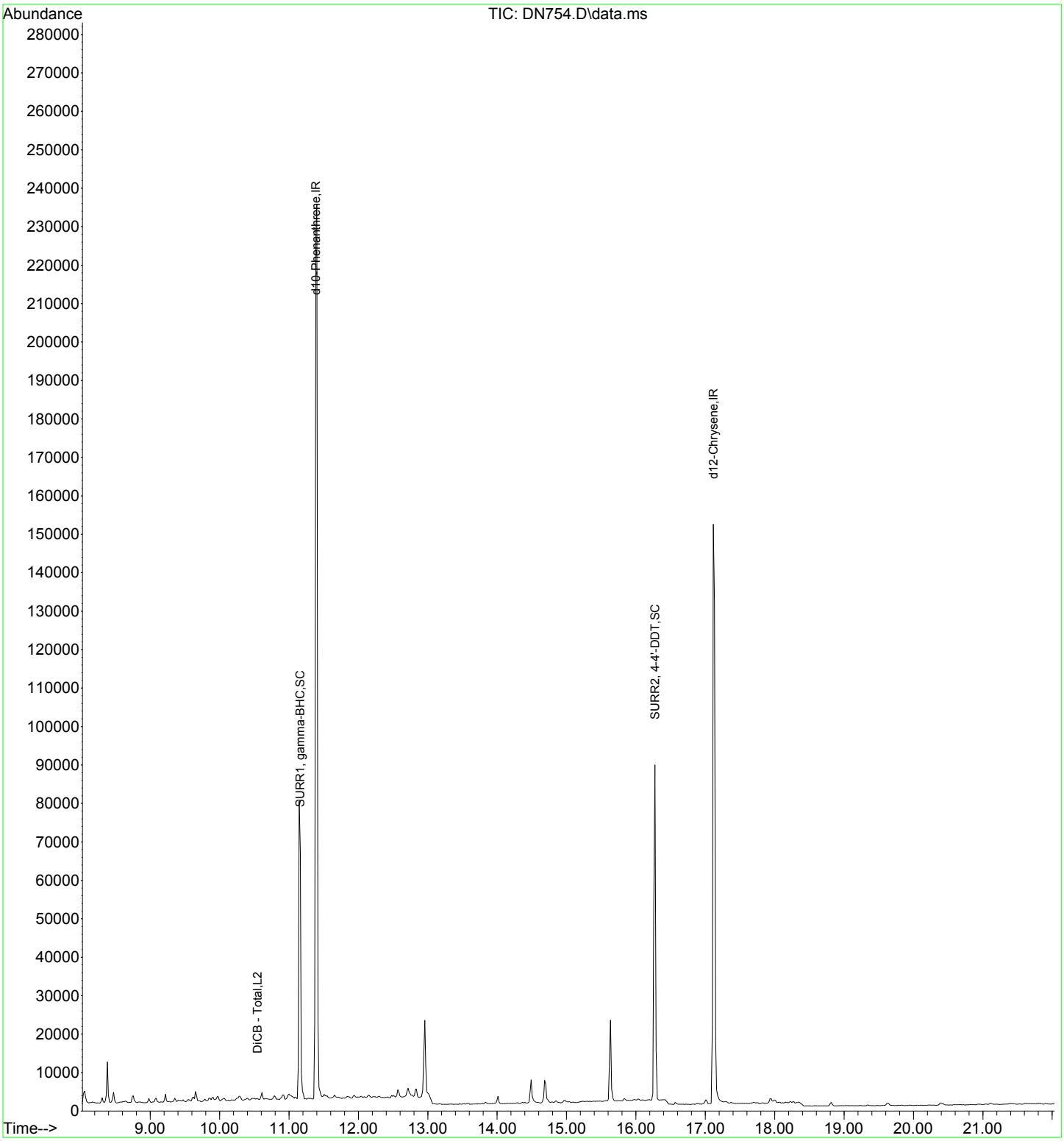
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.387	188	318651	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	249786	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.163	219	33969	0.83	ppm	0.01
Spiked Amount 1.000	Range 55 - 133		Recovery = 83.00%			
13) SURR2, 4-4'-DDT	16.275	235	70215	0.76	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 76.00%			
Target Compounds						Qvalue
38) DiCB - Total	10.550	222	2043m	0.010	ppm	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN754.D
Acq On : 22 Feb 2019 4:19 am
Operator : J.Misiurewicz
Sample : R1901380-006
Misc : 331543 680 PCB
ALS Vial : 27 Sample Multiplier: 1

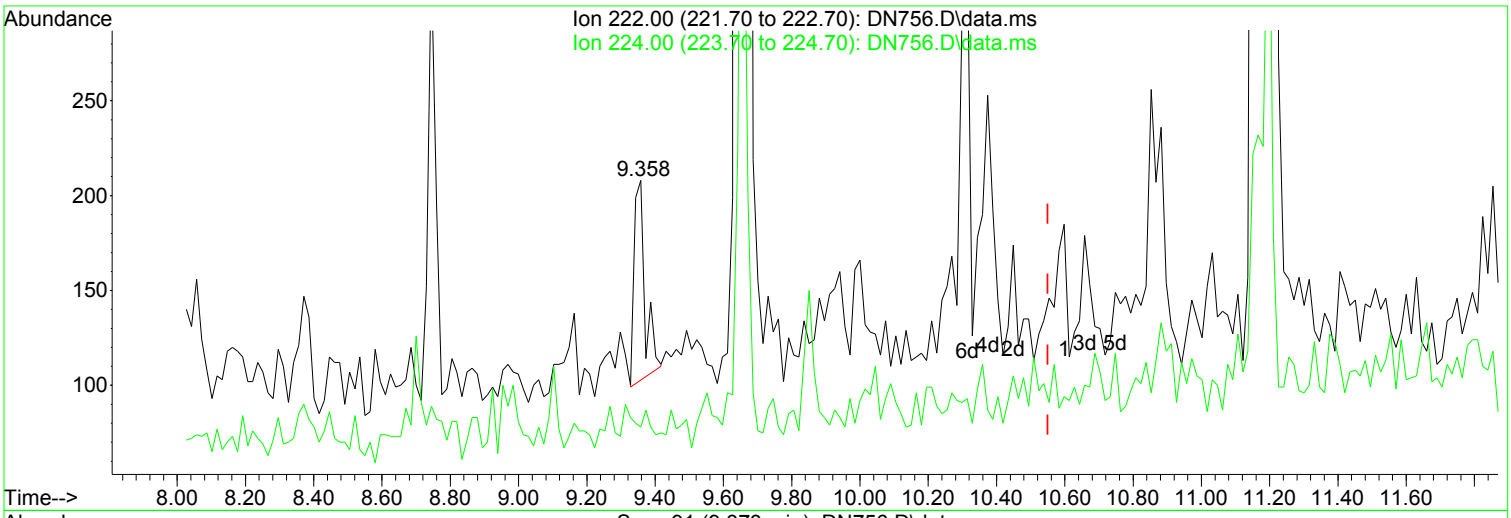
Quant Time: Feb 22 09:21:54 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

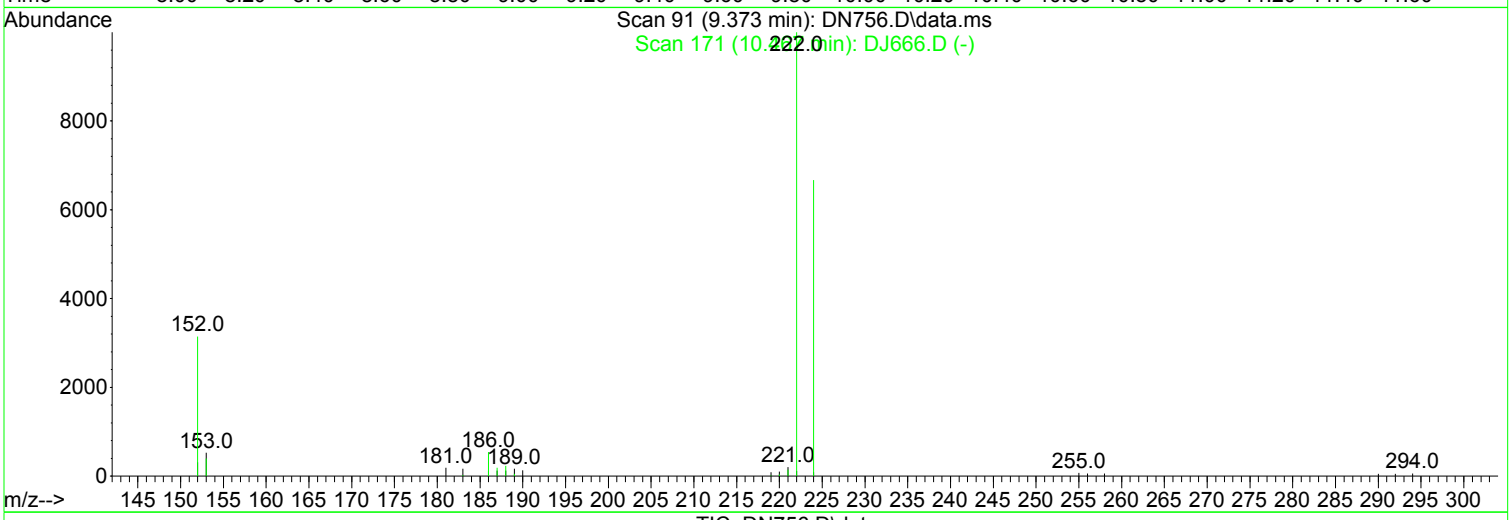


Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN756.D
Acq On : 22 Feb 2019 5:16 am
Operator : J.Misiurewicz
Sample : R1901380-007
Misc : 331543 680 PCB
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Feb 22 09:22:00 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration





TIC: DN756.D\data.ms

(28) CL2 - #1 (L2)

9.358min (-1.193) 0.00 ppm m

response 237

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	37.50
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

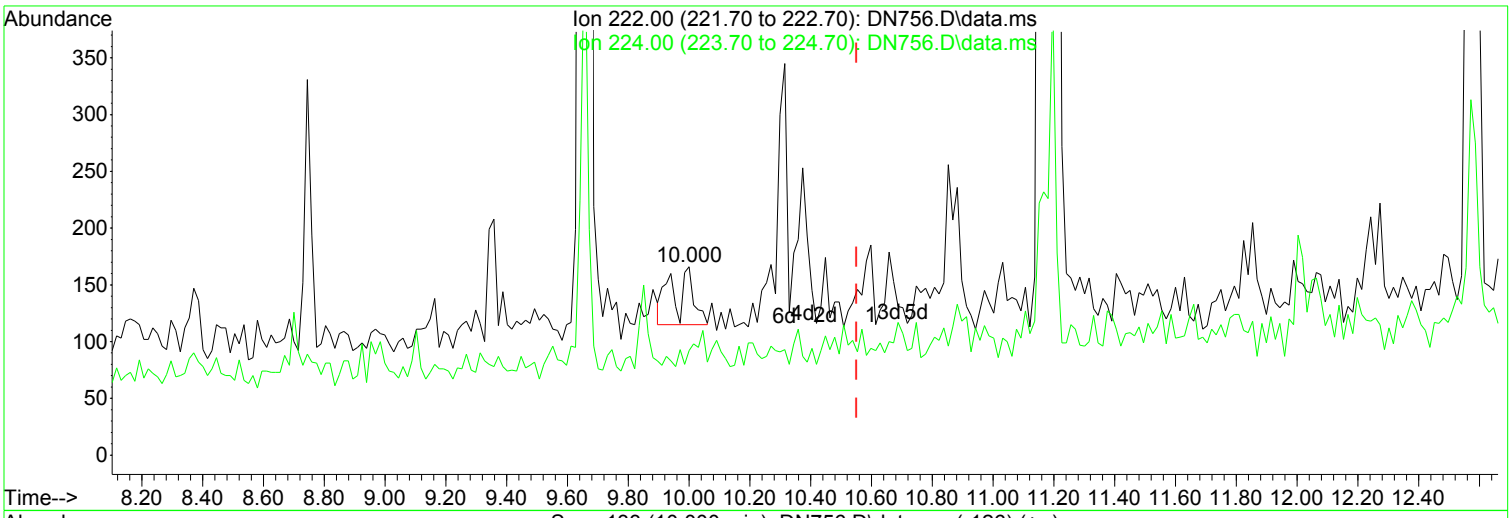
Other -

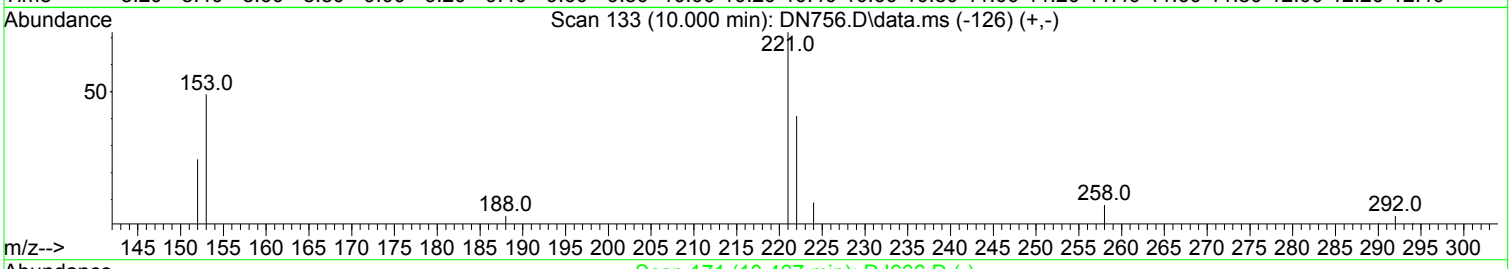
02/22/19

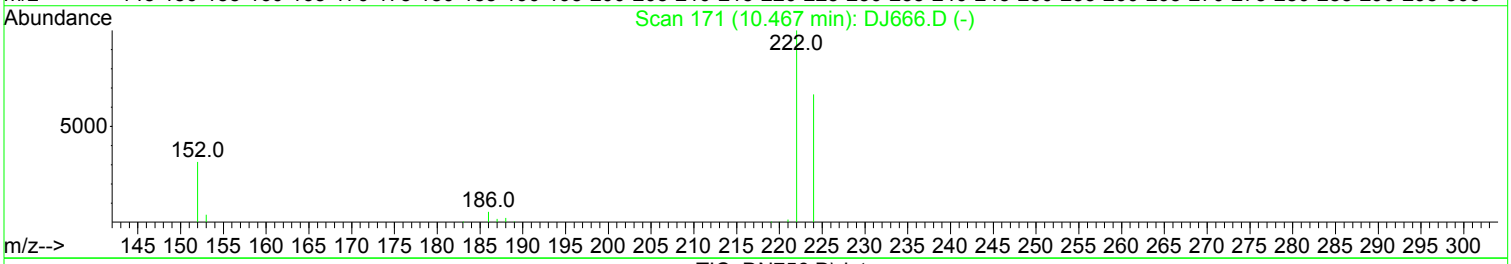
1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN756.D
Acq On : 22 Feb 2019 5:16 am
Operator : J.Misiurewicz
Sample : R1901380-007
Misc : 331543 680 PCB
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Feb 22 09:22:00 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN756.D\data.ms

(29) CL2 - #2 (L2)

10.000min (-0.551) 0.00 ppm m

response 243

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	55.42
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

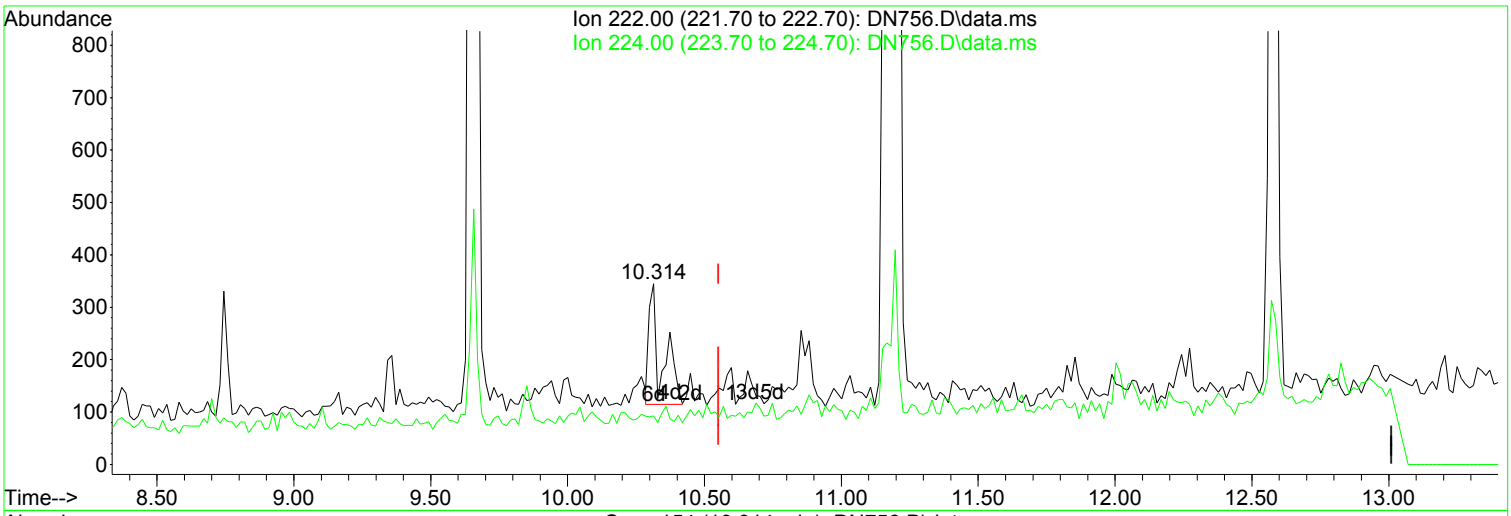
Other -

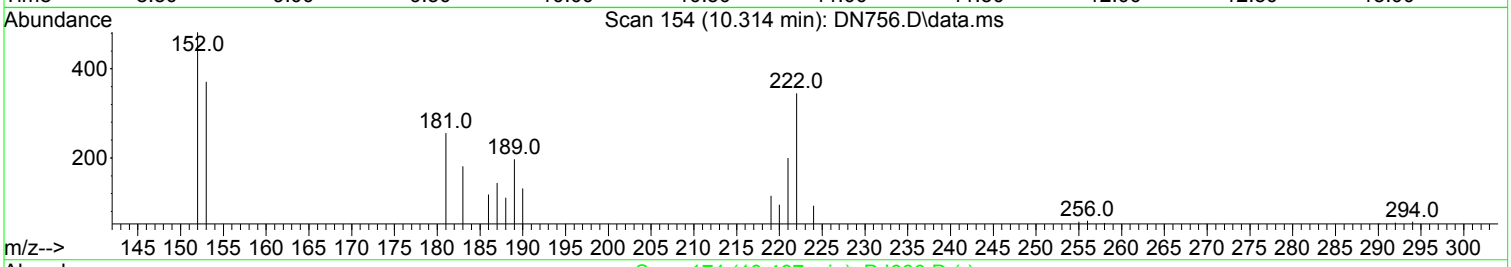
02/22/19

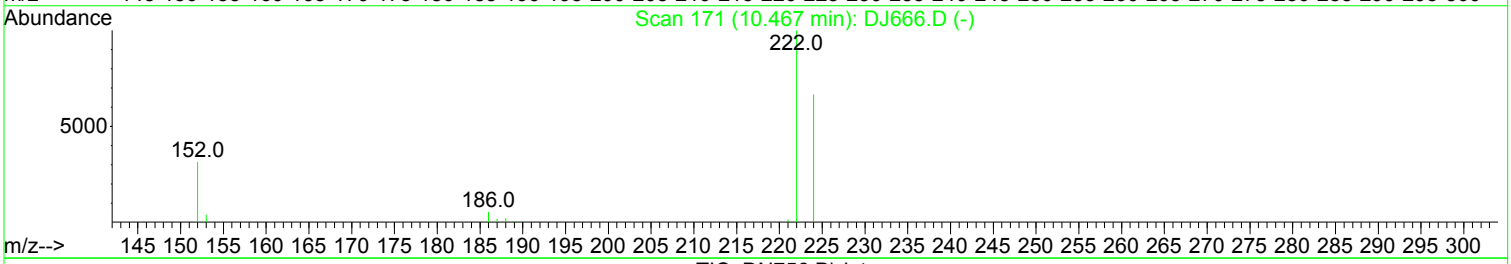
1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN756.D
Acq On : 22 Feb 2019 5:16 am
Operator : J.Misiurewicz
Sample : R1901380-007
Misc : 331543 680 PCB
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Feb 22 09:22:00 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN756.D\data.ms

(30) CL2 - #3 (L2)

10.314min (-0.237) 0.00 ppm m

response 727

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	26.96#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

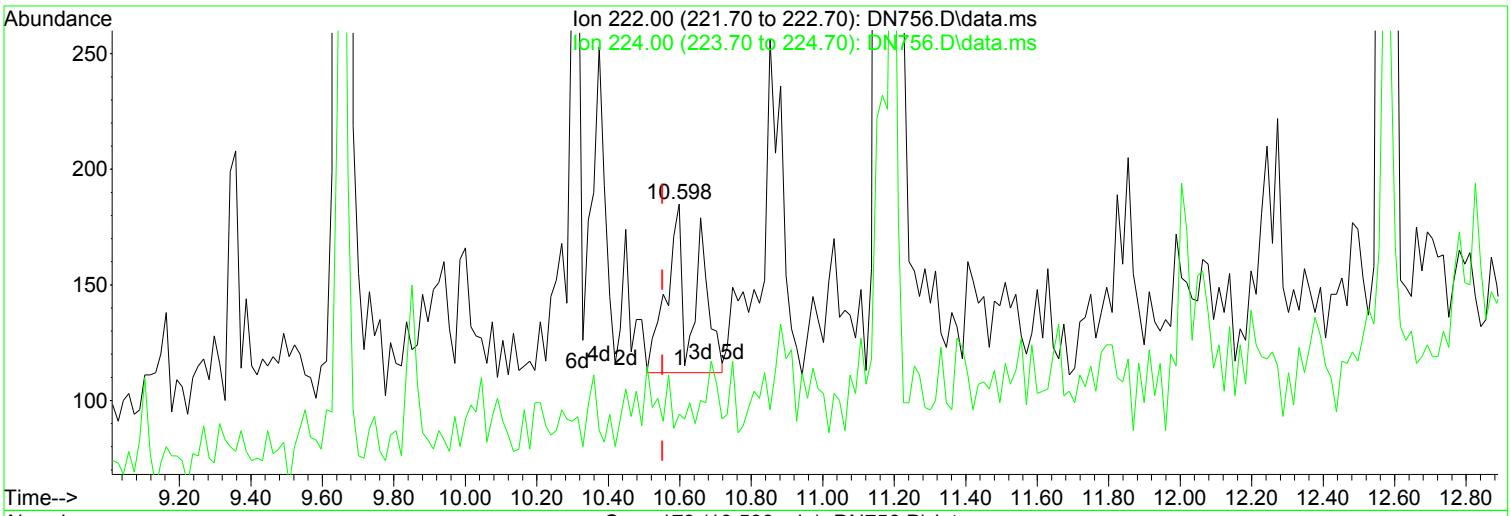
Other -

02/22/19

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN756.D
Acq On : 22 Feb 2019 5:16 am
Operator : J.Misiurewicz
Sample : R1901380-007
Misc : 331543 680 PCB
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Feb 22 09:22:00 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN756.D\data.ms

(31) CL2 - #4 (L2)

10.598min (+ 0.047) 0.00 ppm m

response 379

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	50.81
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

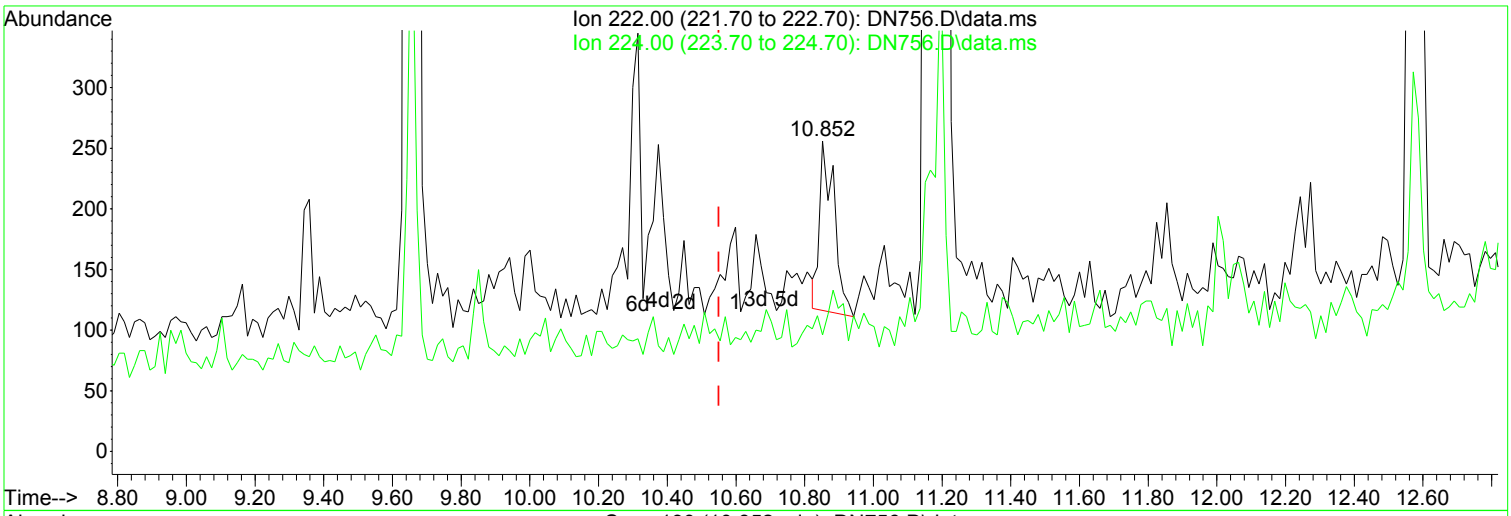
Other -

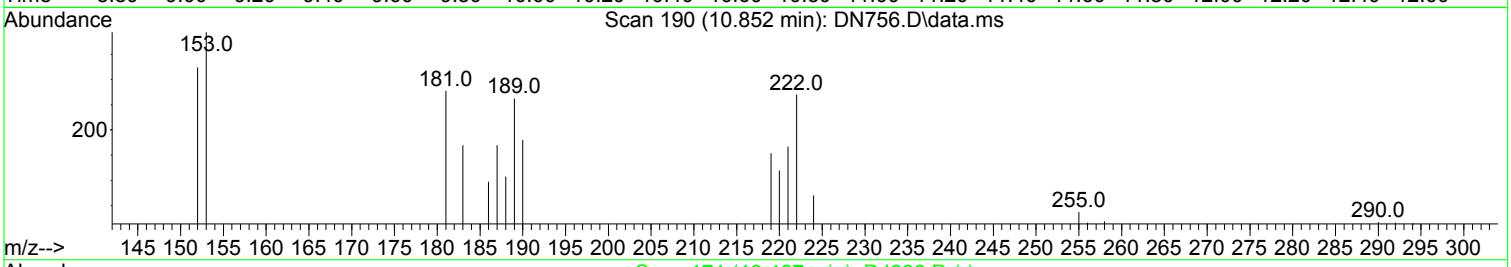
02/22/19

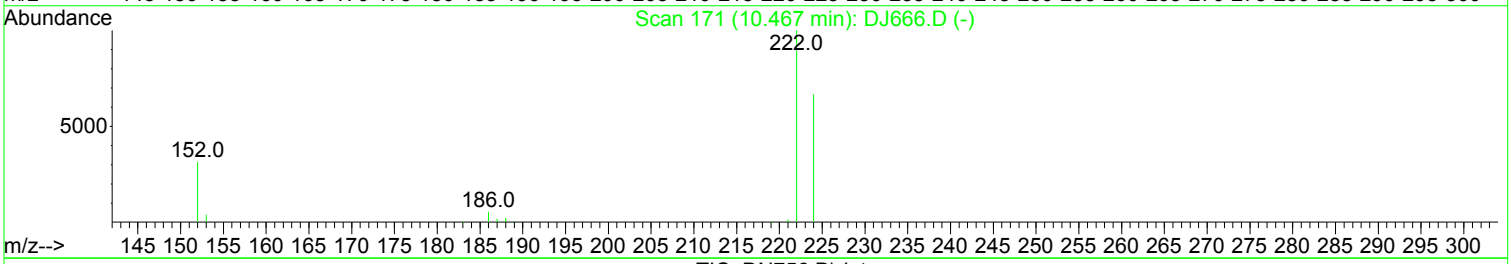
1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN756.D
Acq On : 22 Feb 2019 5:16 am
Operator : J.Misiurewicz
Sample : R1901380-007
Misc : 331543 680 PCB
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Feb 22 09:22:00 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN756.D\data.ms

(32) CL2 - #5 (L2)

10.852min (+ 0.301) 0.00 ppm m

response 407

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	37.50
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

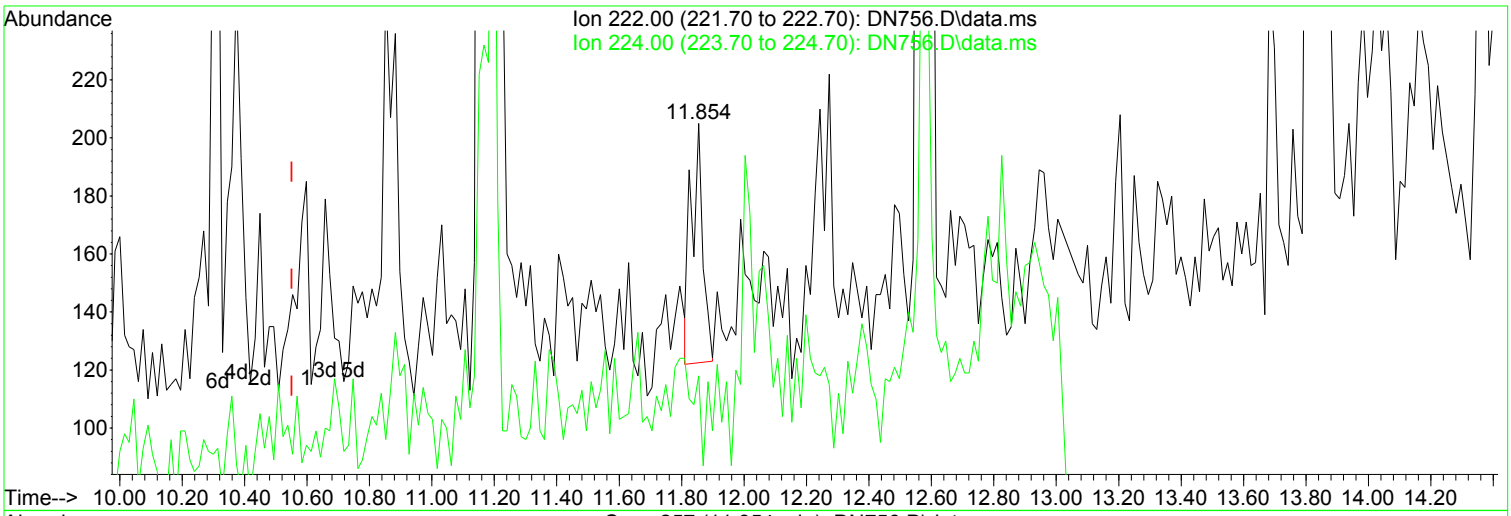
Other -

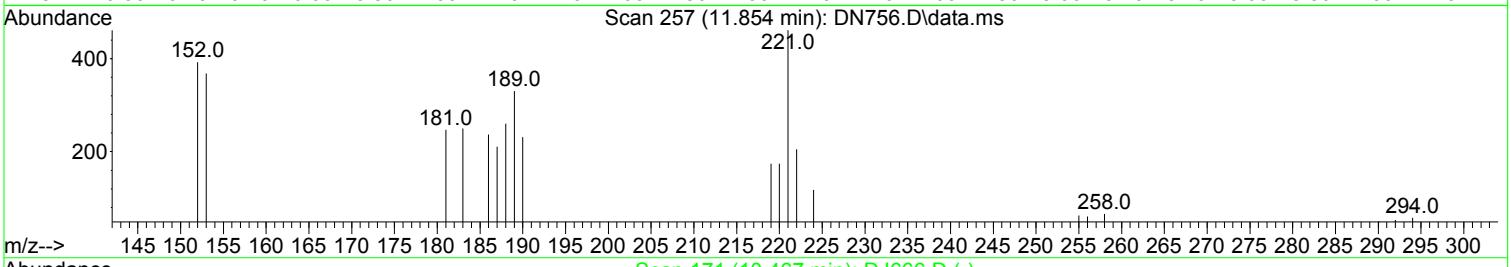
02/22/19

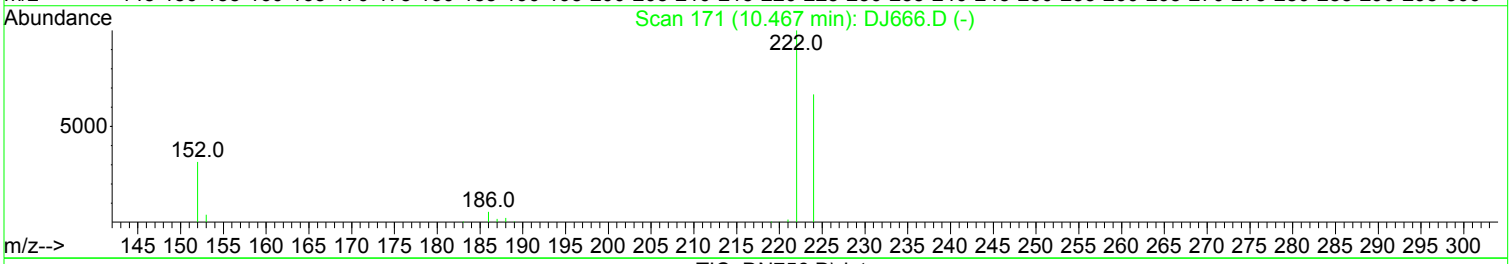
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN756.D
Acq On : 22 Feb 2019 5:16 am
Operator : J.Misiurewicz
Sample : R1901380-007
Misc : 331543 680 PCB
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Feb 22 09:22:00 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN756.D\data.ms

(33) CL2 - #6 (L2)

11.854min (+ 1.303) 0.00 ppm m

response 213

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	57.56
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

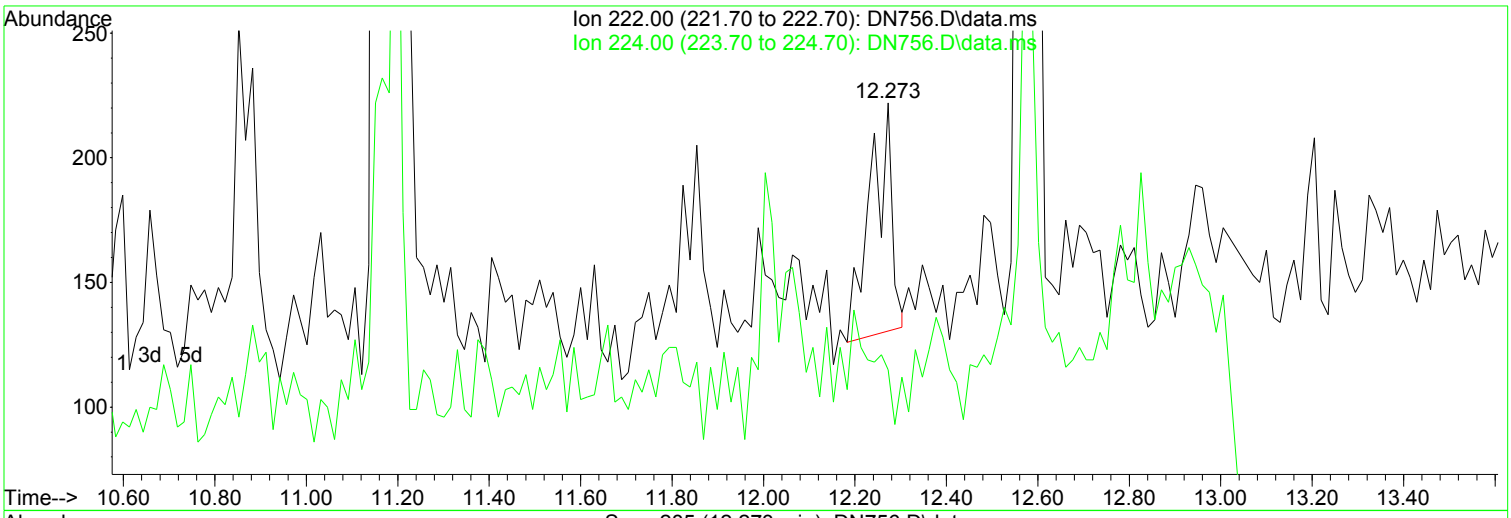
Other -

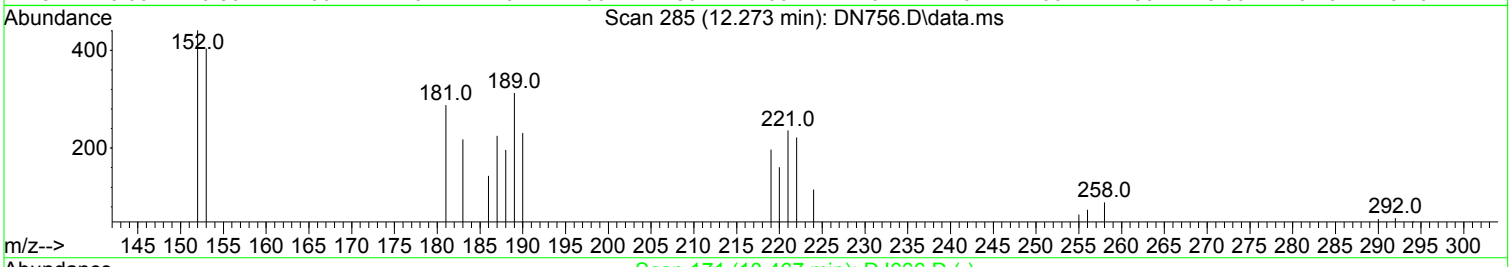
02/22/19

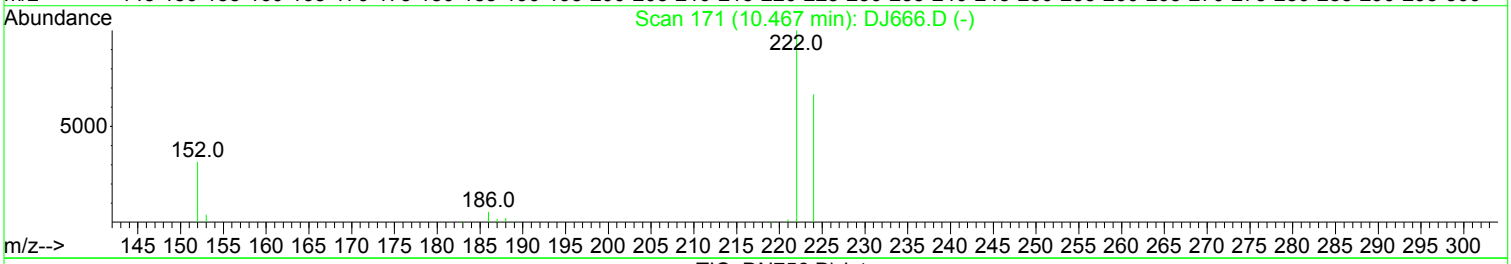
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN756.D
Acq On : 22 Feb 2019 5:16 am
Operator : J.Misiurewicz
Sample : R1901380-007
Misc : 331543 680 PCB
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Feb 22 09:22:00 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN756.D\data.ms

(34) CL2 - #7 (L2)

12.273min (+ 1.722) 0.00 ppm m

response 303

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	51.80
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Other -

02/22/19

1st DM 02/22/19
2nd MP 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN756.D
Acq On : 22 Feb 2019 5:16 am
Operator : J.Misiurewicz
Sample : R1901380-007
Misc : 331543 680 PCB
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Feb 22 09:22:00 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

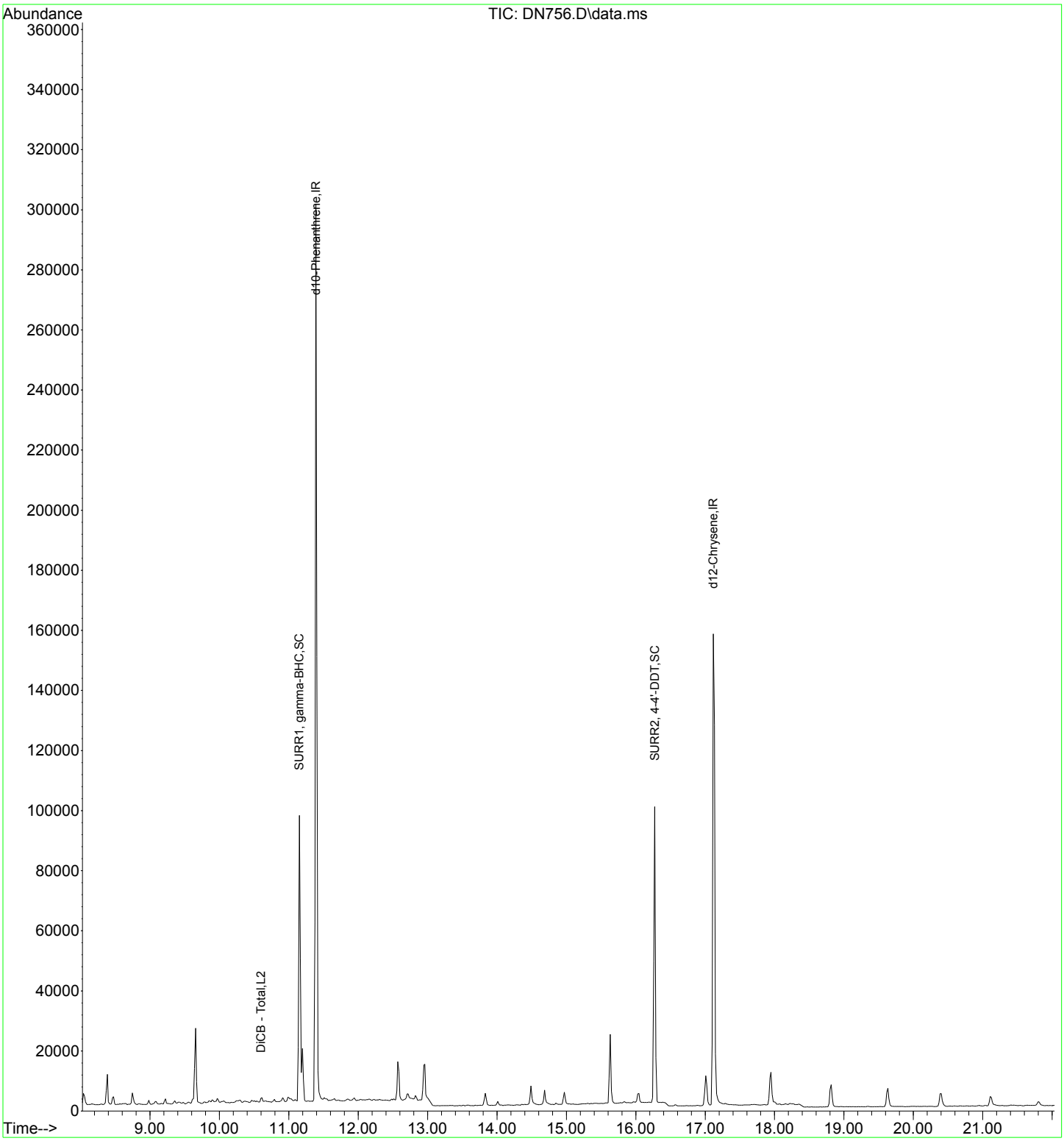
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.391	188	331454	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	252055	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.151	219	35809	0.87	ppm	0.00
Spiked Amount 1.000	Range 55 - 133		Recovery = 87.00%			
13) SURR2, 4-4'-DDT	16.274	235	75963	0.81	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 81.00%			
Target Compounds						Qvalue
38) DiCB - Total	10.598	222	2727m	0.013	ppm	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN756.D
Acq On : 22 Feb 2019 5:16 am
Operator : J.Misiurewicz
Sample : R1901380-007
Misc : 331543 680 PCB
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Feb 22 09:22:00 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



1st 02/22/19
2nd 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN733.D
Acq On : 21 Feb 2019 6:26 pm
Operator : J.Misiurewicz
Sample : R1901380-008
Misc : 331543 680 PCB
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 22 08:03:38 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

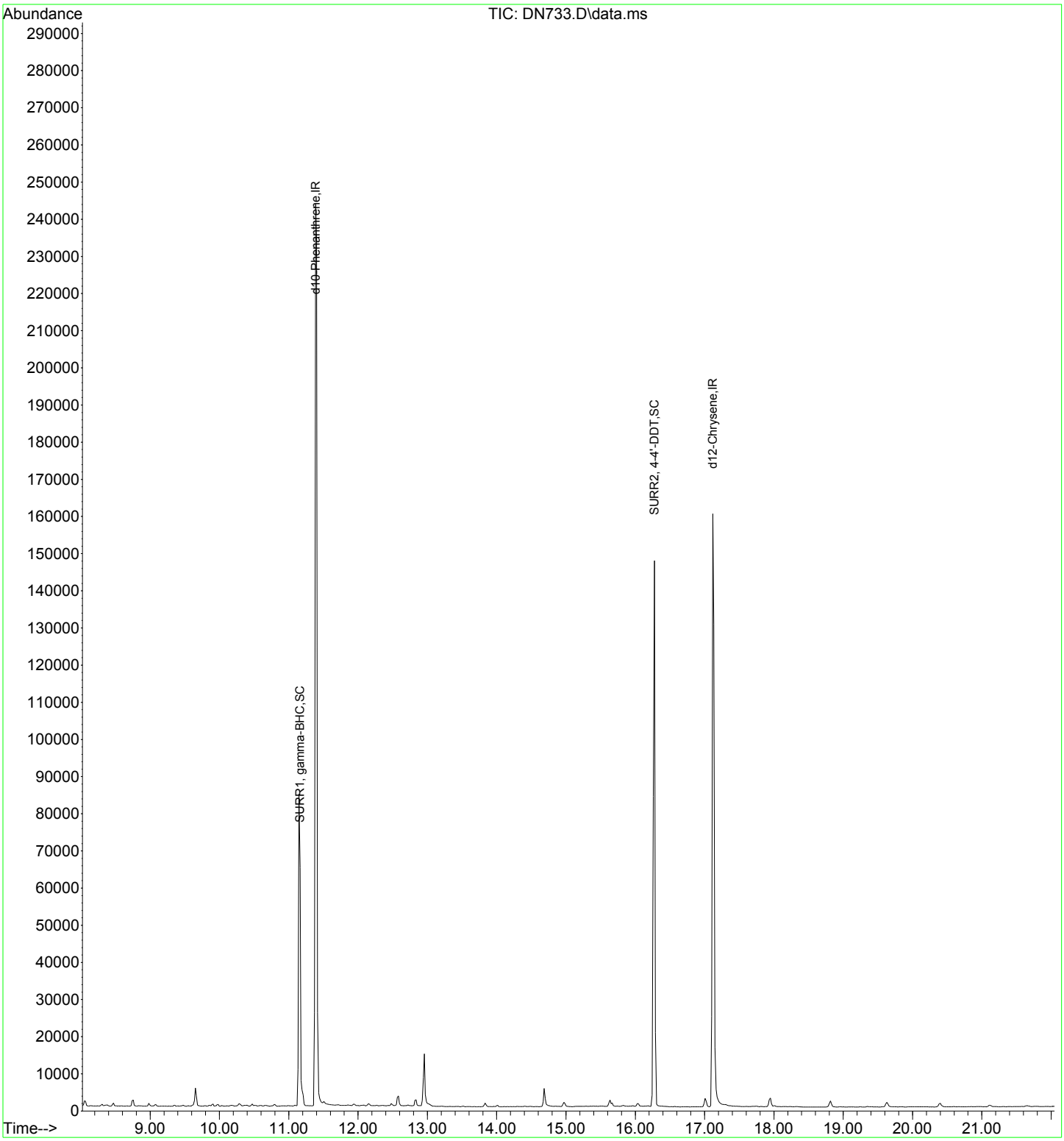
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.387	188	338565	0.75	ppm	0.00
2) d12-Chrysene	17.118	240	259077	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.163	219	34311	0.81	ppm	0.01
Spiked Amount 1.000	Range 55 - 133		Recovery = 81.00%			
13) SURR2, 4-4'-DDT	16.275	235	117160	1.22	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 122.00%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN733.D
Acq On : 21 Feb 2019 6:26 pm
Operator : J.Misiurewicz
Sample : R1901380-008
Misc : 331543 680 PCB
ALS Vial : 6 Sample Multiplier: 1

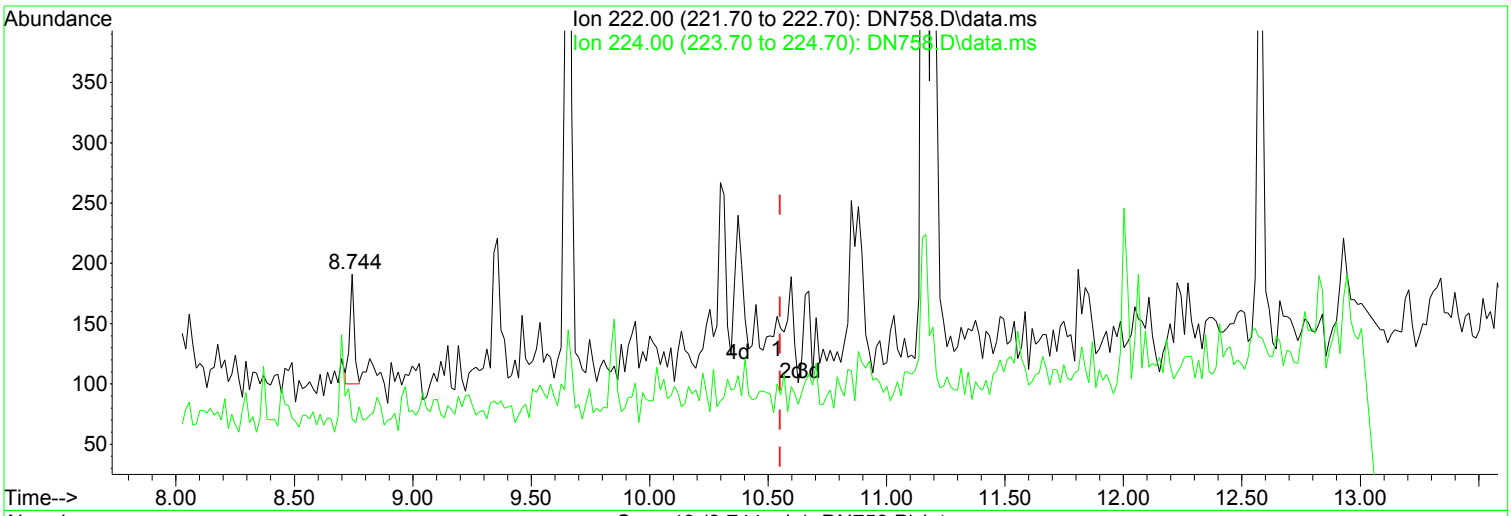
Quant Time: Feb 22 08:03:38 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

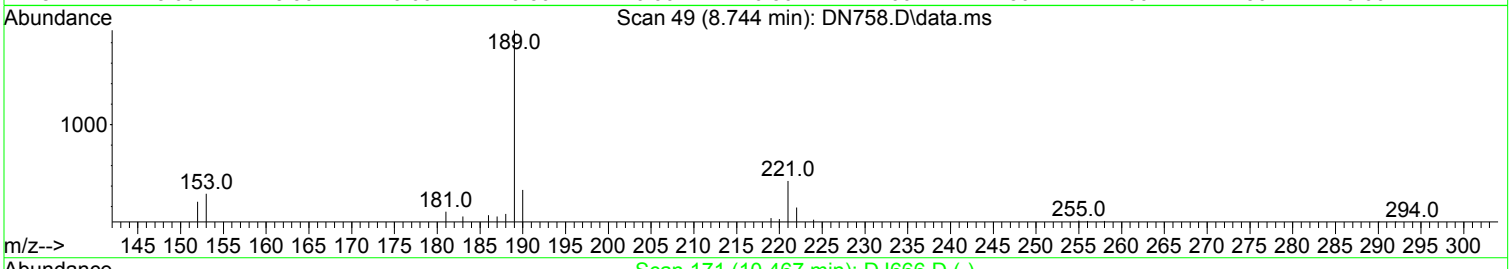


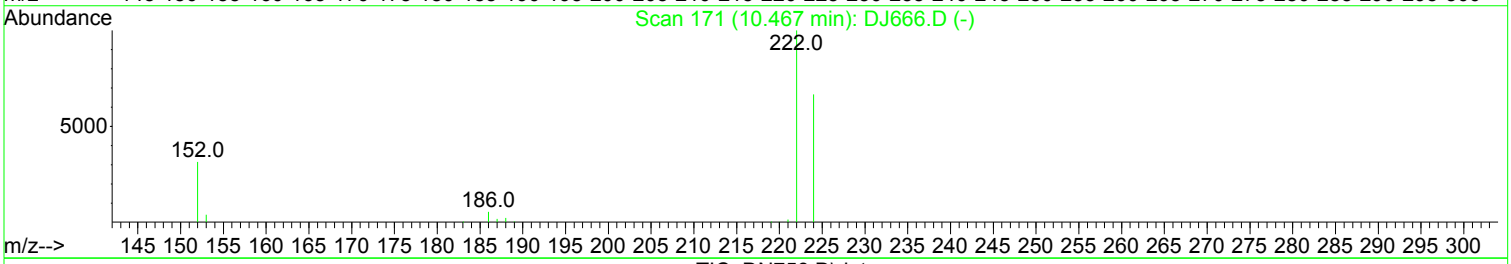
1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN758.D
Acq On : 22 Feb 2019 6:14 am
Operator : J.Misiurewicz
Sample : R1901380-009
Misc : 331543 680 PCB
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Feb 22 09:22:07 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN758.D\data.ms

(28) CL2 - #1 (L2)

8.744min (-1.807) 0.00 ppm m

response 124

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	37.17
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

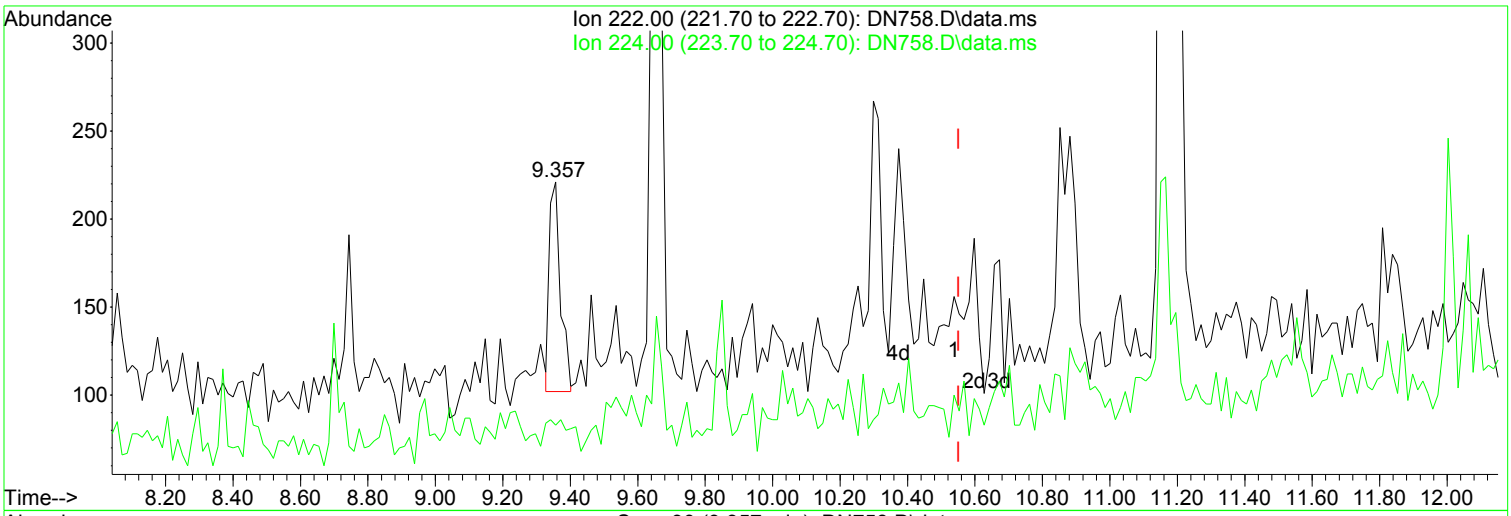
Other -

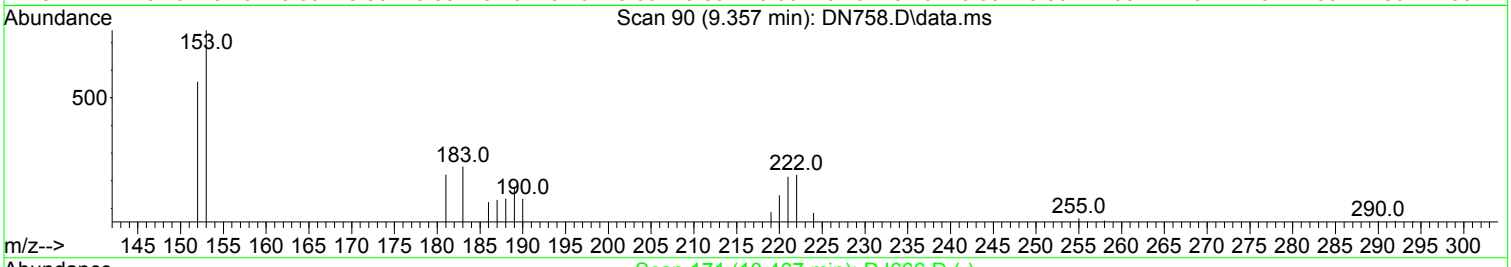
02/22/19

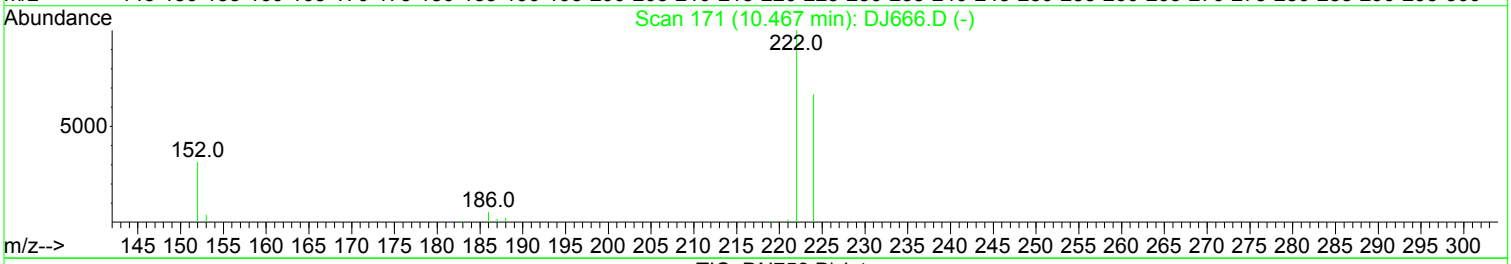
1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN758.D
Acq On : 22 Feb 2019 6:14 am
Operator : J.Misiurewicz
Sample : R1901380-009
Misc : 331543 680 PCB
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Feb 22 09:22:07 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN758.D\data.ms

(29) CL2 - #2 (L2)

9.357min (-1.194) 0.00 ppm m

response 275

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	37.56
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

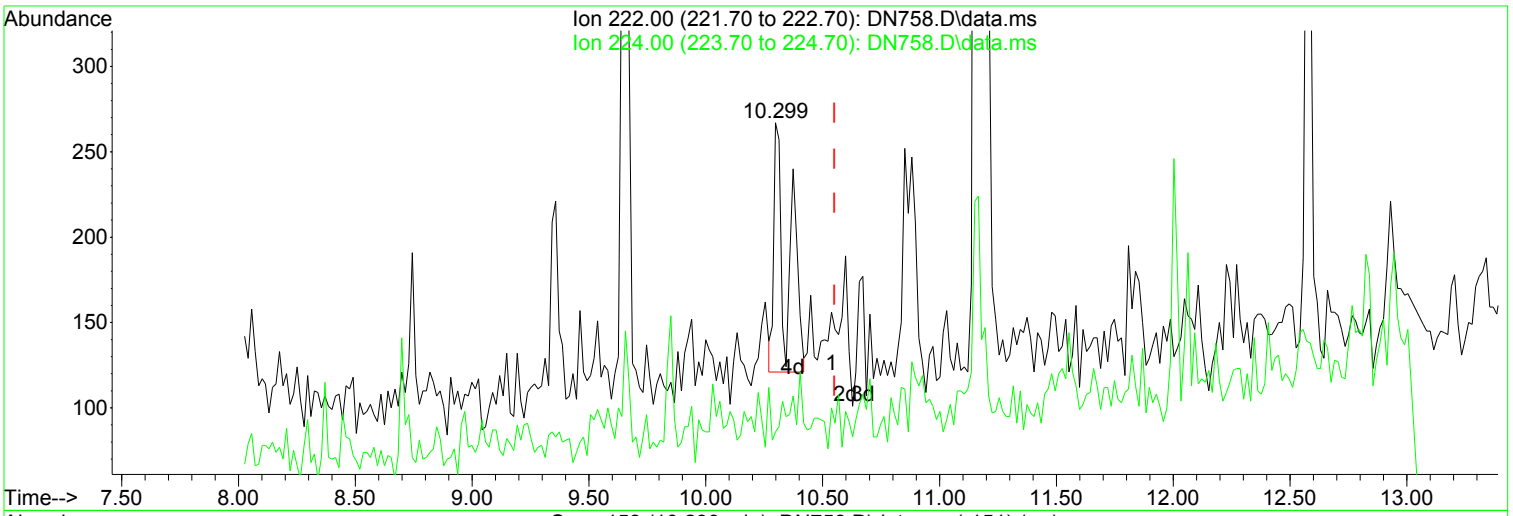
Other -

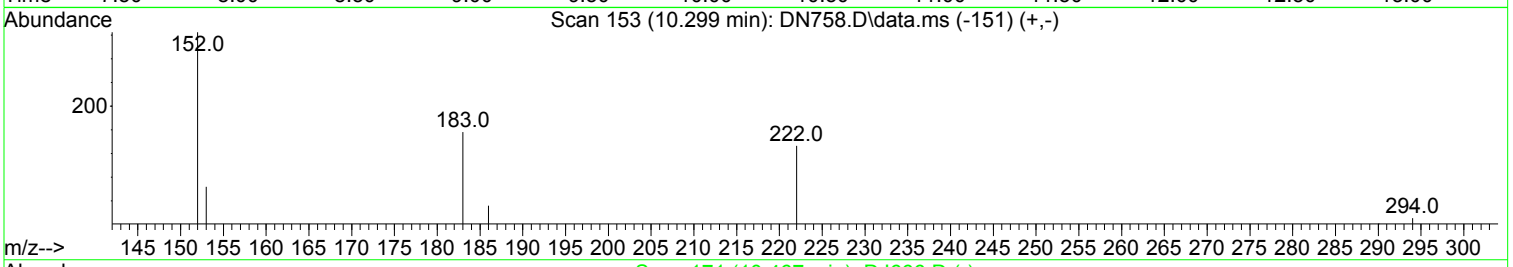
02/22/19

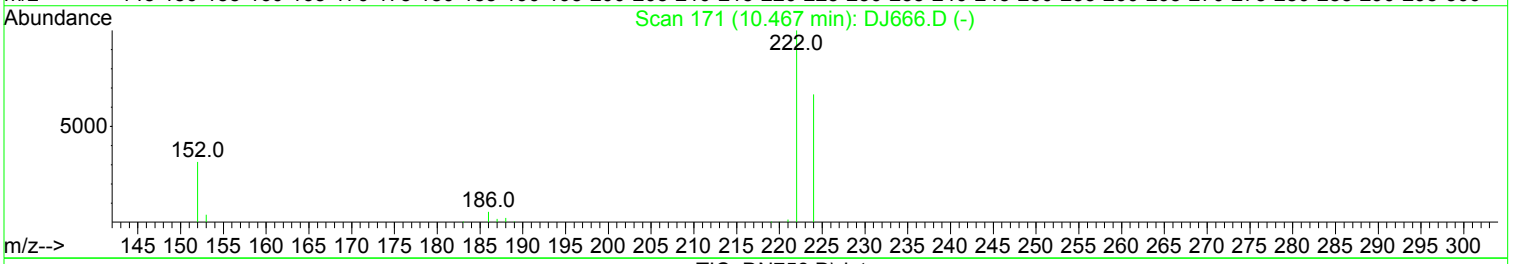
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN758.D
Acq On : 22 Feb 2019 6:14 am
Operator : J.Misiurewicz
Sample : R1901380-009
Misc : 331543 680 PCB
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Feb 22 09:22:07 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN758.D\data.ms

(30) CL2 - #3 (L2)

10.299min (-0.252) 0.00 ppm m

response 575

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	32.21
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

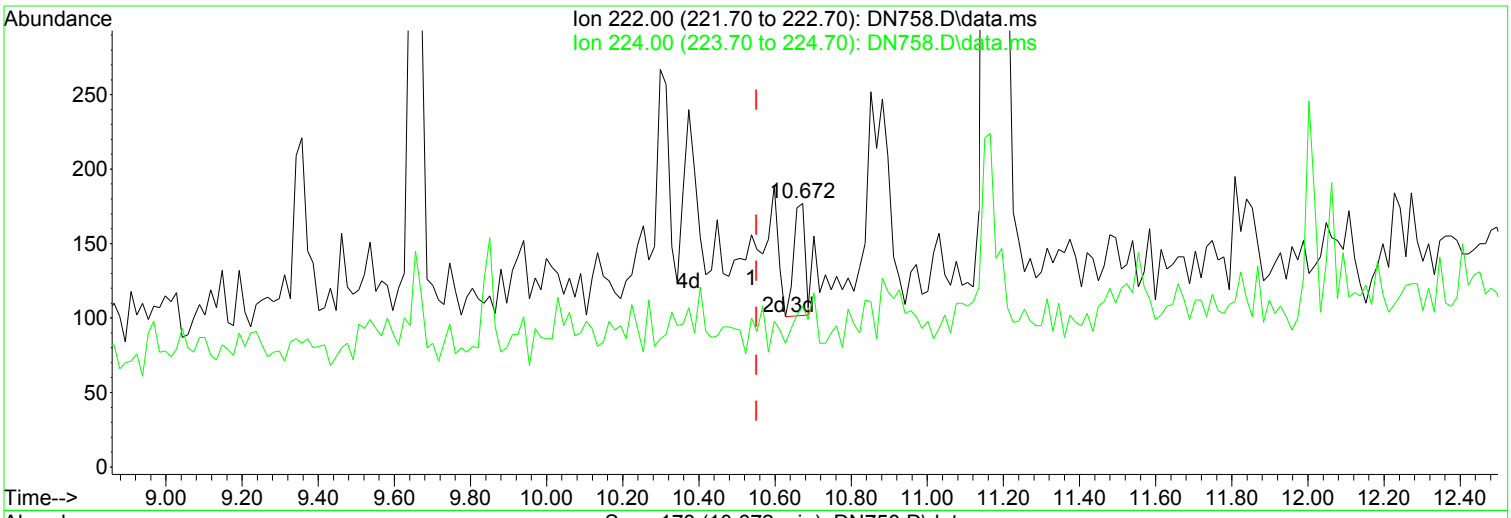
Other -

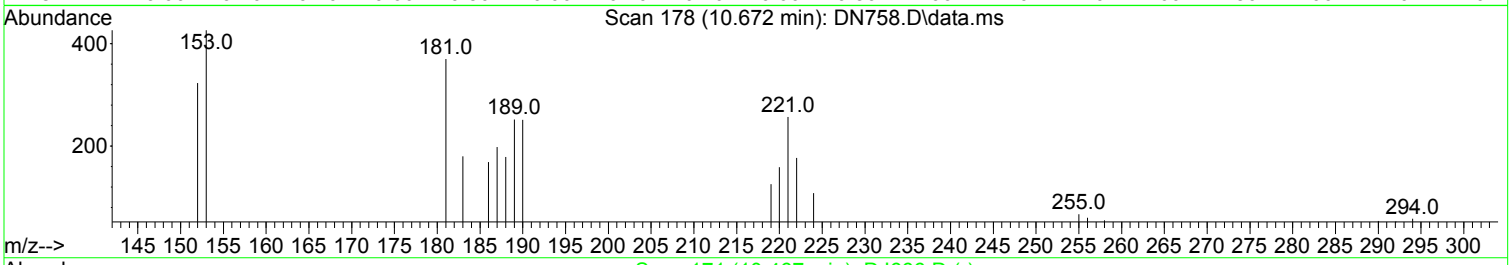
02/22/19

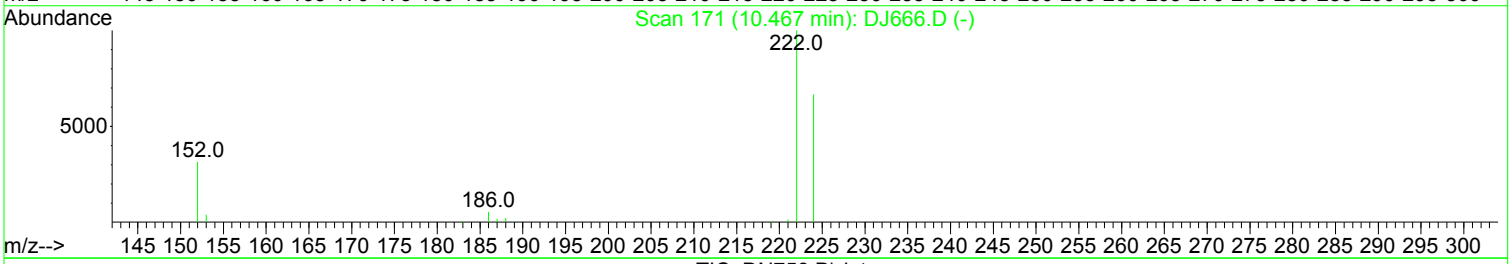
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN758.D
Acq On : 22 Feb 2019 6:14 am
Operator : J.Misiurewicz
Sample : R1901380-009
Misc : 331543 680 PCB
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Feb 22 09:22:07 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN758.D\data.ms

(31) CL2 - #4 (L2)

10.672min (+ 0.121) 0.00 ppm m

response 155

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	61.02
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

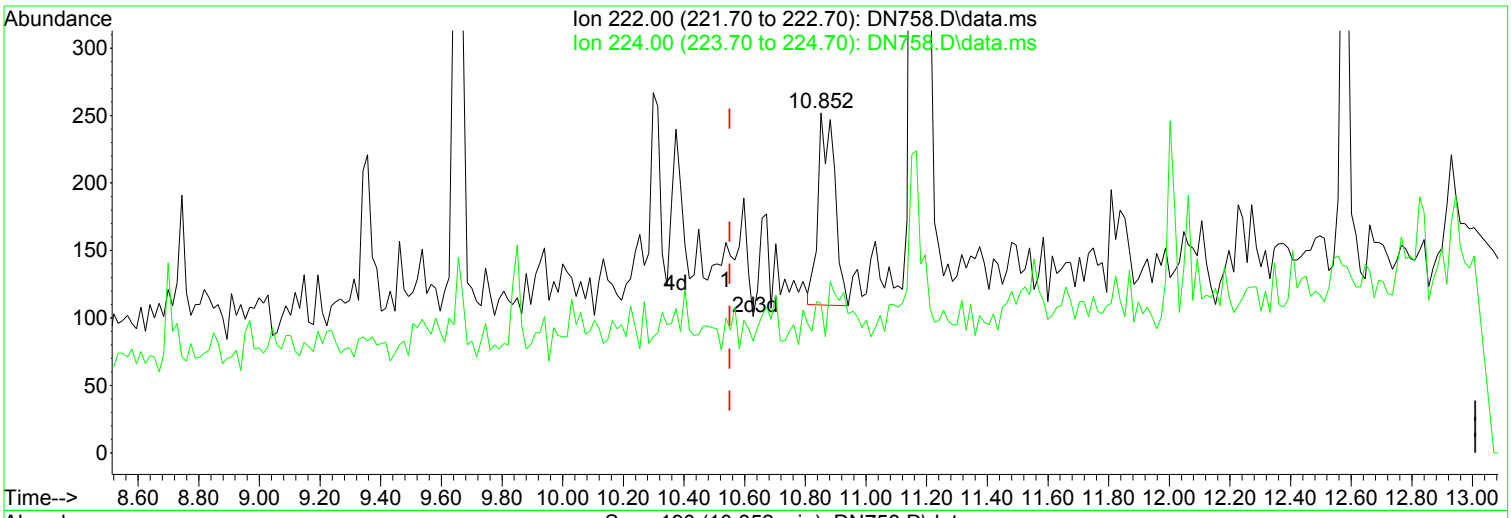
Other -

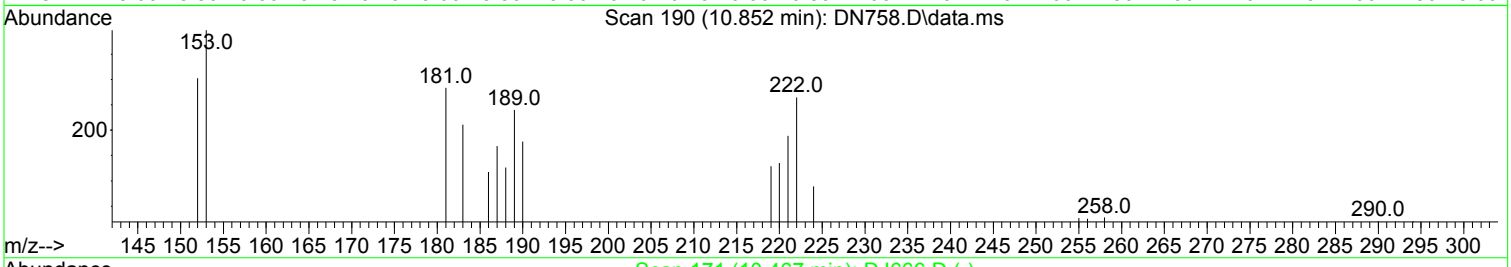
02/22/19

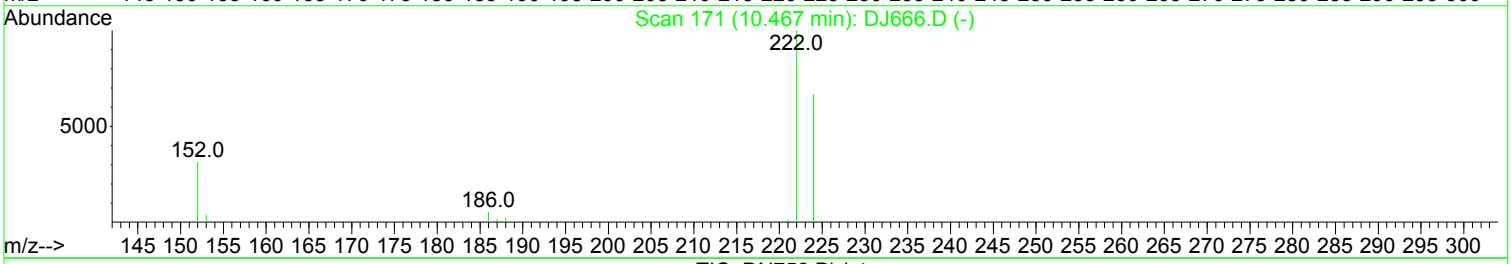
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN758.D
Acq On : 22 Feb 2019 6:14 am
Operator : J.Misiurewicz
Sample : R1901380-009
Misc : 331543 680 PCB
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Feb 22 09:22:07 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN758.D\data.ms

(32) CL2 - #5 (L2)

10.852min (+ 0.301) 0.00 ppm m

response 536

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	44.05
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

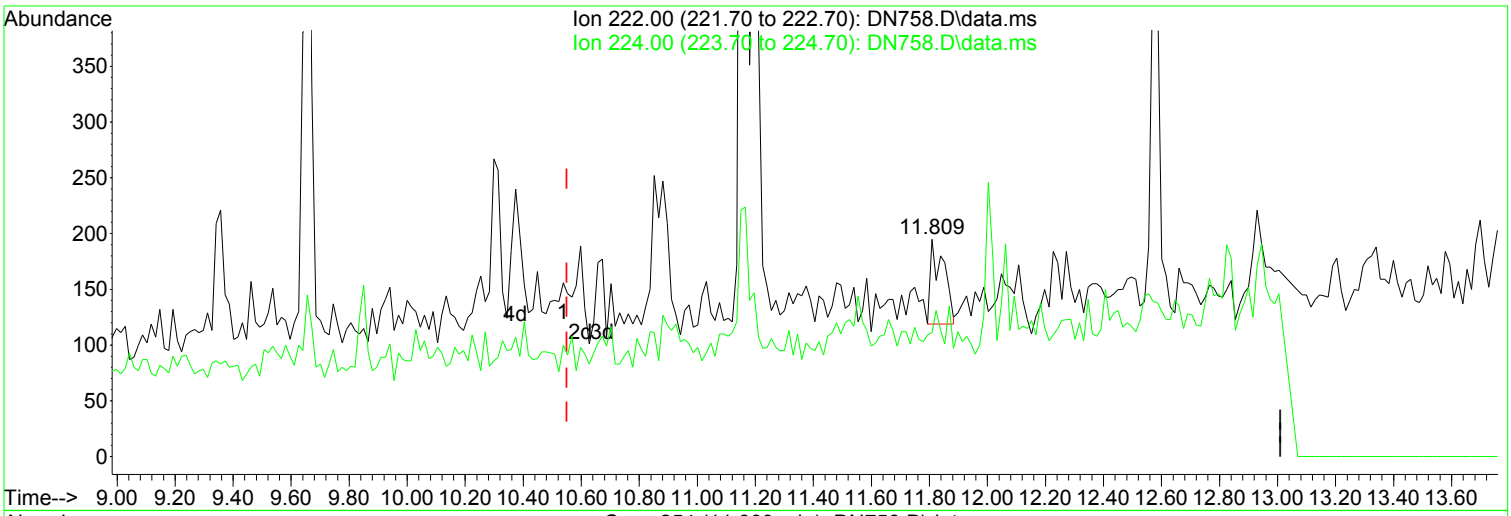
Other -

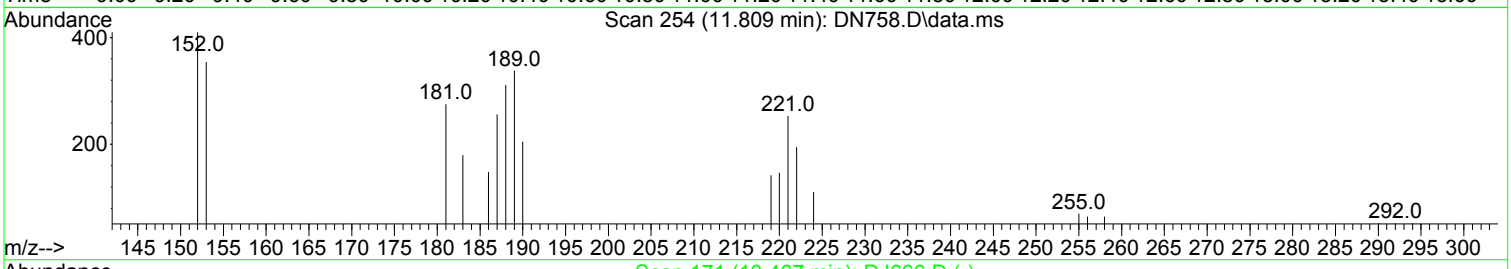
02/22/19

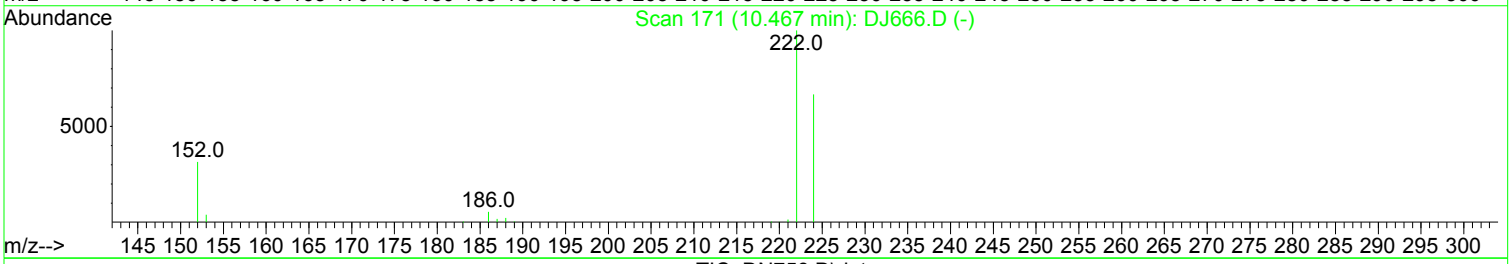
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN758.D
Acq On : 22 Feb 2019 6:14 am
Operator : J.Misiurewicz
Sample : R1901380-009
Misc : 331543 680 PCB
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Feb 22 09:22:07 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN758.D\data.ms

(33) CL2 - #6 (L2)

11.809min (+ 1.258) 0.00 ppm m

response 240

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	56.92
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

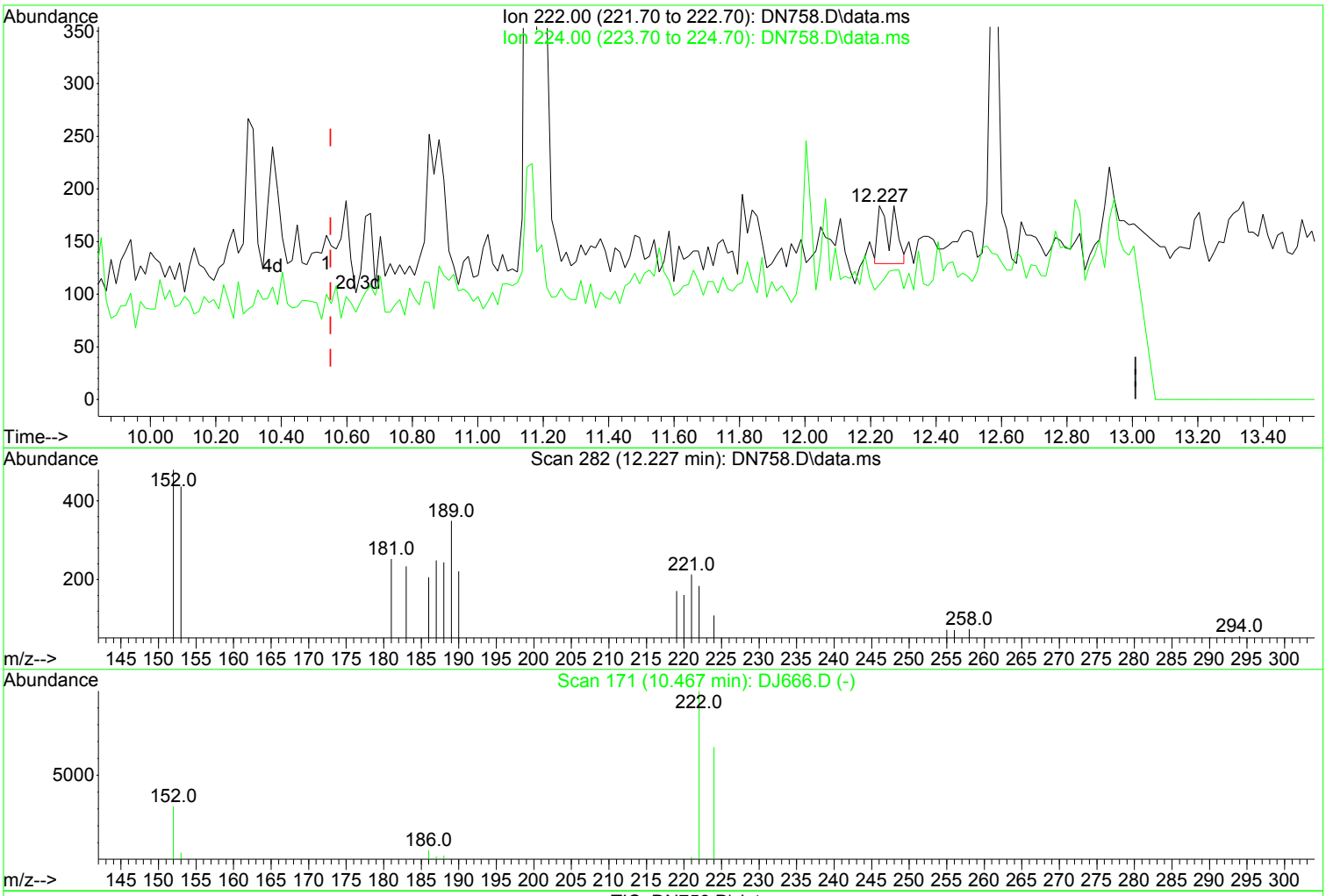
Other -

02/22/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN758.D
Acq On : 22 Feb 2019 6:14 am
Operator : J.Misiurewicz
Sample : R1901380-009
Misc : 331543 680 PCB
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Feb 22 09:22:07 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN758.D\data.ms

(34) CL2 - #7 (L2)

12.227min (+ 1.676) 0.00 ppm m

response 178

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	59.24
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Other -

02/22/19

1st 02/22/19
2nd 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN758.D
Acq On : 22 Feb 2019 6:14 am
Operator : J.Misiurewicz
Sample : R1901380-009
Misc : 331543 680 PCB
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Feb 22 09:22:07 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

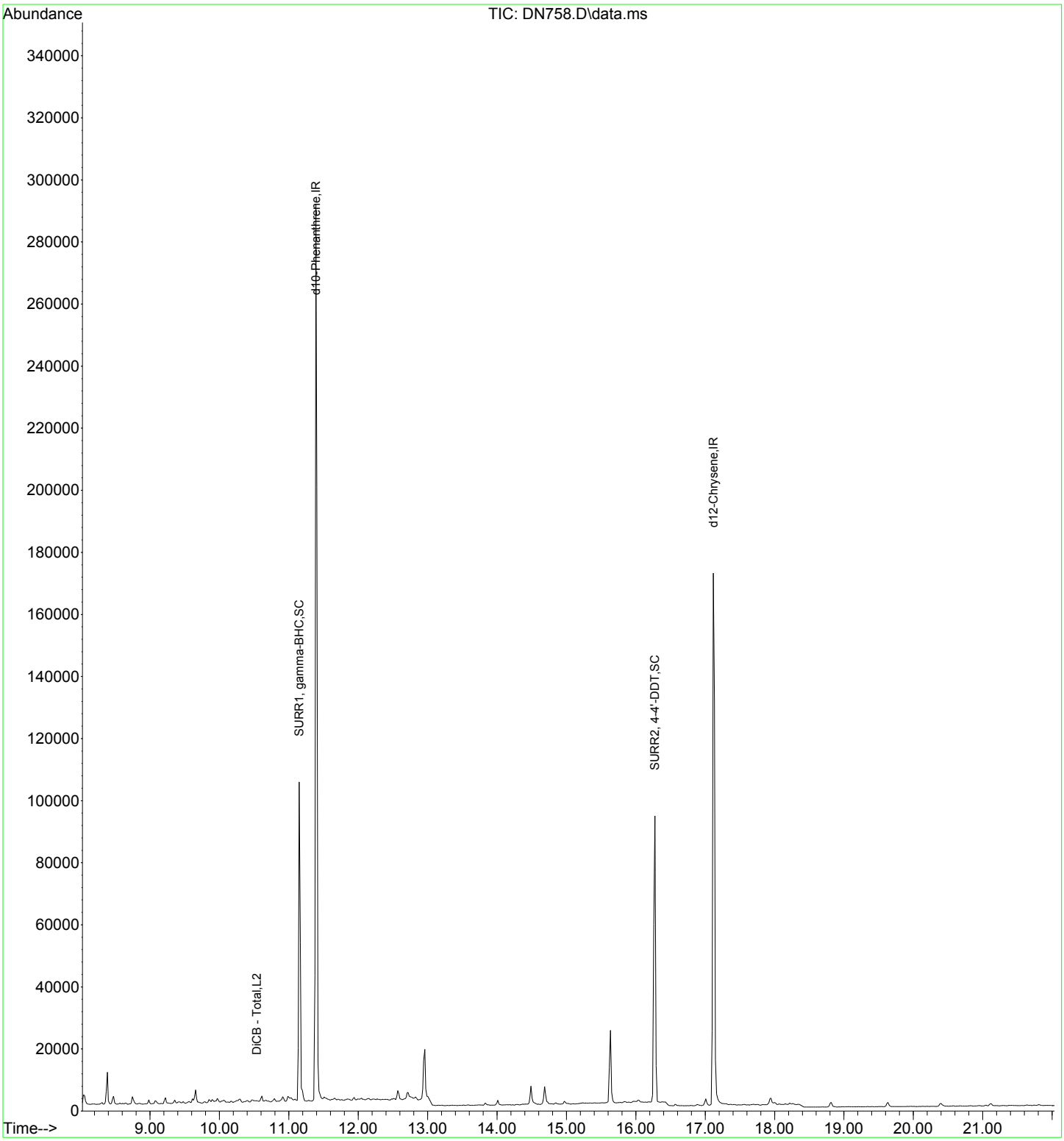
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.390	188	345753	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	266279	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.151	219	35880	0.83	ppm	0.00
Spiked Amount 1.000	Range 55 - 133		Recovery = 83.00%			
13) SURR2, 4-4'-DDT	16.276	235	75836	0.77	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 77.00%			
Target Compounds						Qvalue
38) DiCB - Total	10.538	222	2083m	0.009	ppm	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN758.D
Acq On : 22 Feb 2019 6:14 am
Operator : J.Misiurewicz
Sample : R1901380-009
Misc : 331543 680 PCB
ALS Vial : 31 Sample Multiplier: 1

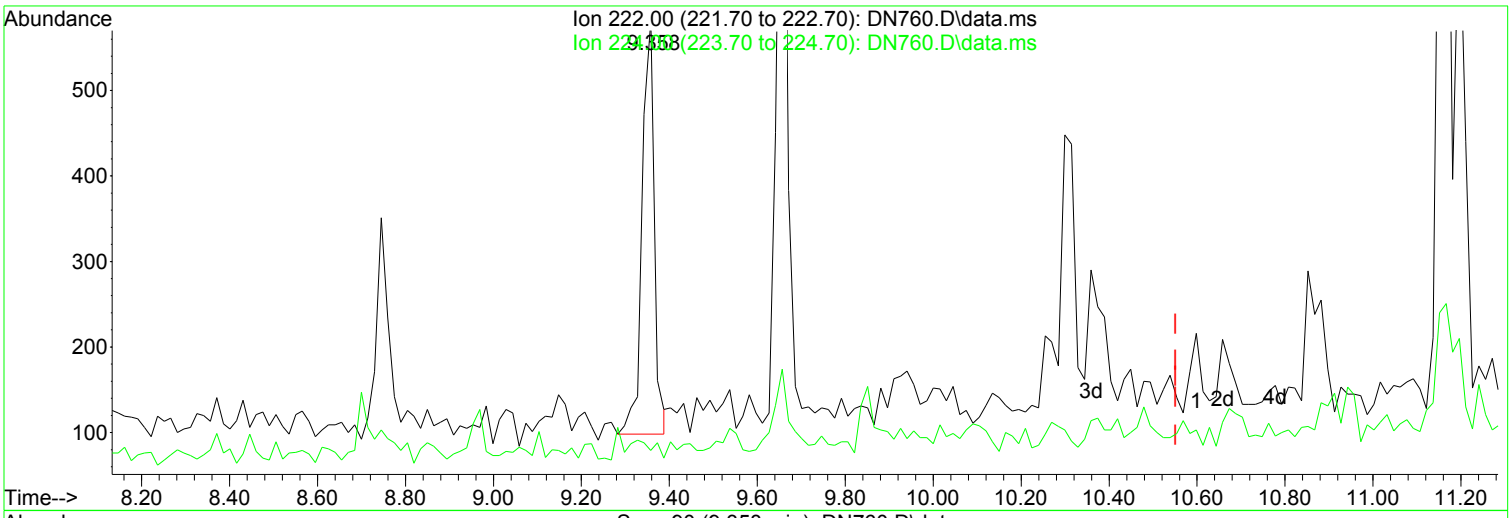
Quant Time: Feb 22 09:22:07 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

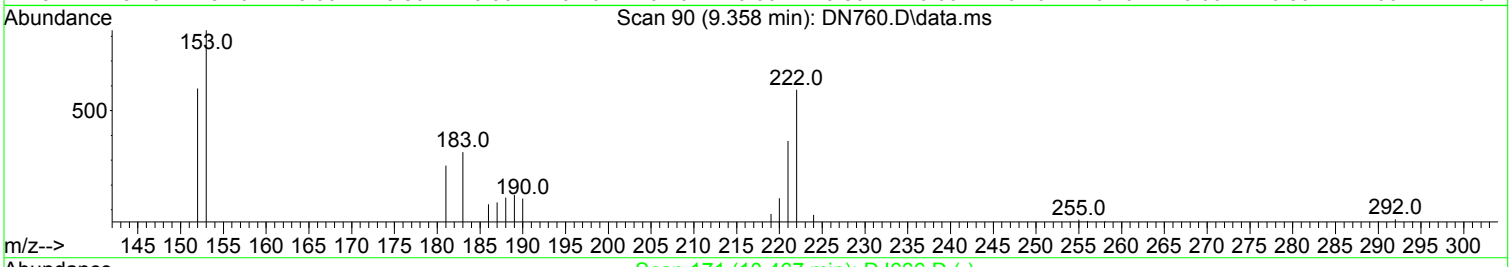


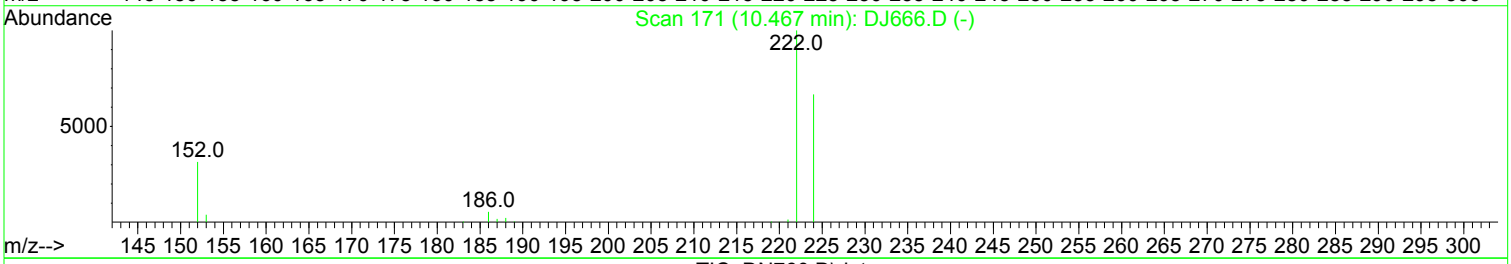
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN760.D
Acq On : 22 Feb 2019 7:11 am
Operator : J.Misiurewicz
Sample : R1901380-010
Misc : 331543 680 PCB
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Feb 22 09:22:13 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN760.D\data.ms

(28) CL2 - #1 (L2)

9.358min (-1.193) 0.00 ppm m

response 930

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	13.53#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

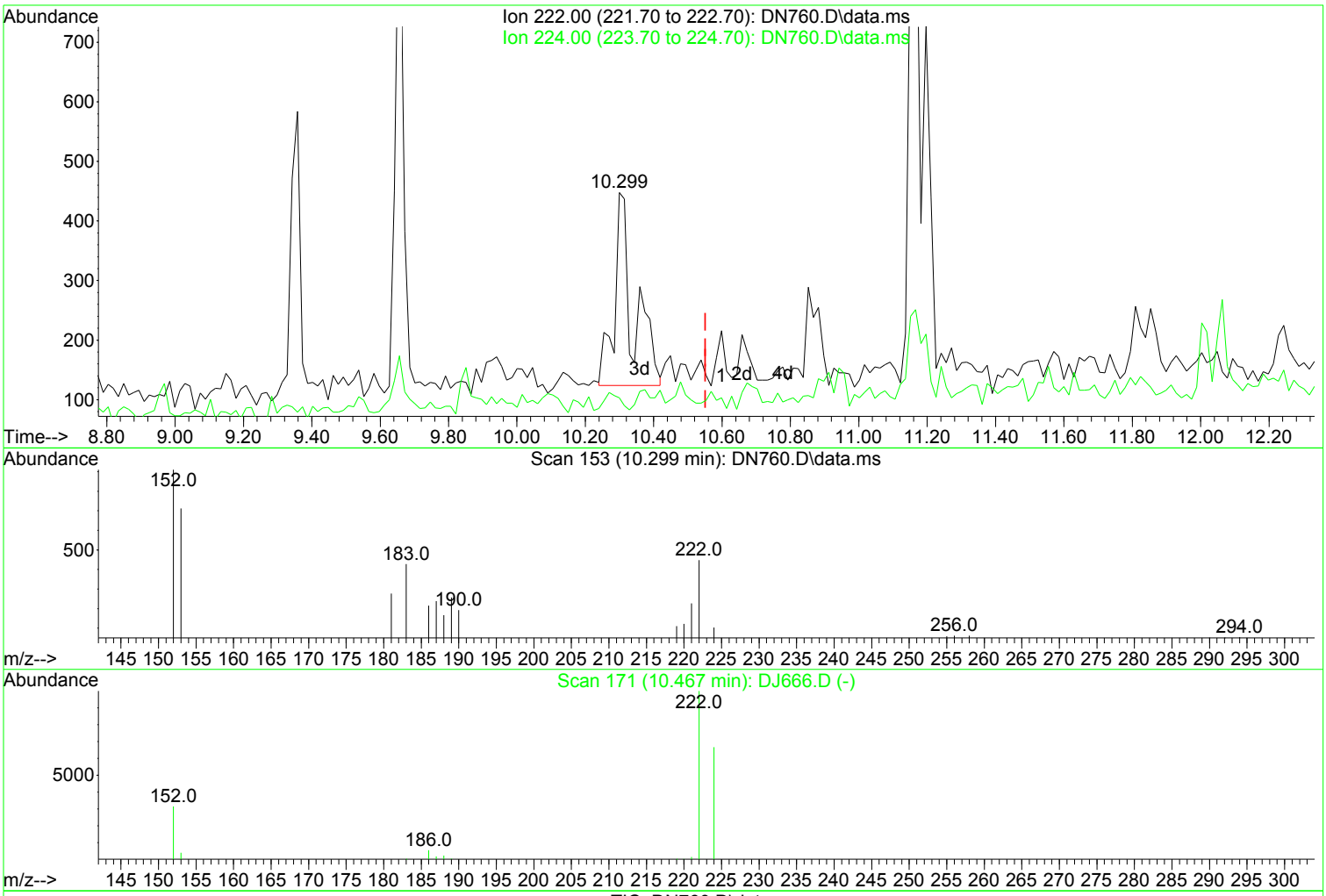
Other -

02/22/19

1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN760.D
Acq On : 22 Feb 2019 7:11 am
Operator : J.Misiurewicz
Sample : R1901380-010
Misc : 331543 680 PCB
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Feb 22 09:22:13 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN760.D\data.ms

(29) CL2 - #2 (L2)

10.299min (-0.252) 0.00 ppm m

response 1257

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	22.99#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

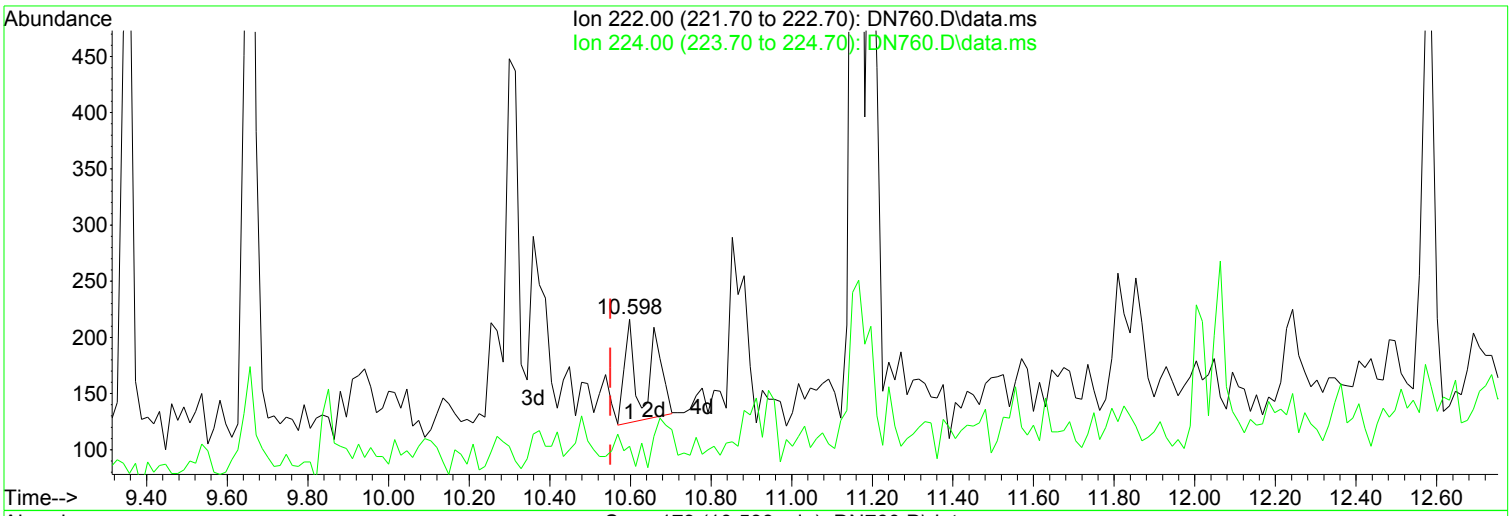
Other -

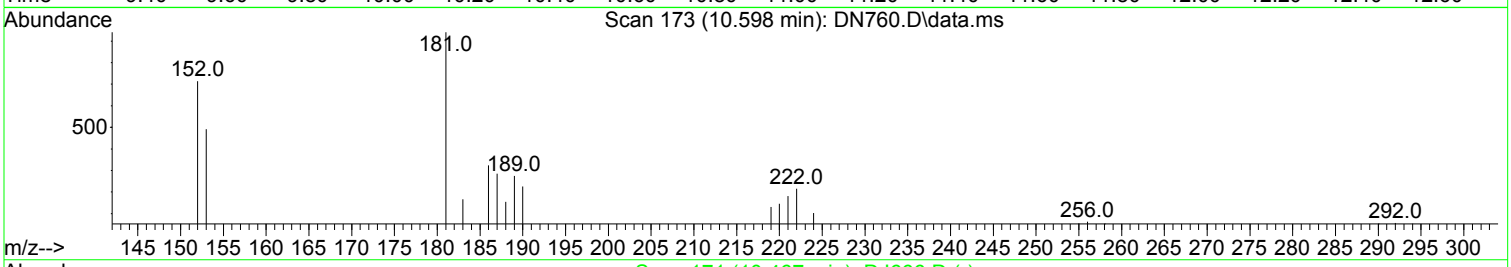
02/22/19

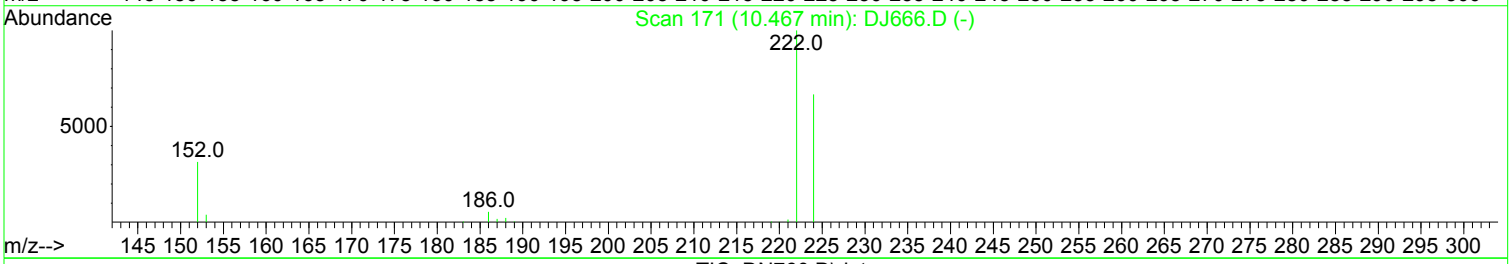
1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN760.D
Acq On : 22 Feb 2019 7:11 am
Operator : J.Misiurewicz
Sample : R1901380-010
Misc : 331543 680 PCB
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Feb 22 09:22:13 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN760.D\data.ms

(30) CL2 - #3 (L2)

10.598min (+ 0.047) 0.00 ppm m

response 316

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	47.69
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

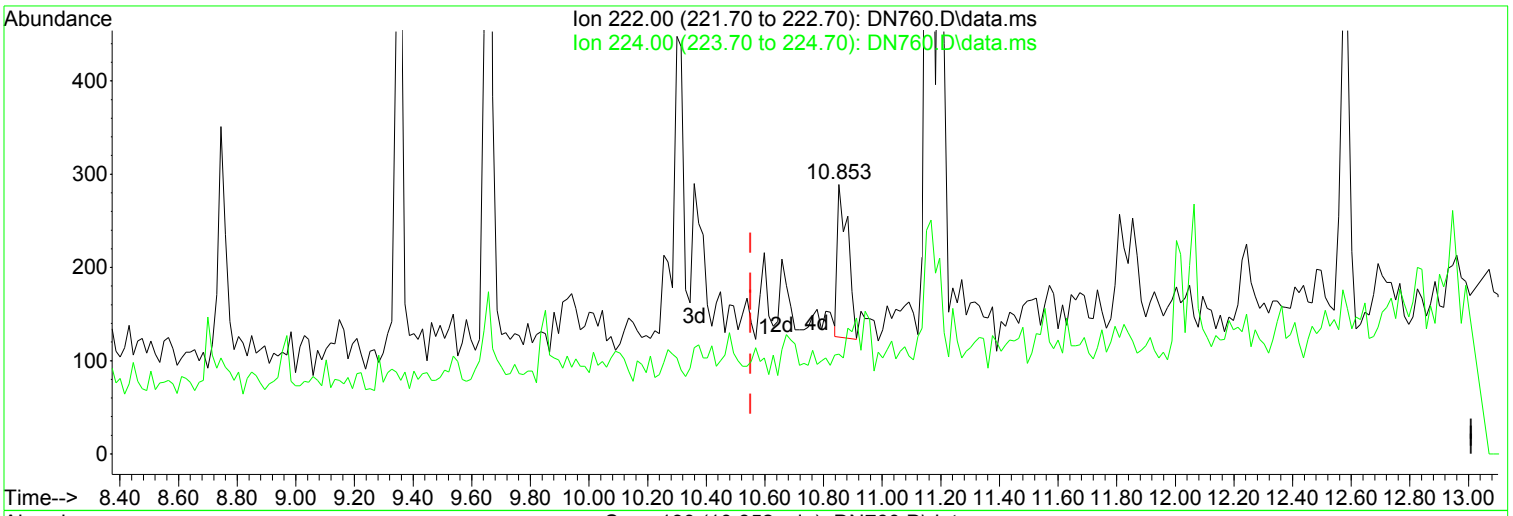
Other -

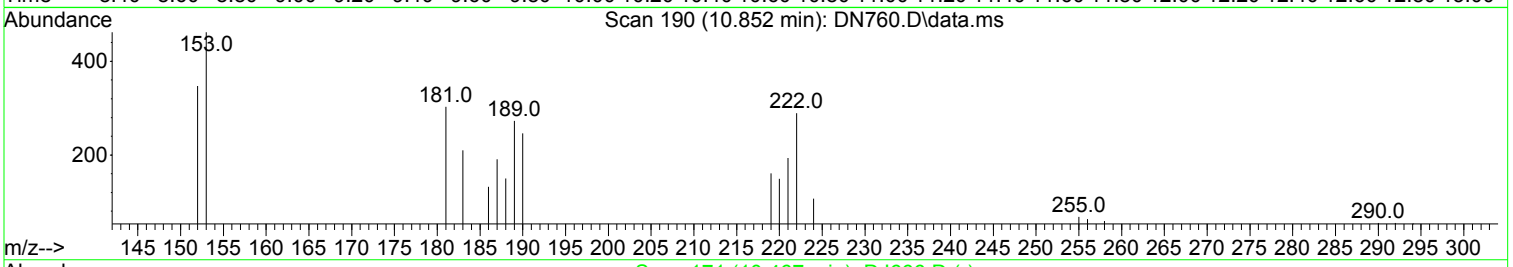
02/22/19

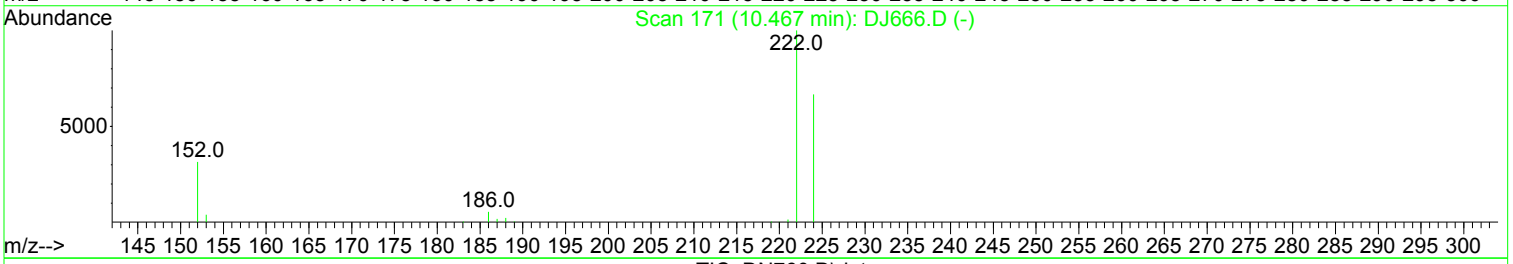
1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN760.D
Acq On : 22 Feb 2019 7:11 am
Operator : J.Misiurewicz
Sample : R1901380-010
Misc : 331543 680 PCB
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Feb 22 09:22:13 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN760.D\data.ms

(31) CL2 - #4 (L2)

10.852min (+ 0.301) 0.00 ppm m

response 410

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	37.02
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

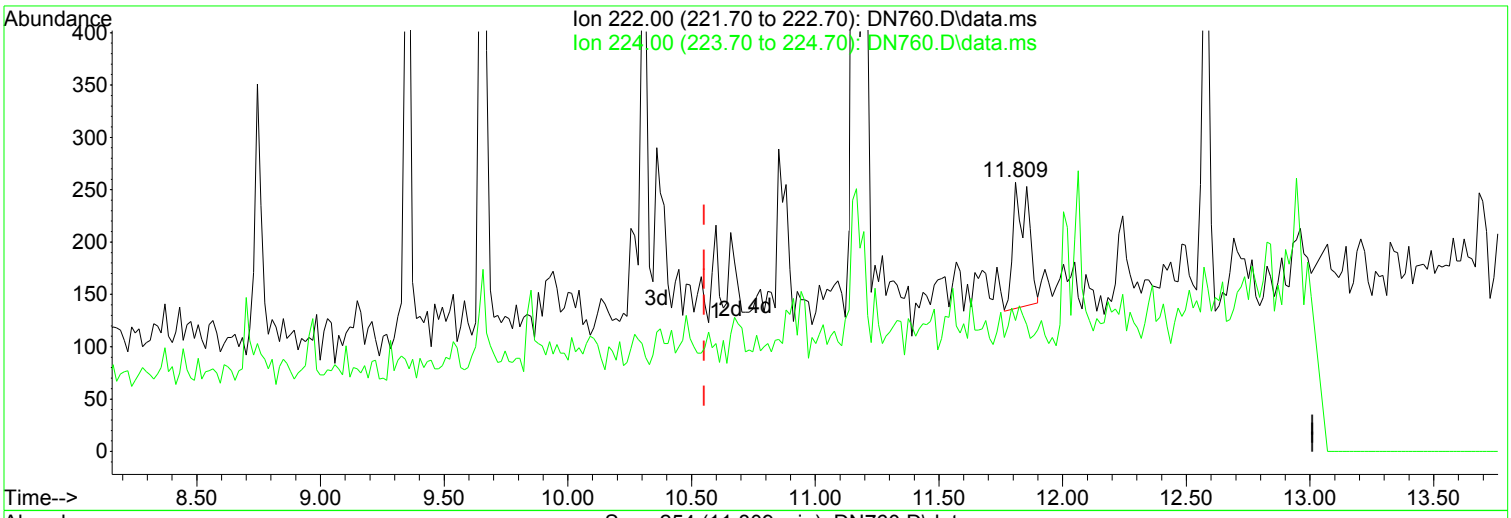
Other -

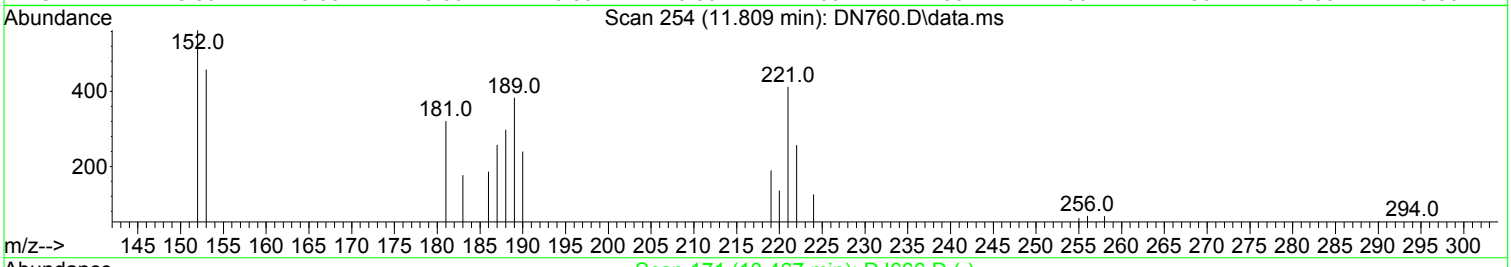
02/22/19

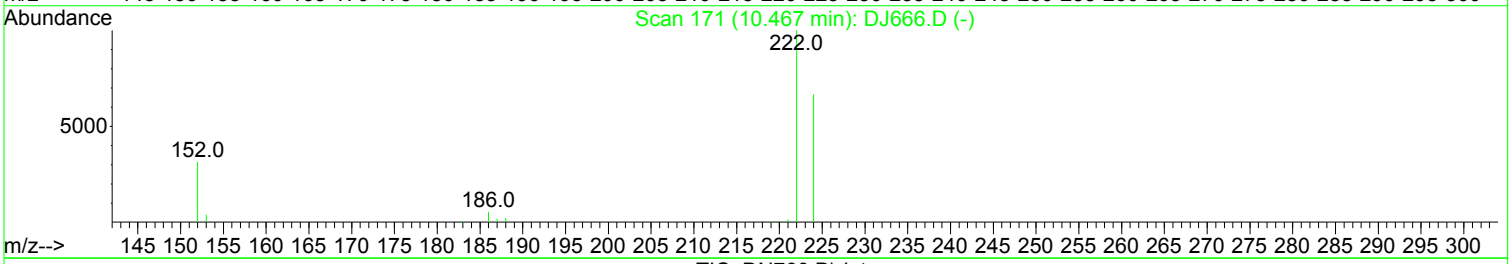
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN760.D
Acq On : 22 Feb 2019 7:11 am
Operator : J.Misiurewicz
Sample : R1901380-010
Misc : 331543 680 PCB
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Feb 22 09:22:13 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN760.D\data.ms

(32) CL2 - #5 (L2)

11.809min (+ 1.258) 0.00 ppm m

response 487

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	48.64
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

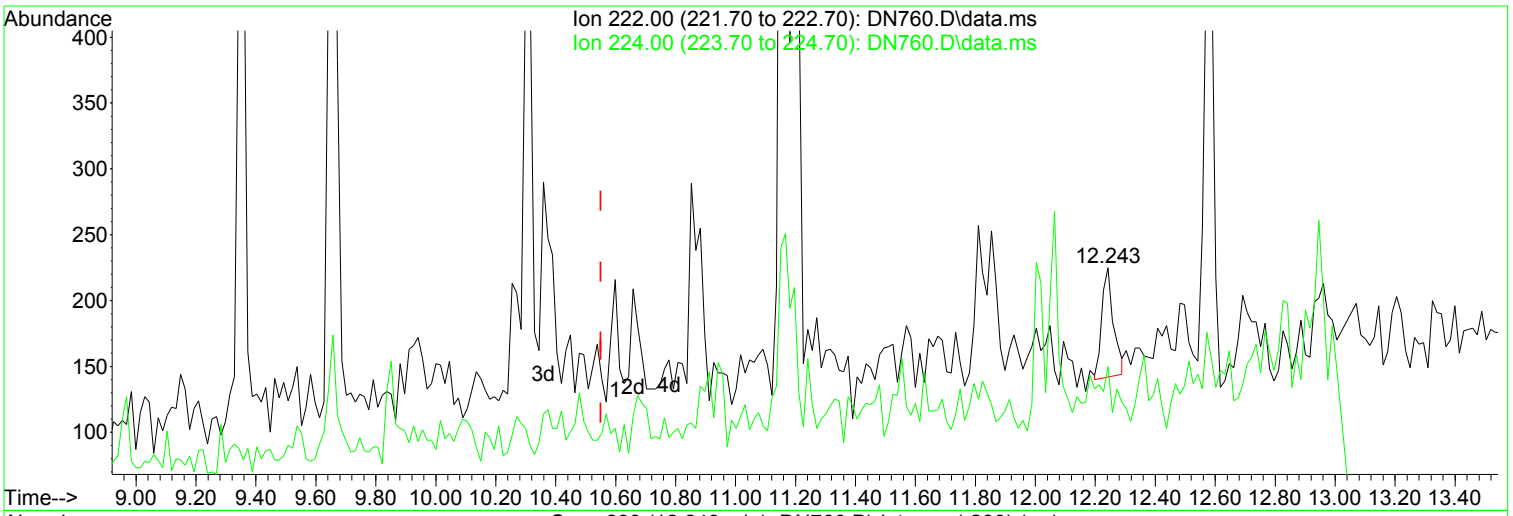
Other -

02/22/19

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN760.D
Acq On : 22 Feb 2019 7:11 am
Operator : J.Misiurewicz
Sample : R1901380-010
Misc : 331543 680 PCB
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Feb 22 09:22:13 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN760.D\data.ms

(33) CL2 - #6 (L2)

12.243min (+ 1.692) 0.00 ppm m

response 224

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	66.67
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

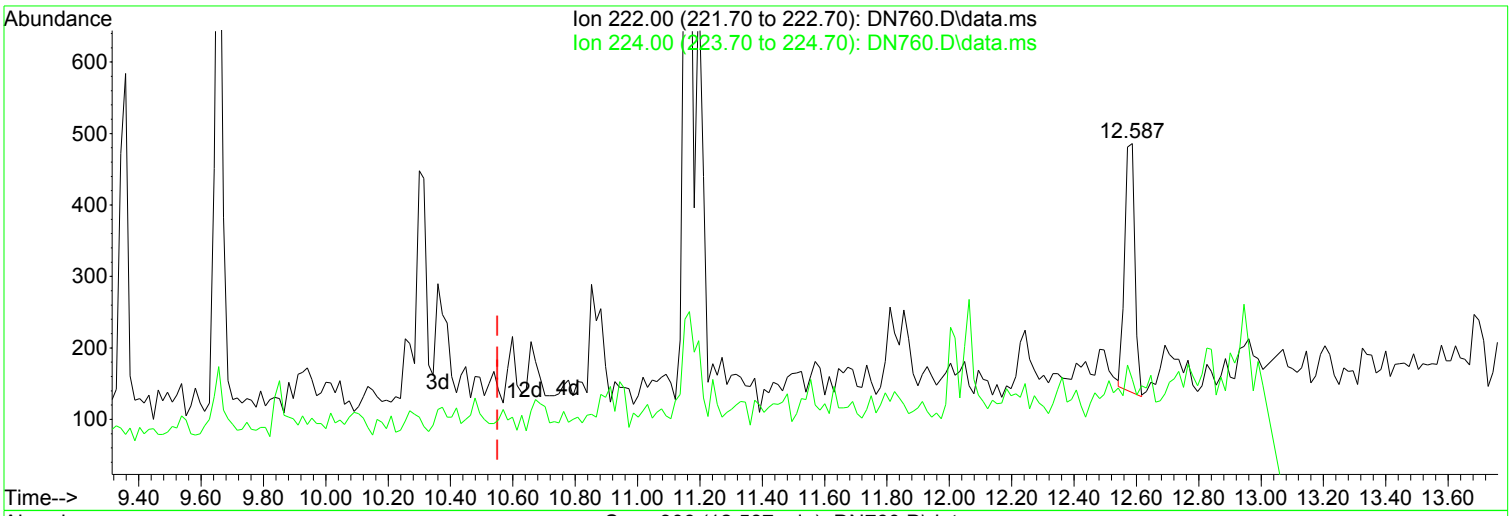
Other -

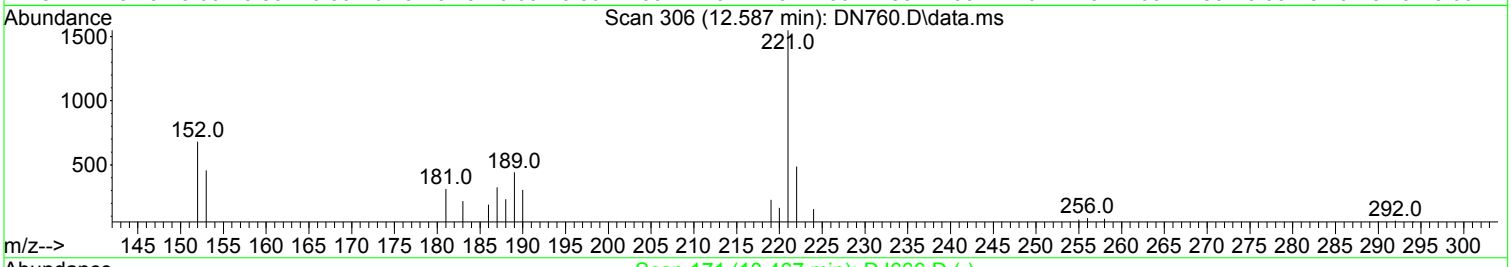
02/22/19

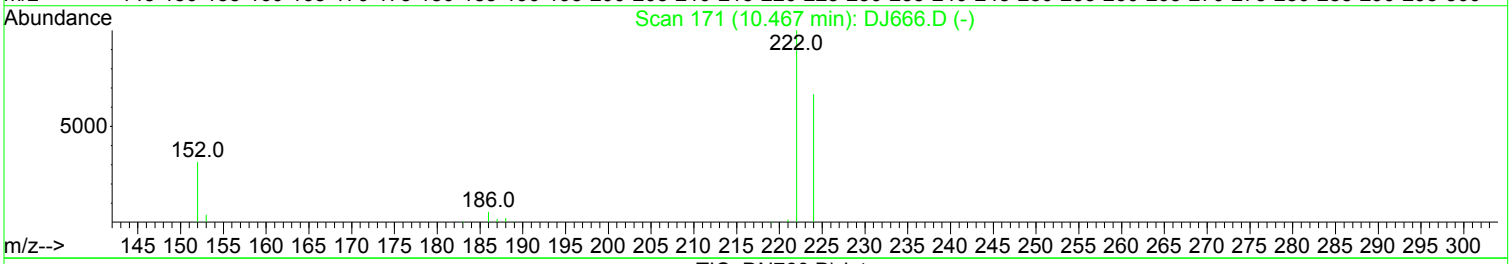
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN760.D
Acq On : 22 Feb 2019 7:11 am
Operator : J.Misiurewicz
Sample : R1901380-010
Misc : 331543 680 PCB
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Feb 22 09:22:13 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN760.D\data.ms

(34) CL2 - #7 (L2)

12.587min (+ 2.036) 0.00 ppm m

response 787

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	32.10
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Other -

02/22/19

1st 02/22/19
2nd 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN760.D
Acq On : 22 Feb 2019 7:11 am
Operator : J.Misiurewicz
Sample : R1901380-010
Misc : 331543 680 PCB
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Feb 22 09:22:13 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

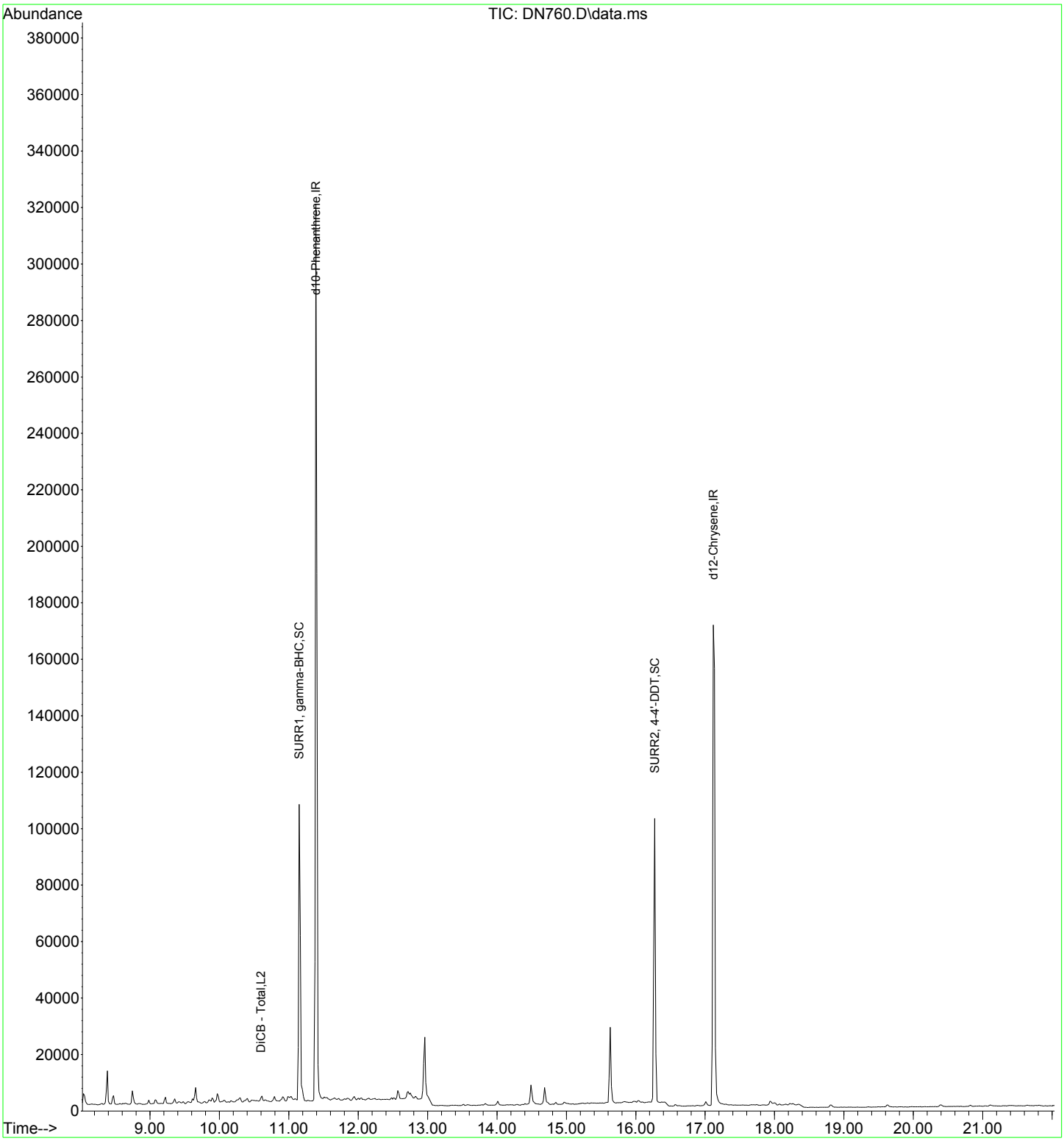
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.391	188	362064	0.75	ppm	0.00
2) d12-Chrysene	17.118	240	286901	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.151	219	39065	0.83	ppm	0.00
Spiked Amount 1.000	Range 55 - 133		Recovery = 83.00%			
13) SURR2, 4-4'-DDT	16.274	235	76378	0.72	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 72.00%			
Target Compounds						Qvalue
38) DiCB - Total	10.598	222	4411m	0.018	ppm	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN760.D
Acq On : 22 Feb 2019 7:11 am
Operator : J.Misiurewicz
Sample : R1901380-010
Misc : 331543 680 PCB
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Feb 22 09:22:13 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



1st DM 02/22/19
2nd MP 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN734.D
Acq On : 21 Feb 2019 6:55 pm
Operator : J.Misiurewicz
Sample : R1901380-011
Misc : 331543 680 PCB
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 22 08:03:45 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

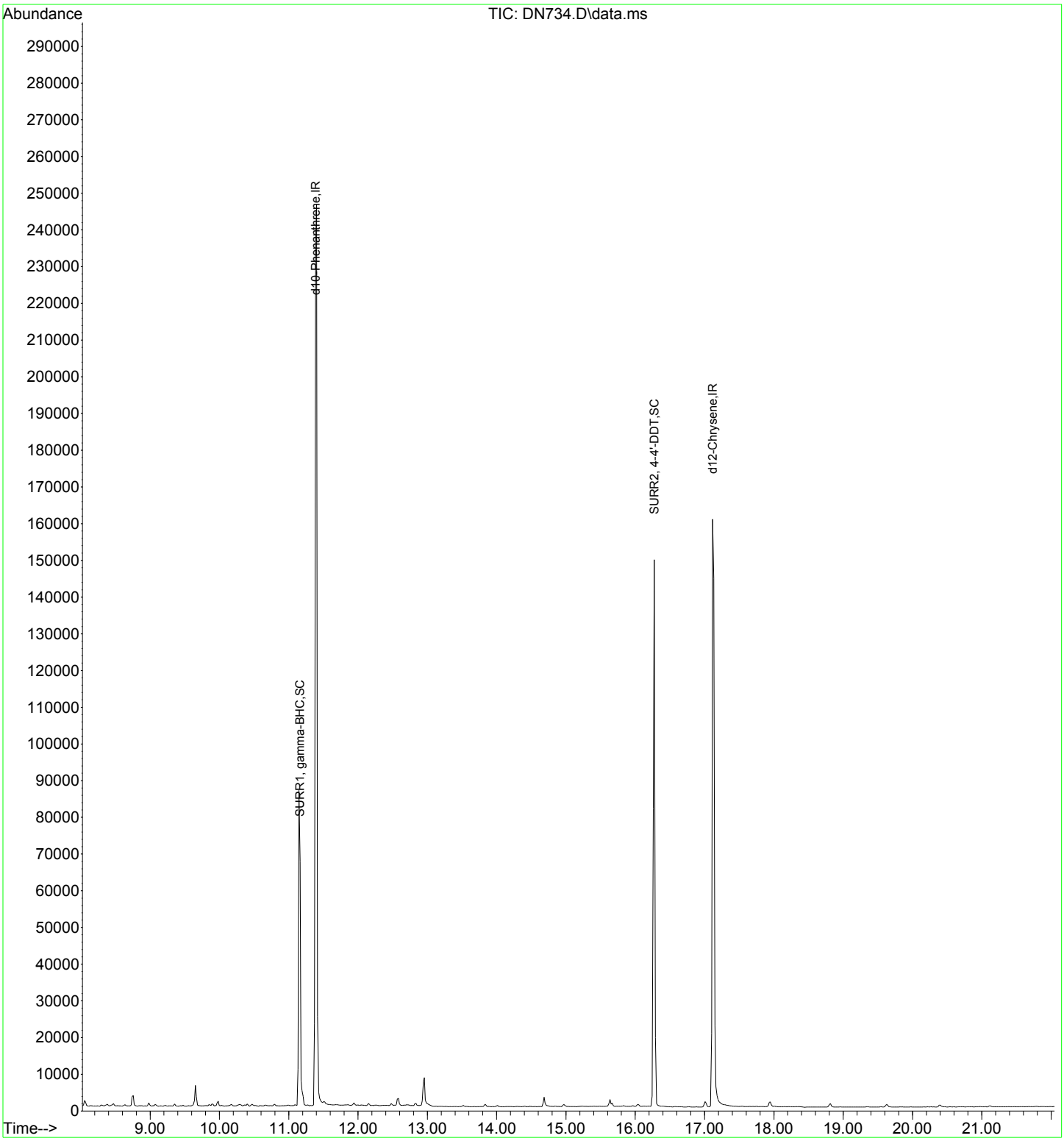
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.387	188	339399	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	283102	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.163	219	35454	0.77	ppm	0.01
Spiked Amount 1.000	Range 55 - 133		Recovery = 77.00%			
13) SURR2, 4-4'-DDT	16.275	235	116563	1.11	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 111.00%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN734.D
Acq On : 21 Feb 2019 6:55 pm
Operator : J.Misiurewicz
Sample : R1901380-011
Misc : 331543 680 PCB
ALS Vial : 7 Sample Multiplier: 1

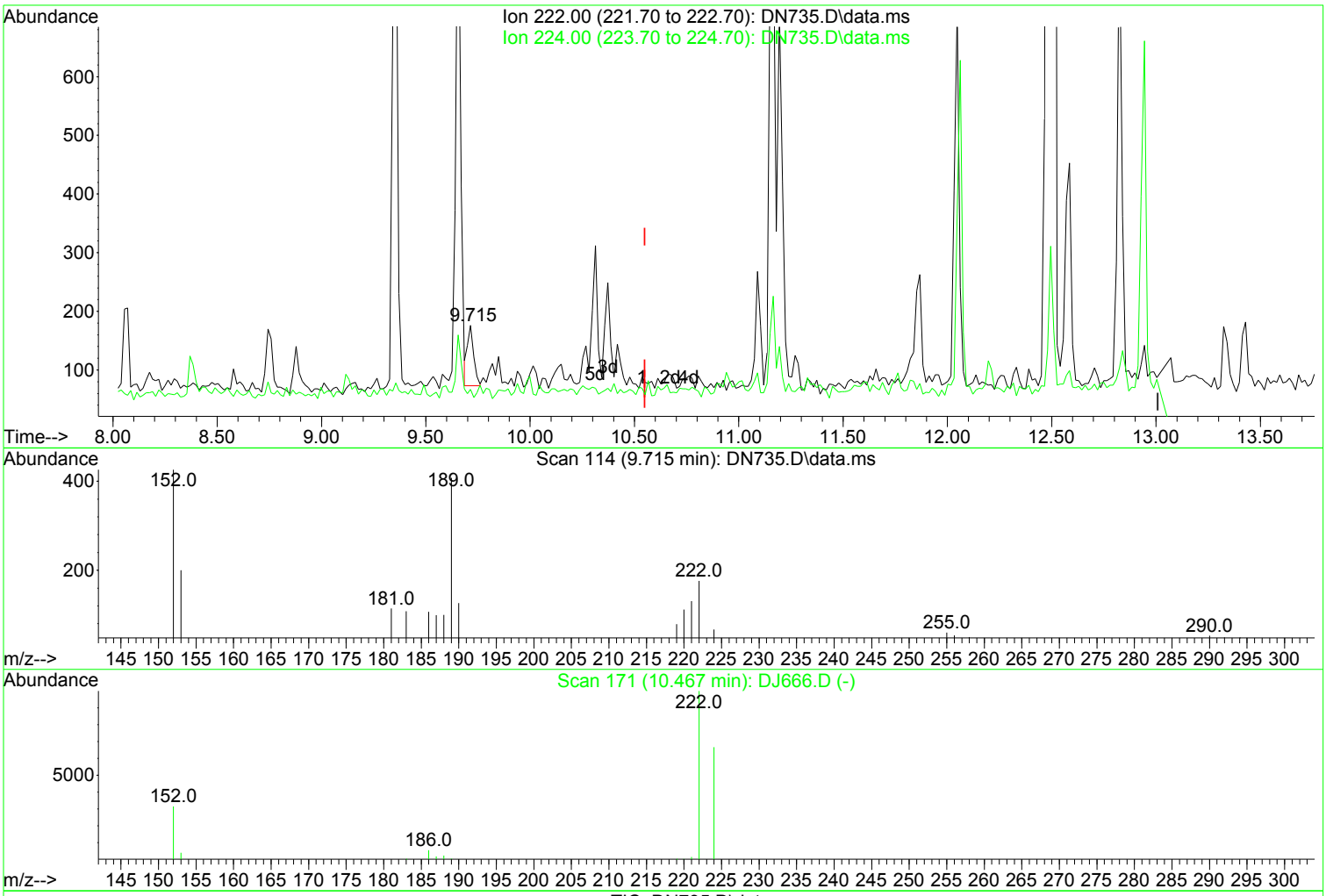
Quant Time: Feb 22 08:03:45 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN735.D
Acq On : 21 Feb 2019 7:24 pm
Operator : J.Misiurewicz
Sample : R1901380-012
Misc : 331543 680 PCB
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 22 08:03:51 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN735.D\data.ms

(28) CL2 - #1 (L2)

9.715min (-0.836) 0.00 ppm m

response 215

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	38.07
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

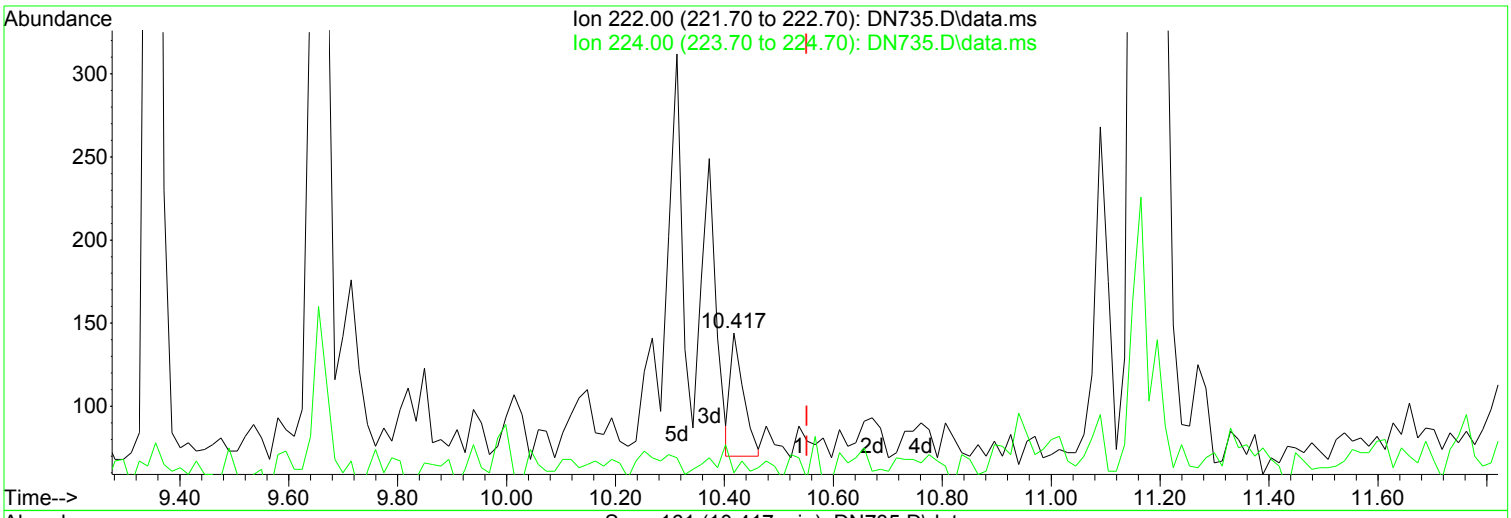
Other -

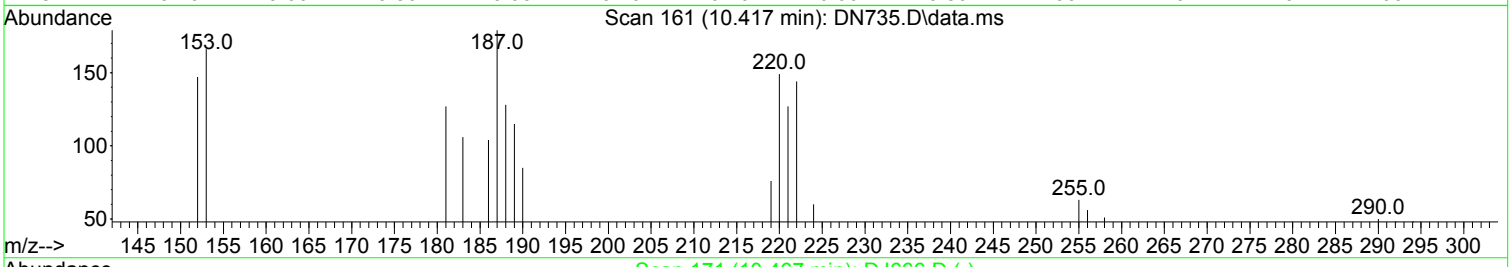
02/22/19

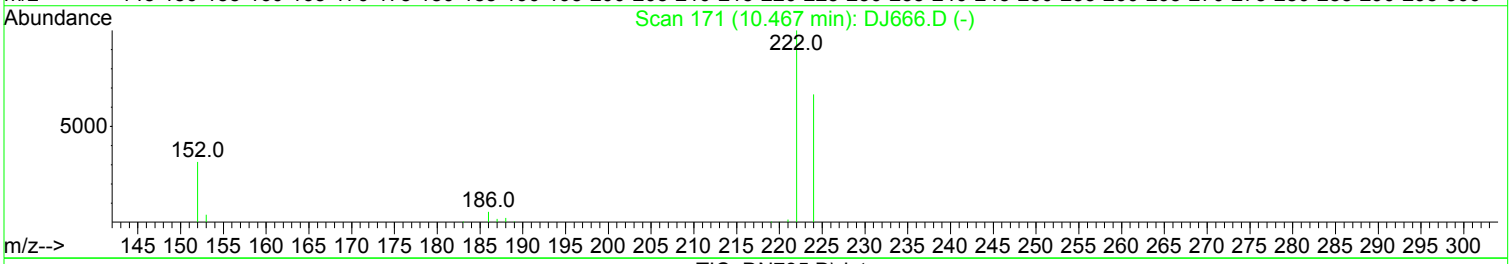
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN735.D
Acq On : 21 Feb 2019 7:24 pm
Operator : J.Misiurewicz
Sample : R1901380-012
Misc : 331543 680 PCB
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 22 08:03:51 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN735.D\data.ms

(29) CL2 - #2 (L2)

10.417min (-0.134) 0.00 ppm m

response 124

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	41.67
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

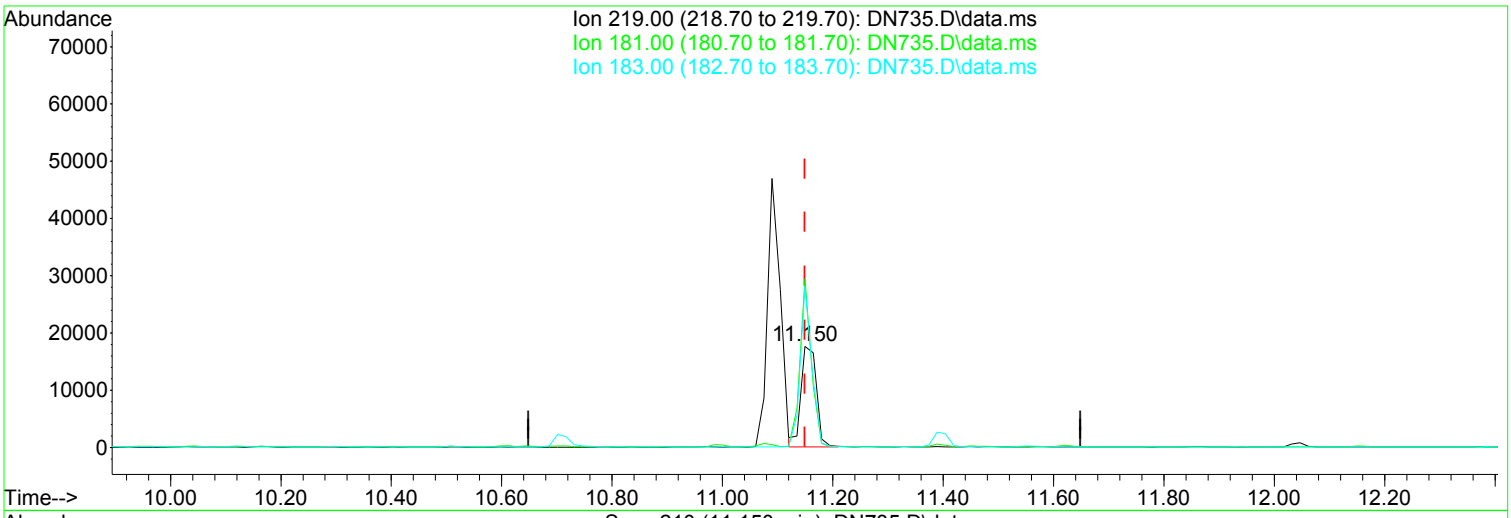
Other -

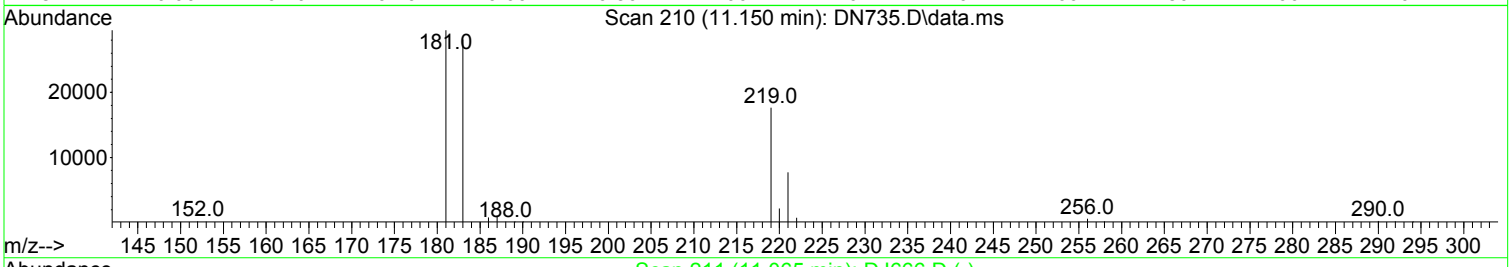
02/22/19

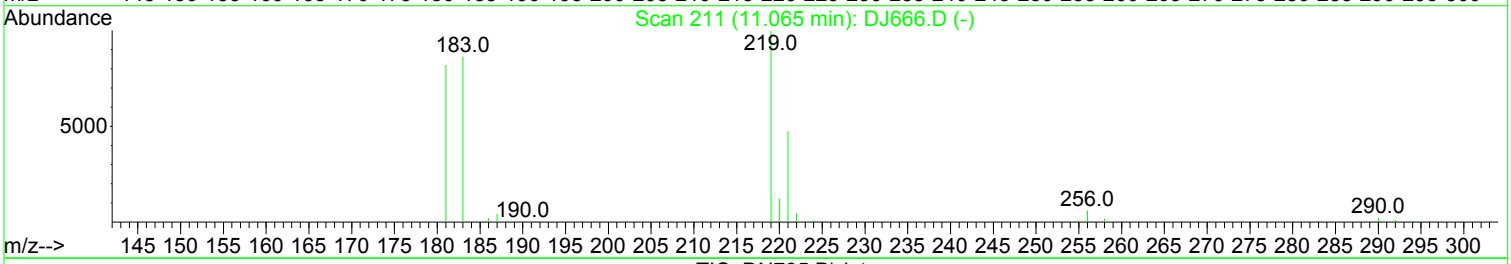
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN735.D
Acq On : 21 Feb 2019 7:24 pm
Operator : J.Misiurewicz
Sample : R1901380-012
Misc : 331543 680 PCB
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 22 08:03:51 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN735.D\data.ms

(5) SURR1, gamma-BHC (SC)

11.150min (+ 0.001) 0.82 ppm m

response 33839

Ion	Exp%	Act%
219.00	100.00	100.00
181.00	137.20	167.16
183.00	135.20	159.01
0.00	0.00	0.00

Manual Integration:

After

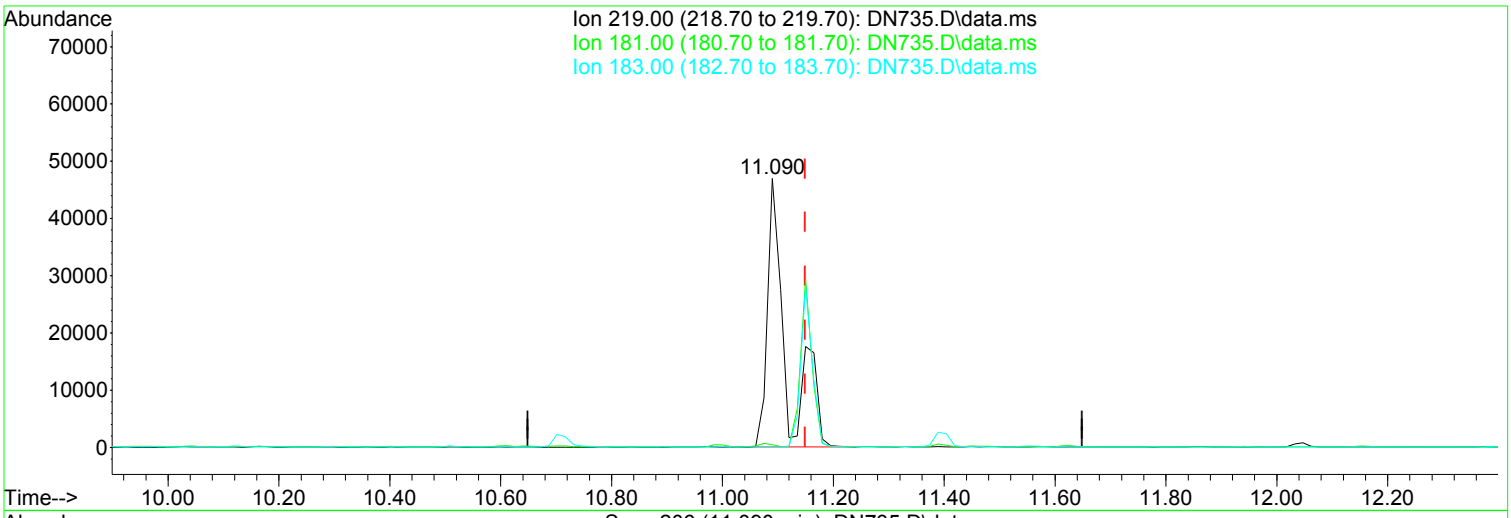
Split Peak.

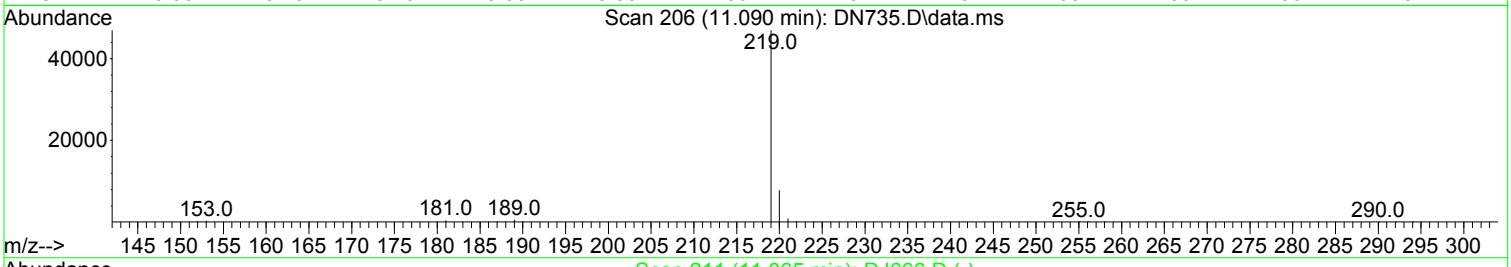
02/22/19

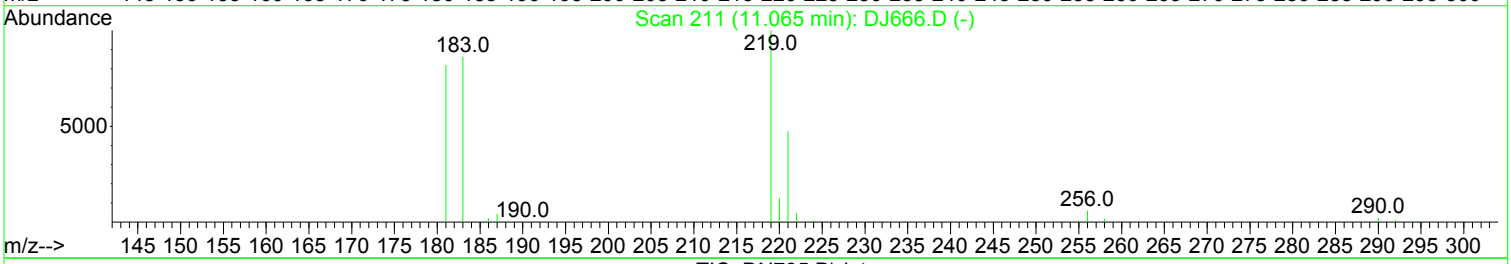
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN735.D
Acq On : 21 Feb 2019 7:24 pm
Operator : J.Misiurewicz
Sample : R1901380-012
Misc : 331543 680 PCB
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 22 08:03:51 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN735.D\data.ms

(5) SURR1, gamma-BHC (SC)

11.090min (-0.059) 2.67 ppm

response 109982

Ion	Exp%	Act%
219.00	100.00	100.00
181.00	137.20	1.03#
183.00	135.20	0.27#
0.00	0.00	0.00

Manual Integration:

Before

02/22/19

1st DM 02/22/19
2nd MP 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN735.D
Acq On : 21 Feb 2019 7:24 pm
Operator : J.Misiurewicz
Sample : R1901380-012
Misc : 331543 680 PCB
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 22 08:03:51 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

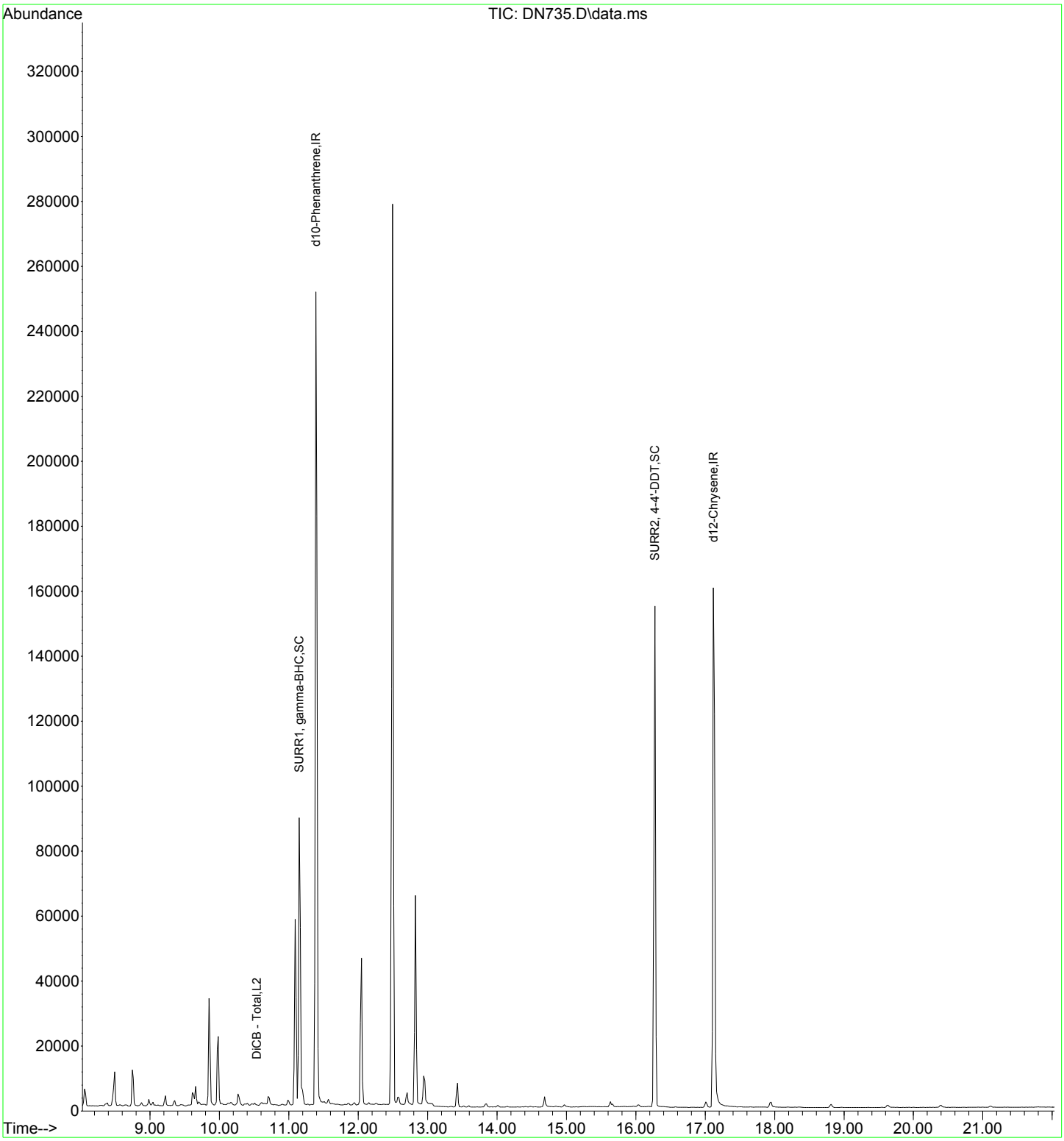
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.389	188	312927	0.75	ppm	0.00
2) d12-Chrysene	17.118	240	252061	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.150	219	33839m	0.82	ppm	0.00
Spiked Amount 1.000	Range 55 - 133		Recovery = 82.00%			
13) SURR2, 4-4'-DDT	16.274	235	115115	1.23	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 123.00%			
Target Compounds						Qvalue
38) DiCB - Total	10.537	222	339m	0.002	ppm	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN735.D
Acq On : 21 Feb 2019 7:24 pm
Operator : J.Misiurewicz
Sample : R1901380-012
Misc : 331543 680 PCB
ALS Vial : 8 Sample Multiplier: 1

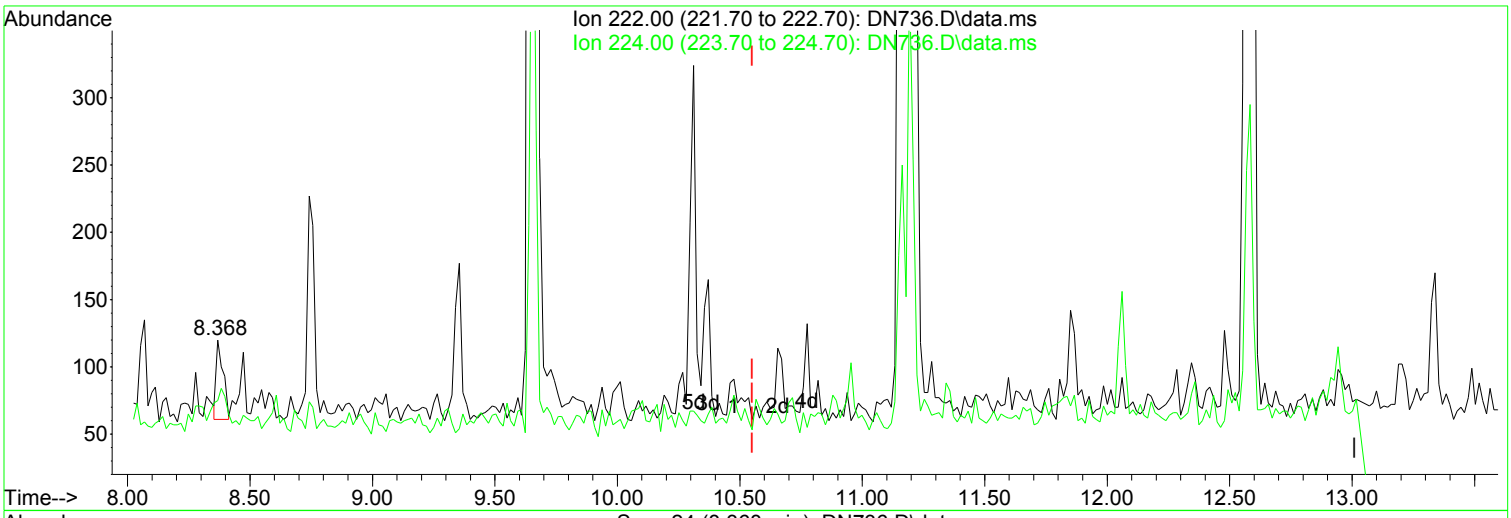
Quant Time: Feb 22 08:03:51 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

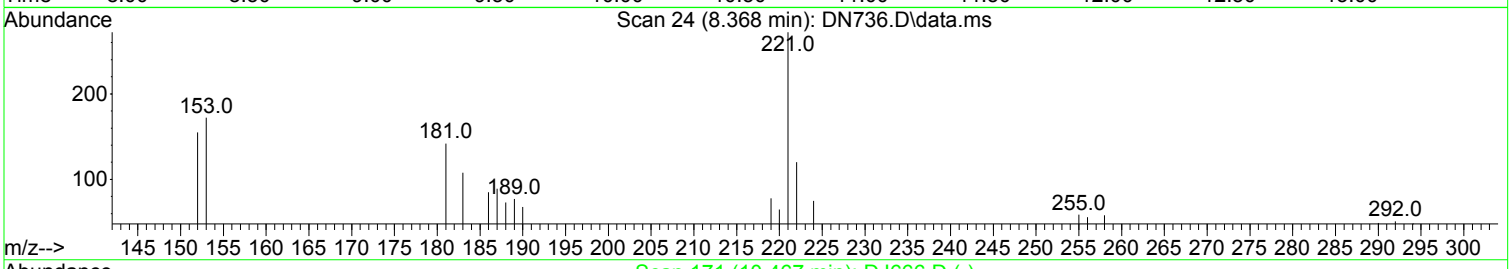


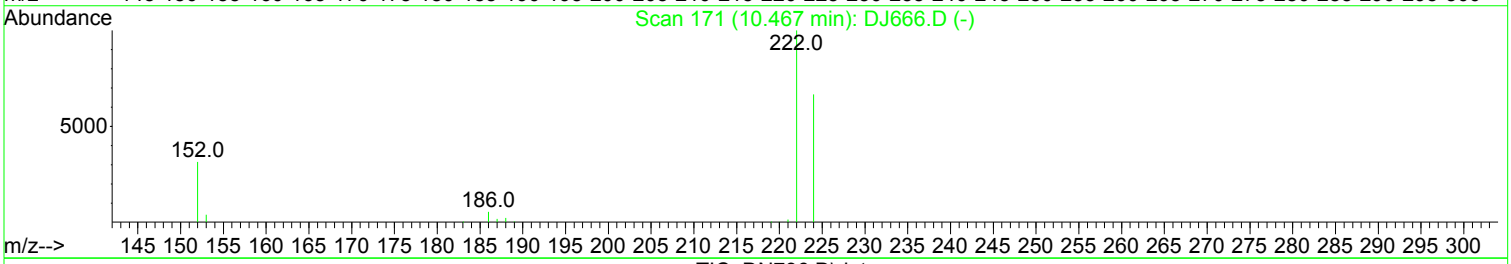
1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN736.D
Acq On : 21 Feb 2019 7:53 pm
Operator : J.Misiurewicz
Sample : R1901380-013
Misc : 331543 680 PCB
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 22 08:03:57 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN736.D\data.ms

(28) CL2 - #1 (L2)

8.368min (-2.183) 0.00 ppm m

response 118

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	62.50
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

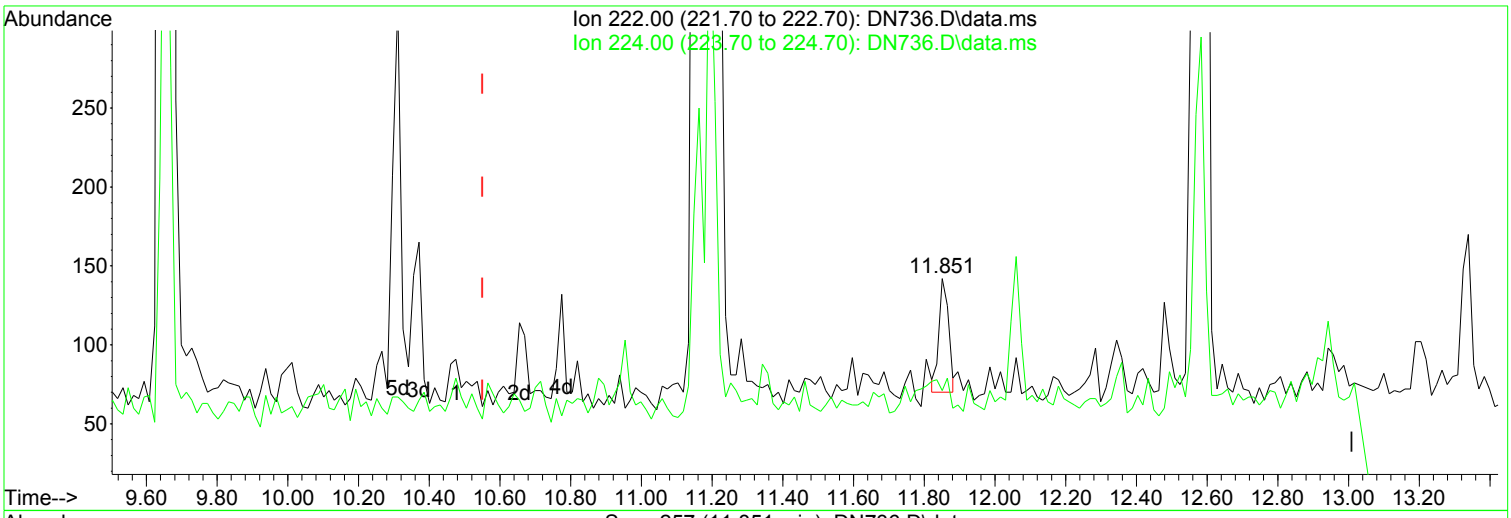
Other -

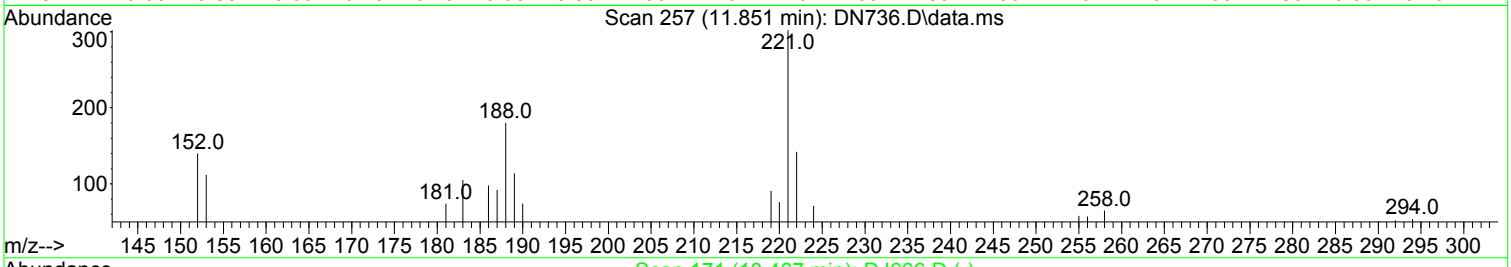
02/22/19

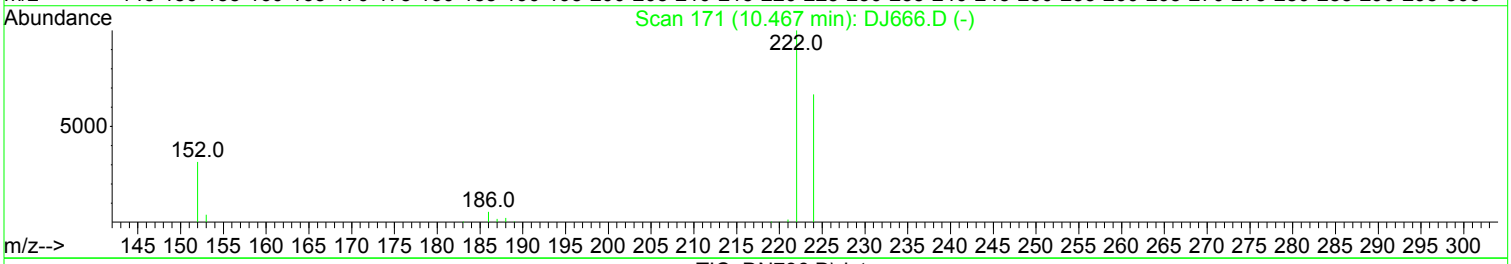
1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN736.D
Acq On : 21 Feb 2019 7:53 pm
Operator : J.Misiurewicz
Sample : R1901380-013
Misc : 331543 680 PCB
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 22 08:03:57 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN736.D\data.ms

(29) CL2 - #2 (L2)

11.851min (+ 1.300) 0.00 ppm m

response 138

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	50.00
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

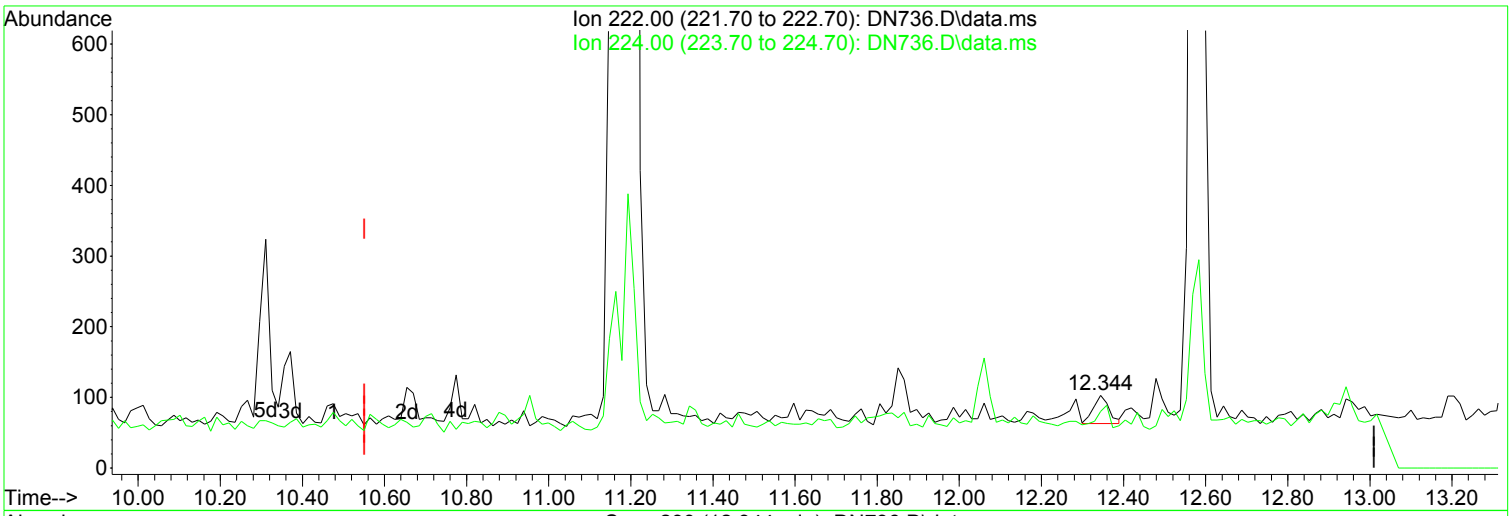
Other -

02/22/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN736.D
Acq On : 21 Feb 2019 7:53 pm
Operator : J.Misiurewicz
Sample : R1901380-013
Misc : 331543 680 PCB
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 22 08:03:57 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN736.D\data.ms

(30) CL2 - #3 (L2)

12.344min (+ 1.793) 0.00 ppm m

response 106

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	77.67
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Other -

02/22/19

1st 02/22/19
2nd 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN736.D
Acq On : 21 Feb 2019 7:53 pm
Operator : J.Misiurewicz
Sample : R1901380-013
Misc : 331543 680 PCB
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 22 08:03:57 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

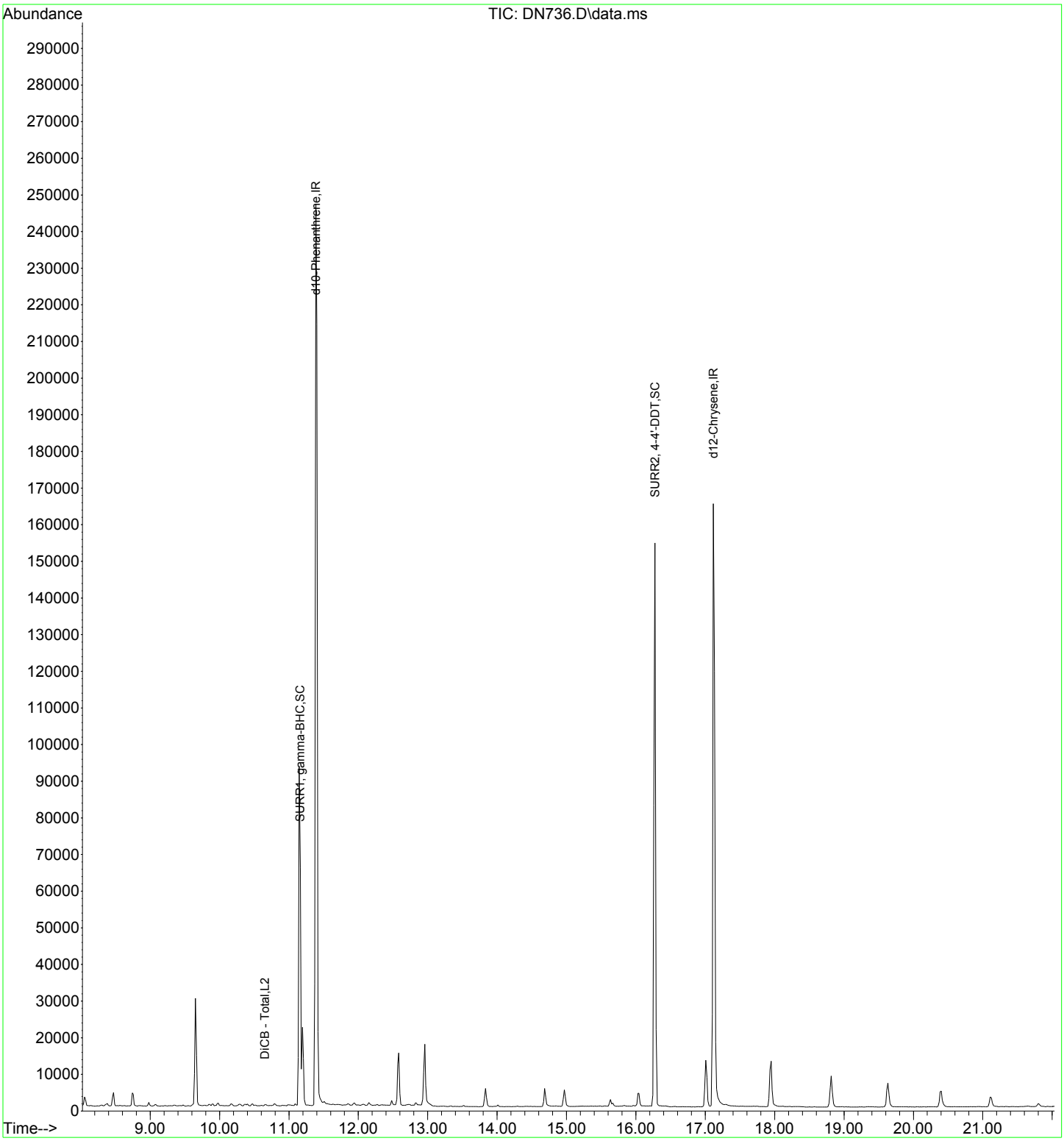
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.387	188	332735	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	264283	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.163	219	37135	0.86	ppm	0.01
Spiked Amount 1.000	Range 55 - 133		Recovery = 86.00%			
13) SURR2, 4-4'-DDT	16.276	235	120296	1.23	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 123.00%			
Target Compounds						Qvalue
38) DiCB - Total	10.655	222	362m	0.002	ppm	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN736.D
Acq On : 21 Feb 2019 7:53 pm
Operator : J.Misiurewicz
Sample : R1901380-013
Misc : 331543 680 PCB
ALS Vial : 9 Sample Multiplier: 1

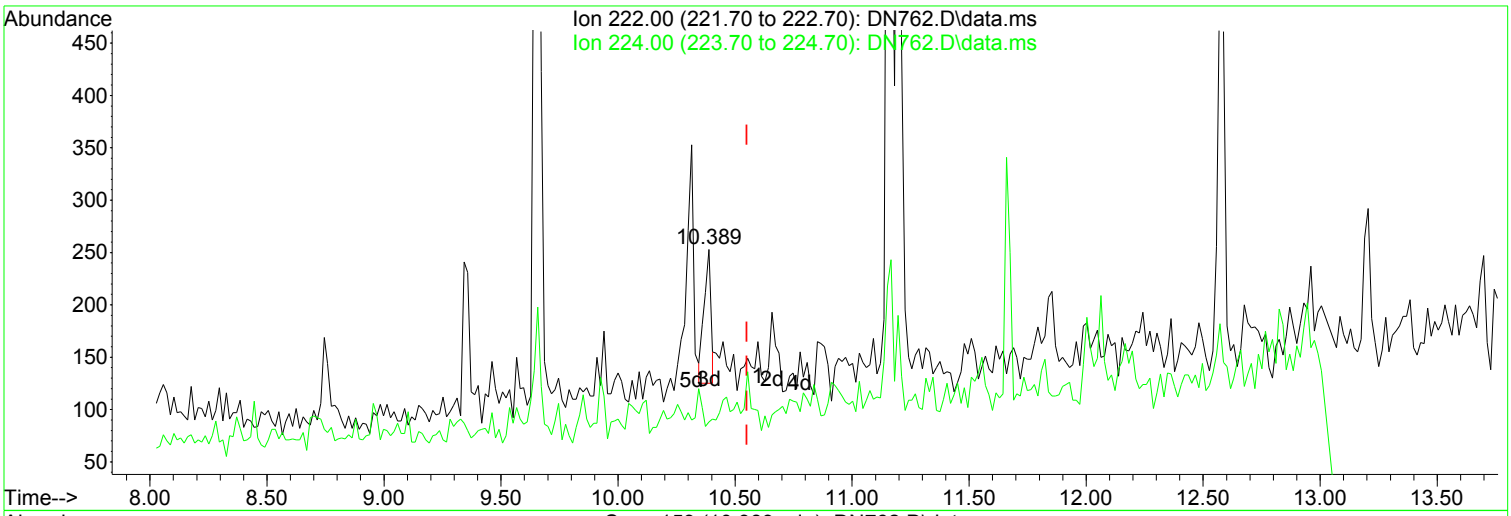
Quant Time: Feb 22 08:03:57 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN762.D
Acq On : 22 Feb 2019 8:09 am
Operator : J.Misiurewicz
Sample : R1901380-014
Misc : 331543 680 PCB
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Feb 22 09:22:19 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN762.D\data.ms

(28) CL2 - #1 (L2)

10.389min (-0.162) 0.00 ppm m

response 270

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	34.78
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

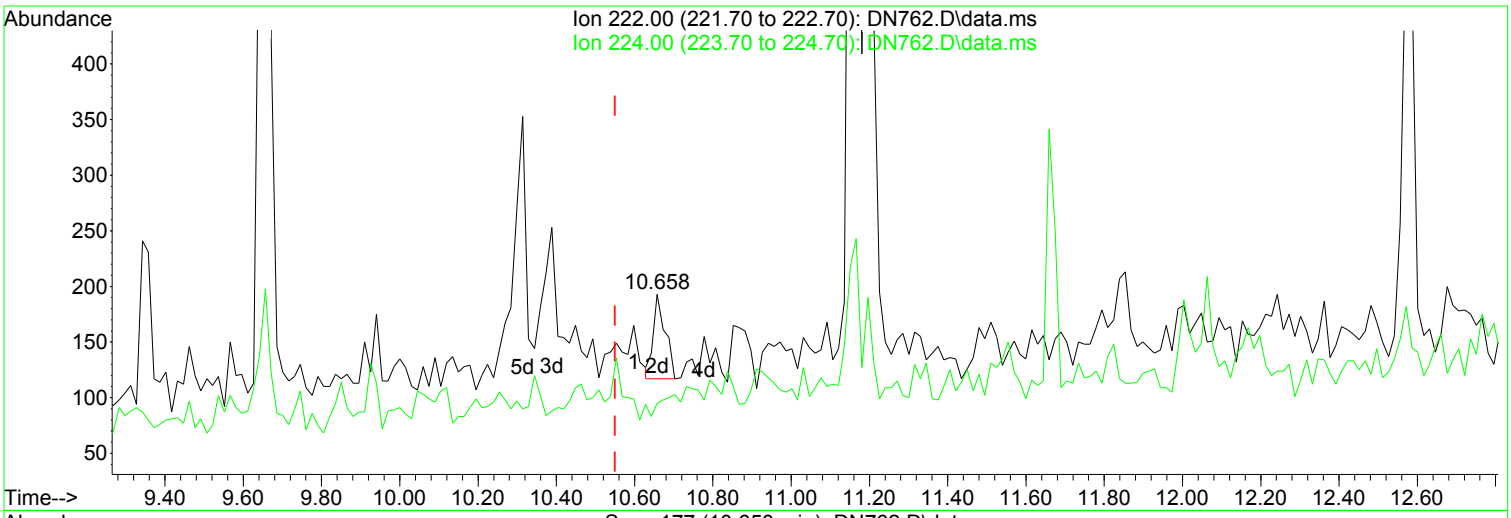
Other -

02/22/19

1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN762.D
Acq On : 22 Feb 2019 8:09 am
Operator : J.Misiurewicz
Sample : R1901380-014
Misc : 331543 680 PCB
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Feb 22 09:22:19 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN762.D\data.ms

(29) CL2 - #2 (L2)

10.658min (+ 0.107) 0.00 ppm m

response 161

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	49.22
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

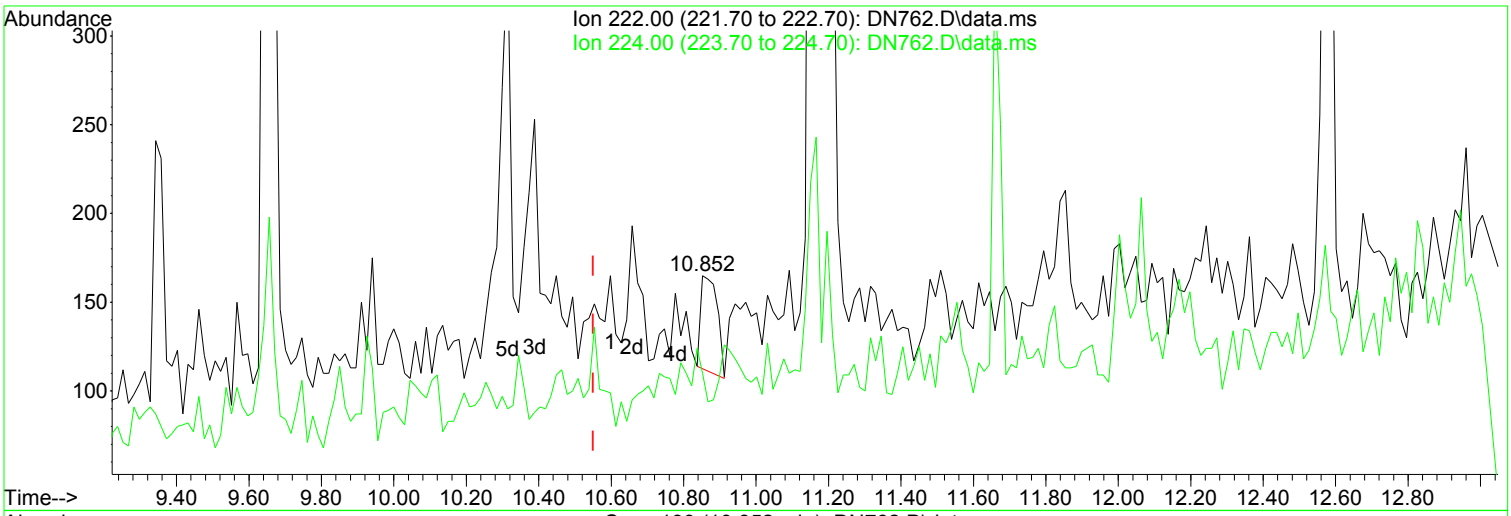
Other -

02/22/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN762.D
Acq On : 22 Feb 2019 8:09 am
Operator : J.Misiurewicz
Sample : R1901380-014
Misc : 331543 680 PCB
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Feb 22 09:22:19 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN762.D\data.ms

(30) CL2 - #3 (L2)

10.852min (+ 0.301) 0.00 ppm m

response 167

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	66.67
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

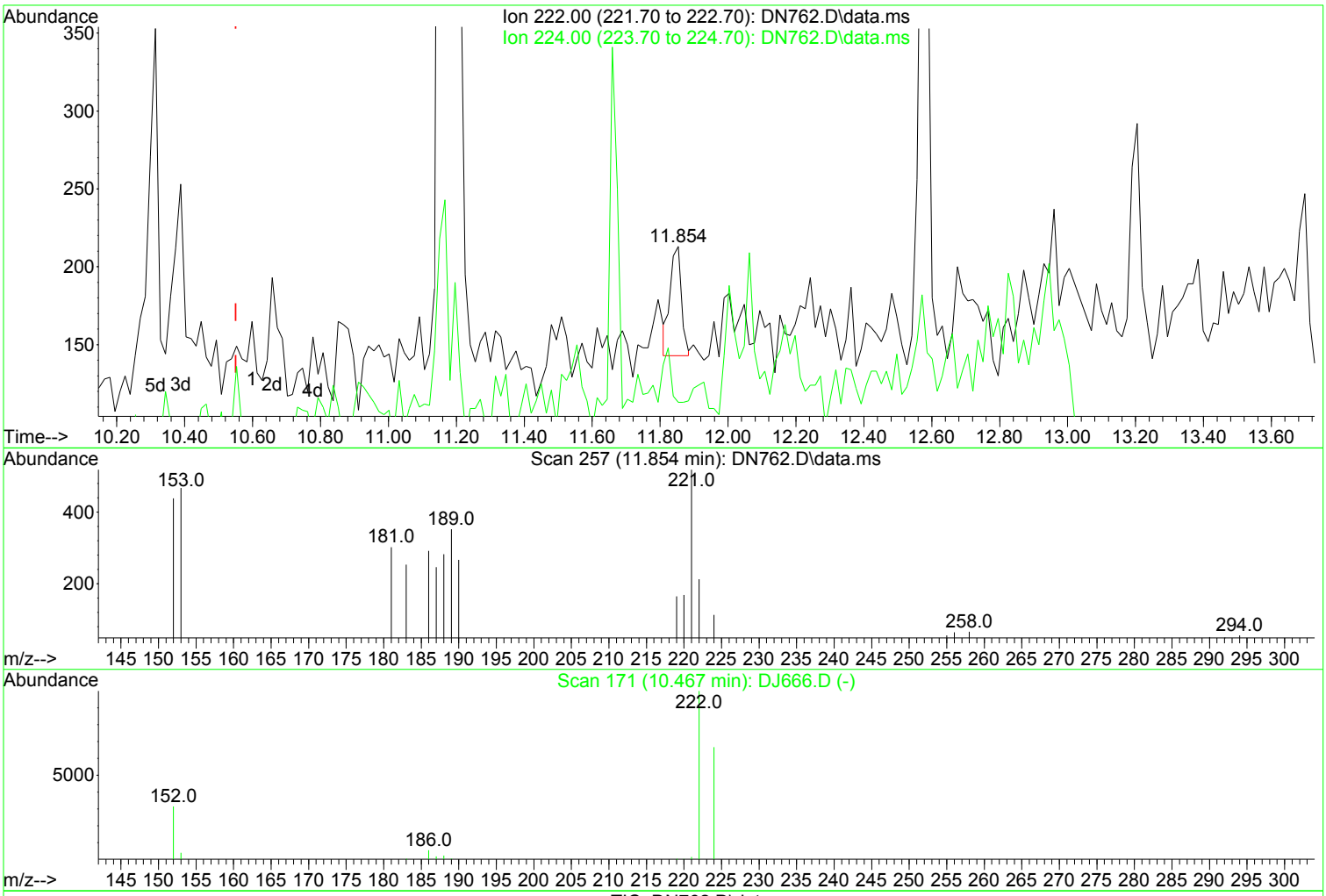
Other -

02/22/19

1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN762.D
Acq On : 22 Feb 2019 8:09 am
Operator : J.Misiurewicz
Sample : R1901380-014
Misc : 331543 680 PCB
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Feb 22 09:22:19 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN762.D\data.ms

(31) CL2 - #4 (L2)

11.854min (+ 1.303) 0.00 ppm m

response 163

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	53.05
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Other -

02/22/19

1st 02/22/19
2nd 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN762.D
Acq On : 22 Feb 2019 8:09 am
Operator : J.Misiurewicz
Sample : R1901380-014
Misc : 331543 680 PCB
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Feb 22 09:22:19 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

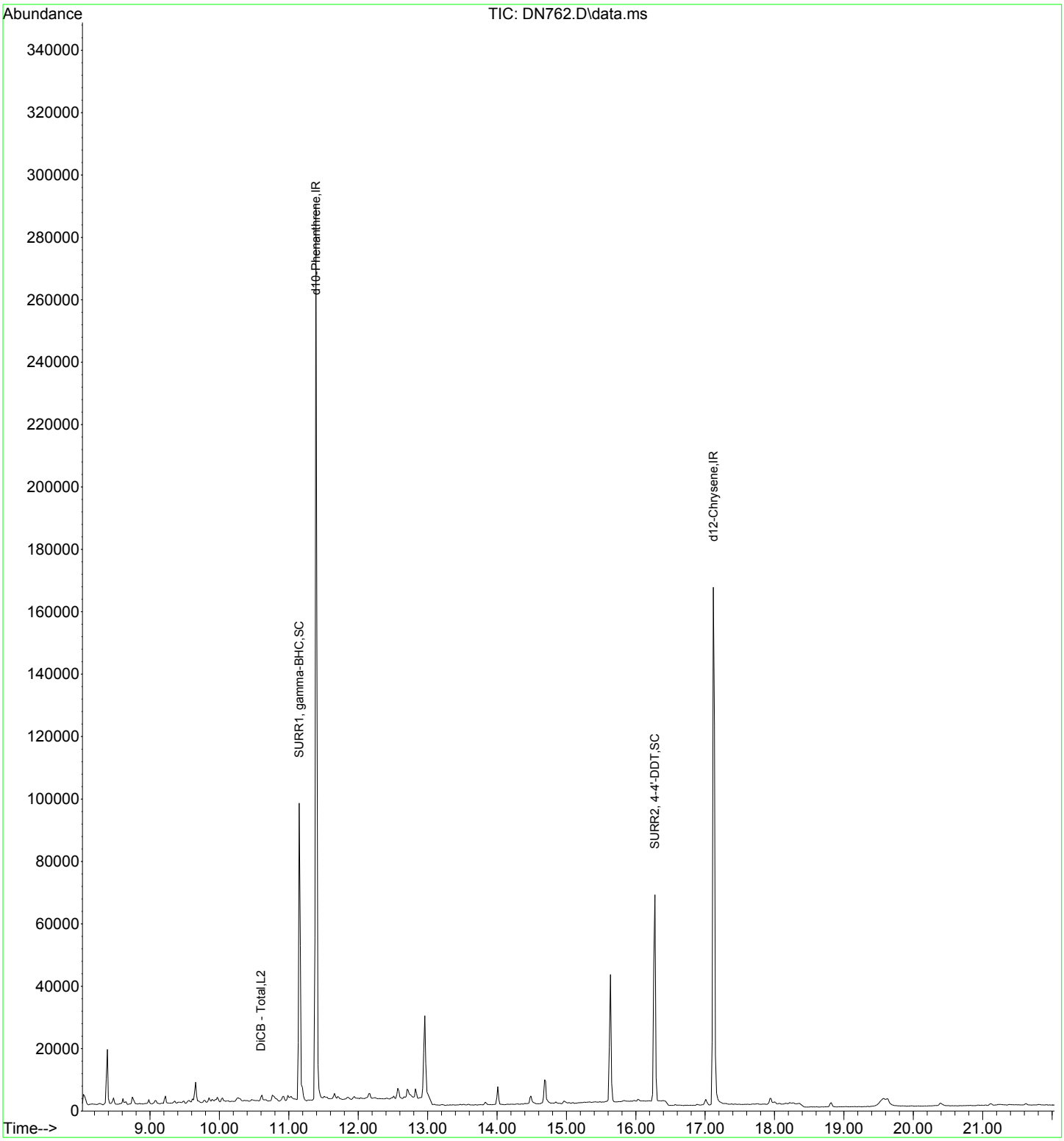
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.390	188	321241	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	253095	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.151	219	34708	0.84	ppm	0.00
Spiked Amount 1.000	Range 55 - 133		Recovery = 84.00%			
13) SURR2, 4-4'-DDT	16.276	235	56555	0.60	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 60.00%			
Target Compounds						Qvalue
38) DiCB - Total	10.598	222	761m	0.004	ppm	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN762.D
Acq On : 22 Feb 2019 8:09 am
Operator : J.Misiurewicz
Sample : R1901380-014
Misc : 331543 680 PCB
ALS Vial : 35 Sample Multiplier: 1

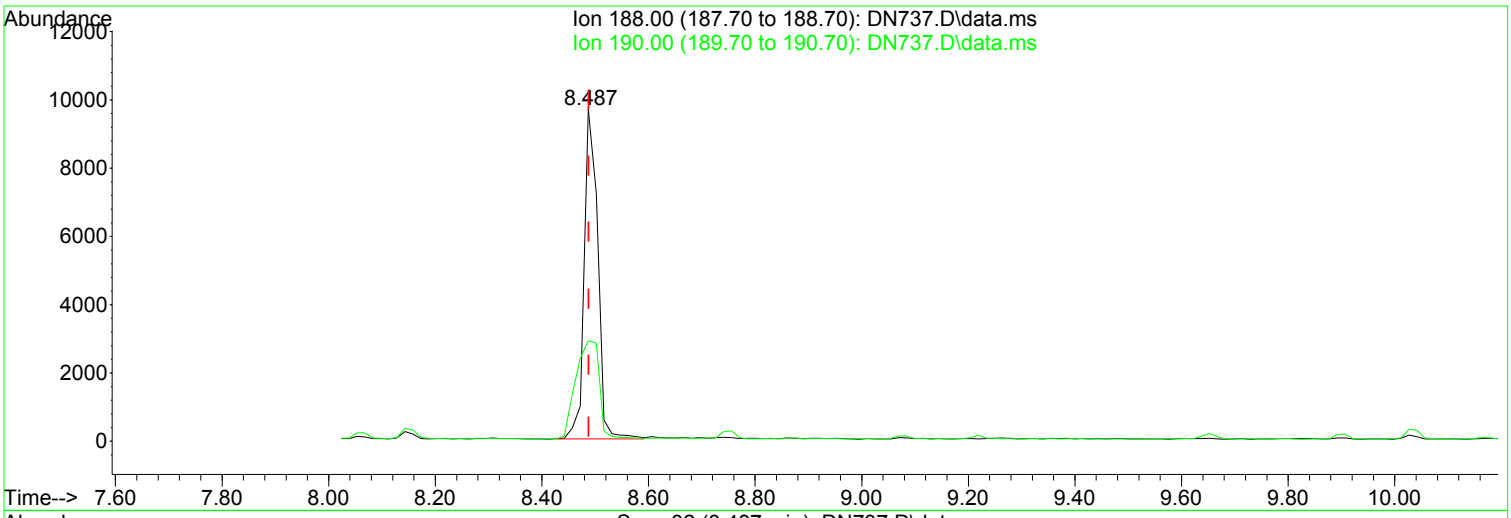
Quant Time: Feb 22 09:22:19 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

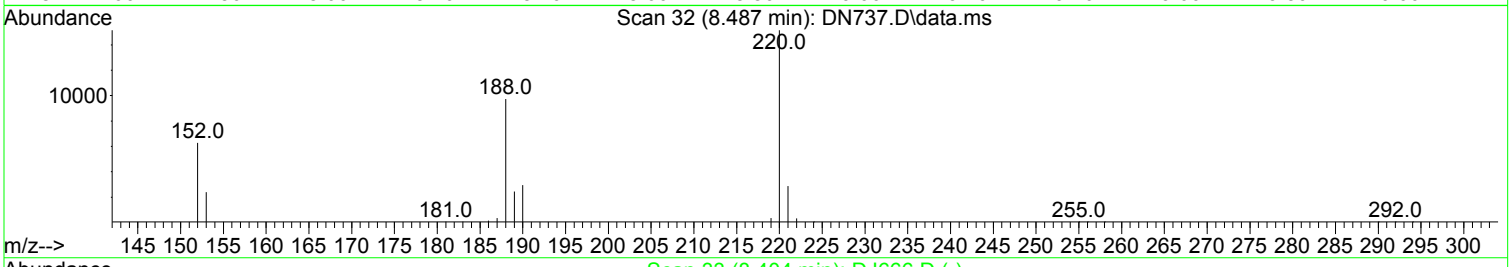


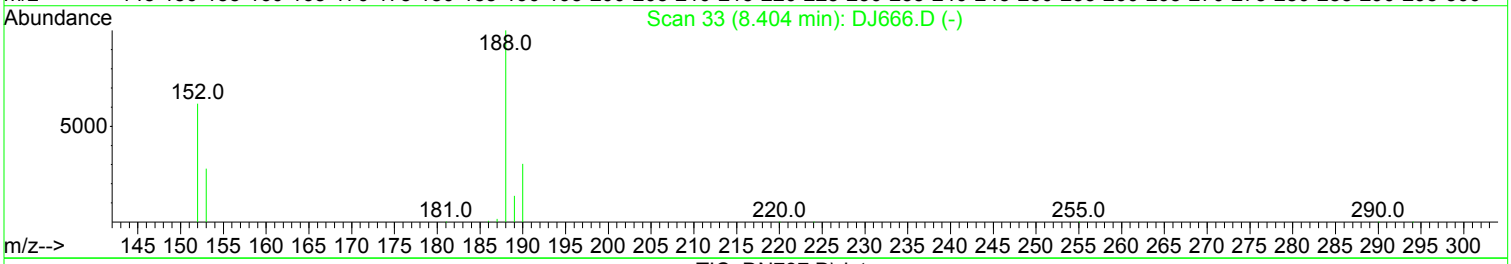
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN737.D
Acq On : 21 Feb 2019 8:22 pm
Operator : J.Misiurewicz
Sample : R1901380-015
Misc : 331543 680 PCB
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 22 08:04:02 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN737.D\data.ms

(17) CL1 - #1 (L1)

8.487min (-0.001) 0.00 ppm m

response 17245

Ion	Exp%	Act%
188.00	100.00	100.00
190.00	33.30	30.30
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

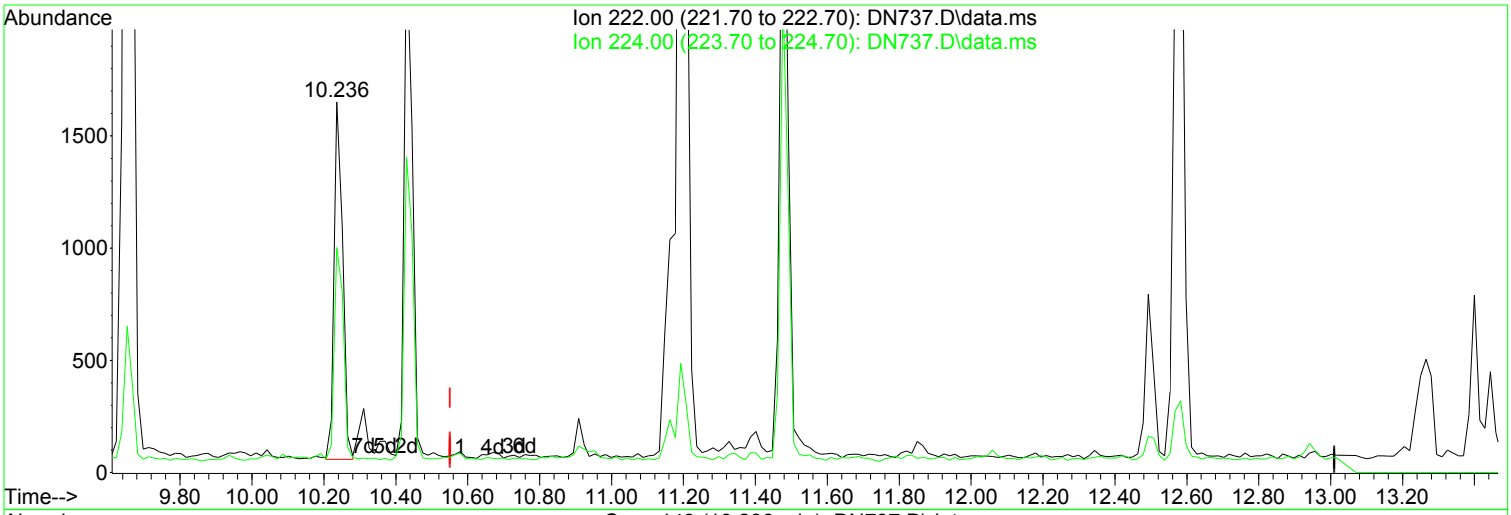
Other -

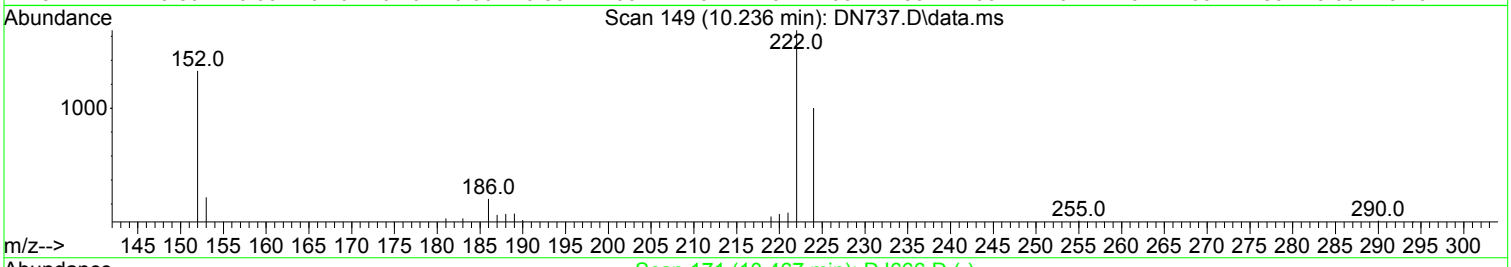
02/22/19

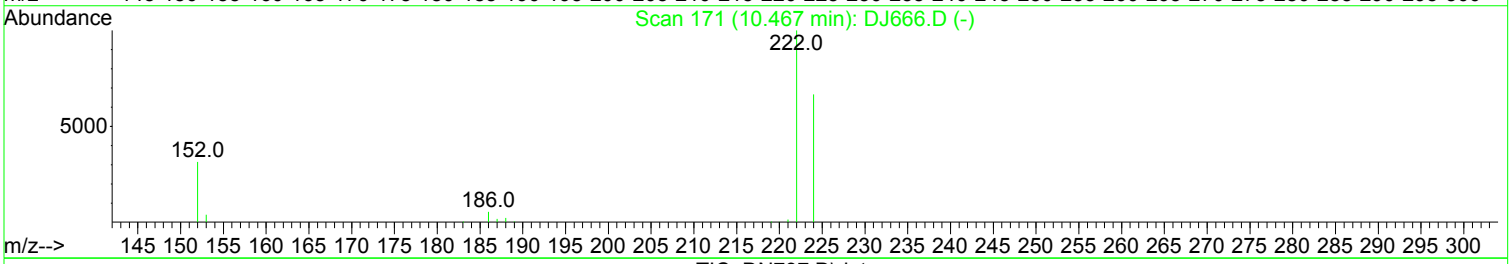
1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN737.D
Acq On : 21 Feb 2019 8:22 pm
Operator : J.Misiurewicz
Sample : R1901380-015
Misc : 331543 680 PCB
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 22 08:04:02 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN737.D\data.ms

(28) CL2 - #1 (L2)

10.236min (-0.315) 0.00 ppm m

response 2624

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	60.71
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

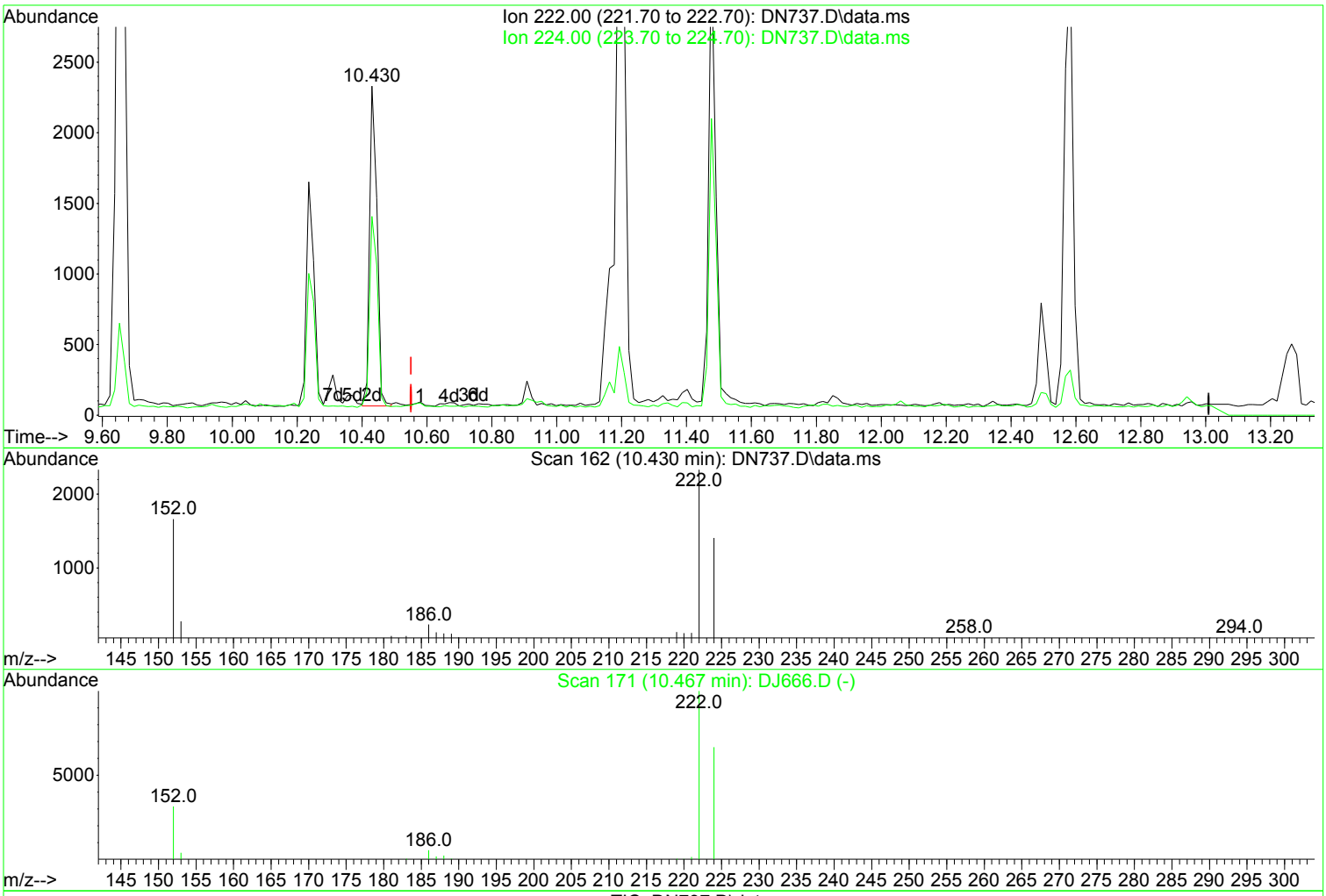
Other -

02/22/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN737.D
Acq On : 21 Feb 2019 8:22 pm
Operator : J.Misiurewicz
Sample : R1901380-015
Misc : 331543 680 PCB
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 22 08:04:02 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN737.D\data.ms

(29) CL2 - #2 (L2)

10.430min (-0.121) 0.00 ppm m

response 3617

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	60.33
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

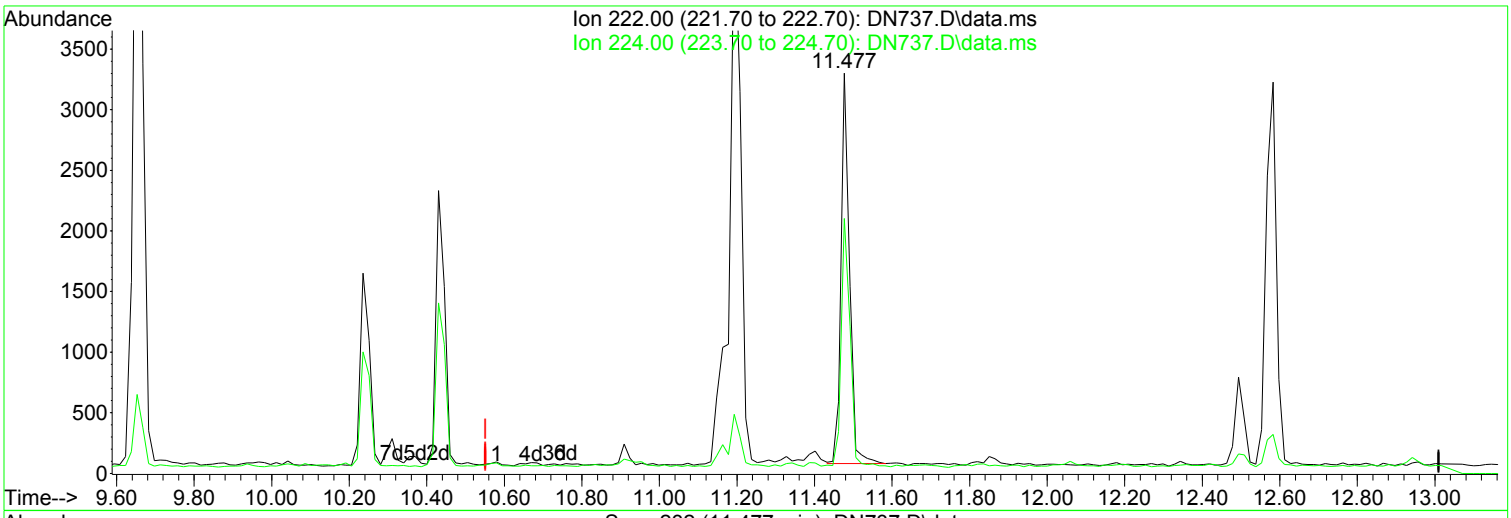
Other -

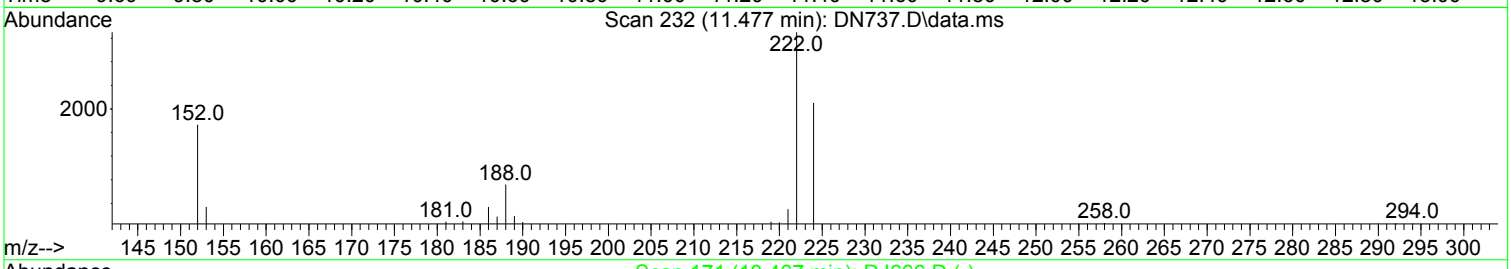
02/22/19

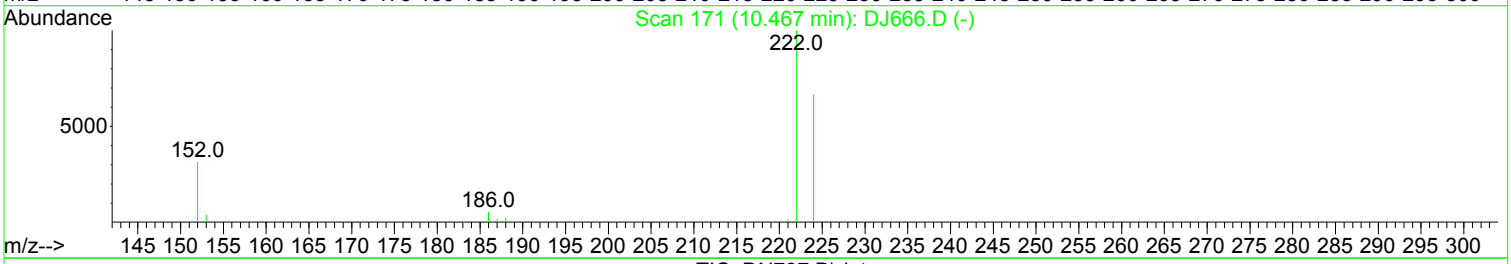
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN737.D
Acq On : 21 Feb 2019 8:22 pm
Operator : J.Misiurewicz
Sample : R1901380-015
Misc : 331543 680 PCB
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 22 08:04:02 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN737.D\data.ms

(30) CL2 - #3 (L2)

11.477min (+ 0.926) 0.00 ppm m

response 4922

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	63.71
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

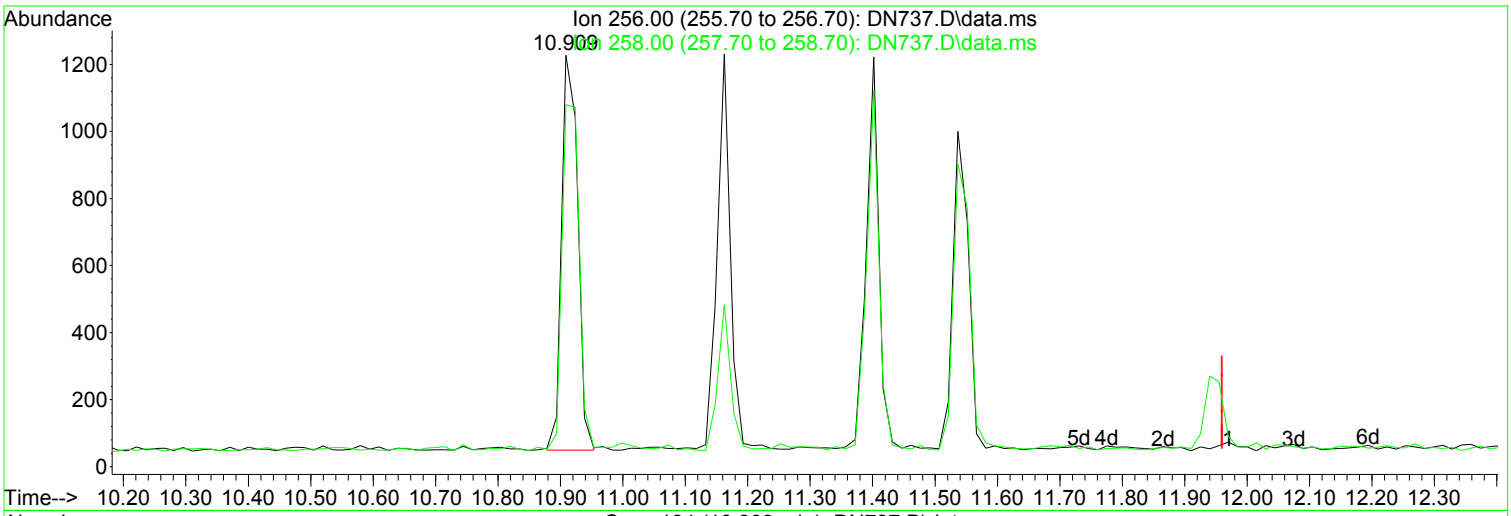
Other -

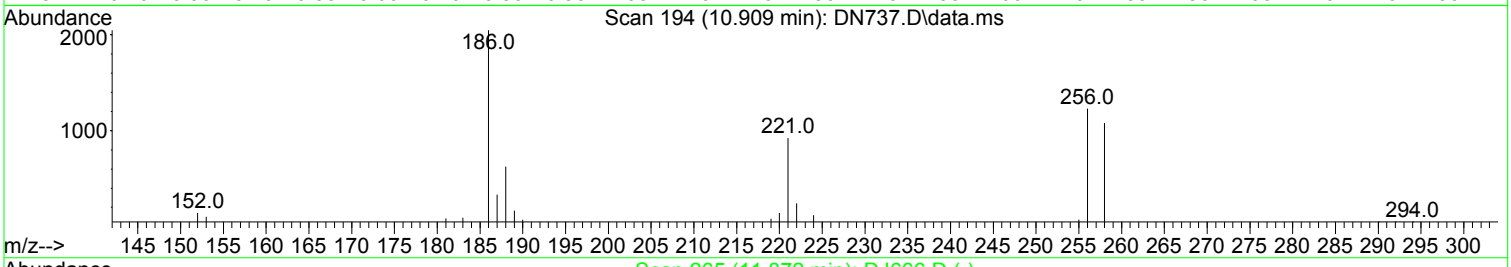
02/22/19

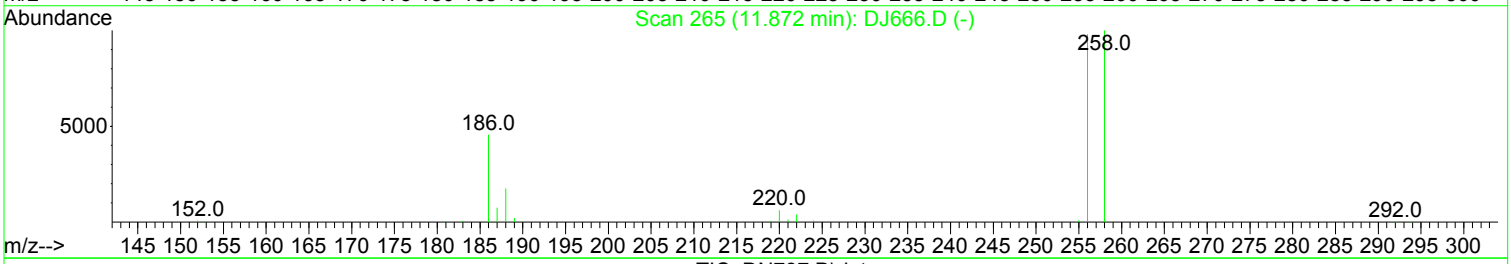
1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN737.D
Acq On : 21 Feb 2019 8:22 pm
Operator : J.Misiurewicz
Sample : R1901380-015
Misc : 331543 680 PCB
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 22 08:04:02 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN737.D\data.ms

(39) CL3 - #1 (L3)

10.909min (-1.051) 0.00 ppm m

response 2127

Ion	Exp%	Act%
256.00	100.00	100.00
258.00	92.70	87.95
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

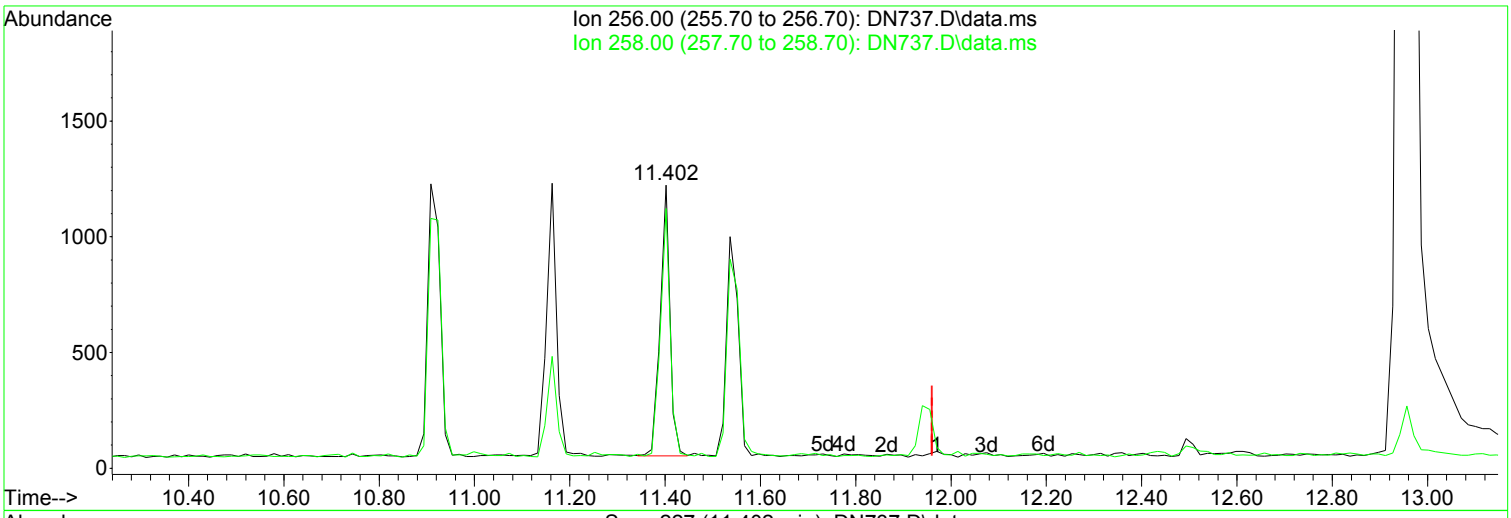
Other -

02/22/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN737.D
Acq On : 21 Feb 2019 8:22 pm
Operator : J.Misiurewicz
Sample : R1901380-015
Misc : 331543 680 PCB
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 22 08:04:02 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN737.D\data.ms

(40) CL3 - #2 (L3)

11.402min (-0.558) 0.00 ppm m

response 1668

Ion	Exp%	Act%
256.00	100.00	100.00
258.00	92.70	91.74
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

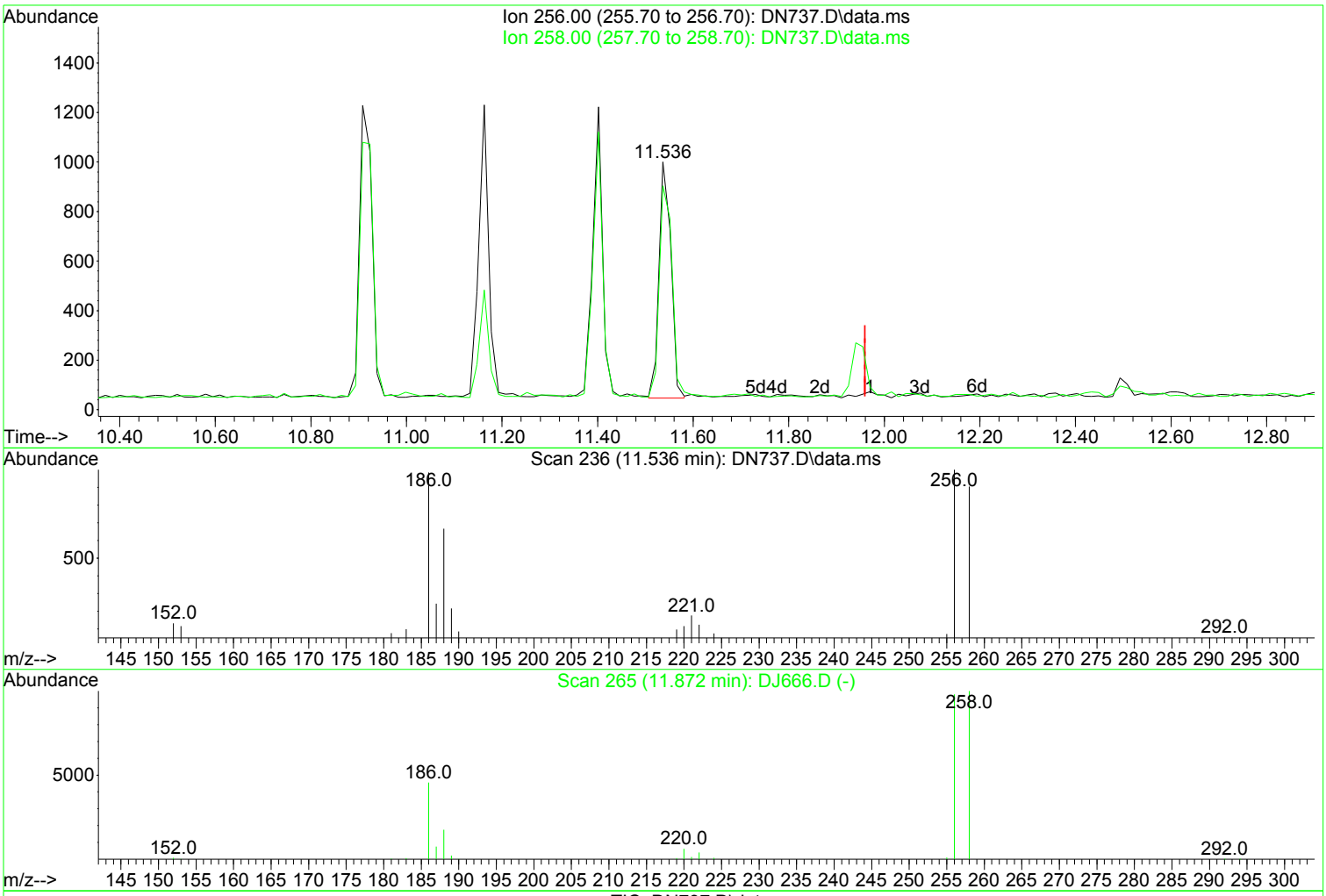
Other -

02/22/19

1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN737.D
Acq On : 21 Feb 2019 8:22 pm
Operator : J.Misiurewicz
Sample : R1901380-015
Misc : 331543 680 PCB
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 22 08:04:02 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN737.D\data.ms

(41) CL3 - #3 (L3)

11.536min (-0.424) 0.00 ppm m

response 1654

Ion	Exp%	Act%
256.00	100.00	100.00
258.00	92.70	90.40
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

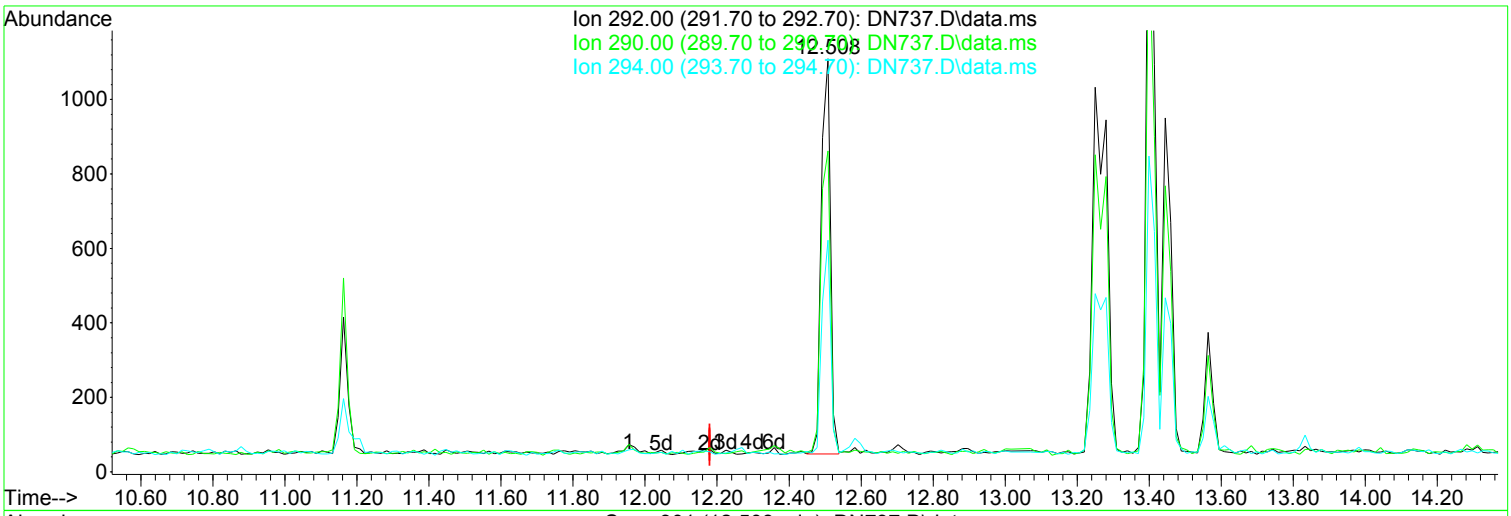
Other -

02/22/19

1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN737.D
Acq On : 21 Feb 2019 8:22 pm
Operator : J.Misiurewicz
Sample : R1901380-015
Misc : 331543 680 PCB
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 22 08:04:02 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN737.D\data.ms

(53) CL4 - #1 (L4)

12.508min (+ 0.328) 0.00 ppm m

response 1867

Ion	Exp%	Act%
292.00	100.00	100.00
290.00	78.40	77.73
294.00	48.00	56.09
0.00	0.00	0.00

Manual Integration:

After

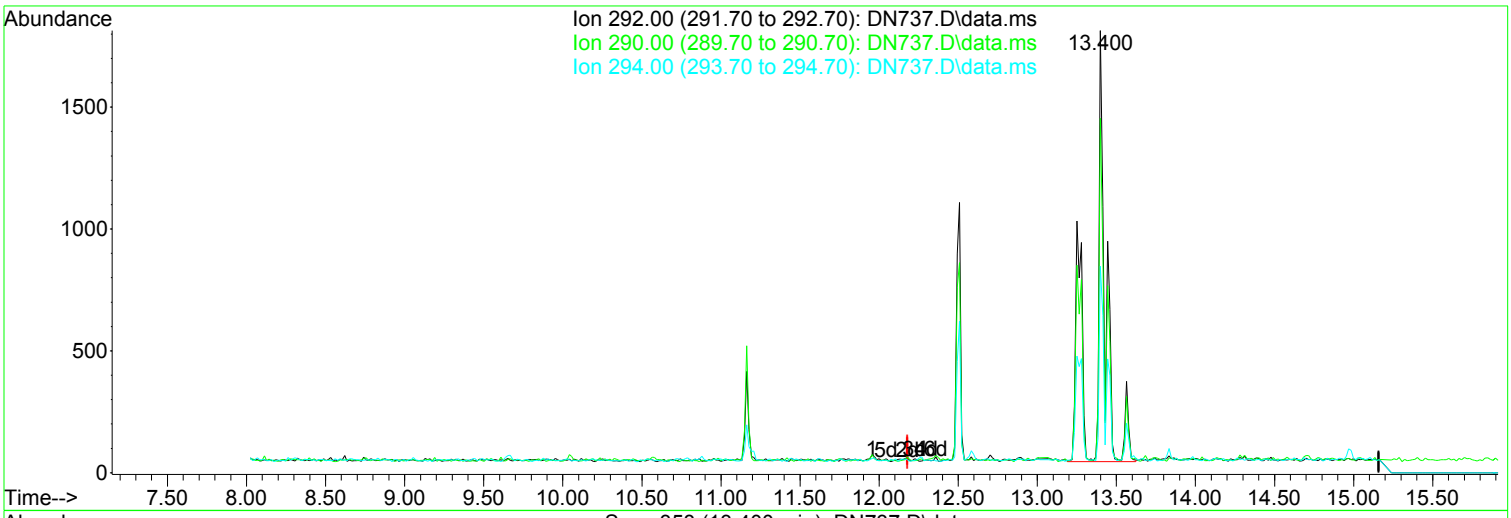
Other -

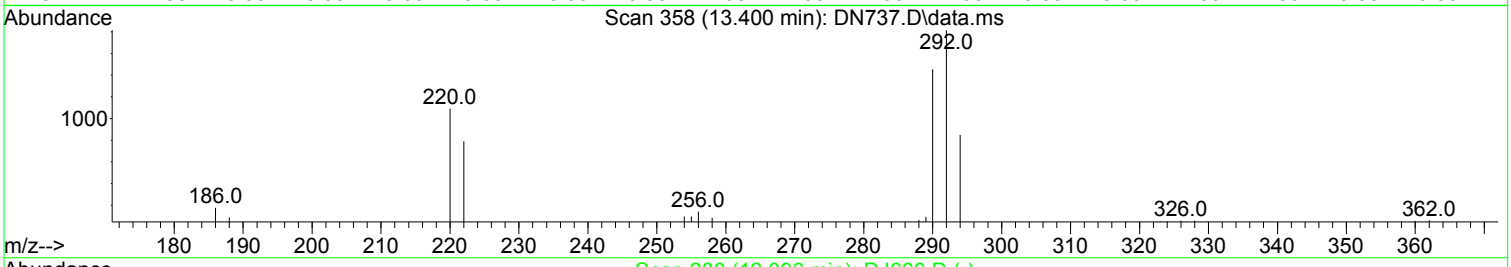
02/22/19

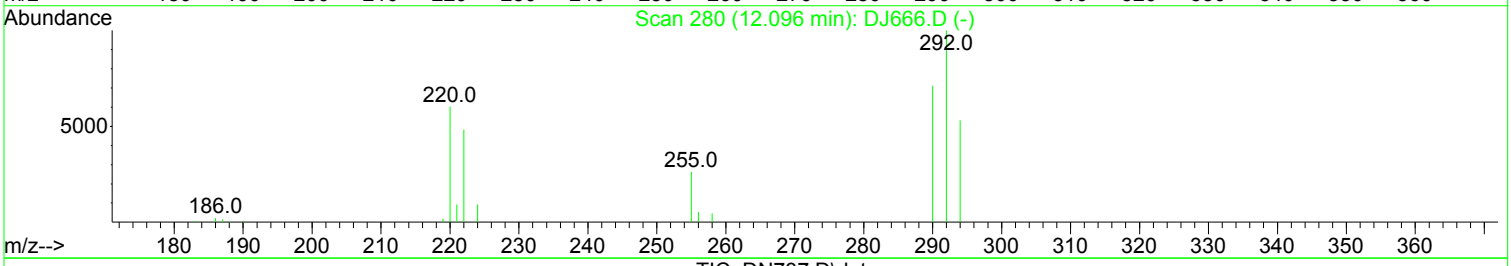
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN737.D
Acq On : 21 Feb 2019 8:22 pm
Operator : J.Misiurewicz
Sample : R1901380-015
Misc : 331543 680 PCB
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 22 08:04:02 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN737.D\data.ms

(54) CL4 - #2 (L4)

13.400min (+ 1.220) 0.00 ppm m

response 7688

Ion	Exp%	Act%
292.00	100.00	100.00
290.00	78.40	80.15
294.00	48.00	46.75
0.00	0.00	0.00

Manual Integration:

After

Other -

02/22/19

1st DM 02/22/19
2nd MP 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN737.D
Acq On : 21 Feb 2019 8:22 pm
Operator : J.Misiurewicz
Sample : R1901380-015
Misc : 331543 680 PCB
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 22 08:04:02 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

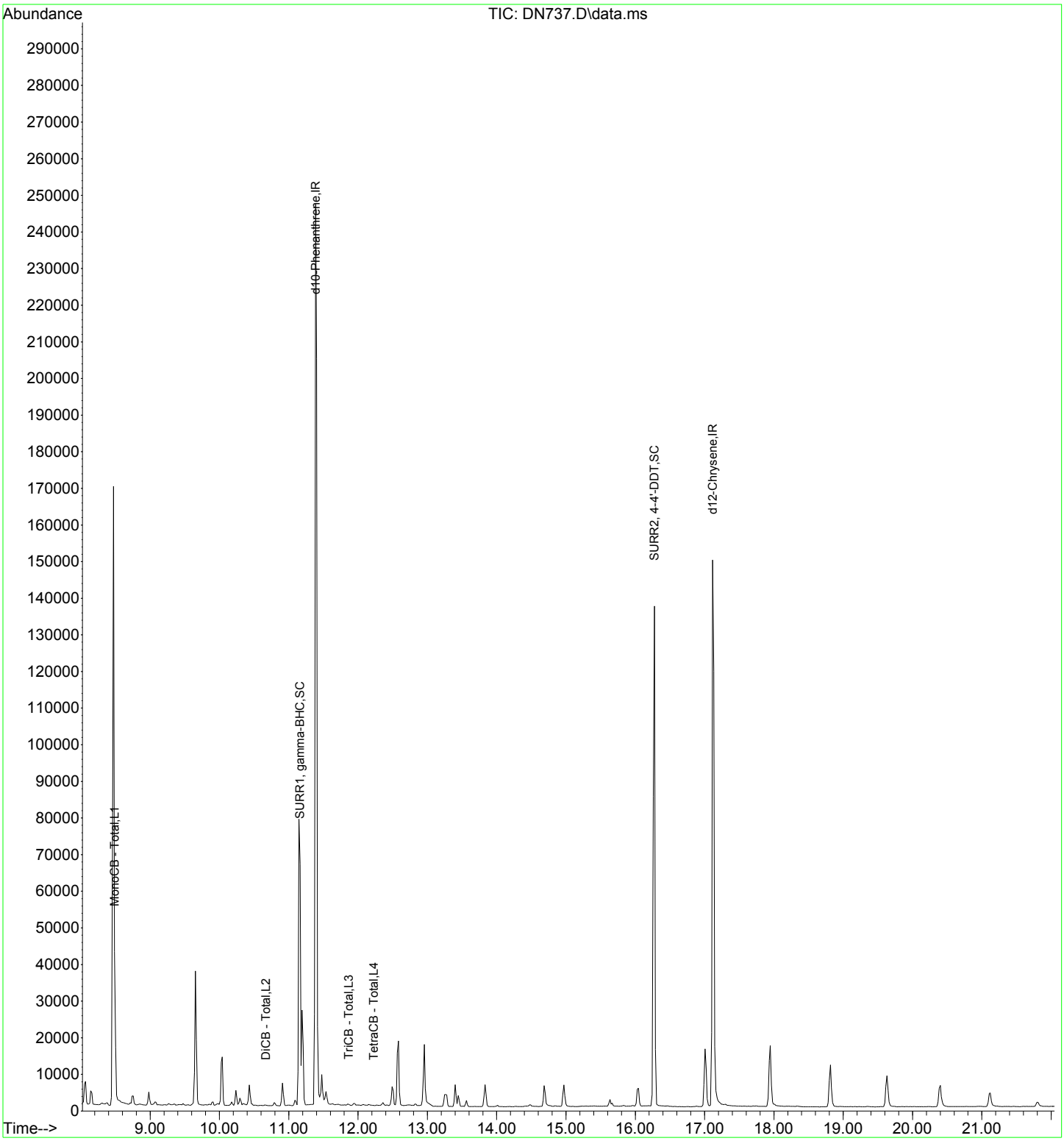
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.387	188	315698	0.75	ppm	0.00
2) d12-Chrysene	17.116	240	239548	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.163	219	35581	0.91	ppm	0.01
Spiked Amount 1.000	Range 55 - 133		Recovery = 91.00%			
13) SURR2, 4-4'-DDT	16.275	235	110799	1.25	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 125.00%			
Target Compounds						Qvalue
27) MonoCB - Total	8.487	188	17245m	0.055	ppm	
38) DiCB - Total	10.669	222	11163m	0.054	ppm	
52) TriCB - Total	11.865	256	5449m	0.039	ppm	
68) TetraCB - Total	12.224	292	9555m	0.102	ppm	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN737.D
Acq On : 21 Feb 2019 8:22 pm
Operator : J.Misiurewicz
Sample : R1901380-015
Misc : 331543 680 PCB
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 22 08:04:02 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



1st DM 02/22/19
2nd MP 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN731.D
Acq On : 21 Feb 2019 5:28 pm
Operator : J.Misiurewicz
Sample : RQ1901357-01
Misc : 331543 680 PCB BLK
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 22 08:03:24 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

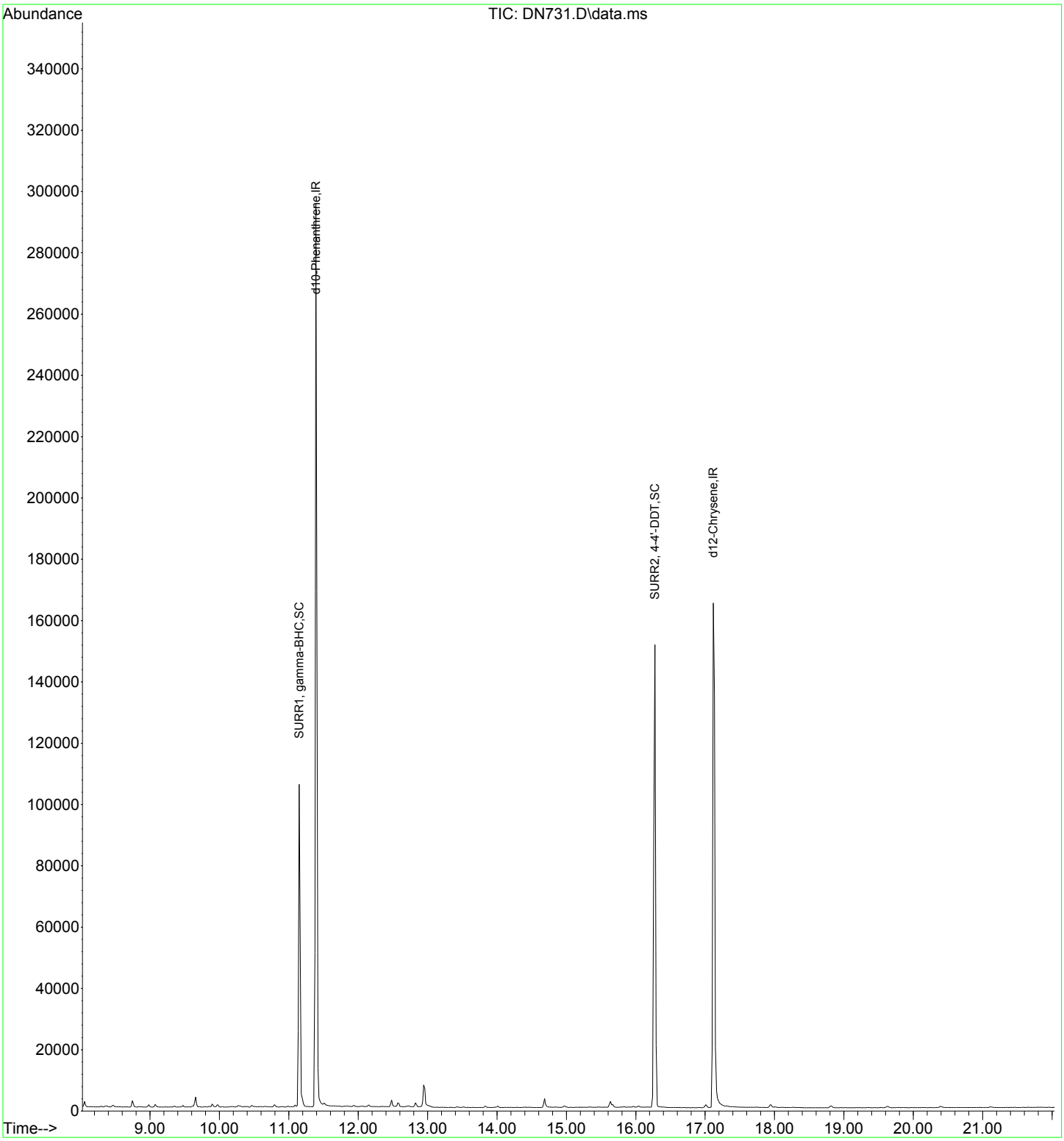
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.390	188	337322	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	271749	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.151	219	37867	0.85	ppm	0.00
Spiked Amount 1.000	Range 55 - 133		Recovery = 85.00%			
13) SURR2, 4-4'-DDT	16.276	235	122610	1.22	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 122.00%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN731.D
Acq On : 21 Feb 2019 5:28 pm
Operator : J.Misiurewicz
Sample : RQ1901357-01
Misc : 331543 680 PCB BLK
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 22 08:03:24 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN738.D
Acq On : 21 Feb 2019 8:51 pm
Operator : J.Misiurewicz
Sample : RQ1901357-02
Misc : 331543 680 PCB LCS
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 22 08:04:08 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

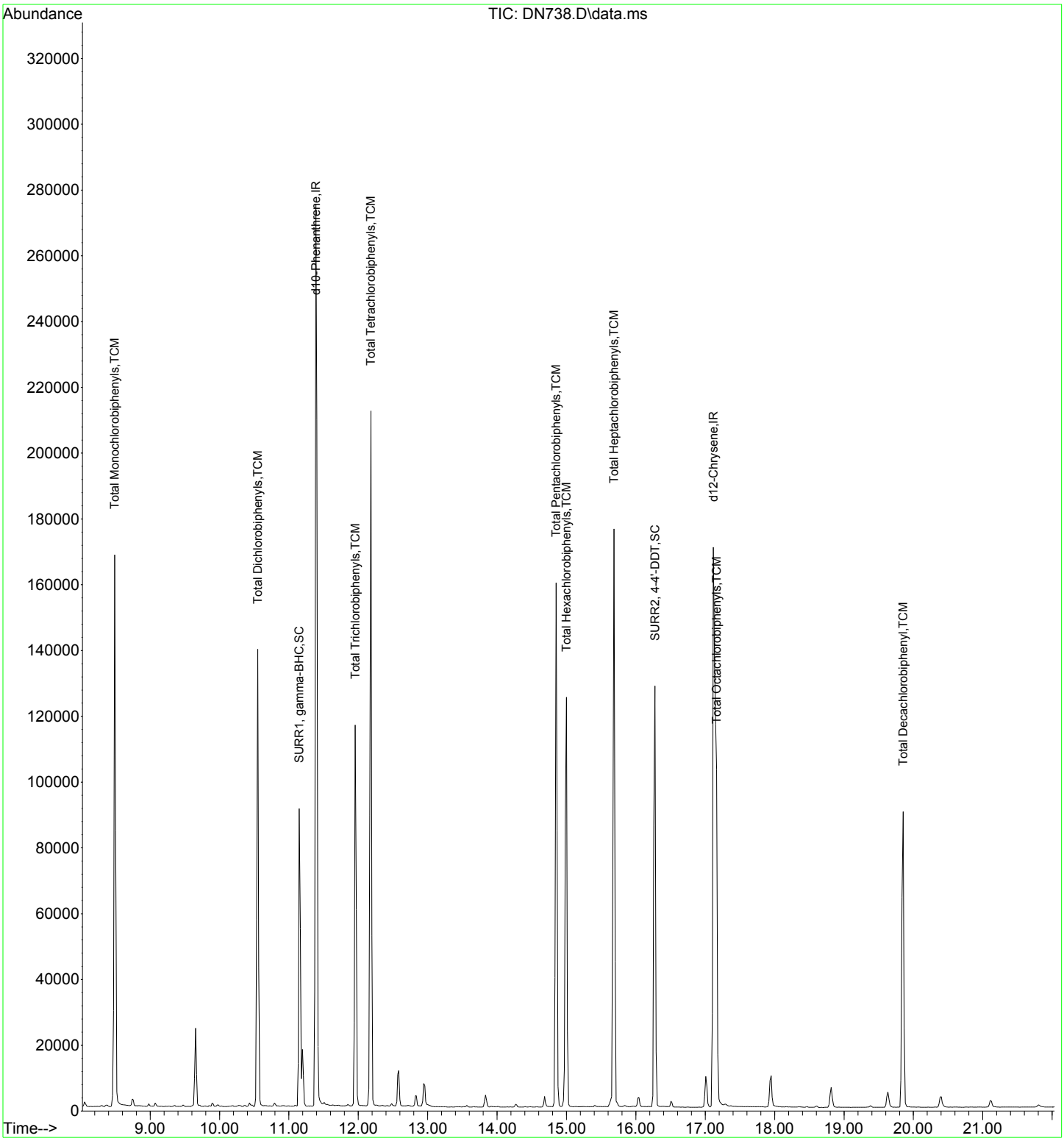
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	343081	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	277532	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.148	219	33406	0.74	ppm	0.00
Spiked Amount 1.000	Range 55 - 133		Recovery = 74.00%			
13) SURR2, 4-4'-DDT	16.276	235	108097	1.05	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 105.00%			
Target Compounds						Qvalue
3) Total Monochlorobiphenyls	8.487	188	113431	0.313	ppm	98
4) Total Dichlorobiphenyls	10.550	222	82278	0.345	ppm	92
6) Total Trichlorobiphenyls	11.956	256	59564	0.367	ppm	94
7) Total Tetrachlorobiphe...	12.180	292	71991	0.666	ppm	97
9) Total Pentachlorobiphe...	14.849	326	58726	0.756	ppm	92
10) Total Hexachlorobiphenyls	14.999	360	49333	0.636	ppm	91
12) Total Heptachlorobiphe...	15.684	394	60308	0.807	ppm	92
14) Total Octachlorobiphenyls	17.164	428	37944	0.741	ppm	99
16) Total Decachlorobiphenyl	19.851	498	30683	0.828	ppm	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN738.D
Acq On : 21 Feb 2019 8:51 pm
Operator : J.Misiurewicz
Sample : RQ1901357-02
Misc : 331543 680 PCB LCS
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 22 08:04:08 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



1st DM 02/22/19
2nd MP 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN739.D
Acq On : 21 Feb 2019 9:20 pm
Operator : J.Misiurewicz
Sample : RQ1901357-03
Misc : 331543 680 PCB LCSD
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 22 08:04:14 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

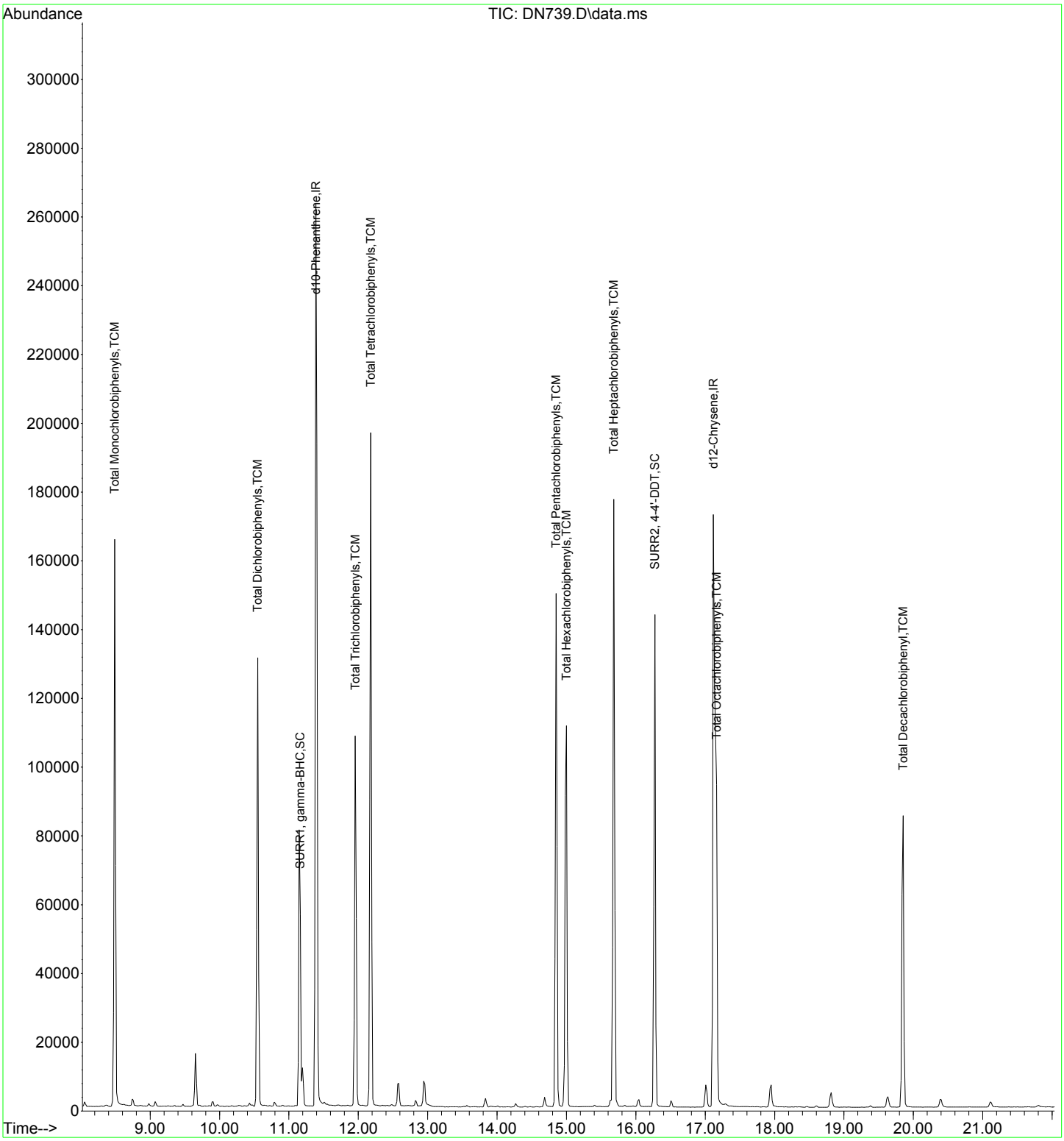
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	325819	0.75	ppm	0.00
2) d12-Chrysene	17.118	240	256398	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.164	219	31918	0.76	ppm	0.01
Spiked Amount 1.000	Range 55 - 133		Recovery = 76.00%			
13) SURR2, 4-4'-DDT	16.274	235	105333	1.11	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 111.00%			
Target Compounds						Qvalue
3) Total Monochlorobiphenyls	8.488	188	105739	0.316	ppm	94
4) Total Dichlorobiphenyls	10.551	222	76556	0.348	ppm	94
6) Total Trichlorobiphenyls	11.956	256	55696	0.371	ppm	97
7) Total Tetrachlorobiphe...	12.180	292	68548	0.687	ppm	95
9) Total Pentachlorobiphe...	14.850	326	55196	0.770	ppm	92
10) Total Hexachlorobiphenyls	14.999	360	46734	0.652	ppm	91
12) Total Heptachlorobiphe...	15.682	394	58181	0.843	ppm	97
14) Total Octachlorobiphenyls	17.165	428	34447	0.728	ppm	99
16) Total Decachlorobiphenyl	19.852	498	29019	0.847	ppm	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN739.D
Acq On : 21 Feb 2019 9:20 pm
Operator : J.Misiurewicz
Sample : RQ1901357-03
Misc : 331543 680 PCB LCSD
ALS Vial : 12 Sample Multiplier: 1

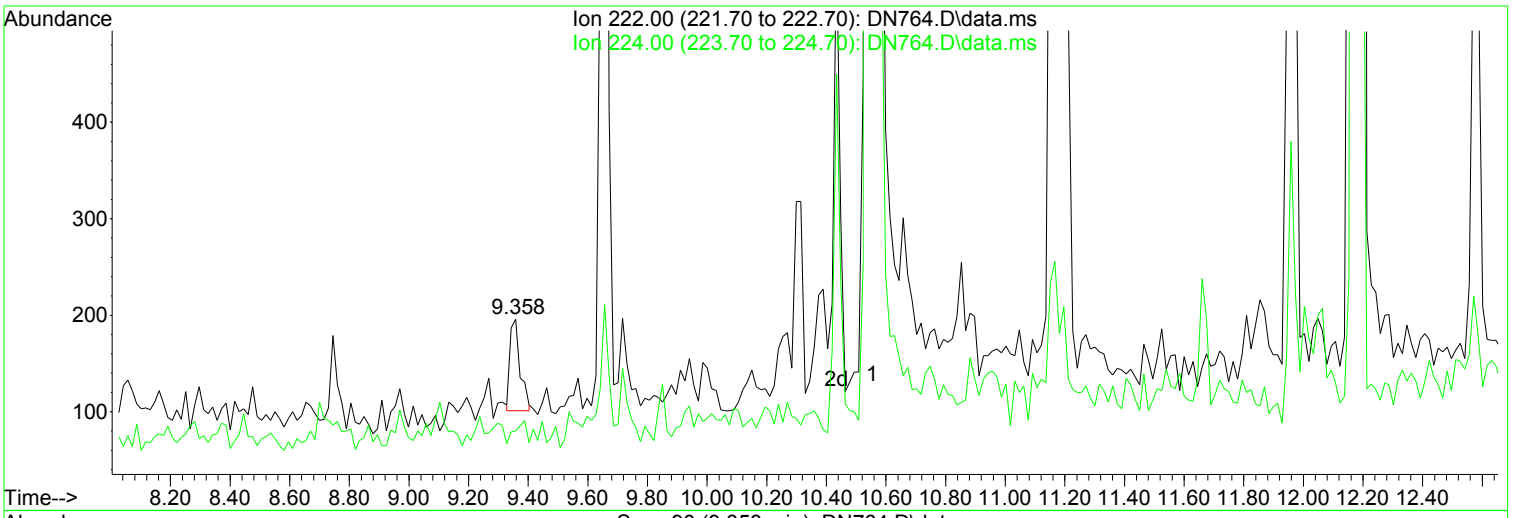
Quant Time: Feb 22 08:04:14 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

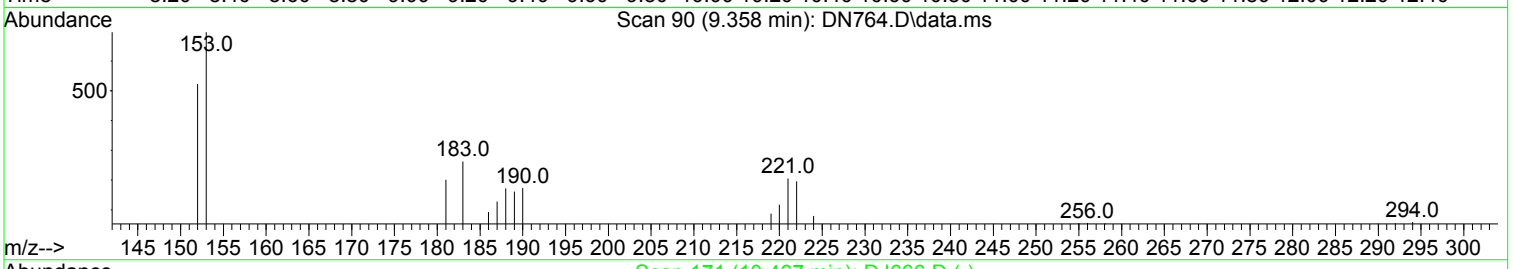


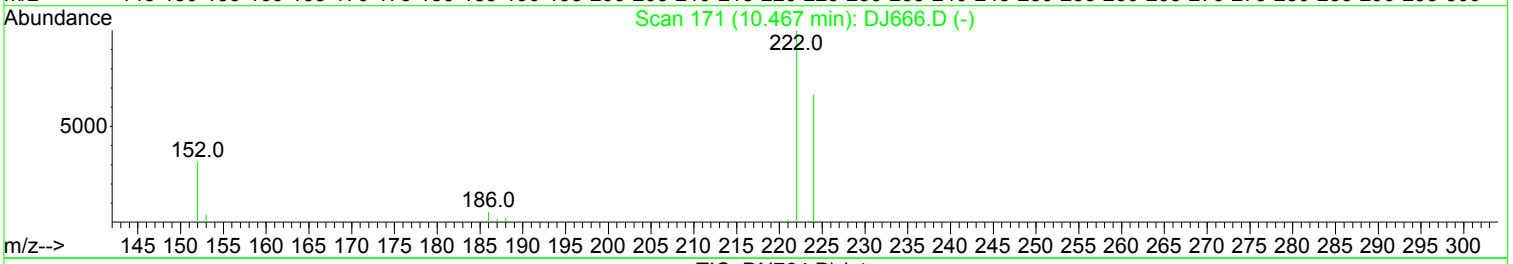
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN764.D
Acq On : 22 Feb 2019 9:07 am
Operator : J.Misiurewicz
Sample : RQ1901357-04
Misc : 331543 680 PCB R1380-014MS
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Feb 22 11:38:43 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN764.D\data.ms

(28) CL2 - #1 (L2)

9.358min (-1.193) 0.00 ppm m

response 225

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	40.82
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

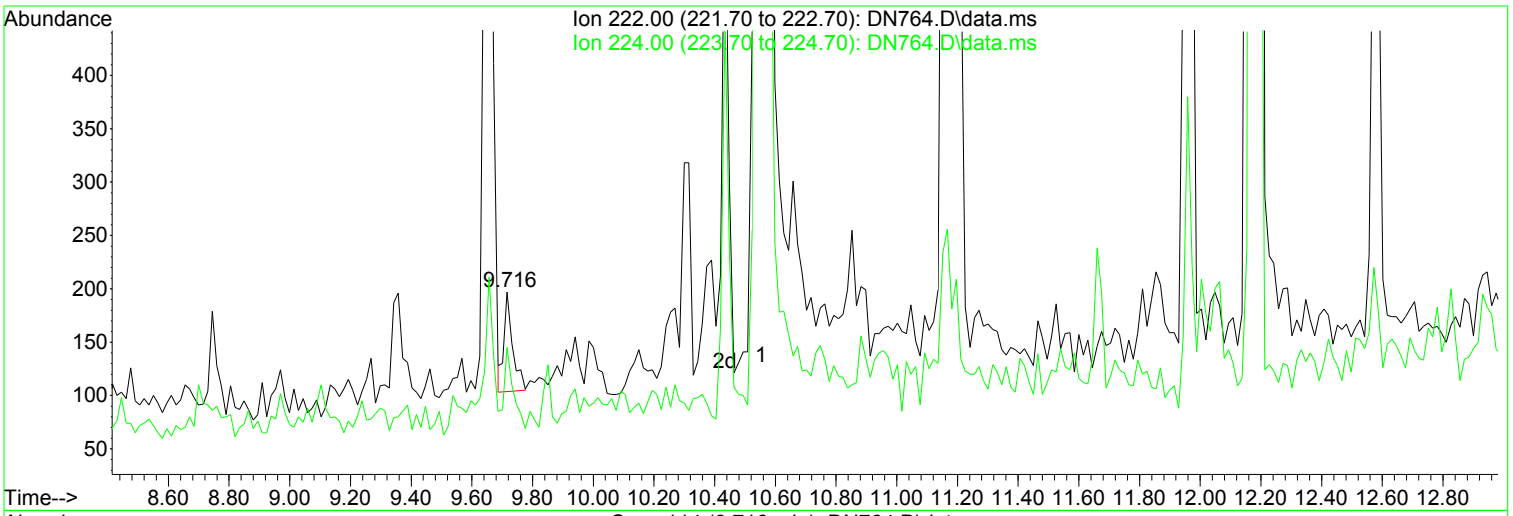
Other -

02/22/19

1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN764.D
Acq On : 22 Feb 2019 9:07 am
Operator : J.Misiurewicz
Sample : RQ1901357-04
Misc : 331543 680 PCB R1380-014MS
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Feb 22 11:38:43 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN764.D\data.ms

(29) CL2 - #2 (L2)

9.716min (-0.835) 0.00 ppm m

response 184

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	73.60
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

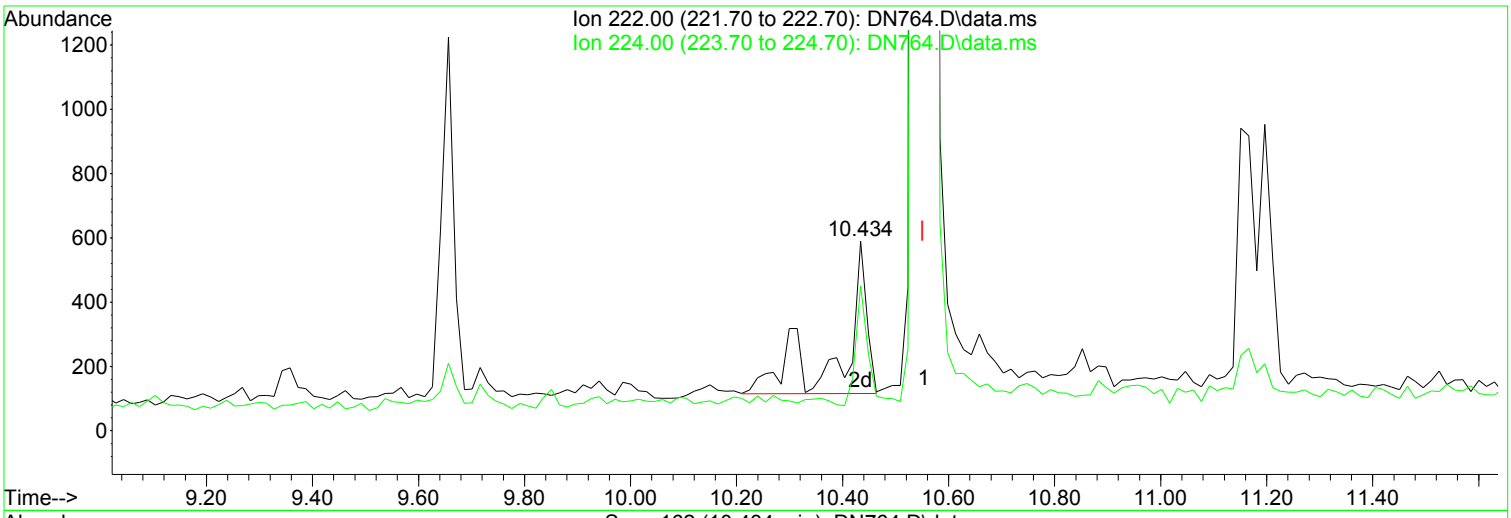
Other -

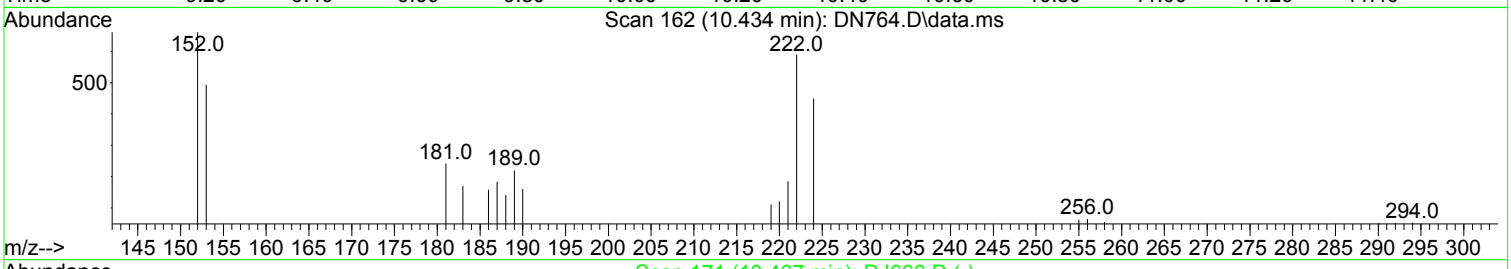
02/22/19

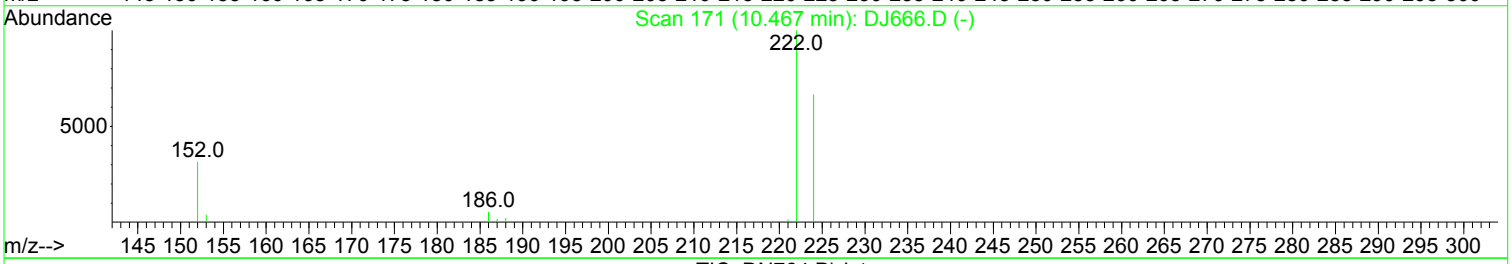
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN764.D
Acq On : 22 Feb 2019 9:07 am
Operator : J.Misiurewicz
Sample : RQ1901357-04
Misc : 331543 680 PCB R1380-014MS
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Feb 22 11:38:43 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN764.D\data.ms

(30) CL2 - #3 (L2)

10.434min (-0.117) 0.00 ppm m

response 1545

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	76.27
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

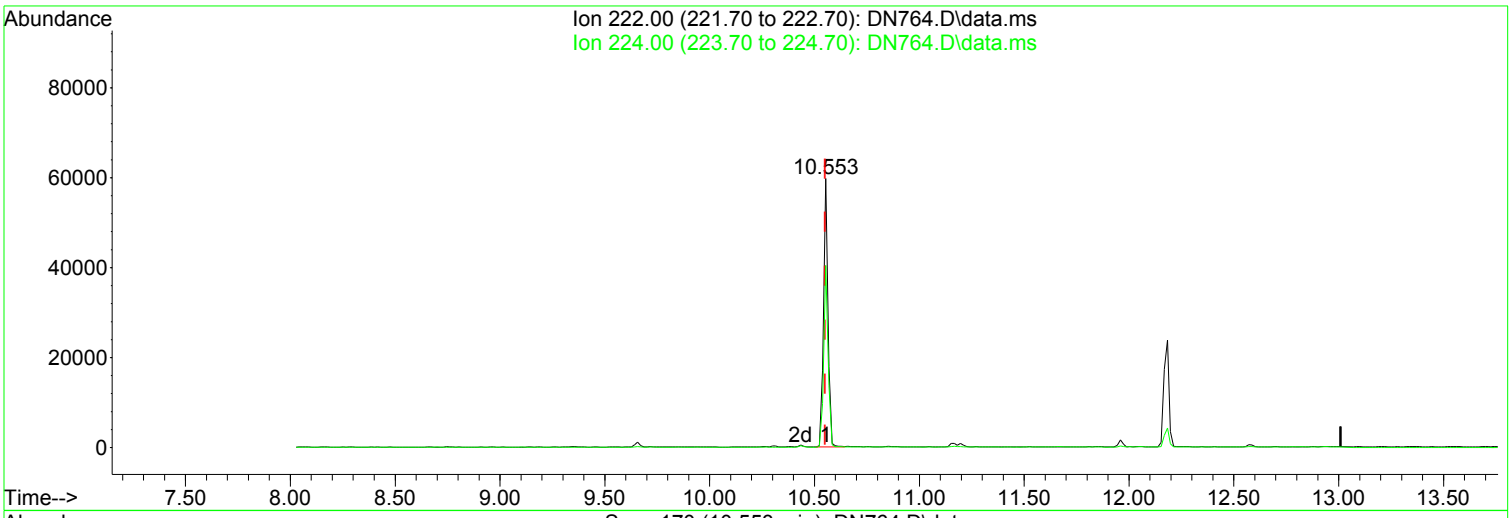
Other -

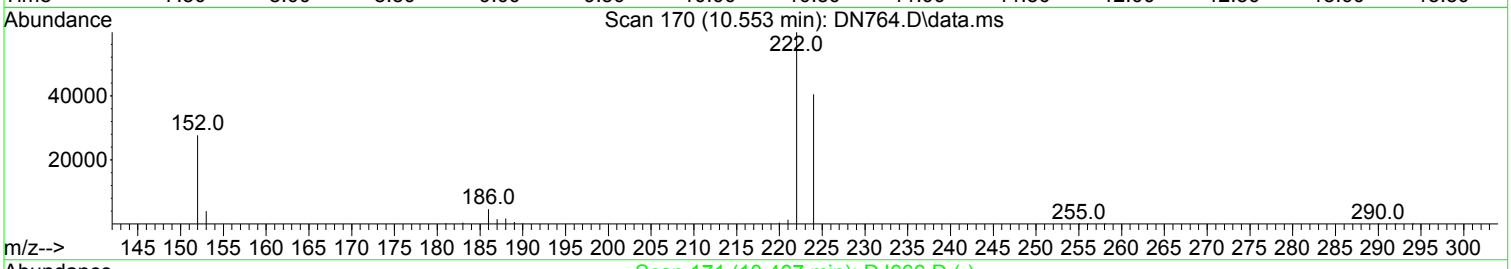
02/22/19

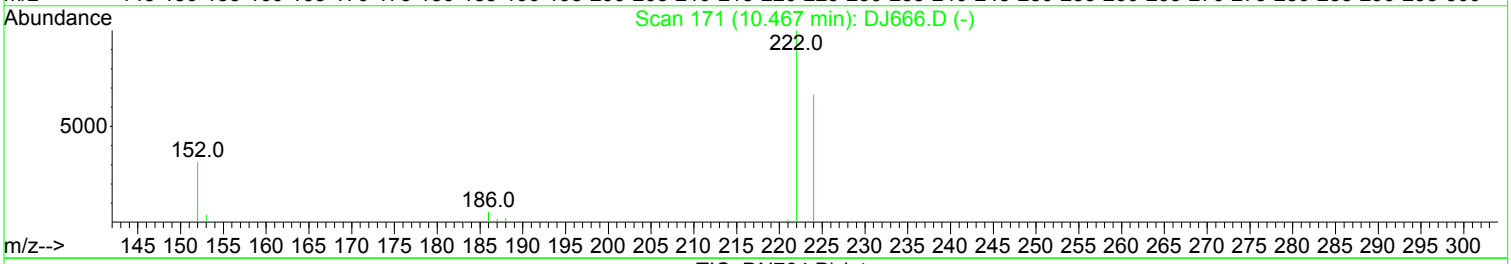
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN764.D
Acq On : 22 Feb 2019 9:07 am
Operator : J.Misiurewicz
Sample : RQ1901357-04
Misc : 331543 680 PCB R1380-014MS
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Feb 22 11:38:43 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN764.D\data.ms

(31) CL2 - #4 (L2)

10.553min (+ 0.002) 0.00 ppm m

response 86450

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	67.67
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Other -

02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN764.D
Acq On : 22 Feb 2019 9:07 am
Operator : J.Misiurewicz
Sample : RQ1901357-04
Misc : 331543 680 PCB R1380-014MS
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Feb 22 11:38:43 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

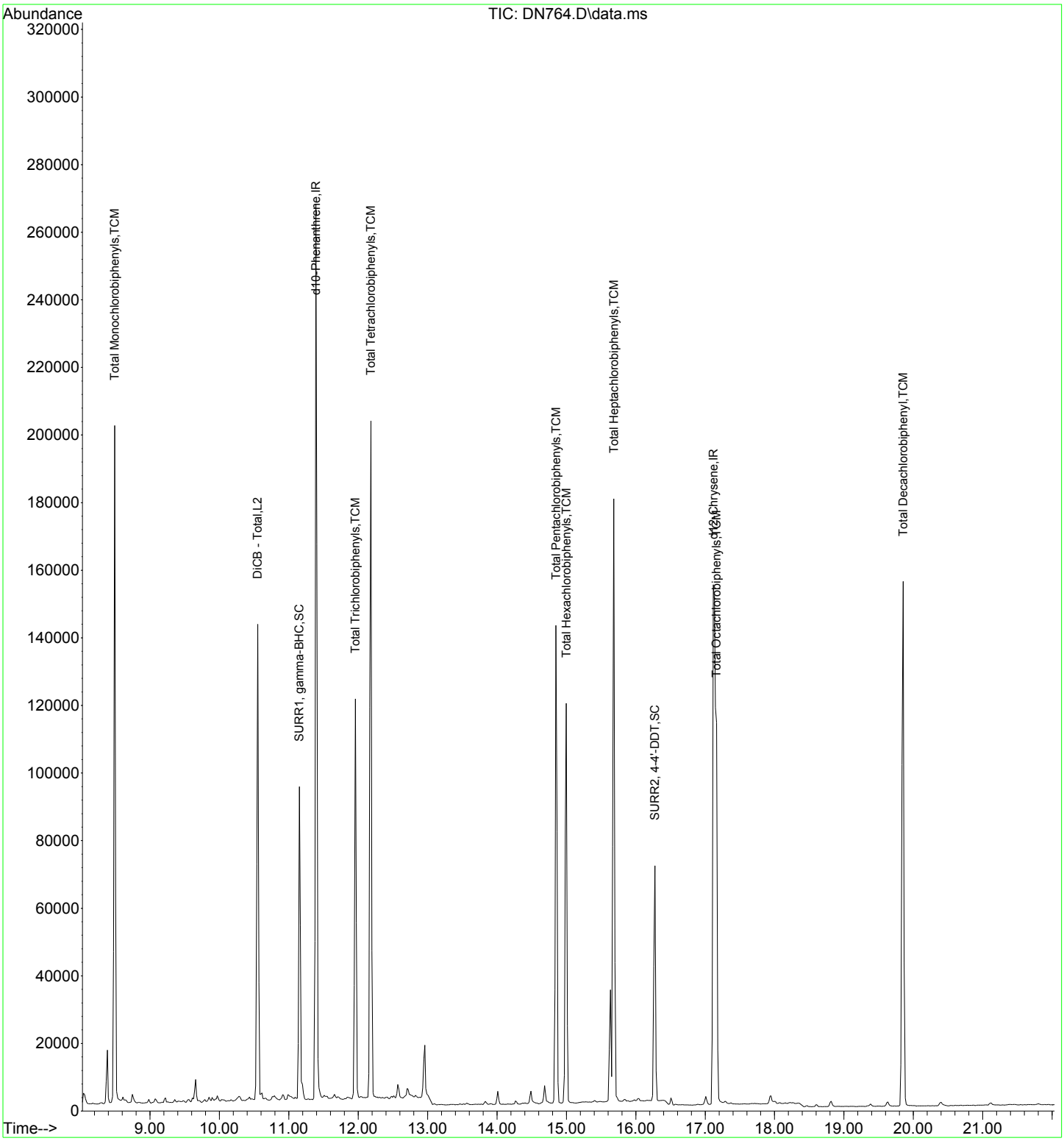
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.391	188	312215	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	250372	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.151	219	35445	0.87	ppm	0.00
Spiked Amount 1.000	Range 55 - 133		Recovery = 87.00%			
13) SURR2, 4-4'-DDT	16.276	235	55859	0.60	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 60.00%			
Target Compounds						Qvalue
3) Total Monochlorobiphenyls	8.491	188	123067	0.377	ppm	92
6) Total Trichlorobiphenyls	11.959	256	59705	0.408	ppm	98
7) Total Tetrachlorobiphe...	12.183	292	74258	0.762	ppm	96
9) Total Pentachlorobiphe...	14.850	326	52719	0.753	ppm	92
10) Total Hexachlorobiphenyls	14.999	360	46115	0.659	ppm	91
12) Total Heptachlorobiphe...	15.684	394	61518	0.912	ppm	97
14) Total Octachlorobiphenyls	17.164	428	42122	0.912	ppm	98
16) Total Decachlorobiphenyl	19.852	498	50729	1.517	ppm	93
38) DiCB - Total	10.553	222	88404m	0.411	ppm #	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN764.D
Acq On : 22 Feb 2019 9:07 am
Operator : J.Misiurewicz
Sample : RQ1901357-04
Misc : 331543 680 PCB R1380-014MS
ALS Vial : 37 Sample Multiplier: 1

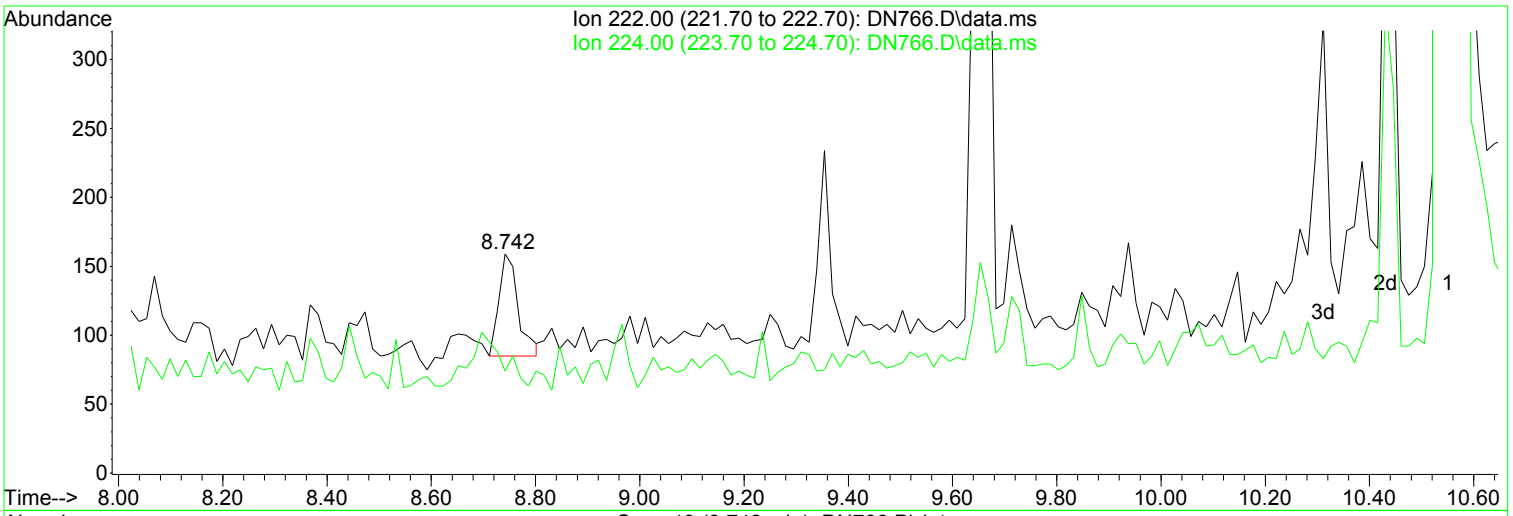
Quant Time: Feb 22 11:38:43 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

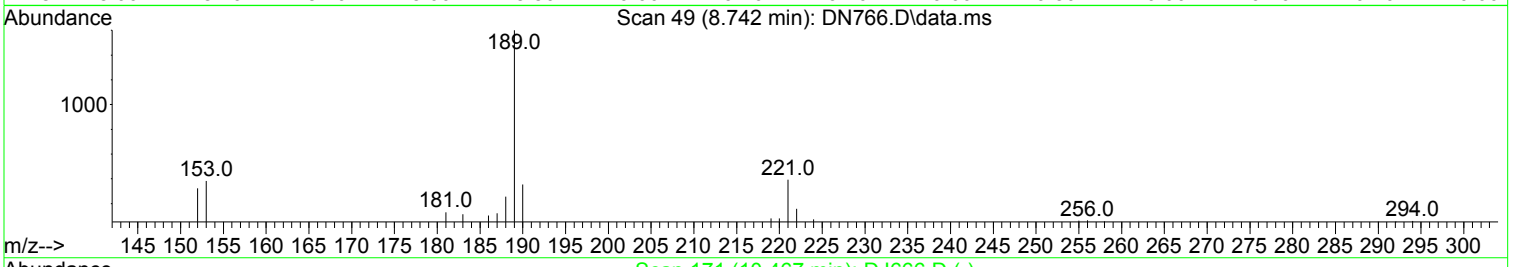


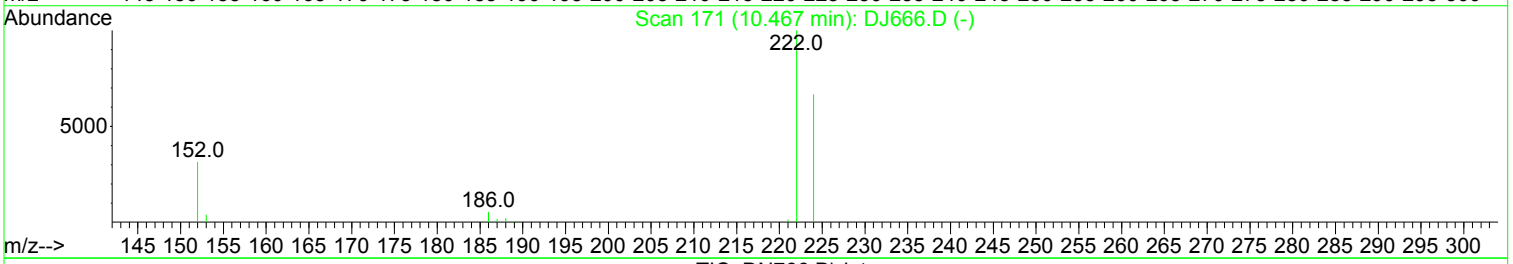
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN766.D
Acq On : 22 Feb 2019 10:04 am
Operator : J.Misiurewicz
Sample : RQ1901357-05
Misc : 331543 680 PCB R1380-014MSD
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Feb 22 11:44:02 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN766.D\data.ms

(28) CL2 - #1 (L2)

8.742min (-1.809) 0.00 ppm m

response 191

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	46.54
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

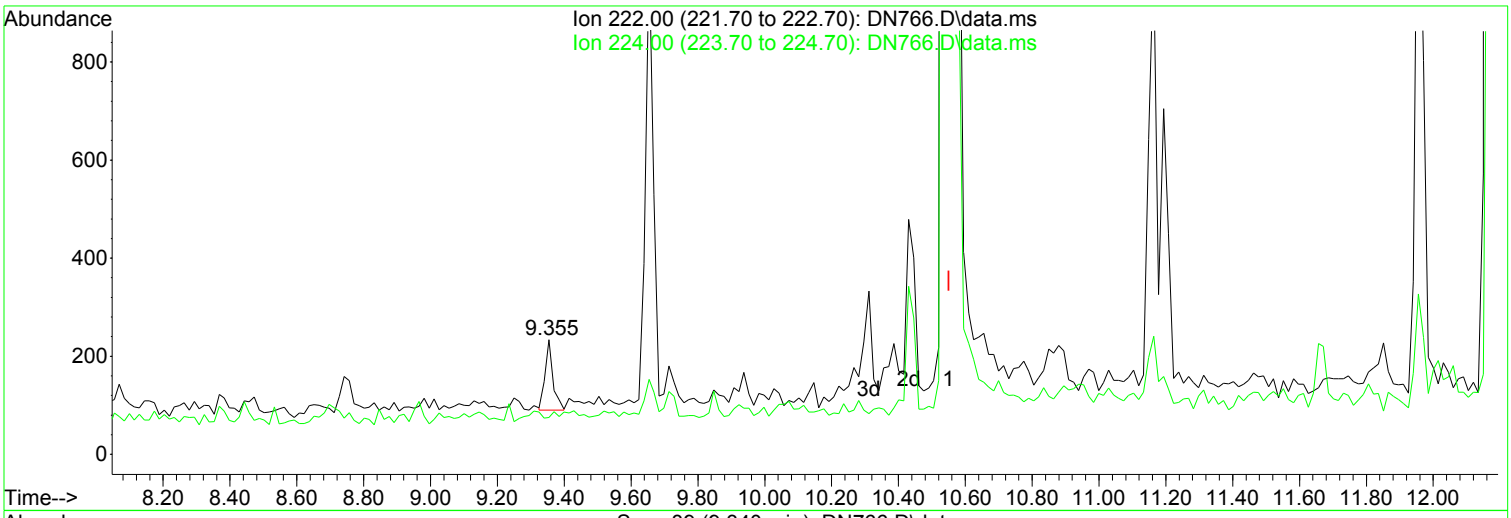
Other -

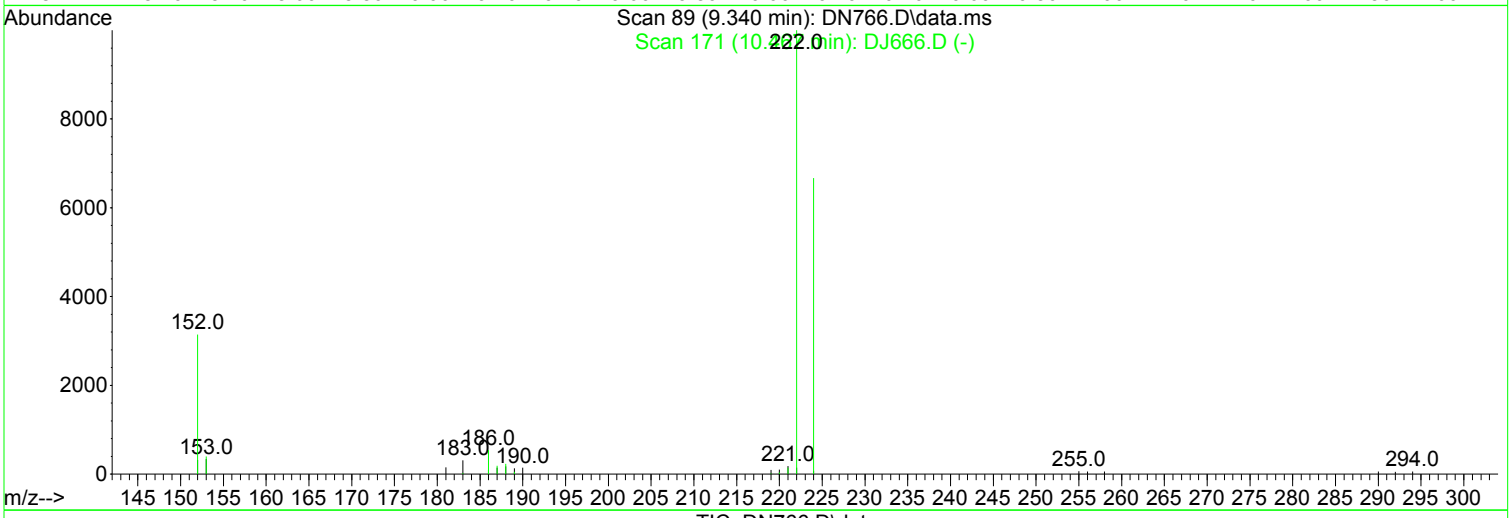
02/22/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN766.D
Acq On : 22 Feb 2019 10:04 am
Operator : J.Misiurewicz
Sample : RQ1901357-05
Misc : 331543 680 PCB R1380-014MSD
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Feb 22 11:44:02 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration





TIC: DN766.D\data.ms

(29) CL2 - #2 (L2)

9.355min (-1.196) 0.00 ppm m

response 238

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	32.05
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

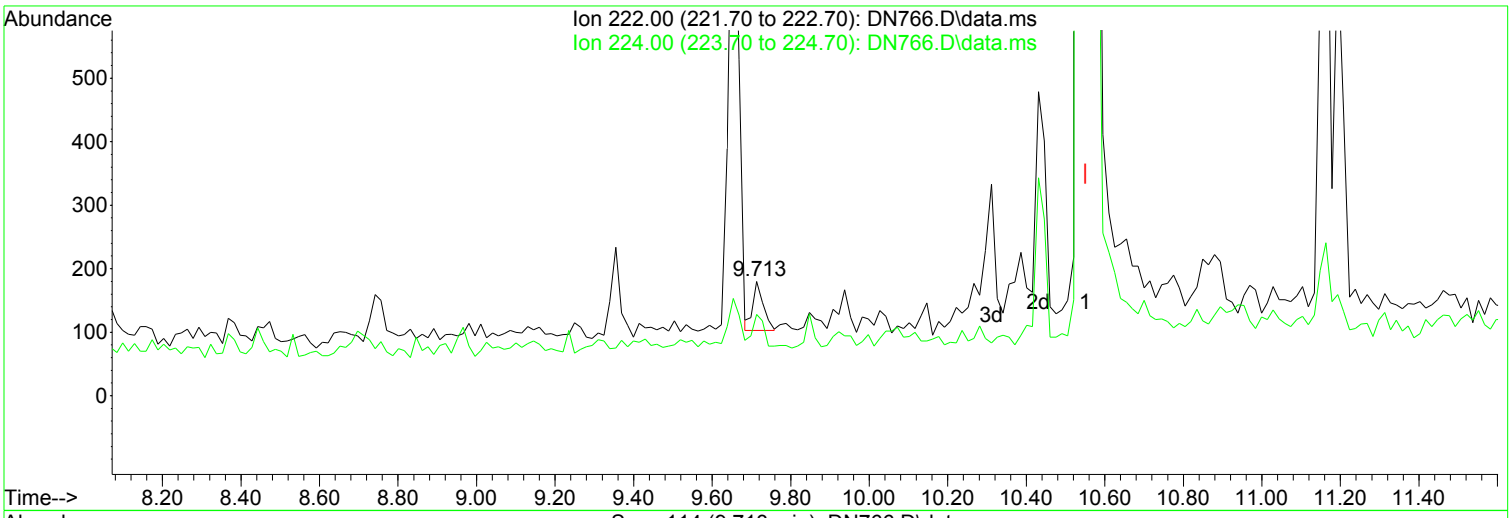
Other -

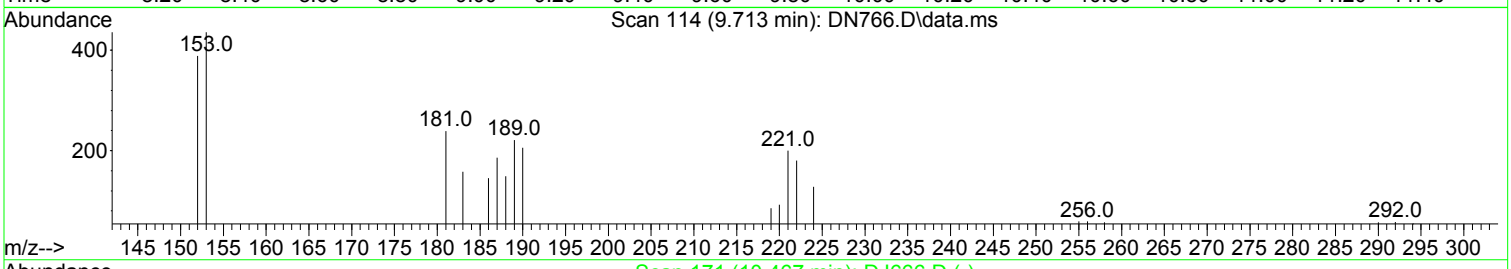
02/22/19

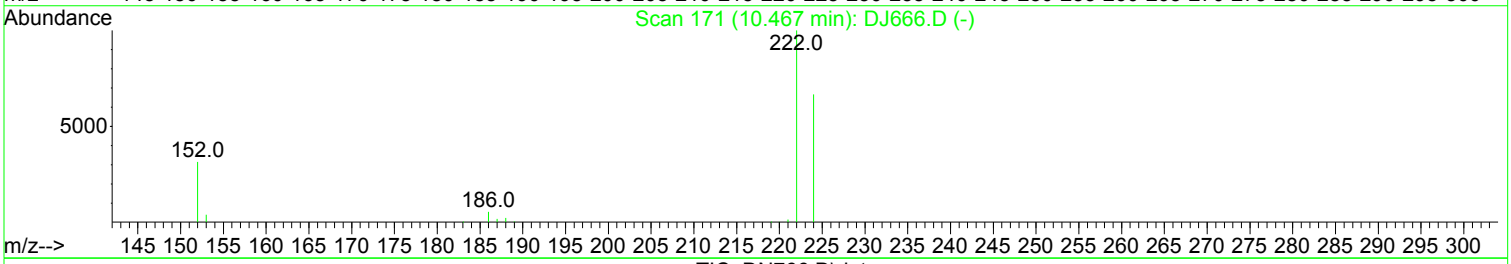
1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN766.D
Acq On : 22 Feb 2019 10:04 am
Operator : J.Misiurewicz
Sample : RQ1901357-05
Misc : 331543 680 PCB R1380-014MSD
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Feb 22 11:44:02 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN766.D\data.ms

(30) CL2 - #3 (L2)

9.713min (-0.838) 0.00 ppm m

response 143

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	71.11
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

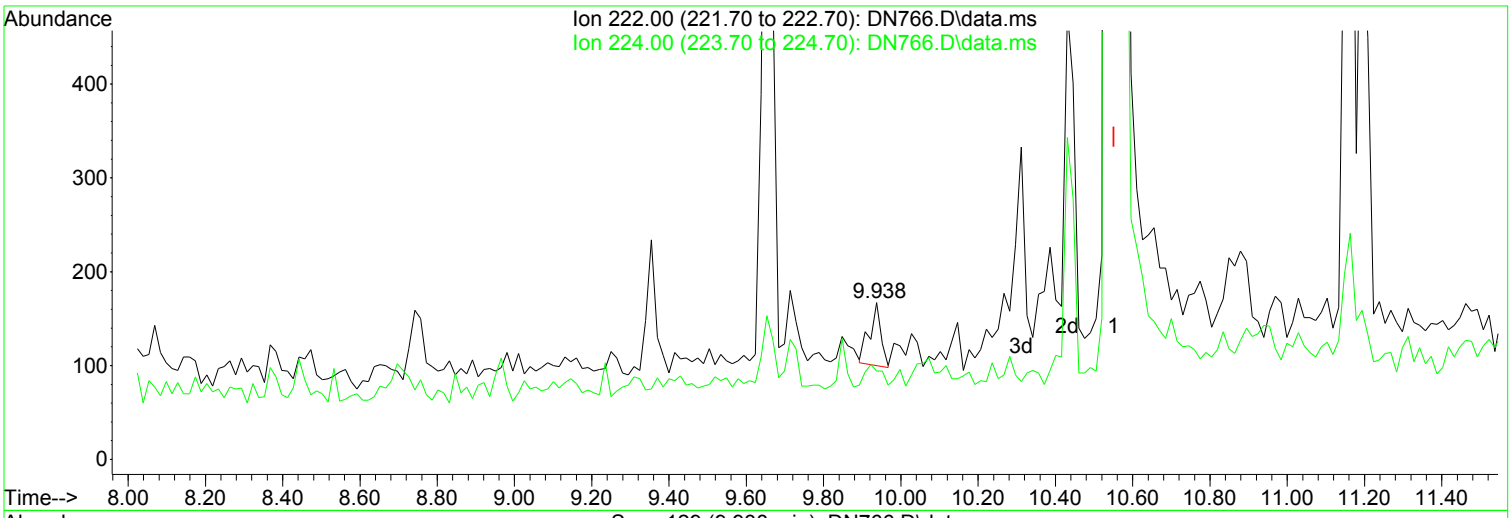
Other -

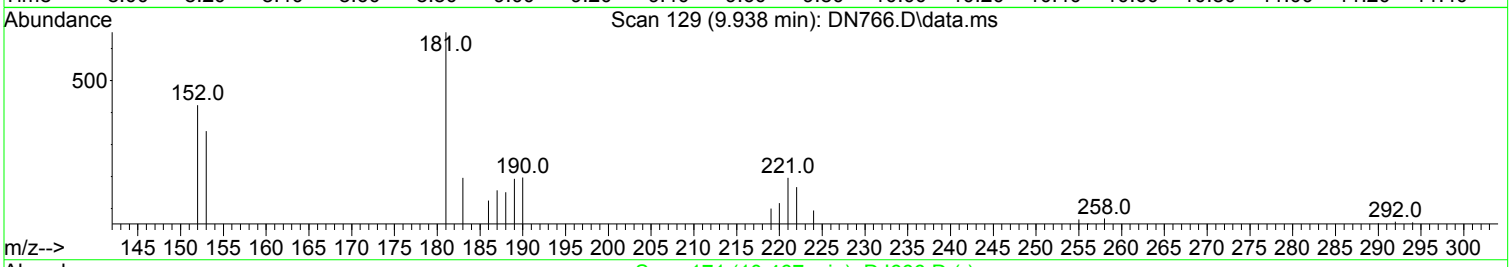
02/22/19

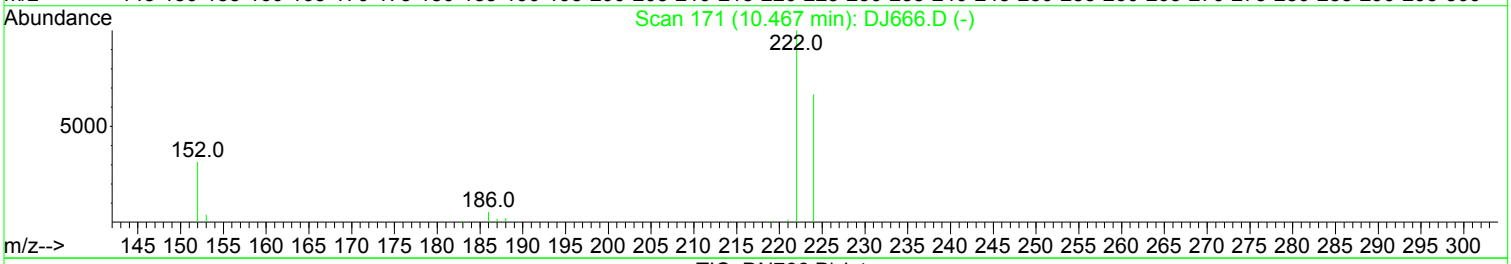
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN766.D
Acq On : 22 Feb 2019 10:04 am
Operator : J.Misiurewicz
Sample : RQ1901357-05
Misc : 331543 680 PCB R1380-014MSD
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Feb 22 11:44:02 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN766.D\data.ms

(31) CL2 - #4 (L2)

9.938min (-0.613) 0.00 ppm m

response 136

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	56.29
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

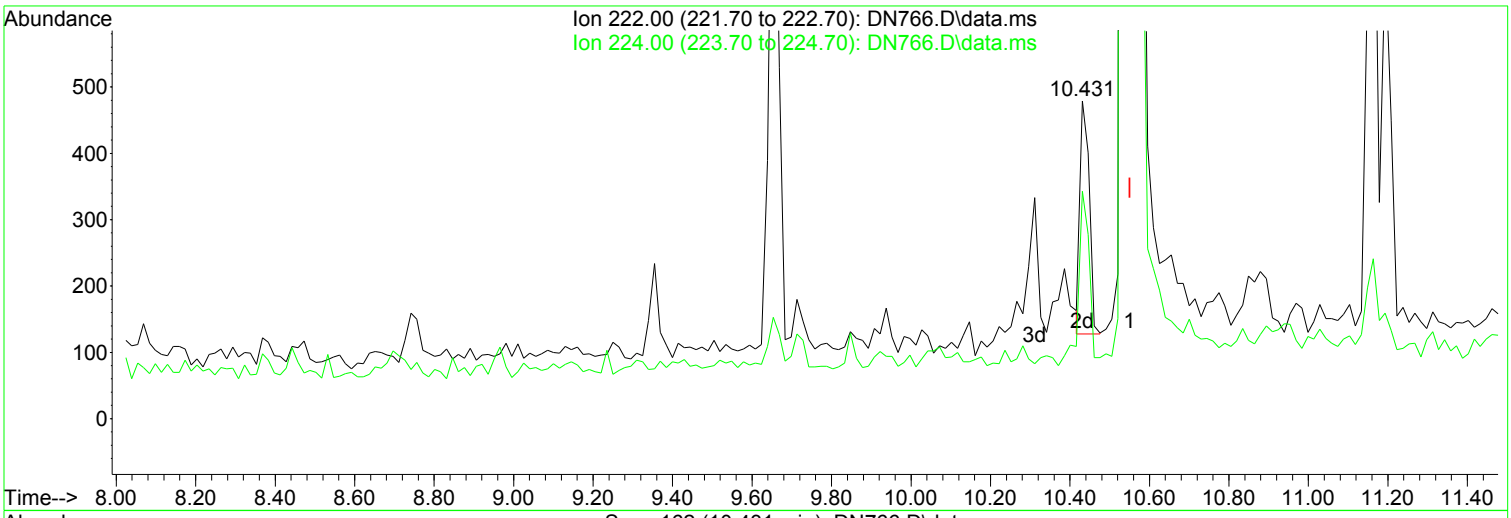
Other -

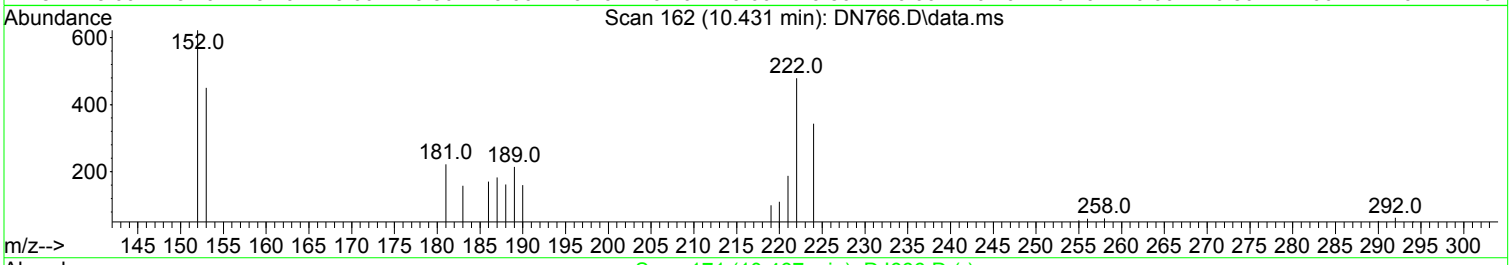
02/22/19

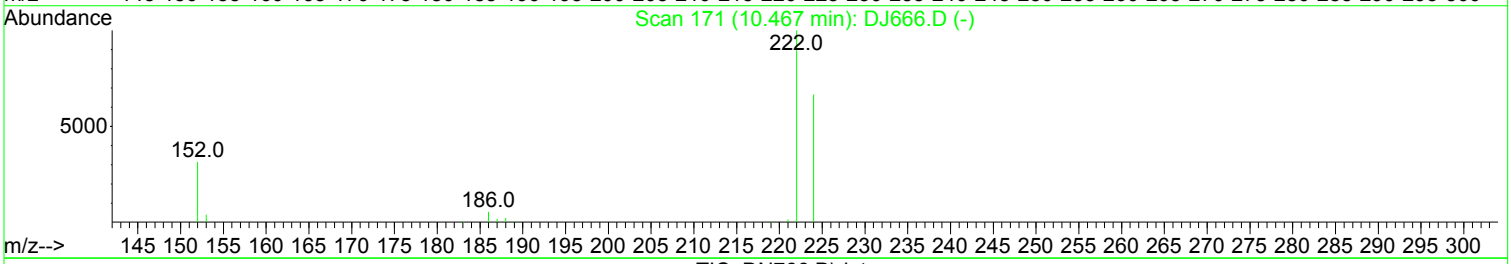
1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN766.D
Acq On : 22 Feb 2019 10:04 am
Operator : J.Misiurewicz
Sample : RQ1901357-05
Misc : 331543 680 PCB R1380-014MSD
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Feb 22 11:44:02 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN766.D\data.ms

(32) CL2 - #5 (L2)

10.431min (-0.120) 0.00 ppm m

response 571

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	71.61
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

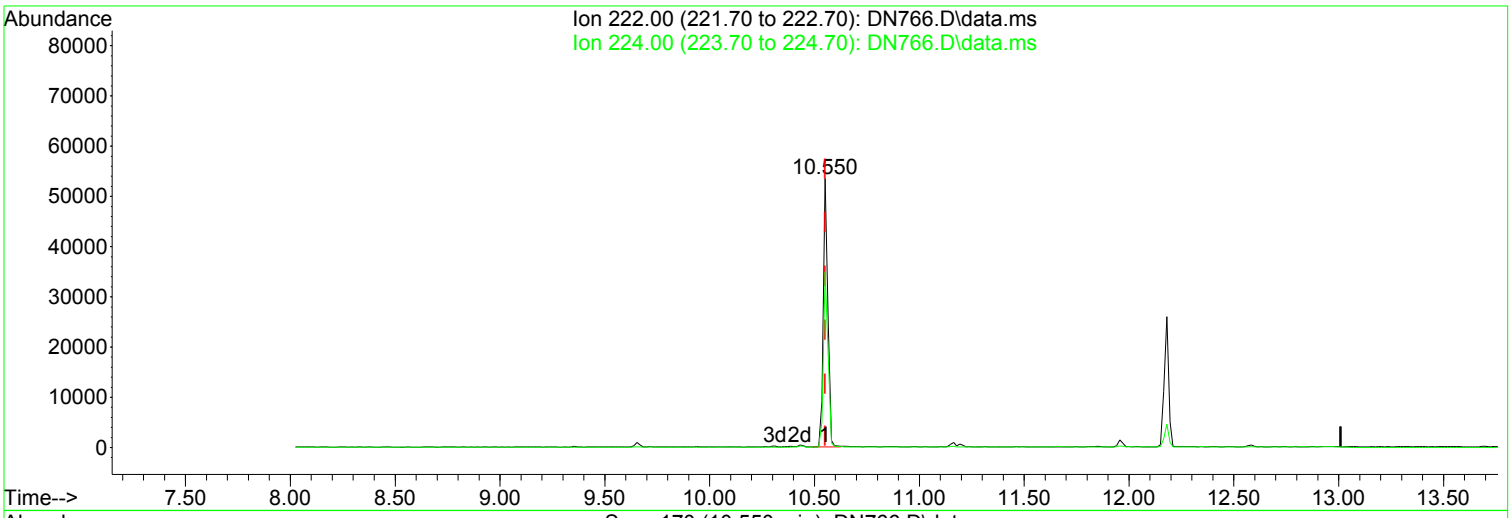
Other -

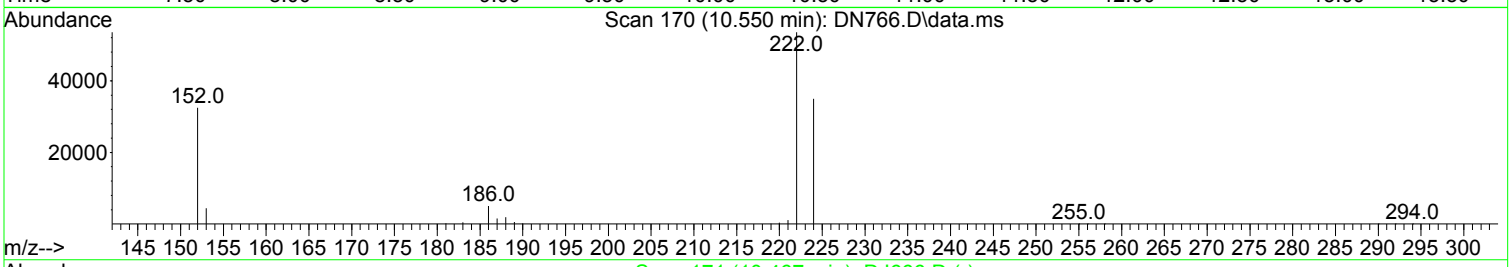
02/22/19

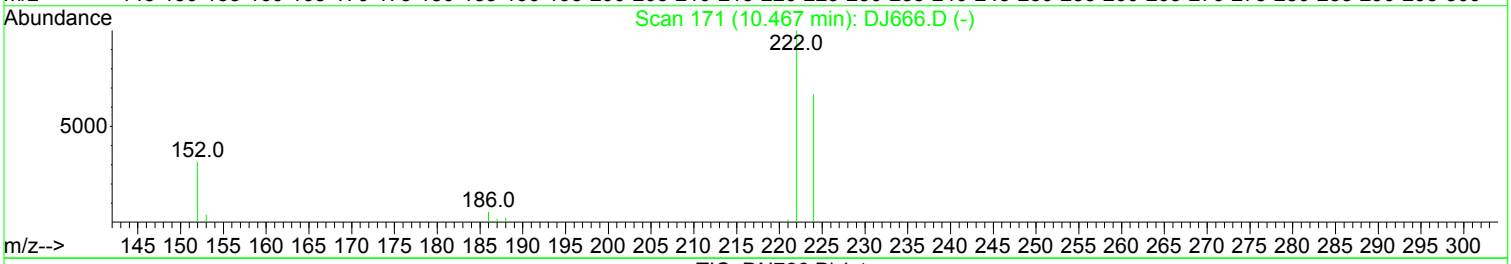
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN766.D
Acq On : 22 Feb 2019 10:04 am
Operator : J.Misiurewicz
Sample : RQ1901357-05
Misc : 331543 680 PCB R1380-014MSD
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Feb 22 11:44:02 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN766.D\data.ms

(33) CL2 - #6 (L2)

10.550min (-0.001) 0.00 ppm m

response 79451

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	65.35
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

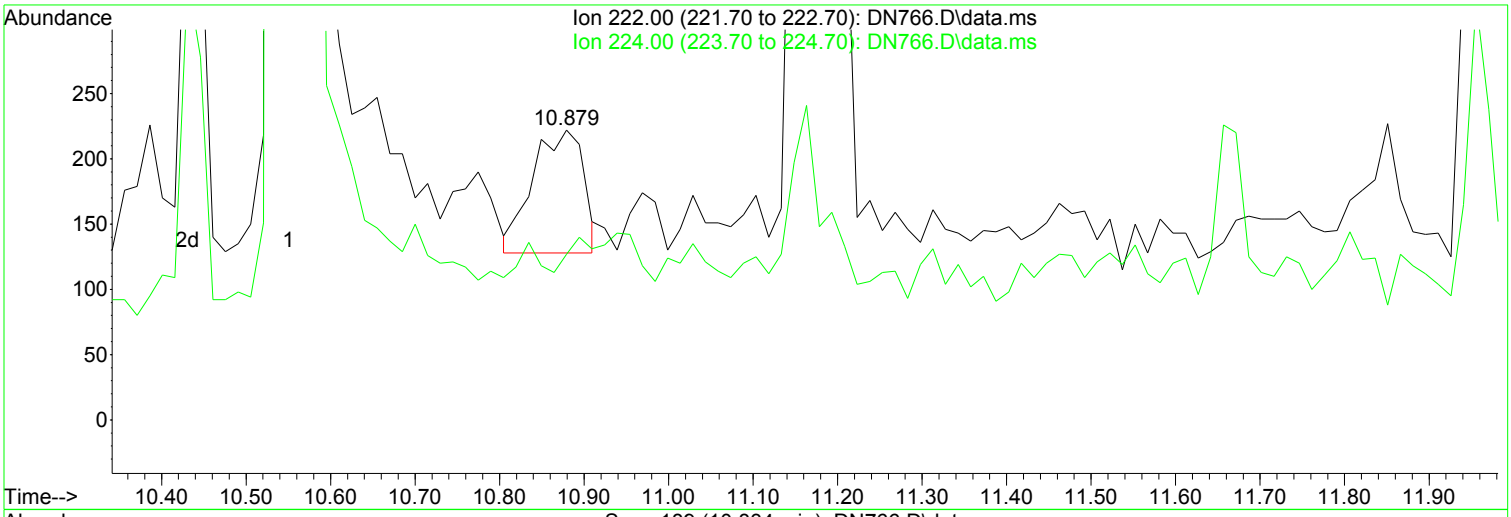
Other -

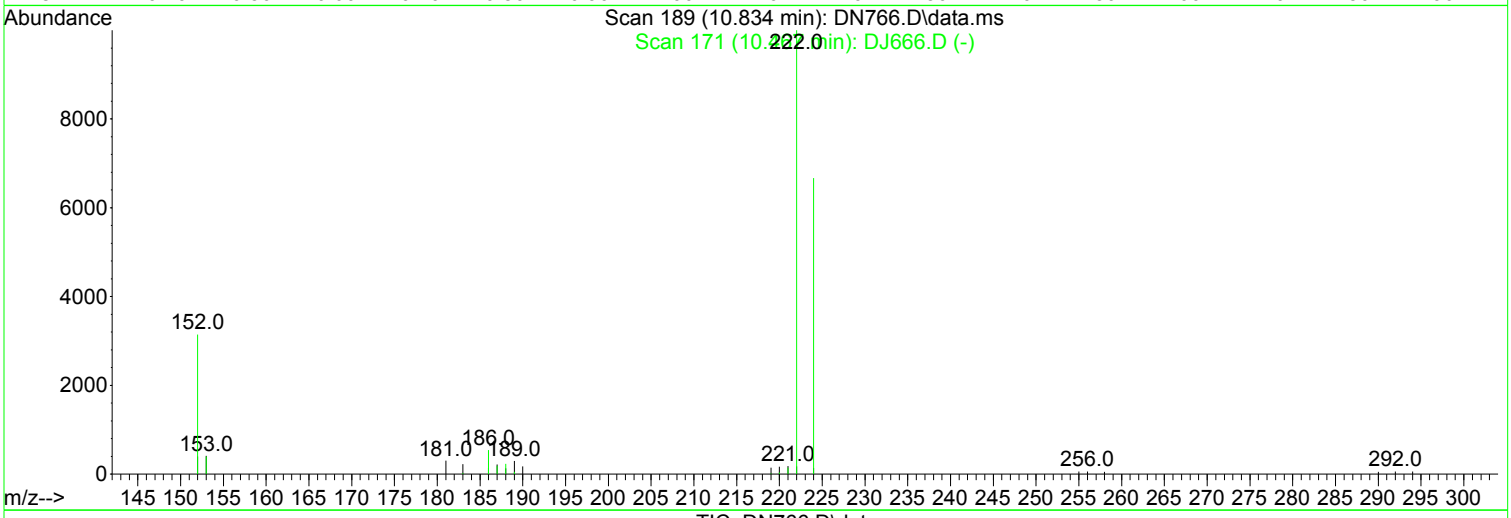
02/22/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN766.D
Acq On : 22 Feb 2019 10:04 am
Operator : J.Misiurewicz
Sample : RQ1901357-05
Misc : 331543 680 PCB R1380-014MSD
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Feb 22 11:44:02 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration





TIC: DN766.D\data.ms

(34) CL2 - #7 (L2)

10.879min (+ 0.328) 0.00 ppm m

response 392

Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	57.21
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Other -

02/22/19

1st DM 02/22/19
2nd MP 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN766.D
Acq On : 22 Feb 2019 10:04 am
Operator : J.Misiurewicz
Sample : RQ1901357-05
Misc : 331543 680 PCB R1380-014MSD
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Feb 22 11:44:02 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

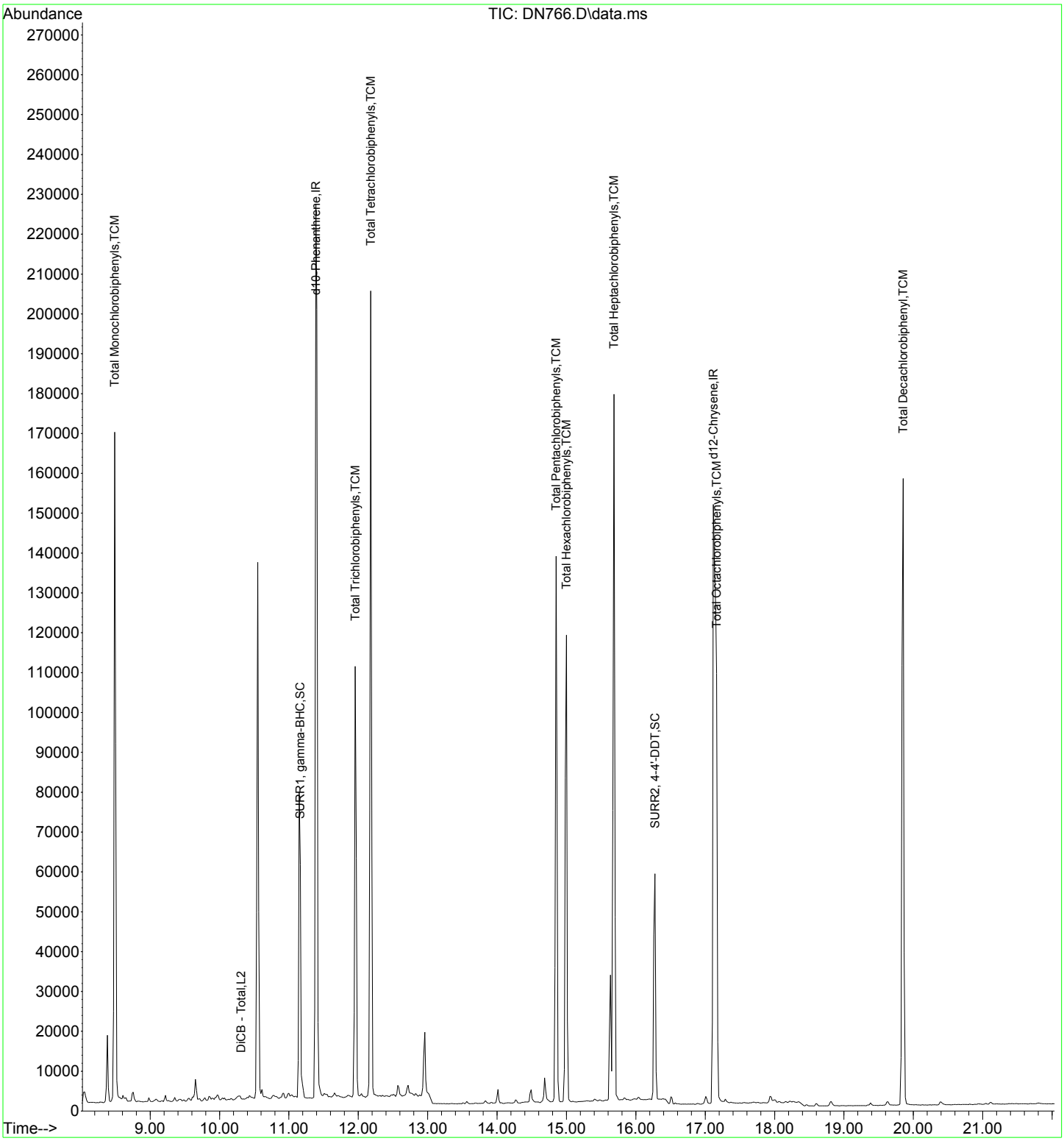
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	298278	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	237185	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.163	219	31748	0.82	ppm	0.01
Spiked Amount 1.000	Range 55 - 133		Recovery = 82.00%			
13) SURR2, 4-4'-DDT	16.276	235	49551	0.56	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 56.00%#			
Target Compounds						Qvalue
3) Total Monochlorobiphenyls	8.487	188	113184	0.366	ppm	95
6) Total Trichlorobiphenyls	11.956	256	55691	0.401	ppm	96
7) Total Tetrachlorobiphe...	12.180	292	69075	0.748	ppm	97
9) Total Pentachlorobiphe...	14.850	326	49891	0.752	ppm	92
10) Total Hexachlorobiphenyls	14.999	360	45672	0.689	ppm	92
12) Total Heptachlorobiphe...	15.684	394	61507	0.963	ppm	94
14) Total Octachlorobiphenyls	17.164	428	42251	0.965	ppm	97
16) Total Decachlorobiphenyl	19.852	498	52492	1.657	ppm	94
38) DiCB - Total	10.311	222	81122m	0.398	ppm	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN766.D
Acq On : 22 Feb 2019 10:04 am
Operator : J.Misiurewicz
Sample : RQ1901357-05
Misc : 331543 680 PCB R1380-014MSD
ALS Vial : 39 Sample Multiplier: 1

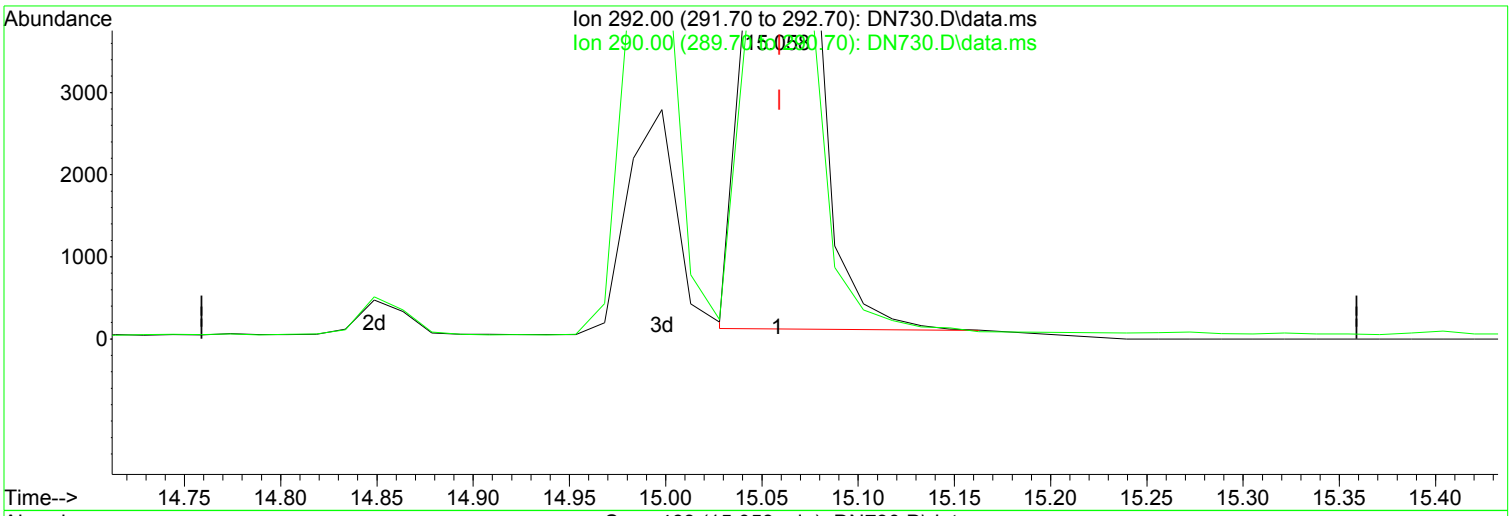
Quant Time: Feb 22 11:44:02 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

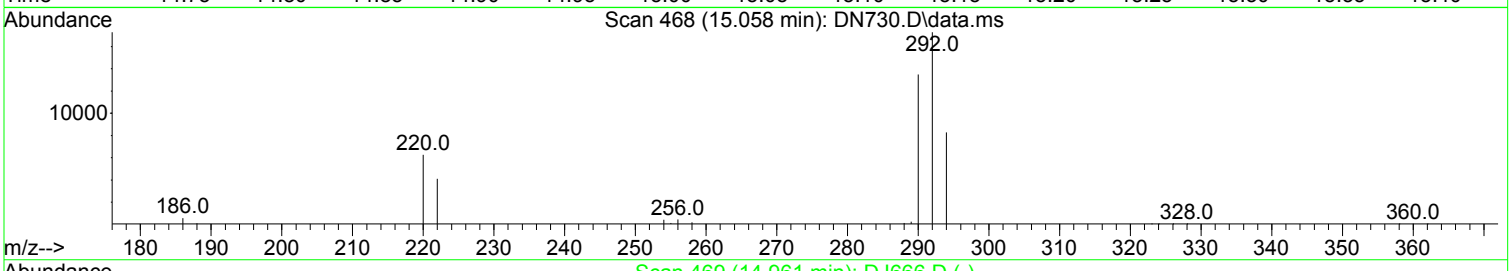


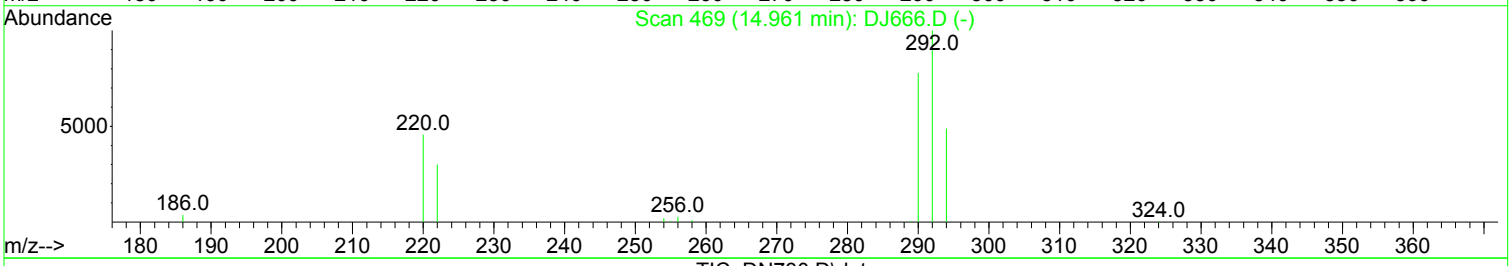
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN730.D
Acq On : 21 Feb 2019 4:59 pm
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 07:31:34 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN730.D\data.ms

(11) RT #77 (CL4) (TC)

15.058min (-0.001) 0.20 ppm m

response 26885

Ion	Exp%	Act%
292.00	100.00	100.00
290.00	78.40	78.03
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

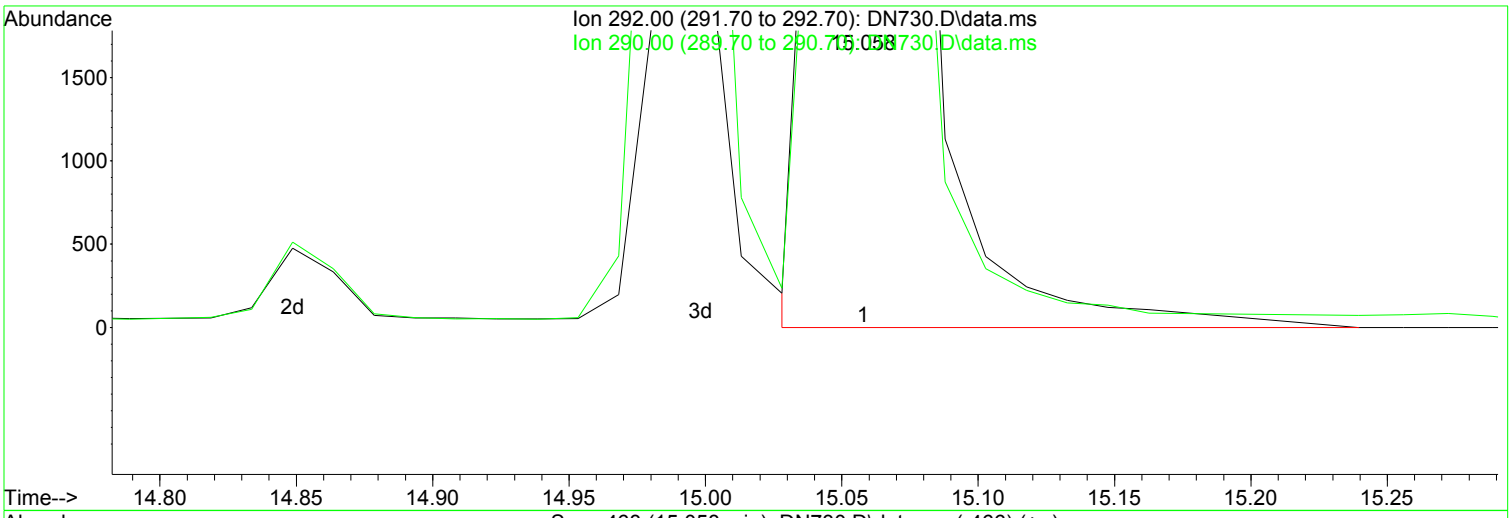
Poor integration.

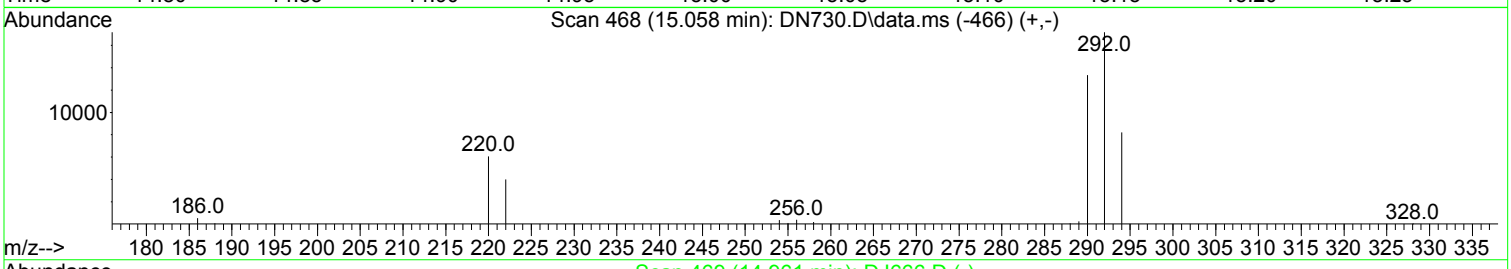
02/22/19

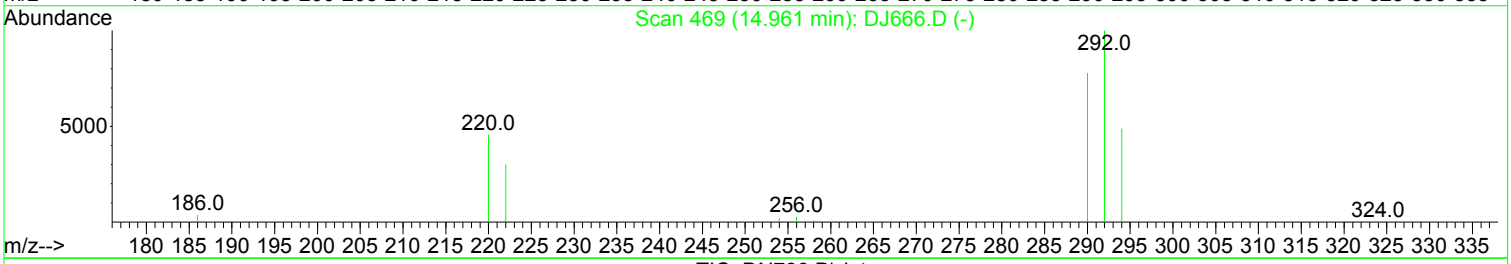
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN730.D
Acq On : 21 Feb 2019 4:59 pm
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 07:31:34 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN730.D\data.ms

(11) RT #77 (CL4) (TC)

15.058min (-0.001) 0.30 ppm

response 39324

Ion	Exp%	Act%
292.00	100.00	100.00
290.00	78.40	77.60
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

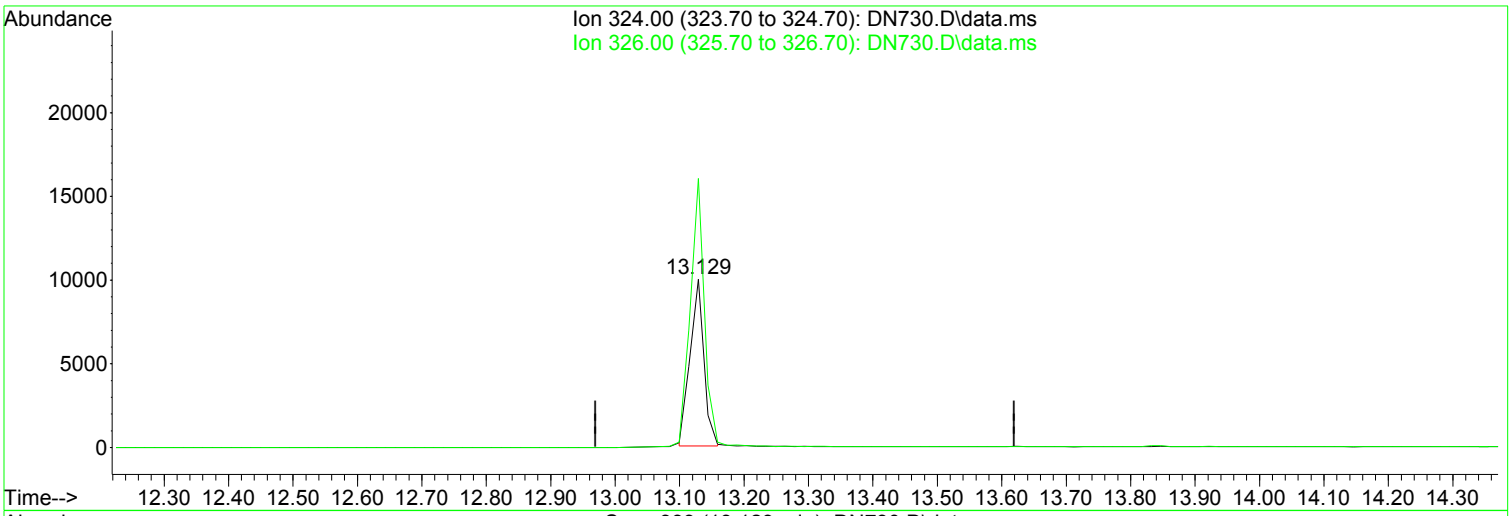
Before

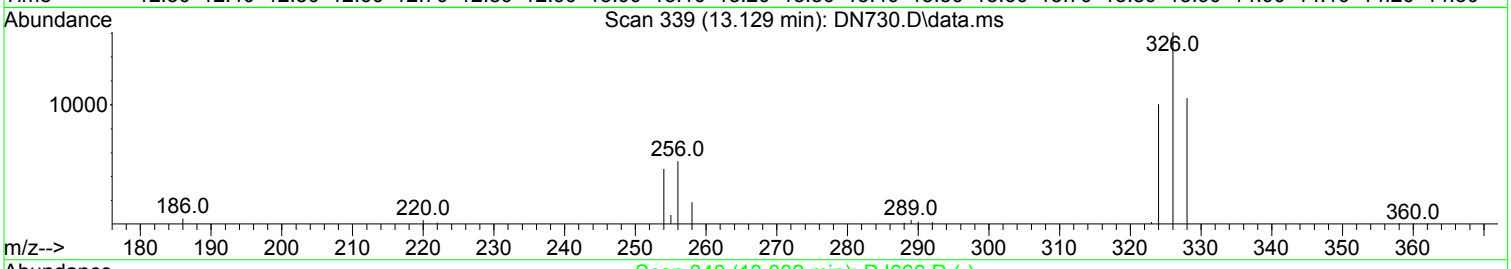
02/22/19

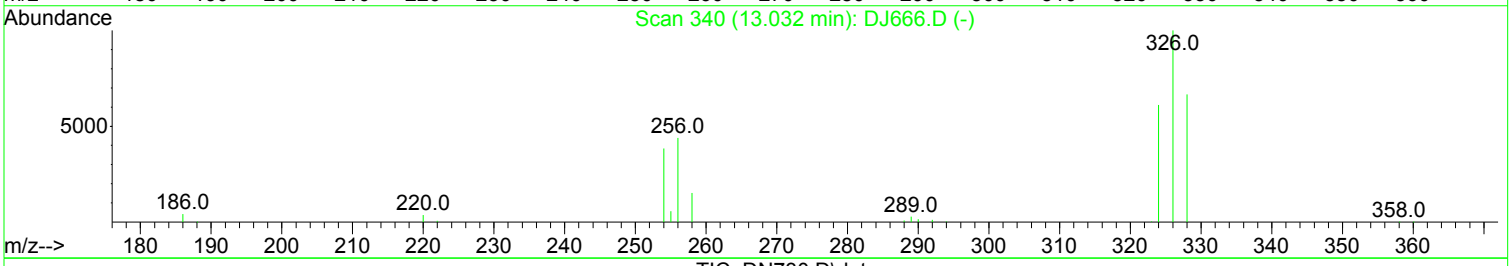
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN730.D
Acq On : 21 Feb 2019 4:59 pm
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 07:31:34 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN730.D\data.ms

(8) RT #104 (CL5) (TC)

13.129min (+ 0.010) 0.17 ppm m

response 14916

Ion	Exp%	Act%
324.00	100.00	100.00
326.00	158.00	159.85
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

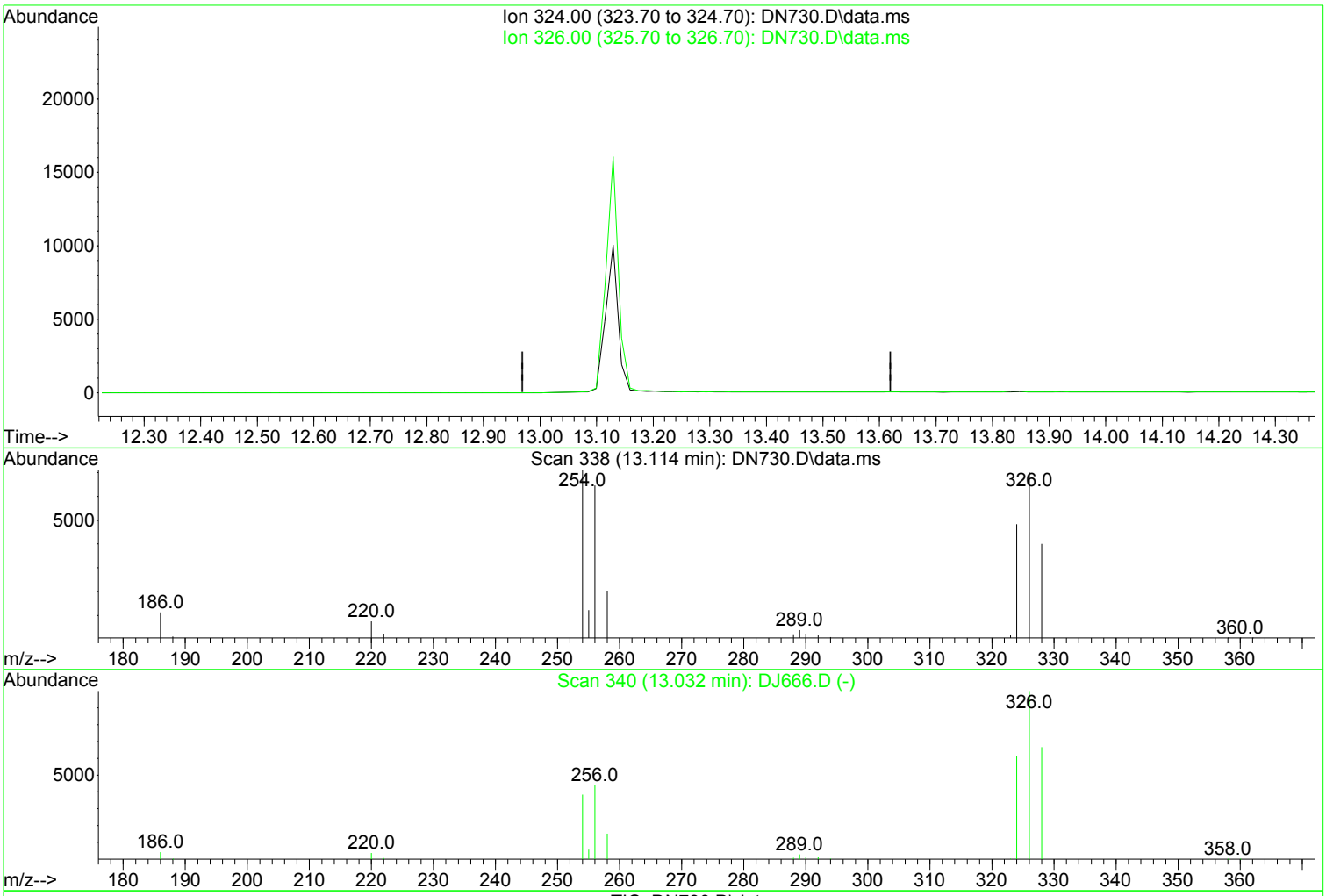
Peak not found.

02/22/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN730.D
Acq On : 21 Feb 2019 4:59 pm
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 07:31:34 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN730.D\data.ms

(8) RT #104 (CL5) (TC)

13.119min (-13.119) 0.00 ppm

response 0

Ion	Exp%	Act%
324.00	100.00	0.00
326.00	158.00	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

02/22/19

1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN730.D
Acq On : 21 Feb 2019 4:59 pm
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 07:31:34 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 70% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	IR	d10-Phenanthrene	0.750	0.750	0.0	123	0.00
2	IR	d12-Chrysene	0.750	0.750	0.0	140	0.01
3	TCM	Total Monochlorobiphenyls	0.100	0.081	19.0	112	0.01
4	TCM	Total Dichlorobiphenyls	0.100	0.087	13.0	120	0.00
5	SC	SURR1, gamma-BHC	0.200	0.171	14.5	118	0.01
6	TCM	Total Trichlorobiphenyls	0.100	0.093	7.0	135	0.01
7	TCM	Total Tetrachlorobiphenyls	0.200	0.181	9.5	123	0.00
8	TC	RT #104 (CL5)	0.200	0.173	13.5	120	0.00
9	TCM	Total Pentachlorobiphenyls	0.200	0.193	3.5	134	0.01
10	TCM	Total Hexachlorobiphenyls	0.200	0.190	5.0	134	0.00
11	TC	RT #77 (CL4)	0.200	0.203	-1.5	145	0.00
12	TCM	Total Heptachlorobiphenyls	0.300	0.269	10.3	126	0.00
13	SC	SURR2, 4-4'-DDT	0.200	0.230	-15.0	169	0.00
14	TCM	Total Octachlorobiphenyls	0.300	0.257	14.3	118	0.00
15	TC	Total Nonachlorobiphenyls R	0.400	0.362	9.5	122	0.00
16	TCM	Total Decachlorobiphenyl	0.500	0.438	12.4	125	0.00
17	L1	CL1 - #1	0.100	0.000	100.0#	0	-8.49#
18	L1	CL1 - #2	0.100	0.000	100.0#	0	-8.49#
19	L1	CL1 - #3	0.100	0.000	100.0#	0	-8.49#
20	L1	CL1 - #4	0.100	0.000	100.0#	0	-8.49#
21	L1	CL1 - #5	0.100	0.000	100.0#	0	-8.49#
22	L1	CL1 - #6	0.100	0.000	100.0#	0	-8.49#
23	L1	CL1 - #7	0.100	0.000	100.0#	0	-8.49#
24	L1	CL1 - #8	0.100	0.000	100.0#	0	-8.49#
25	L1	CL1 - #9	0.100	0.000	100.0#	0	-8.49#
26	L1	CL1 - #10	0.100	0.000	100.0#	0	-8.49#
27	L1	MonoCB - Total	0.100	0.000	100.0#	0	-8.49#
28	L2	CL2 - #1	0.100	0.000	100.0#	0	-10.55#
29	L2	CL2 - #2	0.100	0.000	100.0#	0	-10.55#
30	L2	CL2 - #3	0.100	0.000	100.0#	0	-10.55#
31	L2	CL2 - #4	0.100	0.000	100.0#	0	-10.55#
32	L2	CL2 - #5	0.100	0.000	100.0#	0	-10.55#
33	L2	CL2 - #6	0.100	0.000	100.0#	0	-10.55#
34	L2	CL2 - #7	0.100	0.000	100.0#	0	-10.55#
35	L2	CL2 - #8	0.100	0.000	100.0#	0	-10.55#
36	L2	CL2 - #9	0.100	0.000	100.0#	0	-10.55#
37	L2	CL2 - #10	0.100	0.000	100.0#	0	-10.55#
38	L2	DiCB - Total	0.100	0.000	100.0#	0	-10.55#
39	L3	CL3 - #1	0.100	0.000	100.0#	0	-11.96#
40	L3	CL3 - #2	0.100	0.000	100.0#	0	-11.96#
41	L3	CL3 - #3	0.100	0.000	100.0#	0	-11.96#
42	L3	CL3 - #4	0.100	0.000	100.0#	0	-11.96#
43	L3	CL3 - #5	0.100	0.000	100.0#	0	-11.96#
44	L3	CL3 - #6	0.100	0.000	100.0#	0	-11.96#
45	L3	CL3 - #7	0.100	0.000	100.0#	0	-11.96#
46	L3	CL3 - #8	0.100	0.000	100.0#	0	-11.96#
47	L3	CL3 - #9	0.100	0.000	100.0#	0	-11.96#
48	L3	CL3 - #10	0.100	0.000	100.0#	0	-11.96#
49	L3	CL3 - #11	0.100	0.000	100.0#	0	-11.96#
50	L3	CL3 - #12	0.100	0.000	100.0#	0	-11.96#
51	L3	CL3 - #13	0.100	0.000	100.0#	0	-11.96#

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN730.D
Acq On : 21 Feb 2019 4:59 pm
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 07:31:34 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 70% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
52	L3	TriCB - Total	0.100	0.000	100.0#	0	-11.96#
53	L4	CL4 - #1	0.200	0.000	100.0#	0	-12.18#
54	L4	CL4 - #2	0.200	0.000	100.0#	0	-12.18#
55	L4	CL4 - #3	0.200	0.000	100.0#	0	-12.18#
56	L4	CL4 - #4	0.200	0.000	100.0#	0	-12.18#
57	L4	CL4 - #5	0.200	0.000	100.0#	0	-12.18#
58	L4	CL4 - #6	0.200	0.000	100.0#	0	-12.18#
59	L4	CL4 - #7	0.200	0.000	100.0#	0	-12.18#
60	L4	CL4 - #8	0.200	0.000	100.0#	0	-12.18#
61	L4	CL4 - #9	0.200	0.000	100.0#	0	-12.18#
62	L4	CL4 - #10	0.200	0.000	100.0#	0	-12.18#
63	L4	CL4 - #11	0.200	0.000	100.0#	0	-12.18#
64	L4	CL4 - #12	0.200	0.000	100.0#	0	-12.18#
65	L4	CL4 - #13	0.200	0.000	100.0#	0	-12.18#
66	L4	CL4 - #14	0.200	0.000	100.0#	0	-12.18#
67	L4	CL4 - #15	0.200	0.000	100.0#	0	-12.18#
68	L4	TetraCB - Total	0.200	0.000	100.0#	0	-12.18#
69	L5	CL5 - #1	0.200	0.000	100.0#	0	-14.85#
70	L5	CL5 - #2	0.200	0.000	100.0#	0	-14.85#
71	L5	CL5 - #3	0.200	0.000	100.0#	0	-14.85#
72	L5	CL5 - #4	0.200	0.000	100.0#	0	-14.85#
73	L5	CL5 - #5	0.200	0.000	100.0#	0	-14.85#
74	L5	CL5 - #6	0.200	0.000	100.0#	0	-14.85#
75	L5	CL5 - #7	0.200	0.000	100.0#	0	-14.85#
76	L5	CL5 - #8	0.200	0.000	100.0#	0	-14.85#
77	L5	CL5 - #9	0.200	0.000	100.0#	0	-14.85#
78	L5	CL5 - #10	0.200	0.000	100.0#	0	-14.85#
79	L5	CL5 - #11	0.200	0.000	100.0#	0	-14.85#
80	L5	CL5 - #12	0.200	0.000	100.0#	0	-14.85#
81	L5	CL5 - #13	0.200	0.000	100.0#	0	-14.85#
82	L5	CL5 - #14	0.200	0.000	100.0#	0	-14.85#
83	L5	CL5 - #15	0.200	0.000	100.0#	0	-14.85#
84	L5	PentaCB - Total	0.200	0.000	100.0#	0	-14.85#
85	L6	CL6 - #1	0.200	0.000	100.0#	0	-15.00#
86	L6	CL6 - #2	0.200	0.000	100.0#	0	-15.00#
87	L6	CL6 - #3	0.200	0.000	100.0#	0	-15.00#
88	L6	CL6 - #4	0.200	0.000	100.0#	0	-15.00#
89	L6	CL6 - #5	0.200	0.000	100.0#	0	-15.00#
90	L6	CL6 - #6	0.200	0.000	100.0#	0	-15.00#
91	L6	CL6 - #7	0.200	0.000	100.0#	0	-15.00#
92	L6	CL6 - #8	0.200	0.000	100.0#	0	-15.00#
93	L6	CL6 - #9	0.200	0.000	100.0#	0	-15.00#
94	L6	CL6 - #10	0.200	0.000	100.0#	0	-15.00#
95	L6	CL6 - #11	0.200	0.000	100.0#	0	-15.00#
96	L6	CL6 - #12	0.200	0.000	100.0#	0	-15.00#
97	L6	CL6 - #13	0.200	0.000	100.0#	0	-15.00#
98	L6	CL6 - #14	0.200	0.000	100.0#	0	-15.00#
99	L6	CL6 - #15	0.200	0.000	100.0#	0	-15.00#
100	L6	HexaCB - Total	0.200	0.000	100.0#	0	-15.00#
101	L7	CL7 - #1	0.300	0.000	100.0#	0	-15.68#
102	L7	CL7 - #2	0.300	0.000	100.0#	0	-15.68#
103	L7	CL7 - #3	0.300	0.000	100.0#	0	-15.68#

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN730.D
Acq On : 21 Feb 2019 4:59 pm
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 07:31:34 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 70% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
104	L7	CL7 - #4	0.300	0.000	100.0#	0	-15.68#
105	L7	CL7 - #5	0.300	0.000	100.0#	0	-15.68#
106	L7	CL7 - #6	0.300	0.000	100.0#	0	-15.68#
107	L7	CL7 - #7	0.300	0.000	100.0#	0	-15.68#
108	L7	CL7 - #8	0.300	0.000	100.0#	0	-15.68#
109	L7	CL7 - #9	0.300	0.000	100.0#	0	-15.68#
110	L7	CL7 - #10	0.300	0.000	100.0#	0	-15.68#
111	L7	HeptaCB - Total	0.300	0.000	100.0#	0	-15.68#
112	L8	CL8 - #1	0.300	0.000	100.0#	0	-17.16#
113	L8	CL8 - #2	0.300	0.000	100.0#	0	-17.16#
114	L8	CL8 - #3	0.300	0.000	100.0#	0	-17.16#
115	L8	CL8 - #4	0.300	0.000	100.0#	0	-17.16#
116	L8	CL8 - #5	0.300	0.000	100.0#	0	-17.16#
117	L8	CL8 - #6	0.300	0.000	100.0#	0	-17.16#
118	L8	CL8 - #7	0.300	0.000	100.0#	0	-17.16#
119	L8	CL8 - #8	0.300	0.000	100.0#	0	-17.16#
120	L8	OctaCB - Total	0.300	0.000	100.0#	0	-17.16#
121	L9	CL9 - #1	0.400	0.000	100.0#	0	-18.47#
122	L9	CL9 - #2	0.400	0.000	100.0#	0	-18.47#
123	L9	CL9 - #3	0.400	0.000	100.0#	0	-18.47#
124	L9	CL9 - #4	0.400	0.000	100.0#	0	-18.47#
125	L9	CL9 - #5	0.400	0.000	100.0#	0	-18.47#
126	L9	NonaCB - Total	0.400	0.000	100.0#	0	-18.47#
127	L10	CL10 - #1	0.500	0.000	100.0#	0	-19.85#
128	L10	CL10 - #2	0.500	0.000	100.0#	0	-19.85#
129	L10	CL10 - #3	0.500	0.000	100.0#	0	-19.85#
130	L10	DecaCB - Total	0.500	0.000	100.0#	0	-19.85#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN730.D
Acq On : 21 Feb 2019 4:59 pm
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 07:31:34 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

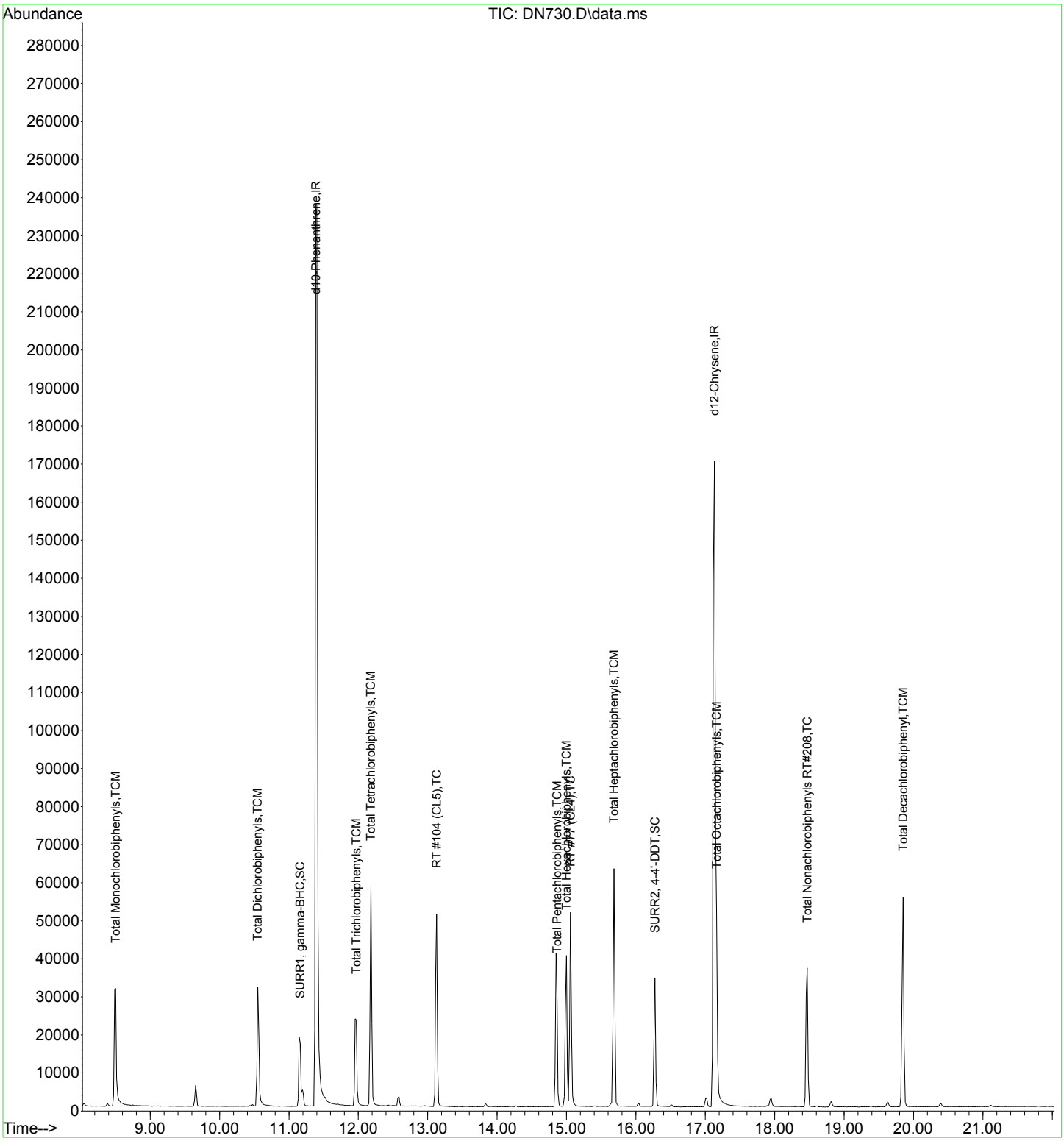
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	378563	0.75	ppm	0.00
2) d12-Chrysene	17.132	240	297634	0.75	ppm	0.01
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.164	219	8293	0.17	ppm	0.01
Spiked Amount 1.000	Range 55 - 133		Recovery = 17.00%#			
13) SURR2, 4-4'-DDT	16.275	235	25450	0.23	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 23.00%#			
Target Compounds						Qvalue
3) Total Monochlorobiphenyls	8.503	188	31452	0.081	ppm	90
4) Total Dichlorobiphenyls	10.551	222	22338	0.087	ppm	98
6) Total Trichlorobiphenyls	11.971	256	16135	0.093	ppm	98
7) Total Tetrachlorobiphe...	12.180	292	20935	0.181	ppm	99
8) RT #104 (CL5)	13.129	324	14916m	0.173	ppm	
9) Total Pentachlorobiphe...	14.864	326	16046	0.193	ppm	97
10) Total Hexachlorobiphenyls	14.998	360	15813	0.190	ppm	95
11) RT #77 (CL4)	15.058	292	26885m	0.203	ppm	
12) Total Heptachlorobiphe...	15.683	394	21522	0.269	ppm	99
14) Total Octachlorobiphenyls	17.164	428	14126	0.257	ppm	98
15) Total Nonachlorobiphen...	18.470	464	16961	0.362	ppm	99
16) Total Decachlorobiphenyl	19.851	498	17423	0.438	ppm	90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN730.D
Acq On : 21 Feb 2019 4:59 pm
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 07:31:34 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN743.D
Acq On : 21 Feb 2019 11:15 pm
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 08:04:39 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 70% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	IR	d10-Phenanthrene	0.750	0.750	0.0	125	0.00
2	IR	d12-Chrysene	0.750	0.750	0.0	138	0.00
3	TCM	Total Monochlorobiphenyls	0.100	0.081	19.0	110	0.00
4	TCM	Total Dichlorobiphenyls	0.100	0.090	10.0	122	0.00
5	SC	SURR1, gamma-BHC	0.200	0.178	11.0	120	0.01
6	TCM	Total Trichlorobiphenyls	0.100	0.096	4.0	137	0.00
7	TCM	Total Tetrachlorobiphenyls	0.200	0.184	8.0	123	0.00
8	TC	RT #104 (CL5)	0.200	0.183	8.5	124	0.01
9	TCM	Total Pentachlorobiphenyls	0.200	0.200	0.0	137	0.00
10	TCM	Total Hexachlorobiphenyls	0.200	0.192	4.0	133	0.00
11	TC	RT #77 (CL4)	0.200	0.197	1.5	138	0.00
12	TCM	Total Heptachlorobiphenyls	0.300	0.280	6.7	129	0.00
13	SC	SURR2, 4-4'-DDT	0.200	0.236	-18.0	170	0.00
14	TCM	Total Octachlorobiphenyls	0.300	0.271	9.7	121	0.00
15	TC	Total Nonachlorobiphenyls R	0.400	0.373	6.8	124	0.00
16	TCM	Total Decachlorobiphenyl	0.500	0.453	9.4	126	0.00
17	L1	CL1 - #1	0.100	0.000	100.0#	0	-8.49#
18	L1	CL1 - #2	0.100	0.000	100.0#	0	-8.49#
19	L1	CL1 - #3	0.100	0.000	100.0#	0	-8.49#
20	L1	CL1 - #4	0.100	0.000	100.0#	0	-8.49#
21	L1	CL1 - #5	0.100	0.000	100.0#	0	-8.49#
22	L1	CL1 - #6	0.100	0.000	100.0#	0	-8.49#
23	L1	CL1 - #7	0.100	0.000	100.0#	0	-8.49#
24	L1	CL1 - #8	0.100	0.000	100.0#	0	-8.49#
25	L1	CL1 - #9	0.100	0.000	100.0#	0	-8.49#
26	L1	CL1 - #10	0.100	0.000	100.0#	0	-8.49#
27	L1	MonoCB - Total	0.100	0.000	100.0#	0	-8.49#
28	L2	CL2 - #1	0.100	0.000	100.0#	0	-10.55#
29	L2	CL2 - #2	0.100	0.000	100.0#	0	-10.55#
30	L2	CL2 - #3	0.100	0.000	100.0#	0	-10.55#
31	L2	CL2 - #4	0.100	0.000	100.0#	0	-10.55#
32	L2	CL2 - #5	0.100	0.000	100.0#	0	-10.55#
33	L2	CL2 - #6	0.100	0.000	100.0#	0	-10.55#
34	L2	CL2 - #7	0.100	0.000	100.0#	0	-10.55#
35	L2	CL2 - #8	0.100	0.000	100.0#	0	-10.55#
36	L2	CL2 - #9	0.100	0.000	100.0#	0	-10.55#
37	L2	CL2 - #10	0.100	0.000	100.0#	0	-10.55#
38	L2	DiCB - Total	0.100	0.000	100.0#	0	-10.55#
39	L3	CL3 - #1	0.100	0.000	100.0#	0	-11.96#
40	L3	CL3 - #2	0.100	0.000	100.0#	0	-11.96#
41	L3	CL3 - #3	0.100	0.000	100.0#	0	-11.96#
42	L3	CL3 - #4	0.100	0.000	100.0#	0	-11.96#
43	L3	CL3 - #5	0.100	0.000	100.0#	0	-11.96#
44	L3	CL3 - #6	0.100	0.000	100.0#	0	-11.96#
45	L3	CL3 - #7	0.100	0.000	100.0#	0	-11.96#
46	L3	CL3 - #8	0.100	0.000	100.0#	0	-11.96#
47	L3	CL3 - #9	0.100	0.000	100.0#	0	-11.96#
48	L3	CL3 - #10	0.100	0.000	100.0#	0	-11.96#
49	L3	CL3 - #11	0.100	0.000	100.0#	0	-11.96#
50	L3	CL3 - #12	0.100	0.000	100.0#	0	-11.96#
51	L3	CL3 - #13	0.100	0.000	100.0#	0	-11.96#

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN743.D
Acq On : 21 Feb 2019 11:15 pm
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 08:04:39 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 70% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
52	L3	TriCB - Total	0.100	0.000	100.0#	0	-11.96#
53	L4	CL4 - #1	0.200	0.000	100.0#	0	-12.18#
54	L4	CL4 - #2	0.200	0.000	100.0#	0	-12.18#
55	L4	CL4 - #3	0.200	0.000	100.0#	0	-12.18#
56	L4	CL4 - #4	0.200	0.000	100.0#	0	-12.18#
57	L4	CL4 - #5	0.200	0.000	100.0#	0	-12.18#
58	L4	CL4 - #6	0.200	0.000	100.0#	0	-12.18#
59	L4	CL4 - #7	0.200	0.000	100.0#	0	-12.18#
60	L4	CL4 - #8	0.200	0.000	100.0#	0	-12.18#
61	L4	CL4 - #9	0.200	0.000	100.0#	0	-12.18#
62	L4	CL4 - #10	0.200	0.000	100.0#	0	-12.18#
63	L4	CL4 - #11	0.200	0.000	100.0#	0	-12.18#
64	L4	CL4 - #12	0.200	0.000	100.0#	0	-12.18#
65	L4	CL4 - #13	0.200	0.000	100.0#	0	-12.18#
66	L4	CL4 - #14	0.200	0.000	100.0#	0	-12.18#
67	L4	CL4 - #15	0.200	0.000	100.0#	0	-12.18#
68	L4	TetraCB - Total	0.200	0.000	100.0#	0	-12.18#
69	L5	CL5 - #1	0.200	0.000	100.0#	0	-14.85#
70	L5	CL5 - #2	0.200	0.000	100.0#	0	-14.85#
71	L5	CL5 - #3	0.200	0.000	100.0#	0	-14.85#
72	L5	CL5 - #4	0.200	0.000	100.0#	0	-14.85#
73	L5	CL5 - #5	0.200	0.000	100.0#	0	-14.85#
74	L5	CL5 - #6	0.200	0.000	100.0#	0	-14.85#
75	L5	CL5 - #7	0.200	0.000	100.0#	0	-14.85#
76	L5	CL5 - #8	0.200	0.000	100.0#	0	-14.85#
77	L5	CL5 - #9	0.200	0.000	100.0#	0	-14.85#
78	L5	CL5 - #10	0.200	0.000	100.0#	0	-14.85#
79	L5	CL5 - #11	0.200	0.000	100.0#	0	-14.85#
80	L5	CL5 - #12	0.200	0.000	100.0#	0	-14.85#
81	L5	CL5 - #13	0.200	0.000	100.0#	0	-14.85#
82	L5	CL5 - #14	0.200	0.000	100.0#	0	-14.85#
83	L5	CL5 - #15	0.200	0.000	100.0#	0	-14.85#
84	L5	PentaCB - Total	0.200	0.000	100.0#	0	-14.85#
85	L6	CL6 - #1	0.200	0.000	100.0#	0	-15.00#
86	L6	CL6 - #2	0.200	0.000	100.0#	0	-15.00#
87	L6	CL6 - #3	0.200	0.000	100.0#	0	-15.00#
88	L6	CL6 - #4	0.200	0.000	100.0#	0	-15.00#
89	L6	CL6 - #5	0.200	0.000	100.0#	0	-15.00#
90	L6	CL6 - #6	0.200	0.000	100.0#	0	-15.00#
91	L6	CL6 - #7	0.200	0.000	100.0#	0	-15.00#
92	L6	CL6 - #8	0.200	0.000	100.0#	0	-15.00#
93	L6	CL6 - #9	0.200	0.000	100.0#	0	-15.00#
94	L6	CL6 - #10	0.200	0.000	100.0#	0	-15.00#
95	L6	CL6 - #11	0.200	0.000	100.0#	0	-15.00#
96	L6	CL6 - #12	0.200	0.000	100.0#	0	-15.00#
97	L6	CL6 - #13	0.200	0.000	100.0#	0	-15.00#
98	L6	CL6 - #14	0.200	0.000	100.0#	0	-15.00#
99	L6	CL6 - #15	0.200	0.000	100.0#	0	-15.00#
100	L6	HexaCB - Total	0.200	0.000	100.0#	0	-15.00#
101	L7	CL7 - #1	0.300	0.000	100.0#	0	-15.68#
102	L7	CL7 - #2	0.300	0.000	100.0#	0	-15.68#
103	L7	CL7 - #3	0.300	0.000	100.0#	0	-15.68#

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN743.D
Acq On : 21 Feb 2019 11:15 pm
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 08:04:39 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 70% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
104	L7	CL7 - #4	0.300	0.000	100.0#	0	-15.68#
105	L7	CL7 - #5	0.300	0.000	100.0#	0	-15.68#
106	L7	CL7 - #6	0.300	0.000	100.0#	0	-15.68#
107	L7	CL7 - #7	0.300	0.000	100.0#	0	-15.68#
108	L7	CL7 - #8	0.300	0.000	100.0#	0	-15.68#
109	L7	CL7 - #9	0.300	0.000	100.0#	0	-15.68#
110	L7	CL7 - #10	0.300	0.000	100.0#	0	-15.68#
111	L7	HeptaCB - Total	0.300	0.000	100.0#	0	-15.68#
112	L8	CL8 - #1	0.300	0.000	100.0#	0	-17.16#
113	L8	CL8 - #2	0.300	0.000	100.0#	0	-17.16#
114	L8	CL8 - #3	0.300	0.000	100.0#	0	-17.16#
115	L8	CL8 - #4	0.300	0.000	100.0#	0	-17.16#
116	L8	CL8 - #5	0.300	0.000	100.0#	0	-17.16#
117	L8	CL8 - #6	0.300	0.000	100.0#	0	-17.16#
118	L8	CL8 - #7	0.300	0.000	100.0#	0	-17.16#
119	L8	CL8 - #8	0.300	0.000	100.0#	0	-17.16#
120	L8	OctaCB - Total	0.300	0.000	100.0#	0	-17.16#
121	L9	CL9 - #1	0.400	0.000	100.0#	0	-18.47#
122	L9	CL9 - #2	0.400	0.000	100.0#	0	-18.47#
123	L9	CL9 - #3	0.400	0.000	100.0#	0	-18.47#
124	L9	CL9 - #4	0.400	0.000	100.0#	0	-18.47#
125	L9	CL9 - #5	0.400	0.000	100.0#	0	-18.47#
126	L9	NonaCB - Total	0.400	0.000	100.0#	0	-18.47#
127	L10	CL10 - #1	0.500	0.000	100.0#	0	-19.85#
128	L10	CL10 - #2	0.500	0.000	100.0#	0	-19.85#
129	L10	CL10 - #3	0.500	0.000	100.0#	0	-19.85#
130	L10	DecaCB - Total	0.500	0.000	100.0#	0	-19.85#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

1st 02/22/19
2nd 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN743.D
Acq On : 21 Feb 2019 11:15 pm
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 08:04:39 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

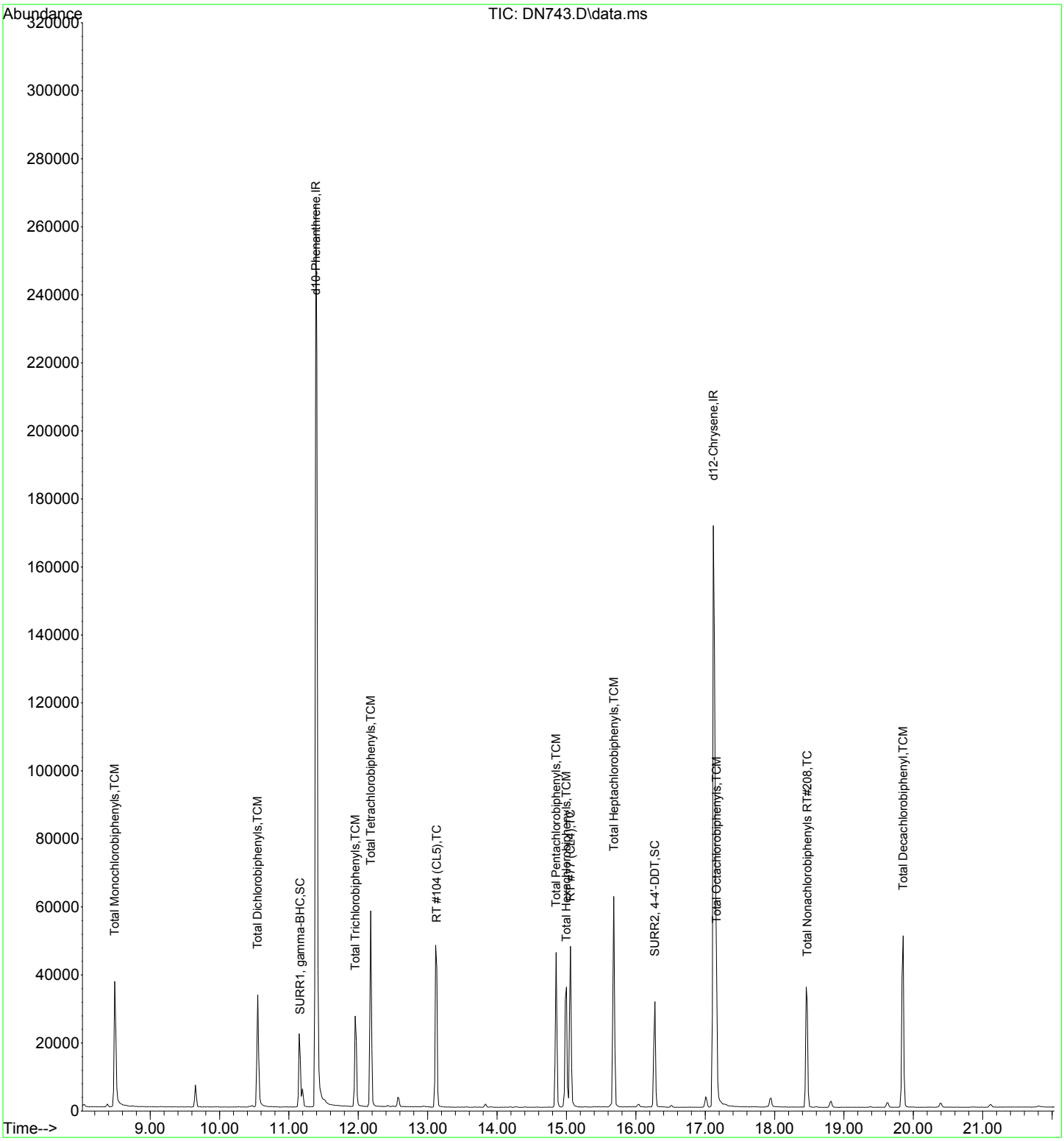
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	382699	0.75	ppm	0.00
2) d12-Chrysene	17.118	240	292048	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.164	219	8467	0.18	ppm	0.01
Spiked Amount 1.000	Range 55 - 133		Recovery = 18.00%#			
13) SURR2, 4-4'-DDT	16.275	235	25544	0.24	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 24.00%#			
Target Compounds						Qvalue
3) Total Monochlorobiphenyls	8.488	188	30939	0.081	ppm	99
4) Total Dichlorobiphenyls	10.551	222	22655	0.090	ppm	99
6) Total Trichlorobiphenyls	11.956	256	16446	0.096	ppm	93
7) Total Tetrachlorobiphe...	12.180	292	20889	0.184	ppm	98
8) RT #104 (CL5)	13.131	324	15511	0.183	ppm	93
9) Total Pentachlorobiphe...	14.850	326	16333	0.200	ppm	92
10) Total Hexachlorobiphenyls	14.999	360	15681	0.192	ppm	90
11) RT #77 (CL4)	15.059	292	25524	0.197	ppm	99
12) Total Heptachlorobiphe...	15.683	394	21984	0.280	ppm	95
14) Total Octachlorobiphenyls	17.165	428	14587	0.271	ppm	100
15) Total Nonachlorobiphen...	18.471	464	17134	0.373	ppm	100
16) Total Decachlorobiphenyl	19.852	498	17691	0.453	ppm	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN743.D
Acq On : 21 Feb 2019 11:15 pm
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 08:04:39 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN745.D
Acq On : 22 Feb 2019 12:02 am
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 07:32:39 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 70% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	IR	d10-Phenanthrene	0.750	0.750	0.0	121	0.00
2	IR	d12-Chrysene	0.750	0.750	0.0	134	0.00
3	TCM	Total Monochlorobiphenyls	0.100	0.089	11.0	117	0.00
4	TCM	Total Dichlorobiphenyls	0.100	0.095	5.0	125	0.00
5	SC	SURR1, gamma-BHC	0.200	0.176	12.0	116	0.00
6	TCM	Total Trichlorobiphenyls	0.100	0.095	5.0	132	0.00
7	TCM	Total Tetrachlorobiphenyls	0.200	0.187	6.5	122	0.00
8	TC	RT #104 (CL5)	0.200	0.186	7.0	123	0.01
9	TCM	Total Pentachlorobiphenyls	0.200	0.208	-4.0	138	0.00
10	TCM	Total Hexachlorobiphenyls	0.200	0.194	3.0	131	0.00
11	TC	RT #77 (CL4)	0.200	0.198	1.0	134	0.00
12	TCM	Total Heptachlorobiphenyls	0.300	0.279	7.0	125	0.00
13	SC	SURR2, 4-4'-DDT	0.200	0.227	-13.5	159	0.00
14	TCM	Total Octachlorobiphenyls	0.300	0.280	6.7	122	0.00
15	TC	Total Nonachlorobiphenyls R	0.400	0.392	2.0	126	0.00
16	TCM	Total Decachlorobiphenyl	0.500	0.450	10.0	122	0.00
17	L1	CL1 - #1	0.100	0.000	100.0#	0	-8.49#
18	L1	CL1 - #2	0.100	0.000	100.0#	0	-8.49#
19	L1	CL1 - #3	0.100	0.000	100.0#	0	-8.49#
20	L1	CL1 - #4	0.100	0.000	100.0#	0	-8.49#
21	L1	CL1 - #5	0.100	0.000	100.0#	0	-8.49#
22	L1	CL1 - #6	0.100	0.000	100.0#	0	-8.49#
23	L1	CL1 - #7	0.100	0.000	100.0#	0	-8.49#
24	L1	CL1 - #8	0.100	0.000	100.0#	0	-8.49#
25	L1	CL1 - #9	0.100	0.000	100.0#	0	-8.49#
26	L1	CL1 - #10	0.100	0.000	100.0#	0	-8.49#
27	L1	MonoCB - Total	0.100	0.000	100.0#	0	-8.49#
28	L2	CL2 - #1	0.100	0.000	100.0#	0	-10.55#
29	L2	CL2 - #2	0.100	0.000	100.0#	0	-10.55#
30	L2	CL2 - #3	0.100	0.000	100.0#	0	-10.55#
31	L2	CL2 - #4	0.100	0.000	100.0#	0	-10.55#
32	L2	CL2 - #5	0.100	0.000	100.0#	0	-10.55#
33	L2	CL2 - #6	0.100	0.000	100.0#	0	-10.55#
34	L2	CL2 - #7	0.100	0.000	100.0#	0	-10.55#
35	L2	CL2 - #8	0.100	0.000	100.0#	0	-10.55#
36	L2	CL2 - #9	0.100	0.000	100.0#	0	-10.55#
37	L2	CL2 - #10	0.100	0.000	100.0#	0	-10.55#
38	L2	DiCB - Total	0.100	0.000	100.0#	0	-10.55#
39	L3	CL3 - #1	0.100	0.000	100.0#	0	-11.96#
40	L3	CL3 - #2	0.100	0.000	100.0#	0	-11.96#
41	L3	CL3 - #3	0.100	0.000	100.0#	0	-11.96#
42	L3	CL3 - #4	0.100	0.000	100.0#	0	-11.96#
43	L3	CL3 - #5	0.100	0.000	100.0#	0	-11.96#
44	L3	CL3 - #6	0.100	0.000	100.0#	0	-11.96#
45	L3	CL3 - #7	0.100	0.000	100.0#	0	-11.96#
46	L3	CL3 - #8	0.100	0.000	100.0#	0	-11.96#
47	L3	CL3 - #9	0.100	0.000	100.0#	0	-11.96#
48	L3	CL3 - #10	0.100	0.000	100.0#	0	-11.96#
49	L3	CL3 - #11	0.100	0.000	100.0#	0	-11.96#
50	L3	CL3 - #12	0.100	0.000	100.0#	0	-11.96#
51	L3	CL3 - #13	0.100	0.000	100.0#	0	-11.96#

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN745.D
Acq On : 22 Feb 2019 12:02 am
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 07:32:39 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 70% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
52	L3	TriCB - Total	0.100	0.000	100.0#	0	-11.96#
53	L4	CL4 - #1	0.200	0.000	100.0#	0	-12.18#
54	L4	CL4 - #2	0.200	0.000	100.0#	0	-12.18#
55	L4	CL4 - #3	0.200	0.000	100.0#	0	-12.18#
56	L4	CL4 - #4	0.200	0.000	100.0#	0	-12.18#
57	L4	CL4 - #5	0.200	0.000	100.0#	0	-12.18#
58	L4	CL4 - #6	0.200	0.000	100.0#	0	-12.18#
59	L4	CL4 - #7	0.200	0.000	100.0#	0	-12.18#
60	L4	CL4 - #8	0.200	0.000	100.0#	0	-12.18#
61	L4	CL4 - #9	0.200	0.000	100.0#	0	-12.18#
62	L4	CL4 - #10	0.200	0.000	100.0#	0	-12.18#
63	L4	CL4 - #11	0.200	0.000	100.0#	0	-12.18#
64	L4	CL4 - #12	0.200	0.000	100.0#	0	-12.18#
65	L4	CL4 - #13	0.200	0.000	100.0#	0	-12.18#
66	L4	CL4 - #14	0.200	0.000	100.0#	0	-12.18#
67	L4	CL4 - #15	0.200	0.000	100.0#	0	-12.18#
68	L4	TetraCB - Total	0.200	0.000	100.0#	0	-12.18#
69	L5	CL5 - #1	0.200	0.000	100.0#	0	-14.85#
70	L5	CL5 - #2	0.200	0.000	100.0#	0	-14.85#
71	L5	CL5 - #3	0.200	0.000	100.0#	0	-14.85#
72	L5	CL5 - #4	0.200	0.000	100.0#	0	-14.85#
73	L5	CL5 - #5	0.200	0.000	100.0#	0	-14.85#
74	L5	CL5 - #6	0.200	0.000	100.0#	0	-14.85#
75	L5	CL5 - #7	0.200	0.000	100.0#	0	-14.85#
76	L5	CL5 - #8	0.200	0.000	100.0#	0	-14.85#
77	L5	CL5 - #9	0.200	0.000	100.0#	0	-14.85#
78	L5	CL5 - #10	0.200	0.000	100.0#	0	-14.85#
79	L5	CL5 - #11	0.200	0.000	100.0#	0	-14.85#
80	L5	CL5 - #12	0.200	0.000	100.0#	0	-14.85#
81	L5	CL5 - #13	0.200	0.000	100.0#	0	-14.85#
82	L5	CL5 - #14	0.200	0.000	100.0#	0	-14.85#
83	L5	CL5 - #15	0.200	0.000	100.0#	0	-14.85#
84	L5	PentaCB - Total	0.200	0.000	100.0#	0	-14.85#
85	L6	CL6 - #1	0.200	0.000	100.0#	0	-15.00#
86	L6	CL6 - #2	0.200	0.000	100.0#	0	-15.00#
87	L6	CL6 - #3	0.200	0.000	100.0#	0	-15.00#
88	L6	CL6 - #4	0.200	0.000	100.0#	0	-15.00#
89	L6	CL6 - #5	0.200	0.000	100.0#	0	-15.00#
90	L6	CL6 - #6	0.200	0.000	100.0#	0	-15.00#
91	L6	CL6 - #7	0.200	0.000	100.0#	0	-15.00#
92	L6	CL6 - #8	0.200	0.000	100.0#	0	-15.00#
93	L6	CL6 - #9	0.200	0.000	100.0#	0	-15.00#
94	L6	CL6 - #10	0.200	0.000	100.0#	0	-15.00#
95	L6	CL6 - #11	0.200	0.000	100.0#	0	-15.00#
96	L6	CL6 - #12	0.200	0.000	100.0#	0	-15.00#
97	L6	CL6 - #13	0.200	0.000	100.0#	0	-15.00#
98	L6	CL6 - #14	0.200	0.000	100.0#	0	-15.00#
99	L6	CL6 - #15	0.200	0.000	100.0#	0	-15.00#
100	L6	HexaCB - Total	0.200	0.000	100.0#	0	-15.00#
101	L7	CL7 - #1	0.300	0.000	100.0#	0	-15.68#
102	L7	CL7 - #2	0.300	0.000	100.0#	0	-15.68#
103	L7	CL7 - #3	0.300	0.000	100.0#	0	-15.68#

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN745.D
Acq On : 22 Feb 2019 12:02 am
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 07:32:39 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 70% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
104	L7	CL7 - #4	0.300	0.000	100.0#	0	-15.68#
105	L7	CL7 - #5	0.300	0.000	100.0#	0	-15.68#
106	L7	CL7 - #6	0.300	0.000	100.0#	0	-15.68#
107	L7	CL7 - #7	0.300	0.000	100.0#	0	-15.68#
108	L7	CL7 - #8	0.300	0.000	100.0#	0	-15.68#
109	L7	CL7 - #9	0.300	0.000	100.0#	0	-15.68#
110	L7	CL7 - #10	0.300	0.000	100.0#	0	-15.68#
111	L7	HeptaCB - Total	0.300	0.000	100.0#	0	-15.68#
112	L8	CL8 - #1	0.300	0.000	100.0#	0	-17.16#
113	L8	CL8 - #2	0.300	0.000	100.0#	0	-17.16#
114	L8	CL8 - #3	0.300	0.000	100.0#	0	-17.16#
115	L8	CL8 - #4	0.300	0.000	100.0#	0	-17.16#
116	L8	CL8 - #5	0.300	0.000	100.0#	0	-17.16#
117	L8	CL8 - #6	0.300	0.000	100.0#	0	-17.16#
118	L8	CL8 - #7	0.300	0.000	100.0#	0	-17.16#
119	L8	CL8 - #8	0.300	0.000	100.0#	0	-17.16#
120	L8	OctaCB - Total	0.300	0.000	100.0#	0	-17.16#
121	L9	CL9 - #1	0.400	0.000	100.0#	0	-18.47#
122	L9	CL9 - #2	0.400	0.000	100.0#	0	-18.47#
123	L9	CL9 - #3	0.400	0.000	100.0#	0	-18.47#
124	L9	CL9 - #4	0.400	0.000	100.0#	0	-18.47#
125	L9	CL9 - #5	0.400	0.000	100.0#	0	-18.47#
126	L9	NonaCB - Total	0.400	0.000	100.0#	0	-18.47#
127	L10	CL10 - #1	0.500	0.000	100.0#	0	-19.85#
128	L10	CL10 - #2	0.500	0.000	100.0#	0	-19.85#
129	L10	CL10 - #3	0.500	0.000	100.0#	0	-19.85#
130	L10	DecaCB - Total	0.500	0.000	100.0#	0	-19.85#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

1st 02/22/19
2nd 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN745.D
Acq On : 22 Feb 2019 12:02 am
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 07:32:39 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

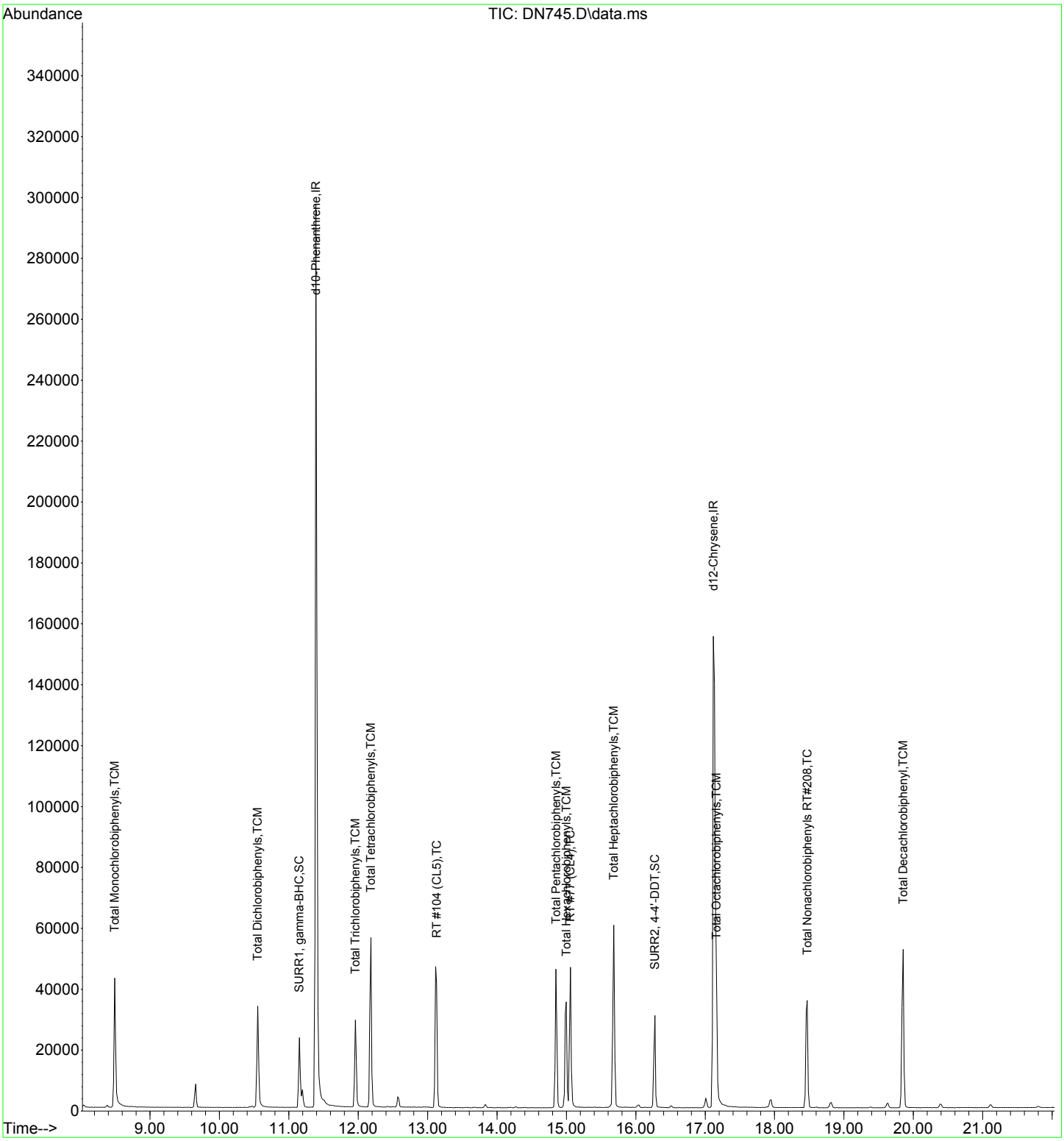
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.390	188	371071	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	283971	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.151	219	8182	0.18	ppm	0.00
Spiked Amount 1.000	Range 55 - 133		Recovery = 18.00%#			
13) SURR2, 4-4'-DDT	16.275	235	23907	0.23	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 23.00%#			
Target Compounds						Qvalue
3) Total Monochlorobiphenyls	8.490	188	32906	0.089	ppm	97
4) Total Dichlorobiphenyls	10.553	222	23133	0.095	ppm	93
6) Total Trichlorobiphenyls	11.959	256	15808	0.095	ppm	92
7) Total Tetrachlorobiphe...	12.183	292	20715	0.187	ppm	94
8) RT #104 (CL5)	13.130	324	15328	0.186	ppm	94
9) Total Pentachlorobiphe...	14.849	326	16523	0.208	ppm	92
10) Total Hexachlorobiphenyls	14.999	360	15374	0.194	ppm	92
11) RT #77 (CL4)	15.059	292	24956	0.198	ppm	97
12) Total Heptachlorobiphe...	15.683	394	21298	0.279	ppm	96
14) Total Octachlorobiphenyls	17.165	428	14648	0.280	ppm	97
15) Total Nonachlorobiphen...	18.471	464	17535	0.392	ppm	99
16) Total Decachlorobiphenyl	19.852	498	17062	0.450	ppm	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN745.D
Acq On : 22 Feb 2019 12:02 am
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

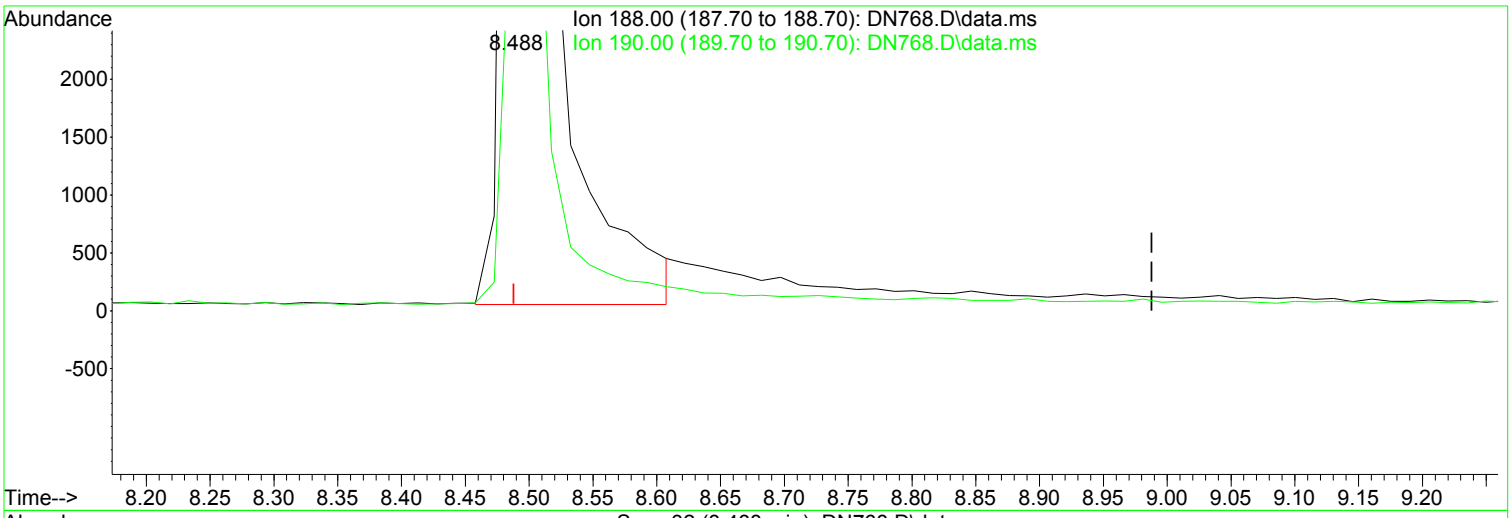
Quant Time: Feb 22 07:32:39 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

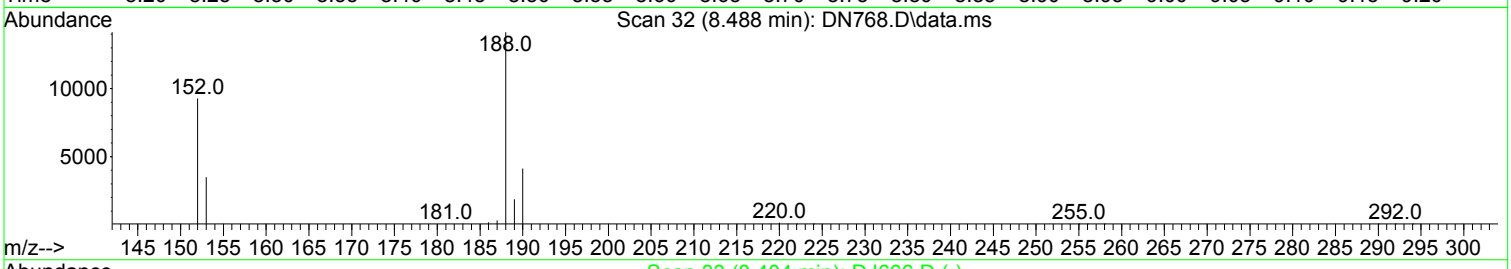


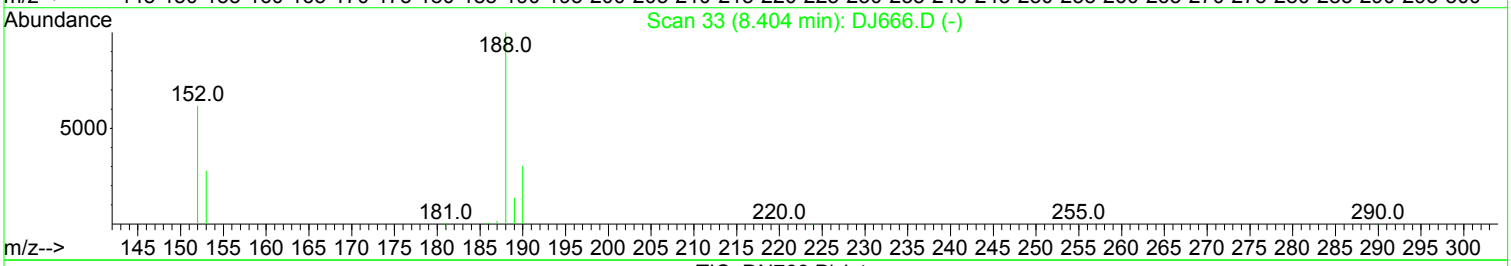
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN768.D
Acq On : 22 Feb 2019 11:02 am
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 11:29:23 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN768.D\data.ms

(3) Total Monochlorobiphenyls (TCM)

8.488min (-0.000) 0.08 ppm m

response 33050

Ion	Exp%	Act%
188.00	100.00	100.00
190.00	30.00	29.15
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

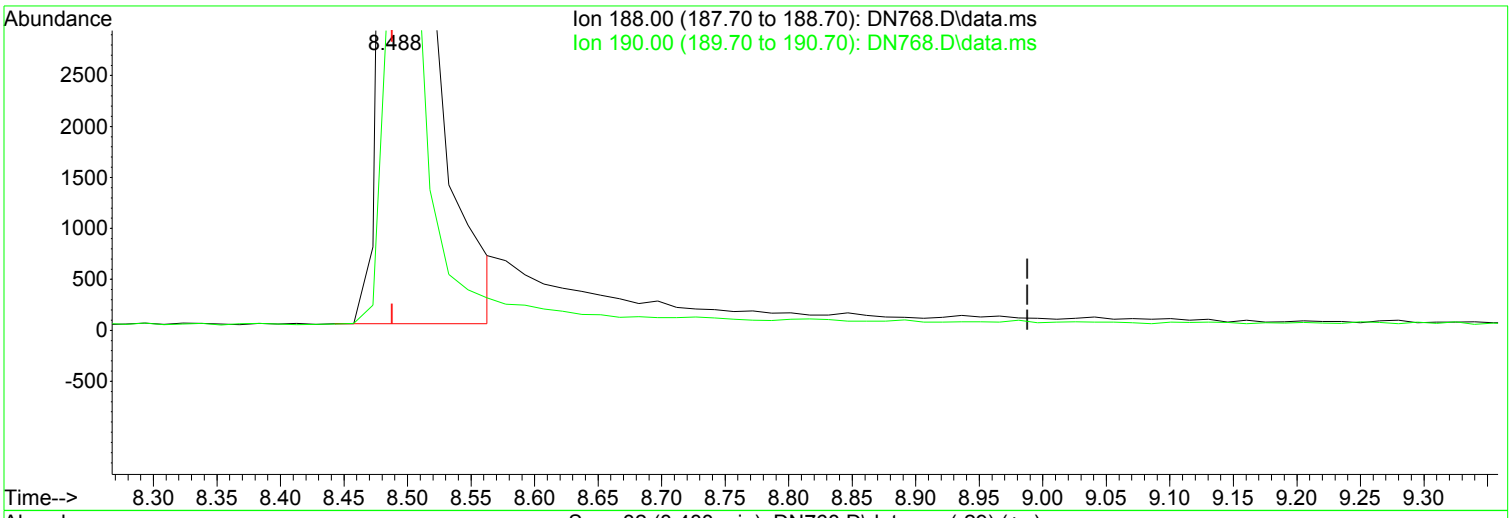
Poor integration.

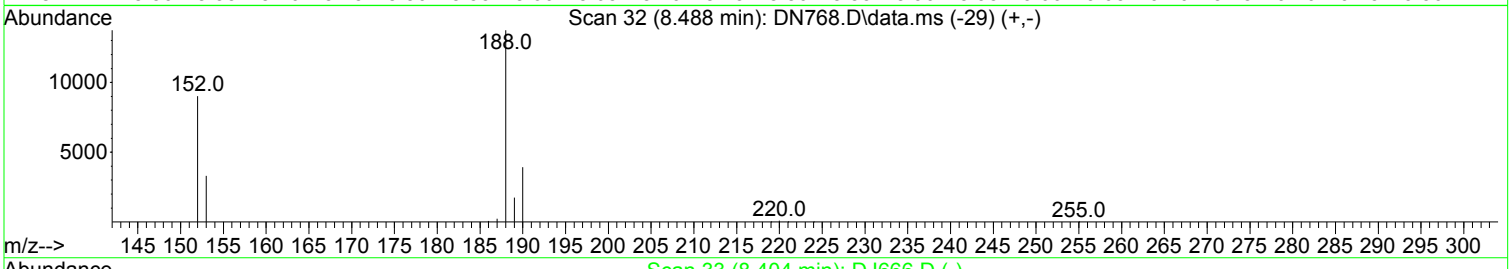
02/22/19

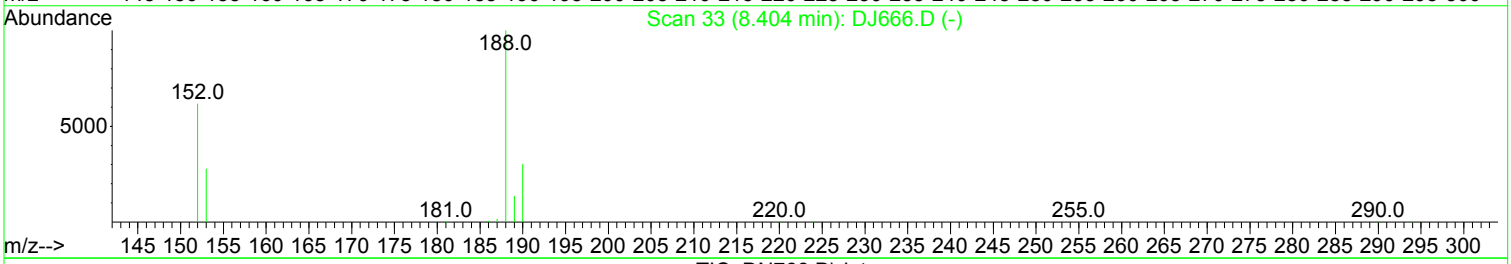
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN768.D
Acq On : 22 Feb 2019 11:02 am
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 11:29:23 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN768.D\data.ms

(3) Total Monochlorobiphenyls (TCM)

8.488min (-0.000) 0.08 ppm

response 31620

Ion	Exp%	Act%
188.00	100.00	100.00
190.00	30.00	28.61
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

02/22/19

Evaluate Continuing Calibration Report

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN768.D
Acq On : 22 Feb 2019 11:02 am
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 11:29:23 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 70% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	IR	d10-Phenanthrene	0.750	0.750	0.0	122	0.01
2	IR	d12-Chrysene	0.750	0.750	0.0	144	0.02
3	TCM	Total Monochlorobiphenyls	0.100	0.083	17.0	117	0.00
4	TCM	Total Dichlorobiphenyls	0.100	0.089	11.0	125	0.00
5	SC	SURR1, gamma-BHC	0.200	0.163	18.5	115	0.01
6	TCM	Total Trichlorobiphenyls	0.100	0.093	7.0	139	0.01
7	TCM	Total Tetrachlorobiphenyls	0.200	0.172	14.0	120	0.00
8	TC	RT #104 (CL5)	0.200	0.174	13.0	124	0.01
9	TCM	Total Pentachlorobiphenyls	0.200	0.189	5.5	135	0.00
10	TCM	Total Hexachlorobiphenyls	0.200	0.176	12.0	128	0.00
11	TC	RT #77 (CL4)	0.200	0.189	5.5	138	0.00
12	TCM	Total Heptachlorobiphenyls	0.300	0.256	14.7	123	0.00
13	SC	SURR2, 4-4'-DDT	0.200	0.051	74.5#	38	0.00
14	TCM	Total Octachlorobiphenyls	0.300	0.256	14.7	120	0.00
15	TC	Total Nonachlorobiphenyls R	0.400	0.371	7.3	128	0.00
16	TCM	Total Decachlorobiphenyl	0.500	0.449	10.2	131	0.00
17	L1	CL1 - #1	0.100	0.000	100.0#	0	-8.49#
18	L1	CL1 - #2	0.100	0.000	100.0#	0	-8.49#
19	L1	CL1 - #3	0.100	0.000	100.0#	0	-8.49#
20	L1	CL1 - #4	0.100	0.000	100.0#	0	-8.49#
21	L1	CL1 - #5	0.100	0.000	100.0#	0	-8.49#
22	L1	CL1 - #6	0.100	0.000	100.0#	0	-8.49#
23	L1	CL1 - #7	0.100	0.000	100.0#	0	-8.49#
24	L1	CL1 - #8	0.100	0.000	100.0#	0	-8.49#
25	L1	CL1 - #9	0.100	0.000	100.0#	0	-8.49#
26	L1	CL1 - #10	0.100	0.000	100.0#	0	-8.49#
27	L1	MonoCB - Total	0.100	0.000	100.0#	0	-8.49#
28	L2	CL2 - #1	0.100	0.000	100.0#	0	-10.55#
29	L2	CL2 - #2	0.100	0.000	100.0#	0	-10.55#
30	L2	CL2 - #3	0.100	0.000	100.0#	0	-10.55#
31	L2	CL2 - #4	0.100	0.000	100.0#	0	-10.55#
32	L2	CL2 - #5	0.100	0.000	100.0#	0	-10.55#
33	L2	CL2 - #6	0.100	0.000	100.0#	0	-10.55#
34	L2	CL2 - #7	0.100	0.000	100.0#	0	-10.55#
35	L2	CL2 - #8	0.100	0.000	100.0#	0	-10.55#
36	L2	CL2 - #9	0.100	0.000	100.0#	0	-10.55#
37	L2	CL2 - #10	0.100	0.000	100.0#	0	-10.55#
38	L2	DiCB - Total	0.100	0.000	100.0#	0	-10.55#
39	L3	CL3 - #1	0.100	0.000	100.0#	0	-11.96#
40	L3	CL3 - #2	0.100	0.000	100.0#	0	-11.96#
41	L3	CL3 - #3	0.100	0.000	100.0#	0	-11.96#
42	L3	CL3 - #4	0.100	0.000	100.0#	0	-11.96#
43	L3	CL3 - #5	0.100	0.000	100.0#	0	-11.96#
44	L3	CL3 - #6	0.100	0.000	100.0#	0	-11.96#
45	L3	CL3 - #7	0.100	0.000	100.0#	0	-11.96#
46	L3	CL3 - #8	0.100	0.000	100.0#	0	-11.96#
47	L3	CL3 - #9	0.100	0.000	100.0#	0	-11.96#
48	L3	CL3 - #10	0.100	0.000	100.0#	0	-11.96#
49	L3	CL3 - #11	0.100	0.000	100.0#	0	-11.96#
50	L3	CL3 - #12	0.100	0.000	100.0#	0	-11.96#
51	L3	CL3 - #13	0.100	0.000	100.0#	0	-11.96#

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN768.D
Acq On : 22 Feb 2019 11:02 am
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 11:29:23 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 70% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
52	L3	TriCB - Total	0.100	0.000	100.0#	0	-11.96#
53	L4	CL4 - #1	0.200	0.000	100.0#	0	-12.18#
54	L4	CL4 - #2	0.200	0.000	100.0#	0	-12.18#
55	L4	CL4 - #3	0.200	0.000	100.0#	0	-12.18#
56	L4	CL4 - #4	0.200	0.000	100.0#	0	-12.18#
57	L4	CL4 - #5	0.200	0.000	100.0#	0	-12.18#
58	L4	CL4 - #6	0.200	0.000	100.0#	0	-12.18#
59	L4	CL4 - #7	0.200	0.000	100.0#	0	-12.18#
60	L4	CL4 - #8	0.200	0.000	100.0#	0	-12.18#
61	L4	CL4 - #9	0.200	0.000	100.0#	0	-12.18#
62	L4	CL4 - #10	0.200	0.000	100.0#	0	-12.18#
63	L4	CL4 - #11	0.200	0.000	100.0#	0	-12.18#
64	L4	CL4 - #12	0.200	0.000	100.0#	0	-12.18#
65	L4	CL4 - #13	0.200	0.000	100.0#	0	-12.18#
66	L4	CL4 - #14	0.200	0.000	100.0#	0	-12.18#
67	L4	CL4 - #15	0.200	0.000	100.0#	0	-12.18#
68	L4	TetraCB - Total	0.200	0.000	100.0#	0	-12.18#
69	L5	CL5 - #1	0.200	0.000	100.0#	0	-14.85#
70	L5	CL5 - #2	0.200	0.000	100.0#	0	-14.85#
71	L5	CL5 - #3	0.200	0.000	100.0#	0	-14.85#
72	L5	CL5 - #4	0.200	0.000	100.0#	0	-14.85#
73	L5	CL5 - #5	0.200	0.000	100.0#	0	-14.85#
74	L5	CL5 - #6	0.200	0.000	100.0#	0	-14.85#
75	L5	CL5 - #7	0.200	0.000	100.0#	0	-14.85#
76	L5	CL5 - #8	0.200	0.000	100.0#	0	-14.85#
77	L5	CL5 - #9	0.200	0.000	100.0#	0	-14.85#
78	L5	CL5 - #10	0.200	0.000	100.0#	0	-14.85#
79	L5	CL5 - #11	0.200	0.000	100.0#	0	-14.85#
80	L5	CL5 - #12	0.200	0.000	100.0#	0	-14.85#
81	L5	CL5 - #13	0.200	0.000	100.0#	0	-14.85#
82	L5	CL5 - #14	0.200	0.000	100.0#	0	-14.85#
83	L5	CL5 - #15	0.200	0.000	100.0#	0	-14.85#
84	L5	PentaCB - Total	0.200	0.000	100.0#	0	-14.85#
85	L6	CL6 - #1	0.200	0.000	100.0#	0	-15.00#
86	L6	CL6 - #2	0.200	0.000	100.0#	0	-15.00#
87	L6	CL6 - #3	0.200	0.000	100.0#	0	-15.00#
88	L6	CL6 - #4	0.200	0.000	100.0#	0	-15.00#
89	L6	CL6 - #5	0.200	0.000	100.0#	0	-15.00#
90	L6	CL6 - #6	0.200	0.000	100.0#	0	-15.00#
91	L6	CL6 - #7	0.200	0.000	100.0#	0	-15.00#
92	L6	CL6 - #8	0.200	0.000	100.0#	0	-15.00#
93	L6	CL6 - #9	0.200	0.000	100.0#	0	-15.00#
94	L6	CL6 - #10	0.200	0.000	100.0#	0	-15.00#
95	L6	CL6 - #11	0.200	0.000	100.0#	0	-15.00#
96	L6	CL6 - #12	0.200	0.000	100.0#	0	-15.00#
97	L6	CL6 - #13	0.200	0.000	100.0#	0	-15.00#
98	L6	CL6 - #14	0.200	0.000	100.0#	0	-15.00#
99	L6	CL6 - #15	0.200	0.000	100.0#	0	-15.00#
100	L6	HexaCB - Total	0.200	0.000	100.0#	0	-15.00#
101	L7	CL7 - #1	0.300	0.000	100.0#	0	-15.68#
102	L7	CL7 - #2	0.300	0.000	100.0#	0	-15.68#
103	L7	CL7 - #3	0.300	0.000	100.0#	0	-15.68#

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN768.D
Acq On : 22 Feb 2019 11:02 am
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 11:29:23 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 70% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
104	L7	CL7 - #4	0.300	0.000	100.0#	0	-15.68#
105	L7	CL7 - #5	0.300	0.000	100.0#	0	-15.68#
106	L7	CL7 - #6	0.300	0.000	100.0#	0	-15.68#
107	L7	CL7 - #7	0.300	0.000	100.0#	0	-15.68#
108	L7	CL7 - #8	0.300	0.000	100.0#	0	-15.68#
109	L7	CL7 - #9	0.300	0.000	100.0#	0	-15.68#
110	L7	CL7 - #10	0.300	0.000	100.0#	0	-15.68#
111	L7	HeptaCB - Total	0.300	0.000	100.0#	0	-15.68#
112	L8	CL8 - #1	0.300	0.000	100.0#	0	-17.16#
113	L8	CL8 - #2	0.300	0.000	100.0#	0	-17.16#
114	L8	CL8 - #3	0.300	0.000	100.0#	0	-17.16#
115	L8	CL8 - #4	0.300	0.000	100.0#	0	-17.16#
116	L8	CL8 - #5	0.300	0.000	100.0#	0	-17.16#
117	L8	CL8 - #6	0.300	0.000	100.0#	0	-17.16#
118	L8	CL8 - #7	0.300	0.000	100.0#	0	-17.16#
119	L8	CL8 - #8	0.300	0.000	100.0#	0	-17.16#
120	L8	OctaCB - Total	0.300	0.000	100.0#	0	-17.16#
121	L9	CL9 - #1	0.400	0.000	100.0#	0	-18.47#
122	L9	CL9 - #2	0.400	0.000	100.0#	0	-18.47#
123	L9	CL9 - #3	0.400	0.000	100.0#	0	-18.47#
124	L9	CL9 - #4	0.400	0.000	100.0#	0	-18.47#
125	L9	CL9 - #5	0.400	0.000	100.0#	0	-18.47#
126	L9	NonaCB - Total	0.400	0.000	100.0#	0	-18.47#
127	L10	CL10 - #1	0.500	0.000	100.0#	0	-19.85#
128	L10	CL10 - #2	0.500	0.000	100.0#	0	-19.85#
129	L10	CL10 - #3	0.500	0.000	100.0#	0	-19.85#
130	L10	DecaCB - Total	0.500	0.000	100.0#	0	-19.85#

(#) = Out of Range SPCC's out = 0 CCC's out = 1

1st DM 02/22/19
2nd MP 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN768.D
Acq On : 22 Feb 2019 11:02 am
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 22 11:29:23 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

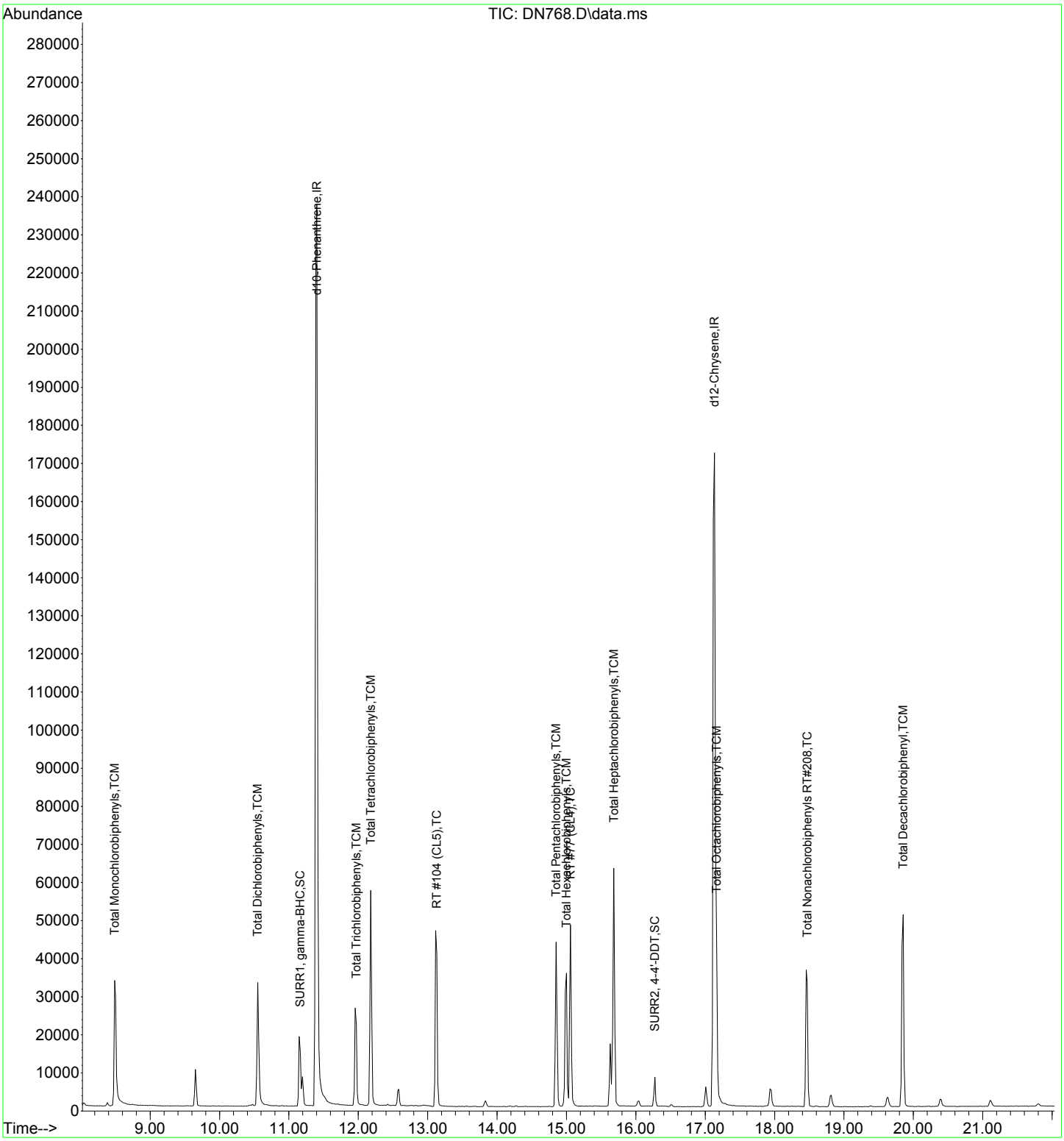
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.403	188	373582	0.75	ppm	0.01
2) d12-Chrysene	17.133	240	305185	0.75	ppm	0.02
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.164	219	8119	0.16	ppm	0.01
Spiked Amount 1.000	Range 55 - 133		Recovery = 16.00%#			
13) SURR2, 4-4'-DDT	16.274	235	5745	0.05	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 5.00%#			
Target Compounds						Qvalue
3) Total Monochlorobiphenyls	8.488	188	33050m	0.083	ppm	
4) Total Dichlorobiphenyls	10.551	222	23193	0.089	ppm	97
6) Total Trichlorobiphenyls	11.971	256	16640	0.093	ppm	99
7) Total Tetrachlorobiphe...	12.180	292	20417	0.172	ppm	99
8) RT #104 (CL5)	13.131	324	15397	0.174	ppm	92
9) Total Pentachlorobiphe...	14.850	326	16130	0.189	ppm	96
10) Total Hexachlorobiphenyls	15.000	360	15030	0.176	ppm	93
11) RT #77 (CL4)	15.059	292	25570	0.189	ppm	97
12) Total Heptachlorobiphe...	15.682	394	21057	0.256	ppm	98
14) Total Octachlorobiphenyls	17.164	428	14438	0.256	ppm	97
15) Total Nonachlorobiphen...	18.471	464	17808	0.371	ppm	100
16) Total Decachlorobiphenyl	19.852	498	18298	0.449	ppm	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN768.D
Acq On : 22 Feb 2019 11:02 am
Operator : J.Misiurewicz
Sample : CCV
Misc : CAL STD 1.0 680 PCB
ALS Vial : 3 Sample Multiplier: 1

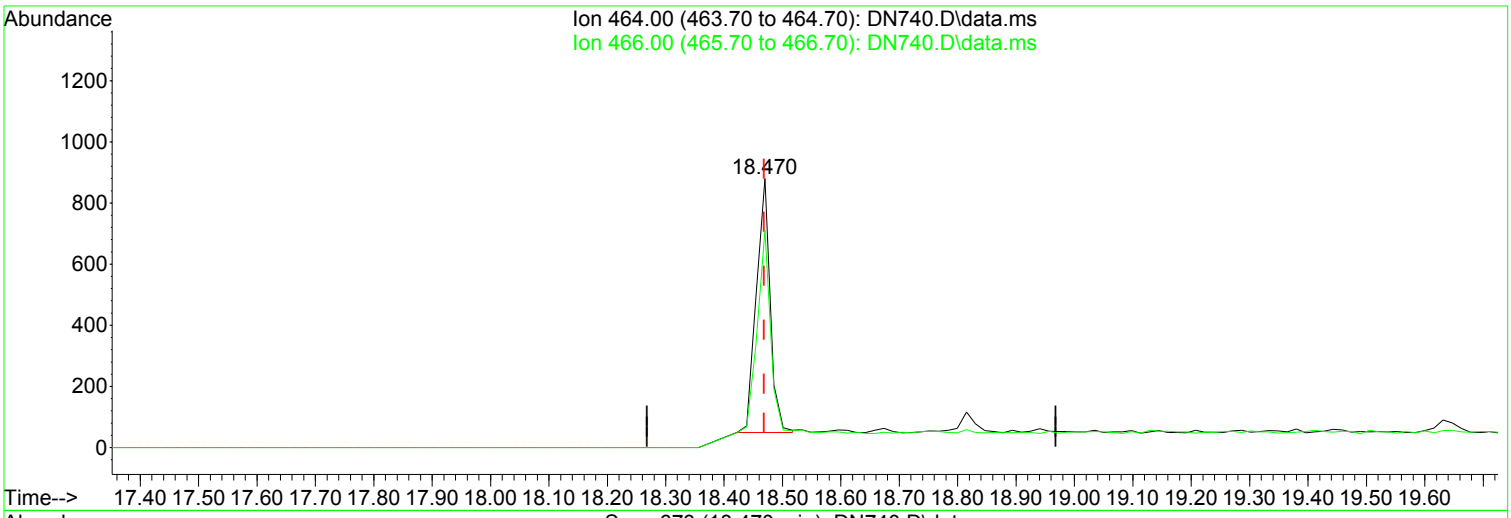
Quant Time: Feb 22 11:29:23 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

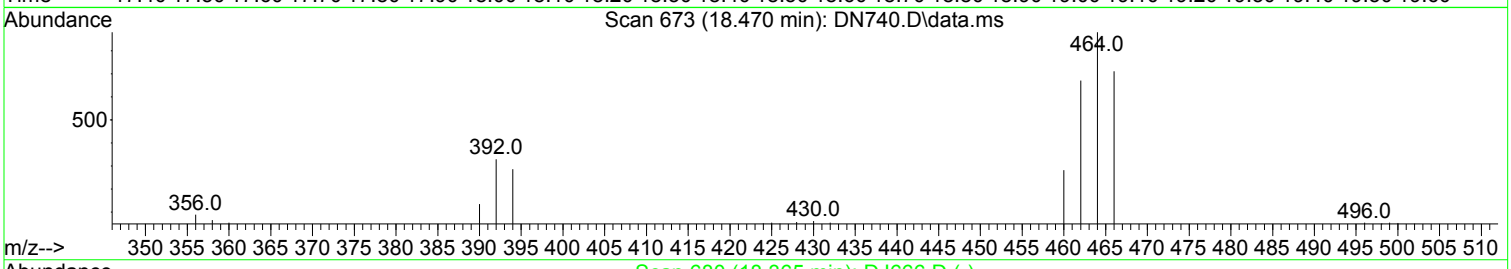


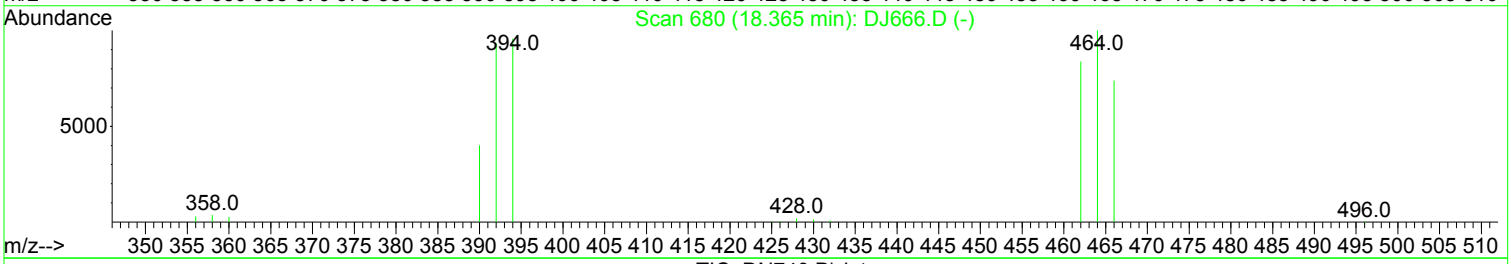
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN740.D
Acq On : 21 Feb 2019 9:49 pm
Operator : J.Misiurewicz
Sample : RQ1901357-06
Misc : 331543 680 PCB MDLv
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Feb 22 08:04:20 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN740.D\data.ms

(15) Total Nonachlorobiphenyls RT#208 (TC)

18.470min (+ 0.001) 0.04 ppm m

response 1380

Ion	Exp%	Act%
464.00	100.00	100.00
466.00	78.30	80.80
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

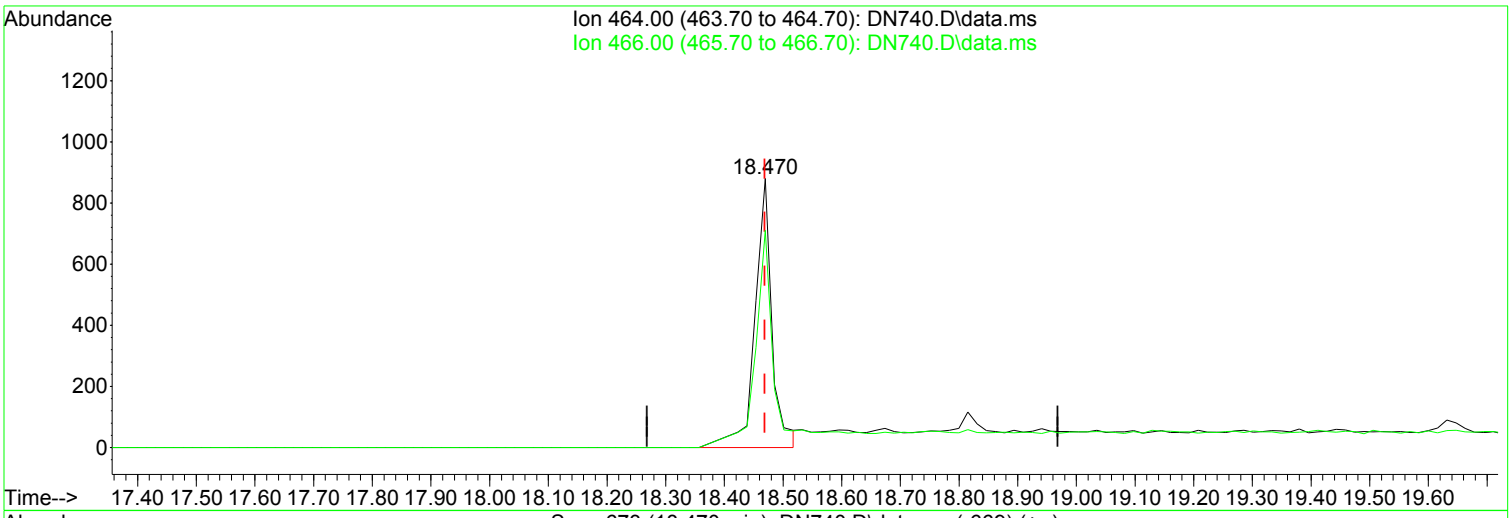
Poor integration.

02/22/19

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN740.D
Acq On : 21 Feb 2019 9:49 pm
Operator : J.Misiurewicz
Sample : RQ1901357-06
Misc : 331543 680 PCB MDLv
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Feb 22 08:04:20 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN740.D\data.ms

(15) Total Nonachlorobiphenyls RT#208 (TC)

18.470min (+ 0.001) 0.06 ppm

response 2488

Ion	Exp%	Act%
464.00	100.00	100.00
466.00	78.30	80.28
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

02/22/19

1st DM 02/22/19
2nd MP 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN740.D
Acq On : 21 Feb 2019 9:49 pm
Operator : J.Misiurewicz
Sample : RQ1901357-06
Misc : 331543 680 PCB MDLv
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Feb 22 08:04:20 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

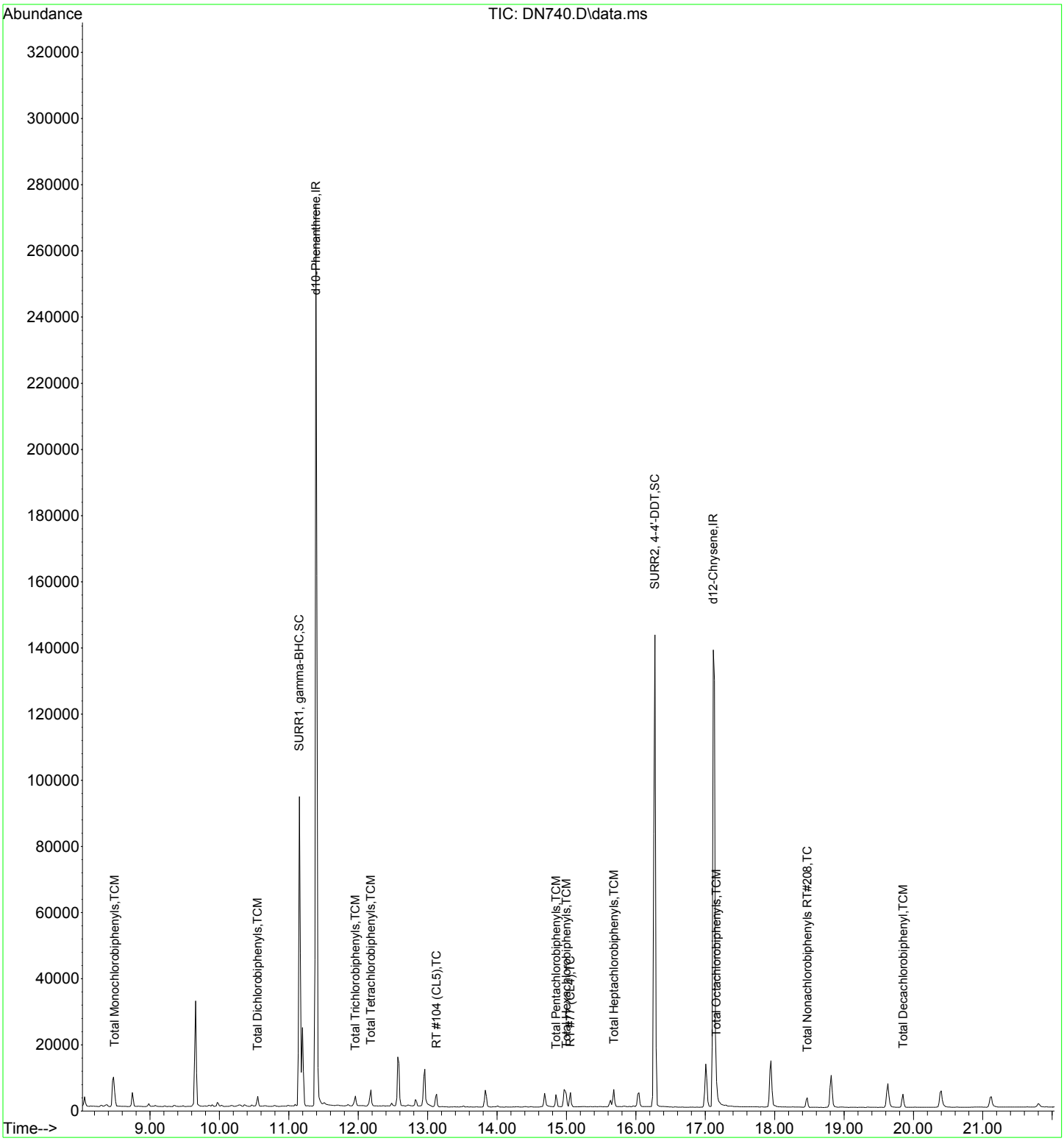
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.390	188	314234	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	245812	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.151	219	34073	0.85	ppm	0.00
Spiked Amount 1.000	Range 55 - 133		Recovery = 85.00%			
13) SURR2, 4-4'-DDT	16.275	235	113960	1.25	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 125.00%			
Target Compounds						Qvalue
3) Total Monochlorobiphenyls	8.490	188	2486	0.008	ppm	97
4) Total Dichlorobiphenyls	10.553	222	2006	0.010	ppm	98
6) Total Trichlorobiphenyls	11.958	256	1362	0.009	ppm	84
7) Total Tetrachlorobiphe...	12.182	292	1750	0.018	ppm	88
8) RT #104 (CL5)	13.129	324	1246	0.017	ppm	95
9) Total Pentachlorobiphe...	14.849	326	1372	0.020	ppm	99
10) Total Hexachlorobiphenyls	14.998	360	1375	0.020	ppm	91
11) RT #77 (CL4)	15.058	292	2240	0.021	ppm	100
12) Total Heptachlorobiphe...	15.684	394	1727	0.026	ppm	97
14) Total Octachlorobiphenyls	17.164	428	1172	0.026	ppm	93
15) Total Nonachlorobiphen...	18.470	464	1380m	0.036	ppm	
16) Total Decachlorobiphenyl	19.851	498	1306	0.040	ppm	88

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN740.D
Acq On : 21 Feb 2019 9:49 pm
Operator : J.Misiurewicz
Sample : RQ1901357-06
Misc : 331543 680 PCB MDLv
ALS Vial : 13 Sample Multiplier: 1

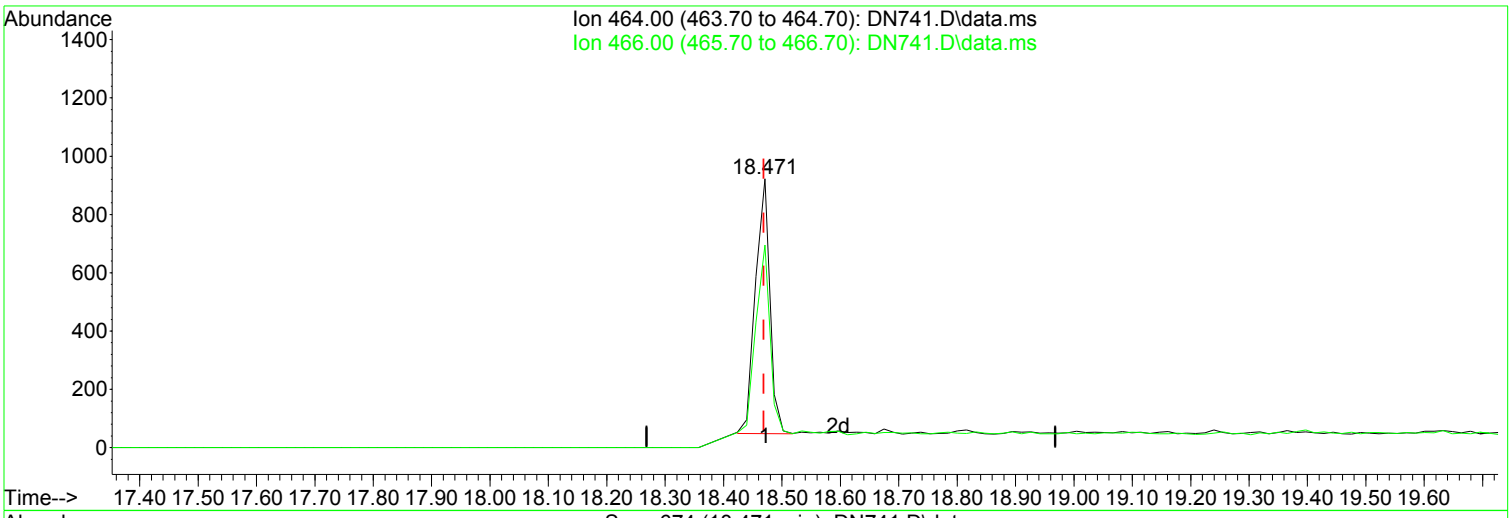
Quant Time: Feb 22 08:04:20 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

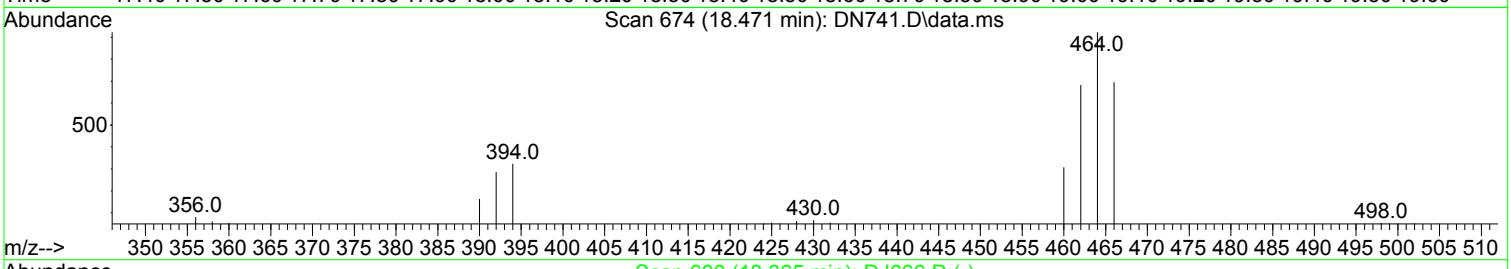


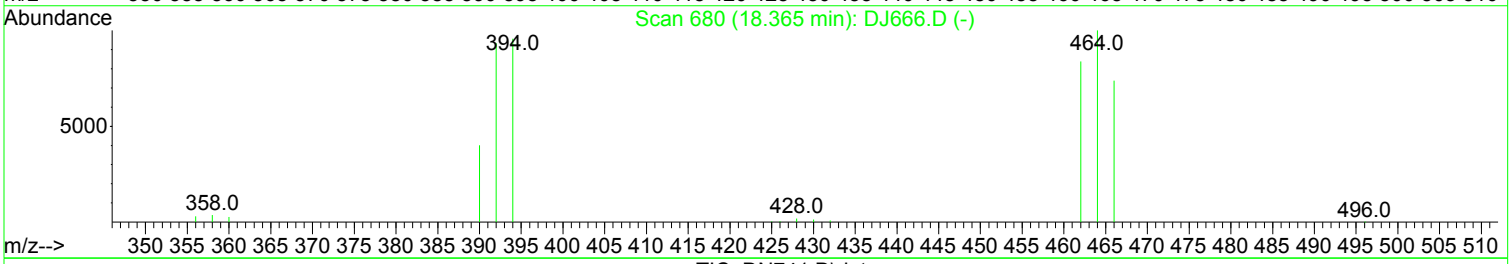
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN741.D
Acq On : 21 Feb 2019 10:17 pm
Operator : J.Misiurewicz
Sample : RQ1901357-07
Misc : 331543 680 PCB MDLv
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 22 08:04:26 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN741.D\data.ms

(15) Total Nonachlorobiphenyls RT#208 (TC)

18.471min (+ 0.002) 0.04 ppm m

response 1510

Ion	Exp%	Act%
464.00	100.00	100.00
466.00	78.30	75.30
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

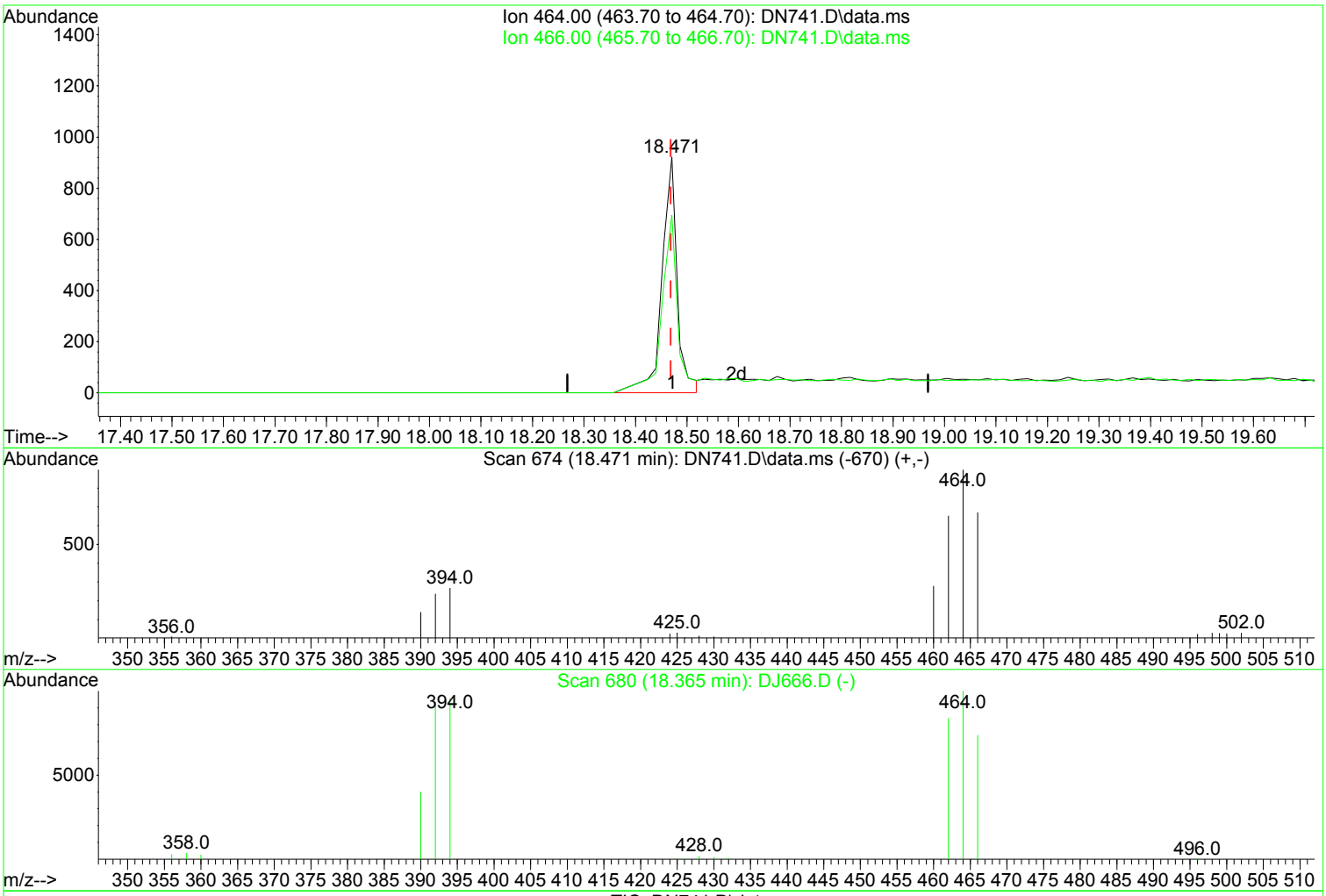
Poor integration.

02/22/19

1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN741.D
Acq On : 21 Feb 2019 10:17 pm
Operator : J.Misiurewicz
Sample : RQ1901357-07
Misc : 331543 680 PCB MDLv
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 22 08:04:26 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN741.D\data.ms

(15) Total Nonachlorobiphenyls RT#208 (TC)

18.471min (+ 0.002) 0.07 ppm

response 2685

Ion	Exp%	Act%
464.00	100.00	100.00
466.00	78.30	74.68
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN741.D
Acq On : 21 Feb 2019 10:17 pm
Operator : J.Misiurewicz
Sample : RQ1901357-07
Misc : 331543 680 PCB MDLv
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 22 08:04:26 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

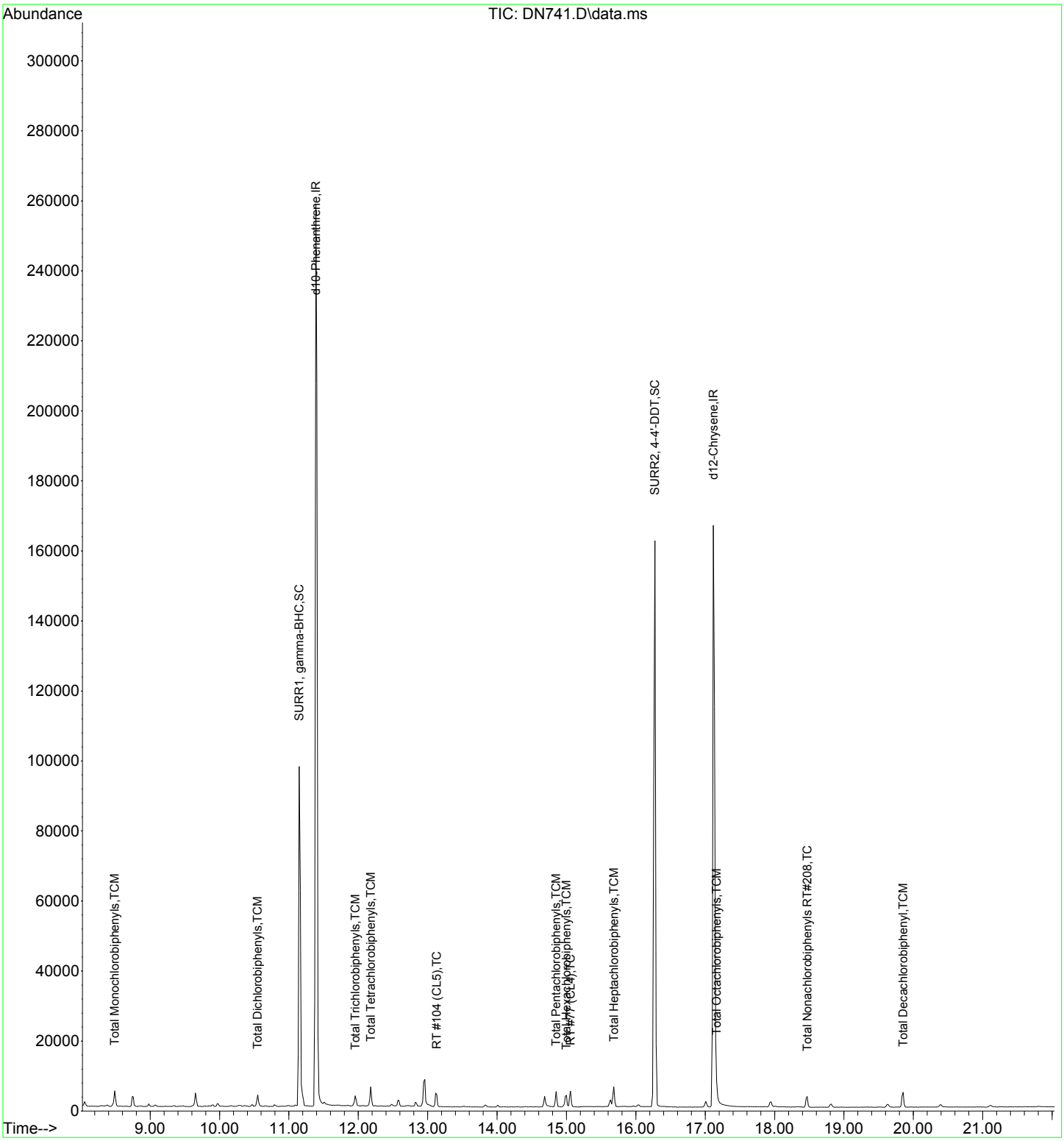
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	330596	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	252545	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.149	219	37135	0.90	ppm	0.00
Spiked Amount 1.000	Range 55 - 133		Recovery = 90.00%			
13) SURR2, 4-4'-DDT	16.275	235	128056	1.37	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 137.00%			
Target Compounds						Qvalue
3) Total Monochlorobiphenyls	8.488	188	2903	0.009	ppm	100
4) Total Dichlorobiphenyls	10.551	222	2067	0.010	ppm	95
6) Total Trichlorobiphenyls	11.956	256	1454	0.010	ppm	96
7) Total Tetrachlorobiphe...	12.180	292	1919	0.020	ppm	92
8) RT #104 (CL5)	13.130	324	1320	0.018	ppm	96
9) Total Pentachlorobiphe...	14.850	326	1495	0.021	ppm	96
10) Total Hexachlorobiphenyls	14.999	360	1435	0.020	ppm	99
11) RT #77 (CL4)	15.059	292	2578	0.023	ppm	94
12) Total Heptachlorobiphe...	15.683	394	1893	0.028	ppm	94
14) Total Octachlorobiphenyls	17.164	428	1337	0.029	ppm	97
15) Total Nonachlorobiphen...	18.471	464	1510m	0.038	ppm	
16) Total Decachlorobiphenyl	19.852	498	1431	0.042	ppm	89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN741.D
Acq On : 21 Feb 2019 10:17 pm
Operator : J.Misiurewicz
Sample : RQ1901357-07
Misc : 331543 680 PCB MDLv
ALS Vial : 14 Sample Multiplier: 1

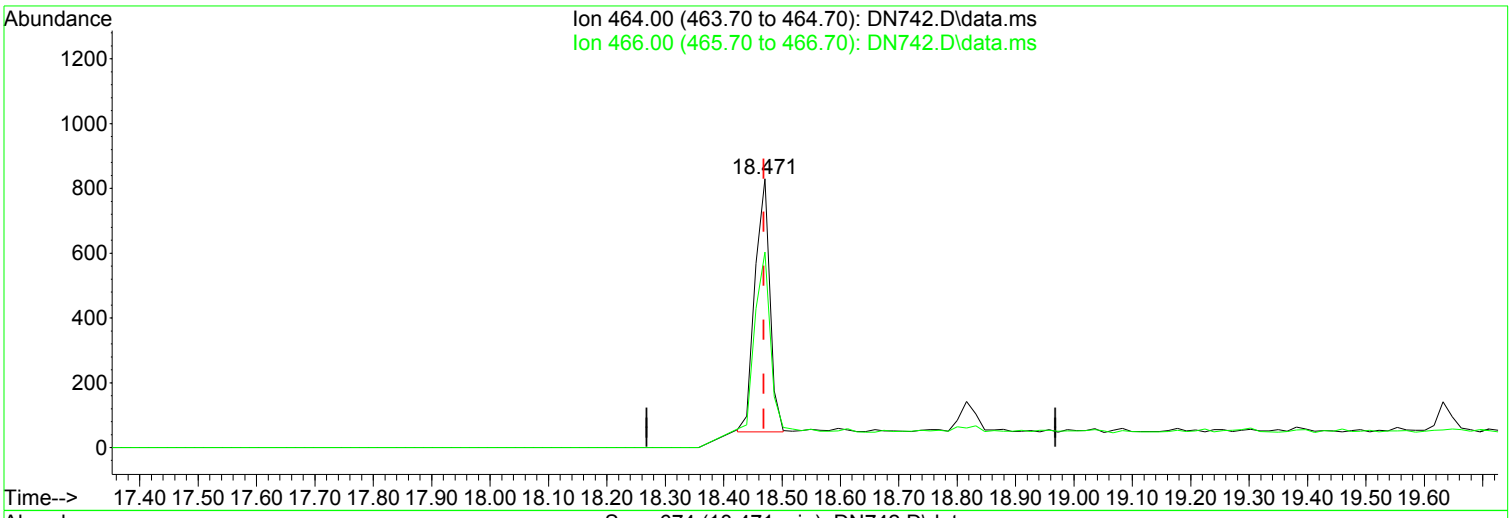
Quant Time: Feb 22 08:04:26 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN742.D
Acq On : 21 Feb 2019 10:46 pm
Operator : J.Misiurewicz
Sample : RQ1901357-08
Misc : 331543 680 PCB MDLv
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 22 08:04:32 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN742.D\data.ms

(15) Total Nonachlorobiphenyls RT#208 (TC)

18.471min (+ 0.002) 0.04 ppm m

response 1395

Ion	Exp%	Act%
464.00	100.00	100.00
466.00	78.30	72.77
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

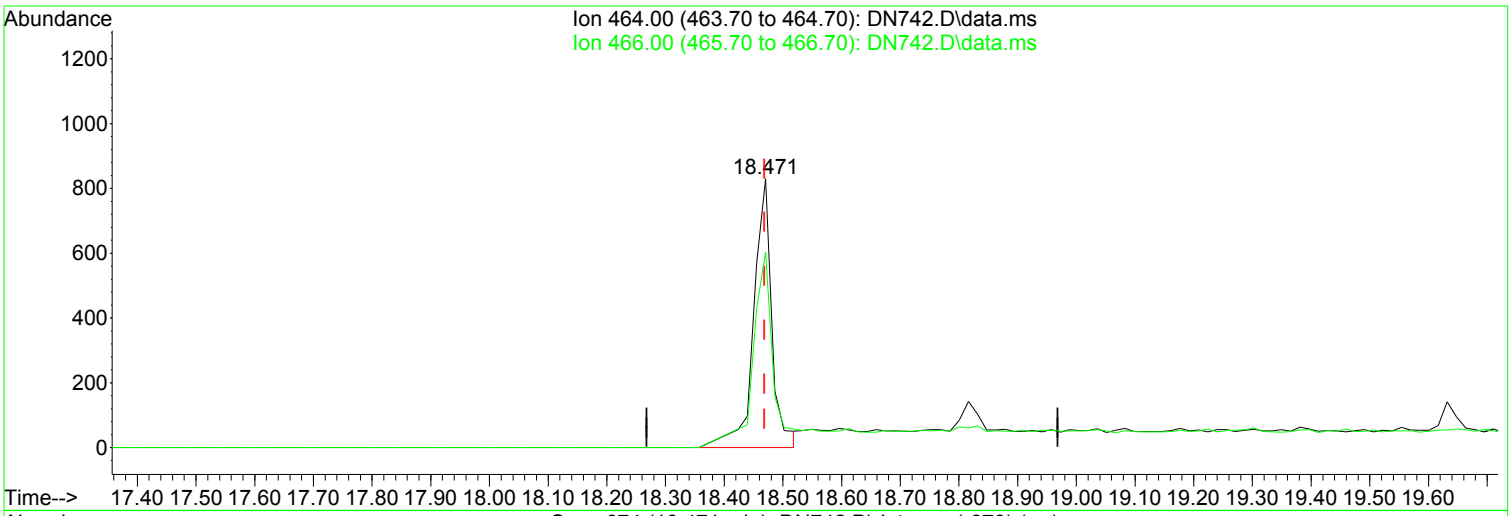
Poor integration.

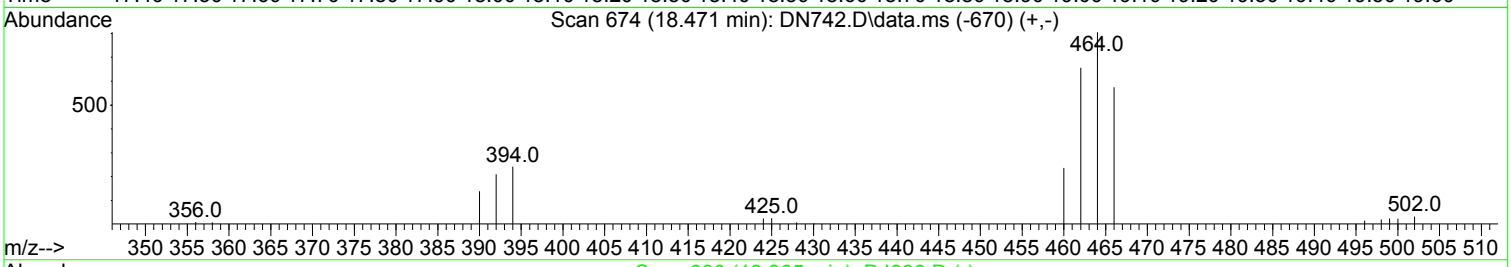
02/22/19

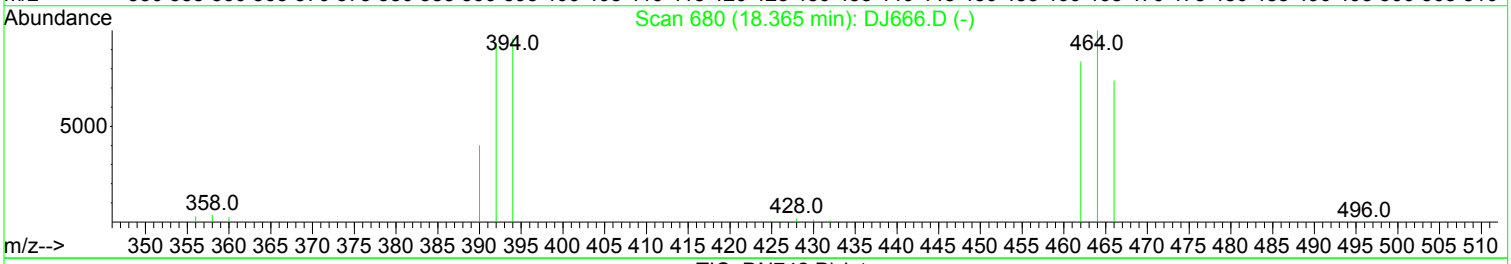
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN742.D
Acq On : 21 Feb 2019 10:46 pm
Operator : J.Misiurewicz
Sample : RQ1901357-08
Misc : 331543 680 PCB MDLv
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 22 08:04:32 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN742.D\data.ms

(15) Total Nonachlorobiphenyls RT#208 (TC)

18.471min (+ 0.002) 0.06 ppm

response 2518

Ion	Exp%	Act%
464.00	100.00	100.00
466.00	78.30	71.49
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN742.D
Acq On : 21 Feb 2019 10:46 pm
Operator : J.Misiurewicz
Sample : RQ1901357-08
Misc : 331543 680 PCB MDLv
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 22 08:04:32 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

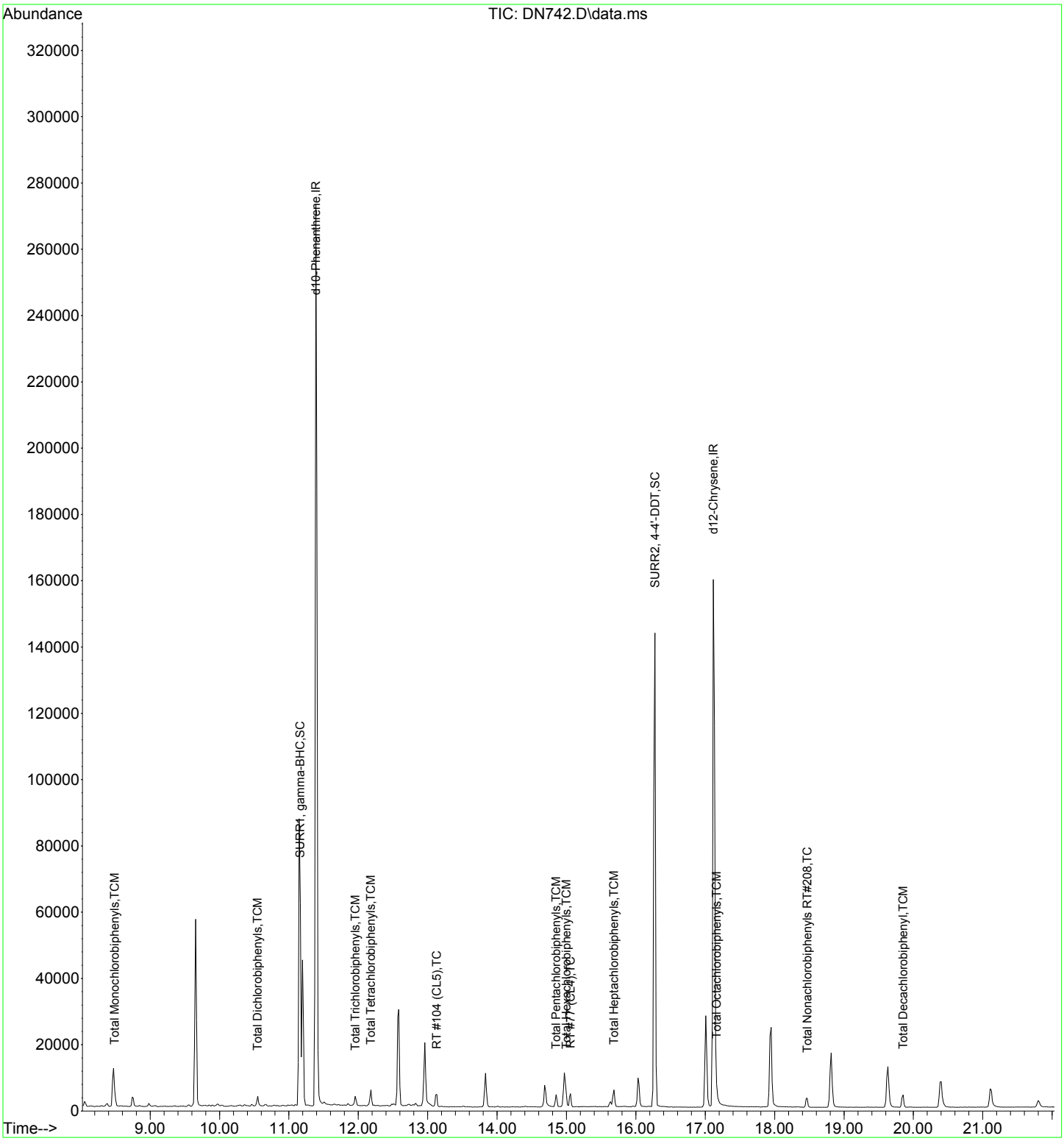
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	326782	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	248882	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.164	219	35225	0.87	ppm	0.01
Spiked Amount 1.000	Range 55 - 133		Recovery = 87.00%			
13) SURR2, 4-4'-DDT	16.276	235	117571	1.27	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 127.00%			
Target Compounds						Qvalue
3) Total Monochlorobiphenyls	8.488	188	2719	0.008	ppm	99
4) Total Dichlorobiphenyls	10.551	222	1849	0.009	ppm	98
6) Total Trichlorobiphenyls	11.956	256	1400	0.010	ppm	97
7) Total Tetrachlorobiphe...	12.180	292	1653	0.017	ppm	94
8) RT #104 (CL5)	13.130	324	1221	0.017	ppm	85
9) Total Pentachlorobiphe...	14.850	326	1385	0.020	ppm	82
10) Total Hexachlorobiphenyls	14.999	360	1469	0.021	ppm	99
11) RT #77 (CL4)	15.059	292	2329	0.021	ppm	93
12) Total Heptachlorobiphe...	15.684	394	1726	0.026	ppm	95
14) Total Octachlorobiphenyls	17.164	428	1093	0.024	ppm	88
15) Total Nonachlorobiphen...	18.471	464	1395m	0.036	ppm	
16) Total Decachlorobiphenyl	19.852	498	1289	0.039	ppm	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN742.D
Acq On : 21 Feb 2019 10:46 pm
Operator : J.Misiurewicz
Sample : RQ1901357-08
Misc : 331543 680 PCB MDLv
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 22 08:04:32 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

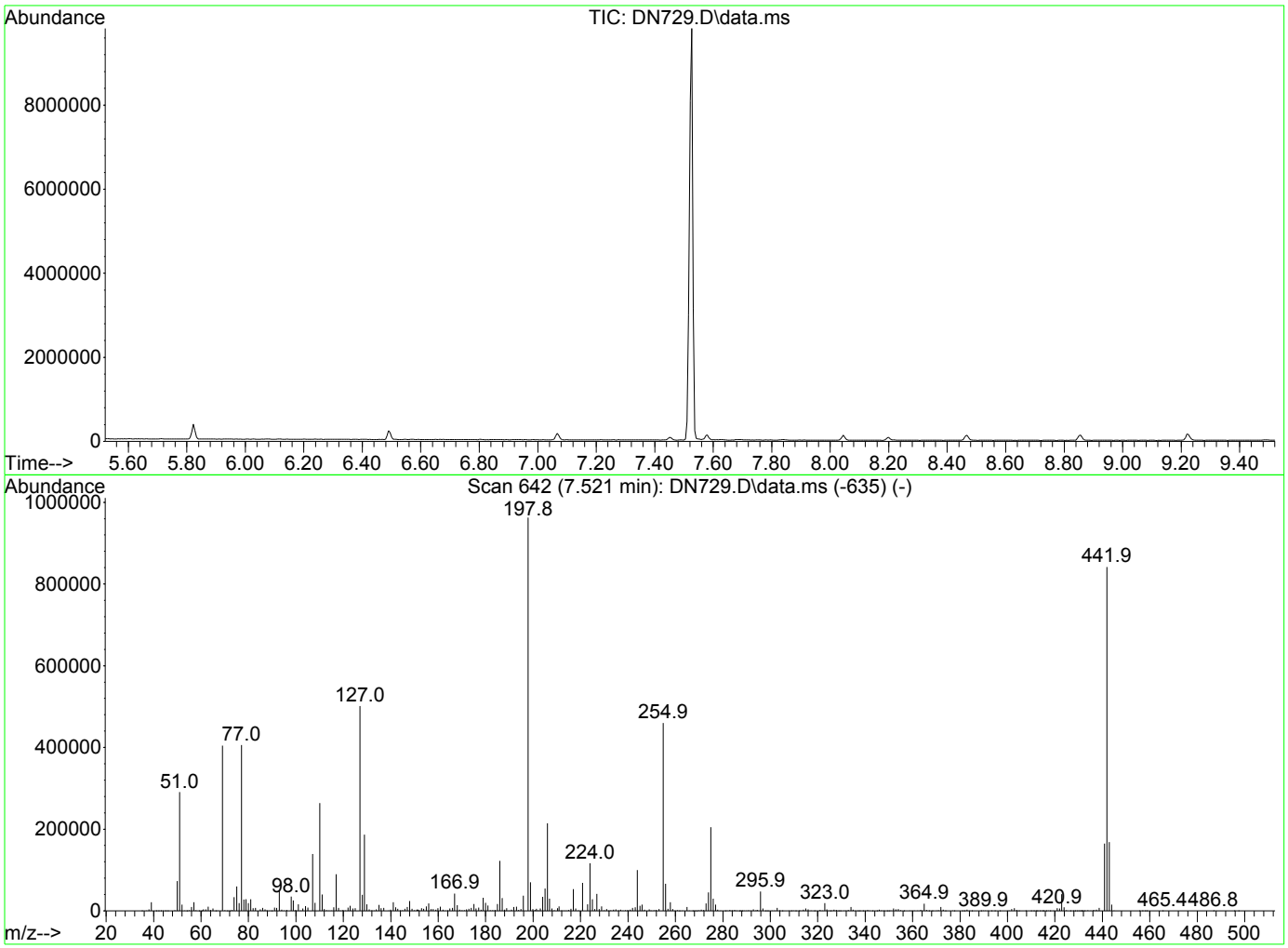


1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN729.D
Acq On : 21 Feb 2019 4:41 pm
Operator : J.Misiurewicz
Sample : TUNE
Misc : DFTPP
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : I:\ACQUDATA\5973B\METHODS\DFTPP680.M
Title : 50 ng DFTPP analysis.
Last Update : Wed Jun 22 12:20:24 2005



Spectrum Information: Scan 642

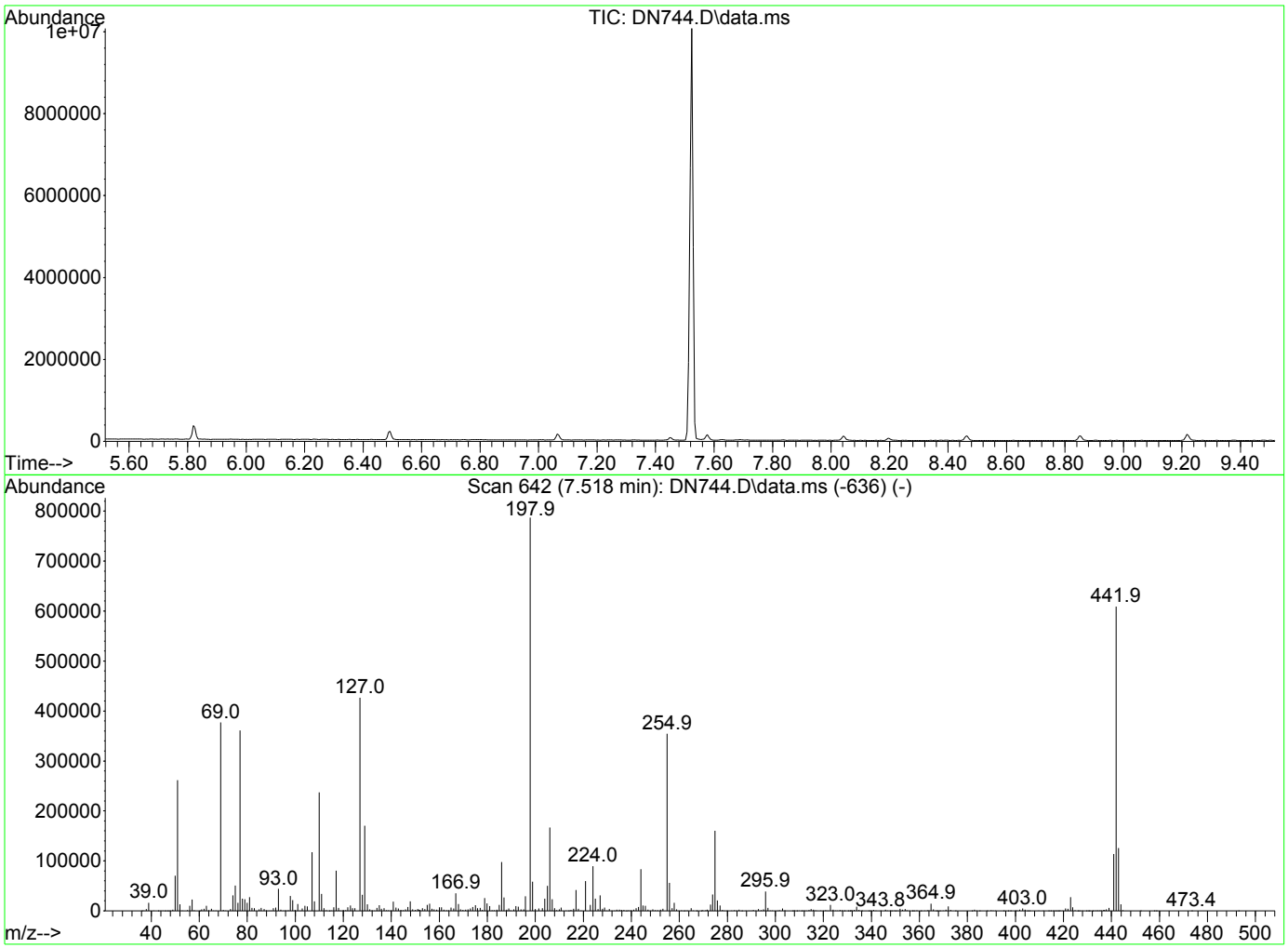
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
127	198	40	60	52.1	501120	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	962582	PASS
199	198	5	9	7.3	69944	PASS
275	198	10	30	21.3	204992	PASS
365	198	1	100	1.8	17568	PASS
441	443	0.01	100	97.8	164544	PASS
442	198	50	110	87.5	841856	PASS
443	442	17	23	20.0	168192	PASS

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\022119\
Data File : DN744.D
Acq On : 21 Feb 2019 11:43 pm
Operator : J.Misiurewicz
Sample : TUNE
Misc : DFTPP
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : I:\ACQUDATA\5973B\METHODS\DFTPP680.M
Title : 50 ng DFTPP analysis.
Last Update : Wed Jun 22 12:20:24 2005



Spectrum Information: Scan 642

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
127	198	40	60	54.2	426368	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	787072	PASS
199	198	5	9	7.5	58680	PASS
275	198	10	30	20.4	160384	PASS
365	198	1	100	1.8	14314	PASS
441	443	0.01	100	90.6	113944	PASS
442	198	50	110	77.3	608704	PASS
443	442	17	23	20.7	125816	PASS

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN659.D
Acq On : 19 Feb 2019 3:34 pm
Operator : J.Misiurewicz
Sample : ICV
Misc : Initial Calibration 680 PCB
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 21 14:20:21 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

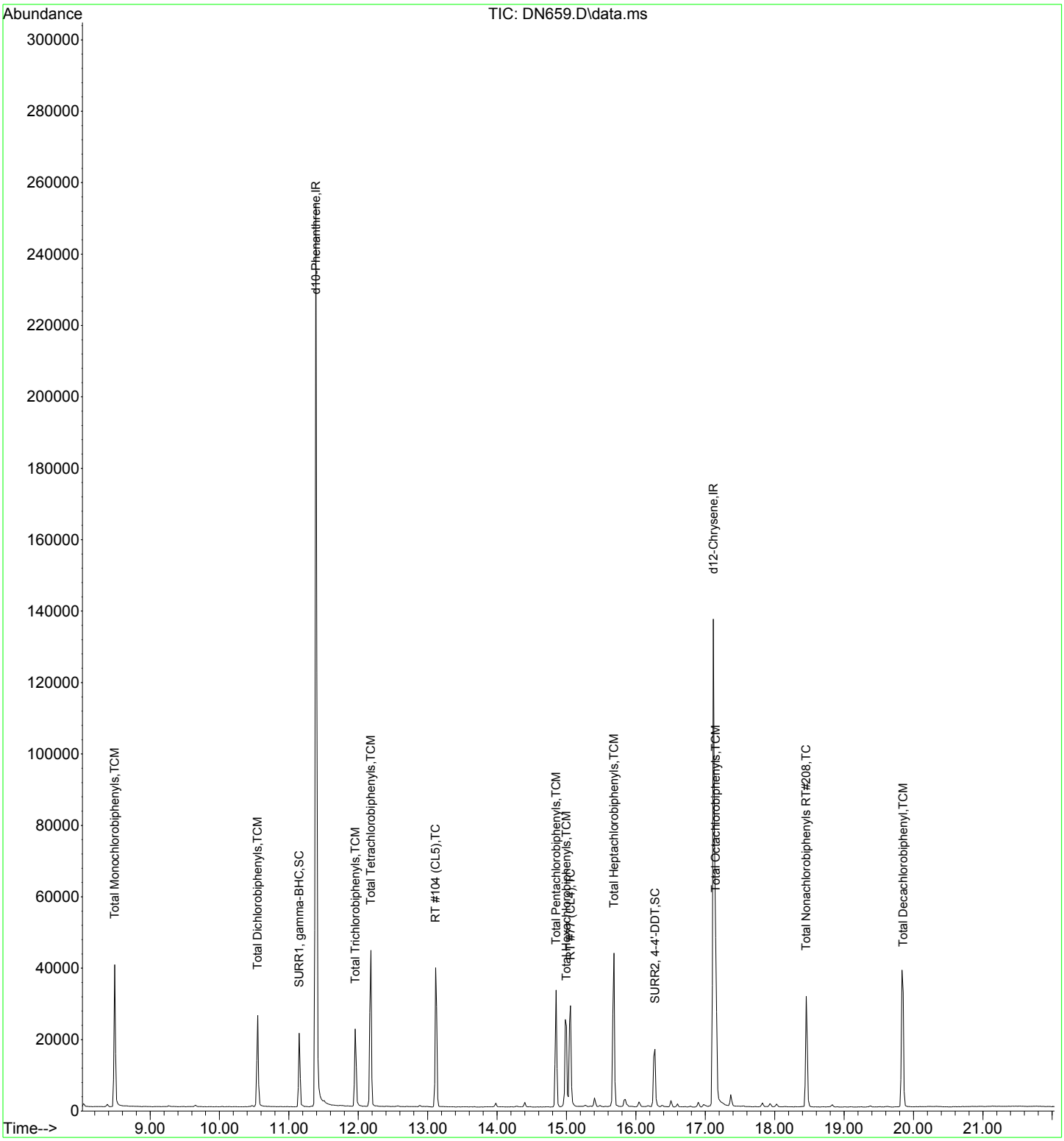
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.389	188	292260	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	209335	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.149	219	6428	0.19	ppm	0.00
Spiked Amount 1.000	Range 55 - 133		Recovery = 19.00%#			
13) SURR2, 4-4'-DDT	16.275	235	13873	0.18	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 18.00%#			
Target Compounds						Qvalue
3) Total Monochlorobiphenyls	8.488	188	26999	0.099	ppm	99
4) Total Dichlorobiphenyls	10.551	222	16072	0.089	ppm	93
6) Total Trichlorobiphenyls	11.957	256	11850	0.097	ppm	94
7) Total Tetrachlorobiphe...	12.181	292	16168	0.198	ppm	97
8) RT #104 (CL5)	13.115	324	11398	0.188	ppm	98
9) Total Pentachlorobiphe...	14.849	326	11536	0.197	ppm	96
10) Total Hexachlorobiphenyls	14.999	360	11100	0.190	ppm	85
11) RT #77 (CL4)	15.059	292	18092m	0.195	ppm	
12) Total Heptachlorobiphe...	15.683	394	16242	0.288	ppm	91
14) Total Octachlorobiphenyls	17.149	428	11470	0.297	ppm	84
15) Total Nonachlorobiphen...	18.455	464	13068	0.397	ppm	92
16) Total Decachlorobiphenyl	19.851	498	13524	0.484	ppm	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN659.D
Acq On : 19 Feb 2019 3:34 pm
Operator : J.Misiurewicz
Sample : ICV
Misc : Initial Calibration 680 PCB
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 21 14:20:21 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN659.D
Acq On : 19 Feb 2019 3:34 pm
Operator : J.Misiurewicz
Sample : ICV
Misc : Initial Calibration 680 PCB
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 21 14:20:21 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 70% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	IR	d10-Phenanthrene	0.750	0.750	0.0	95	0.00
2	IR	d12-Chrysene	0.750	0.750	0.0	99	0.00
3	TCM	Total Monochlorobiphenyls	0.100	0.099	1.0	96	0.00
4	TCM	Total Dichlorobiphenyls	0.100	0.089	11.0	87	0.00
5	SC	SURR1, gamma-BHC	0.200	0.188	6.0	91	0.00
6	TCM	Total Trichlorobiphenyls	0.100	0.097	3.0	99	0.00
7	TCM	Total Tetrachlorobiphenyls	0.200	0.198	1.0	95	0.00
8	TC	RT #104 (CL5)	0.200	0.188	6.0	91	0.00
9	TCM	Total Pentachlorobiphenyls	0.200	0.197	1.5	96	0.00
10	TCM	Total Hexachlorobiphenyls	0.200	0.190	5.0	94	0.00
11	TC	RT #77 (CL4)	0.200	0.195	2.5	98	0.00
12	TCM	Total Heptachlorobiphenyls	0.300	0.288	4.0	95	0.00
13	SC	SURR2, 4-4'-DDT	0.200	0.179	10.5	92	0.00
14	TCM	Total Octachlorobiphenyls	0.300	0.297	1.0	95	0.00
15	TC	Total Nonachlorobiphenyls R	0.400	0.397	0.8	94	-0.01
16	TCM	Total Decachlorobiphenyl	0.500	0.484	3.2	97	0.00
17	L1	CL1 - #1	0.100	0.000	100.0#	0	-8.49#
18	L1	CL1 - #2	0.100	0.000	100.0#	0	-8.49#
19	L1	CL1 - #3	0.100	0.000	100.0#	0	-8.49#
20	L1	CL1 - #4	0.100	0.000	100.0#	0	-8.49#
21	L1	CL1 - #5	0.100	0.000	100.0#	0	-8.49#
22	L1	CL1 - #6	0.100	0.000	100.0#	0	-8.49#
23	L1	CL1 - #7	0.100	0.000	100.0#	0	-8.49#
24	L1	CL1 - #8	0.100	0.000	100.0#	0	-8.49#
25	L1	CL1 - #9	0.100	0.000	100.0#	0	-8.49#
26	L1	CL1 - #10	0.100	0.000	100.0#	0	-8.49#
27	L1	MonoCB - Total	0.100	0.000	100.0#	0	-8.49#
28	L2	CL2 - #1	0.100	0.000	100.0#	0	-10.55#
29	L2	CL2 - #2	0.100	0.000	100.0#	0	-10.55#
30	L2	CL2 - #3	0.100	0.000	100.0#	0	-10.55#
31	L2	CL2 - #4	0.100	0.000	100.0#	0	-10.55#
32	L2	CL2 - #5	0.100	0.000	100.0#	0	-10.55#
33	L2	CL2 - #6	0.100	0.000	100.0#	0	-10.55#
34	L2	CL2 - #7	0.100	0.000	100.0#	0	-10.55#
35	L2	CL2 - #8	0.100	0.000	100.0#	0	-10.55#
36	L2	CL2 - #9	0.100	0.000	100.0#	0	-10.55#
37	L2	CL2 - #10	0.100	0.000	100.0#	0	-10.55#
38	L2	DiCB - Total	0.100	0.000	100.0#	0	-10.55#
39	L3	CL3 - #1	0.100	0.000	100.0#	0	-11.96#
40	L3	CL3 - #2	0.100	0.000	100.0#	0	-11.96#
41	L3	CL3 - #3	0.100	0.000	100.0#	0	-11.96#
42	L3	CL3 - #4	0.100	0.000	100.0#	0	-11.96#
43	L3	CL3 - #5	0.100	0.000	100.0#	0	-11.96#
44	L3	CL3 - #6	0.100	0.000	100.0#	0	-11.96#
45	L3	CL3 - #7	0.100	0.000	100.0#	0	-11.96#
46	L3	CL3 - #8	0.100	0.000	100.0#	0	-11.96#
47	L3	CL3 - #9	0.100	0.000	100.0#	0	-11.96#
48	L3	CL3 - #10	0.100	0.000	100.0#	0	-11.96#
49	L3	CL3 - #11	0.100	0.000	100.0#	0	-11.96#
50	L3	CL3 - #12	0.100	0.000	100.0#	0	-11.96#
51	L3	CL3 - #13	0.100	0.000	100.0#	0	-11.96#

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN659.D
Acq On : 19 Feb 2019 3:34 pm
Operator : J.Misiurewicz
Sample : ICV
Misc : Initial Calibration 680 PCB
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 21 14:20:21 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 70% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
52	L3	TriCB - Total	0.100	0.000	100.0#	0	-11.96#
53	L4	CL4 - #1	0.200	0.000	100.0#	0	-12.18#
54	L4	CL4 - #2	0.200	0.000	100.0#	0	-12.18#
55	L4	CL4 - #3	0.200	0.000	100.0#	0	-12.18#
56	L4	CL4 - #4	0.200	0.000	100.0#	0	-12.18#
57	L4	CL4 - #5	0.200	0.000	100.0#	0	-12.18#
58	L4	CL4 - #6	0.200	0.000	100.0#	0	-12.18#
59	L4	CL4 - #7	0.200	0.000	100.0#	0	-12.18#
60	L4	CL4 - #8	0.200	0.000	100.0#	0	-12.18#
61	L4	CL4 - #9	0.200	0.000	100.0#	0	-12.18#
62	L4	CL4 - #10	0.200	0.000	100.0#	0	-12.18#
63	L4	CL4 - #11	0.200	0.000	100.0#	0	-12.18#
64	L4	CL4 - #12	0.200	0.000	100.0#	0	-12.18#
65	L4	CL4 - #13	0.200	0.000	100.0#	0	-12.18#
66	L4	CL4 - #14	0.200	0.000	100.0#	0	-12.18#
67	L4	CL4 - #15	0.200	0.000	100.0#	0	-12.18#
68	L4	TetraCB - Total	0.200	0.000	100.0#	0	-12.18#
69	L5	CL5 - #1	0.200	0.000	100.0#	0	-14.85#
70	L5	CL5 - #2	0.200	0.000	100.0#	0	-14.85#
71	L5	CL5 - #3	0.200	0.000	100.0#	0	-14.85#
72	L5	CL5 - #4	0.200	0.000	100.0#	0	-14.85#
73	L5	CL5 - #5	0.200	0.000	100.0#	0	-14.85#
74	L5	CL5 - #6	0.200	0.000	100.0#	0	-14.85#
75	L5	CL5 - #7	0.200	0.000	100.0#	0	-14.85#
76	L5	CL5 - #8	0.200	0.000	100.0#	0	-14.85#
77	L5	CL5 - #9	0.200	0.000	100.0#	0	-14.85#
78	L5	CL5 - #10	0.200	0.000	100.0#	0	-14.85#
79	L5	CL5 - #11	0.200	0.000	100.0#	0	-14.85#
80	L5	CL5 - #12	0.200	0.000	100.0#	0	-14.85#
81	L5	CL5 - #13	0.200	0.000	100.0#	0	-14.85#
82	L5	CL5 - #14	0.200	0.000	100.0#	0	-14.85#
83	L5	CL5 - #15	0.200	0.000	100.0#	0	-14.85#
84	L5	PentaCB - Total	0.200	0.000	100.0#	0	-14.85#
85	L6	CL6 - #1	0.200	0.000	100.0#	0	-15.00#
86	L6	CL6 - #2	0.200	0.000	100.0#	0	-15.00#
87	L6	CL6 - #3	0.200	0.000	100.0#	0	-15.00#
88	L6	CL6 - #4	0.200	0.000	100.0#	0	-15.00#
89	L6	CL6 - #5	0.200	0.000	100.0#	0	-15.00#
90	L6	CL6 - #6	0.200	0.000	100.0#	0	-15.00#
91	L6	CL6 - #7	0.200	0.000	100.0#	0	-15.00#
92	L6	CL6 - #8	0.200	0.000	100.0#	0	-15.00#
93	L6	CL6 - #9	0.200	0.000	100.0#	0	-15.00#
94	L6	CL6 - #10	0.200	0.000	100.0#	0	-15.00#
95	L6	CL6 - #11	0.200	0.000	100.0#	0	-15.00#
96	L6	CL6 - #12	0.200	0.000	100.0#	0	-15.00#
97	L6	CL6 - #13	0.200	0.000	100.0#	0	-15.00#
98	L6	CL6 - #14	0.200	0.000	100.0#	0	-15.00#
99	L6	CL6 - #15	0.200	0.000	100.0#	0	-15.00#
100	L6	HexaCB - Total	0.200	0.000	100.0#	0	-15.00#
101	L7	CL7 - #1	0.300	0.000	100.0#	0	-15.68#
102	L7	CL7 - #2	0.300	0.000	100.0#	0	-15.68#
103	L7	CL7 - #3	0.300	0.000	100.0#	0	-15.68#

1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN659.D
Acq On : 19 Feb 2019 3:34 pm
Operator : J.Misiurewicz
Sample : ICV
Misc : Initial Calibration 680 PCB
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 21 14:20:21 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 70% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

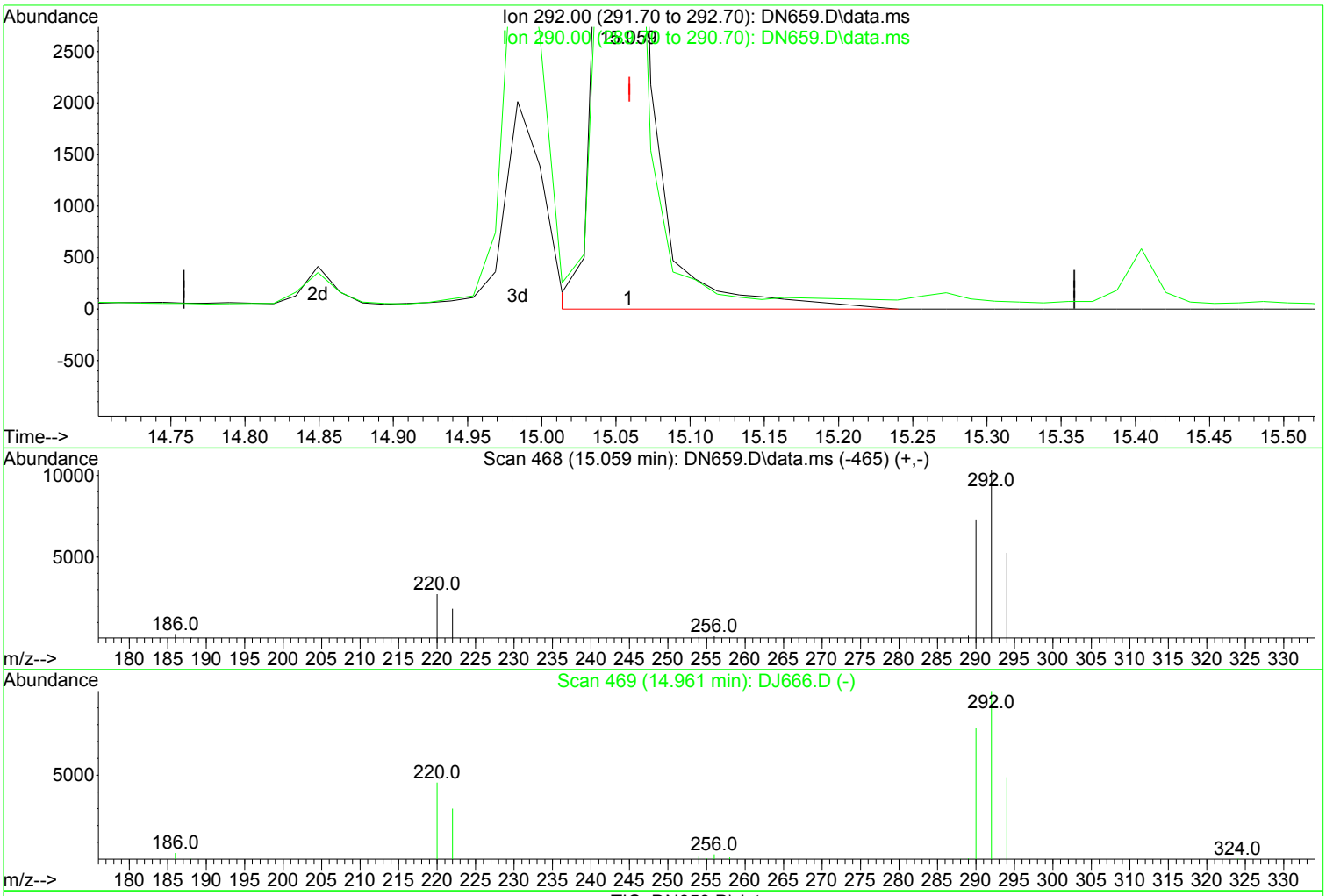
		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
104	L7	CL7 - #4	0.300	0.000	100.0#	0	-15.68#
105	L7	CL7 - #5	0.300	0.000	100.0#	0	-15.68#
106	L7	CL7 - #6	0.300	0.000	100.0#	0	-15.68#
107	L7	CL7 - #7	0.300	0.000	100.0#	0	-15.68#
108	L7	CL7 - #8	0.300	0.000	100.0#	0	-15.68#
109	L7	CL7 - #9	0.300	0.000	100.0#	0	-15.68#
110	L7	CL7 - #10	0.300	0.000	100.0#	0	-15.68#
111	L7	HeptaCB - Total	0.300	0.000	100.0#	0	-15.68#
112	L8	CL8 - #1	0.300	0.000	100.0#	0	-17.16#
113	L8	CL8 - #2	0.300	0.000	100.0#	0	-17.16#
114	L8	CL8 - #3	0.300	0.000	100.0#	0	-17.16#
115	L8	CL8 - #4	0.300	0.000	100.0#	0	-17.16#
116	L8	CL8 - #5	0.300	0.000	100.0#	0	-17.16#
117	L8	CL8 - #6	0.300	0.000	100.0#	0	-17.16#
118	L8	CL8 - #7	0.300	0.000	100.0#	0	-17.16#
119	L8	CL8 - #8	0.300	0.000	100.0#	0	-17.16#
120	L8	OctaCB - Total	0.300	0.000	100.0#	0	-17.16#
121	L9	CL9 - #1	0.400	0.000	100.0#	0	-18.47#
122	L9	CL9 - #2	0.400	0.000	100.0#	0	-18.47#
123	L9	CL9 - #3	0.400	0.000	100.0#	0	-18.47#
124	L9	CL9 - #4	0.400	0.000	100.0#	0	-18.47#
125	L9	CL9 - #5	0.400	0.000	100.0#	0	-18.47#
126	L9	NonaCB - Total	0.400	0.000	100.0#	0	-18.47#
127	L10	CL10 - #1	0.500	0.000	100.0#	0	-19.85#
128	L10	CL10 - #2	0.500	0.000	100.0#	0	-19.85#
129	L10	CL10 - #3	0.500	0.000	100.0#	0	-19.85#
130	L10	DecaCB - Total	0.500	0.000	100.0#	0	-19.85#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN659.D
Acq On : 19 Feb 2019 3:34 pm
Operator : J.Misiurewicz
Sample : ICV
Misc : Initial Calibration 680 PCB
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 21 14:20:21 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



TIC: DN659.D\data.ms

(11) RT #77 (CL4) (TC)

15.059min (-0.001) 0.28 ppm

response 26053

Ion	Exp%	Act%
292.00	100.00	100.00
290.00	78.40	70.65
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

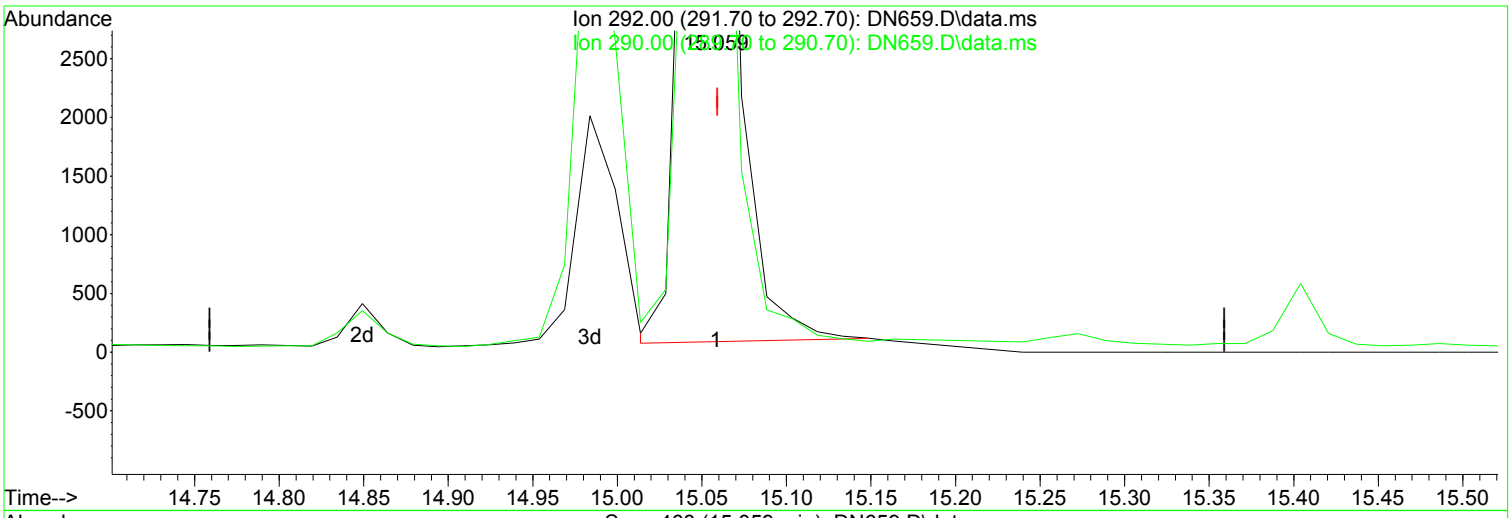
Before

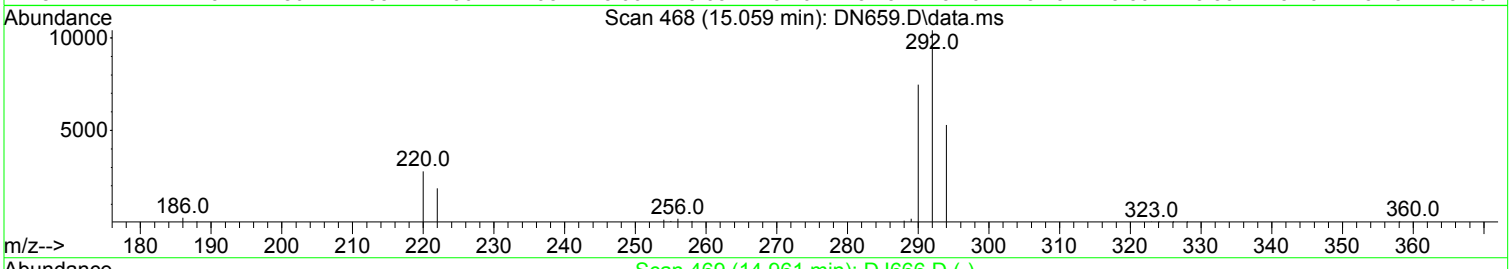
02/21/19

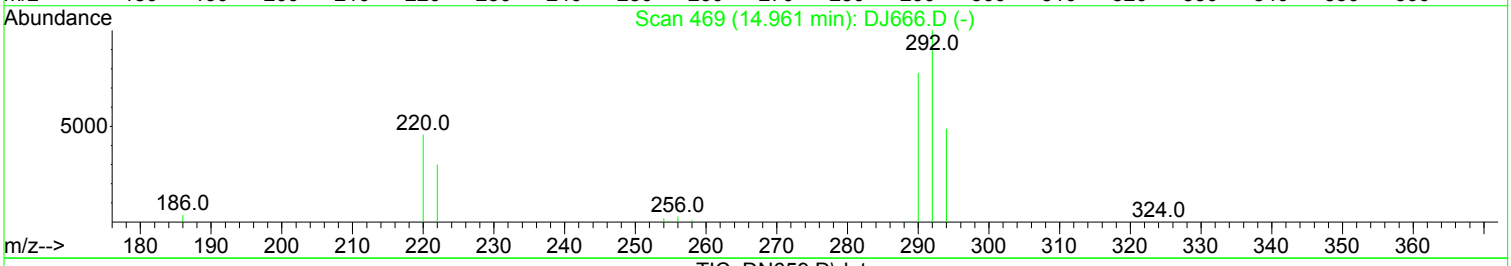
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN659.D
Acq On : 19 Feb 2019 3:34 pm
Operator : J.Misiurewicz
Sample : ICV
Misc : Initial Calibration 680 PCB
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 21 14:20:21 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration







TIC: DN659.D\data.ms

(11) RT #77 (CL4) (TC)

15.059min (-0.001) 0.19 ppm m

response 18092

Ion	Exp%	Act%
292.00	100.00	100.00
290.00	78.40	71.74
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

02/21/19

1st DM 02/22/19
2nd MP 02/22/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN658.D
Acq On : 19 Feb 2019 3:05 pm
Operator : J.Misiurewicz
Sample : CAL STD 3.0
Misc : Initial Calibration 680 PCB
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 21 11:55:14 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration

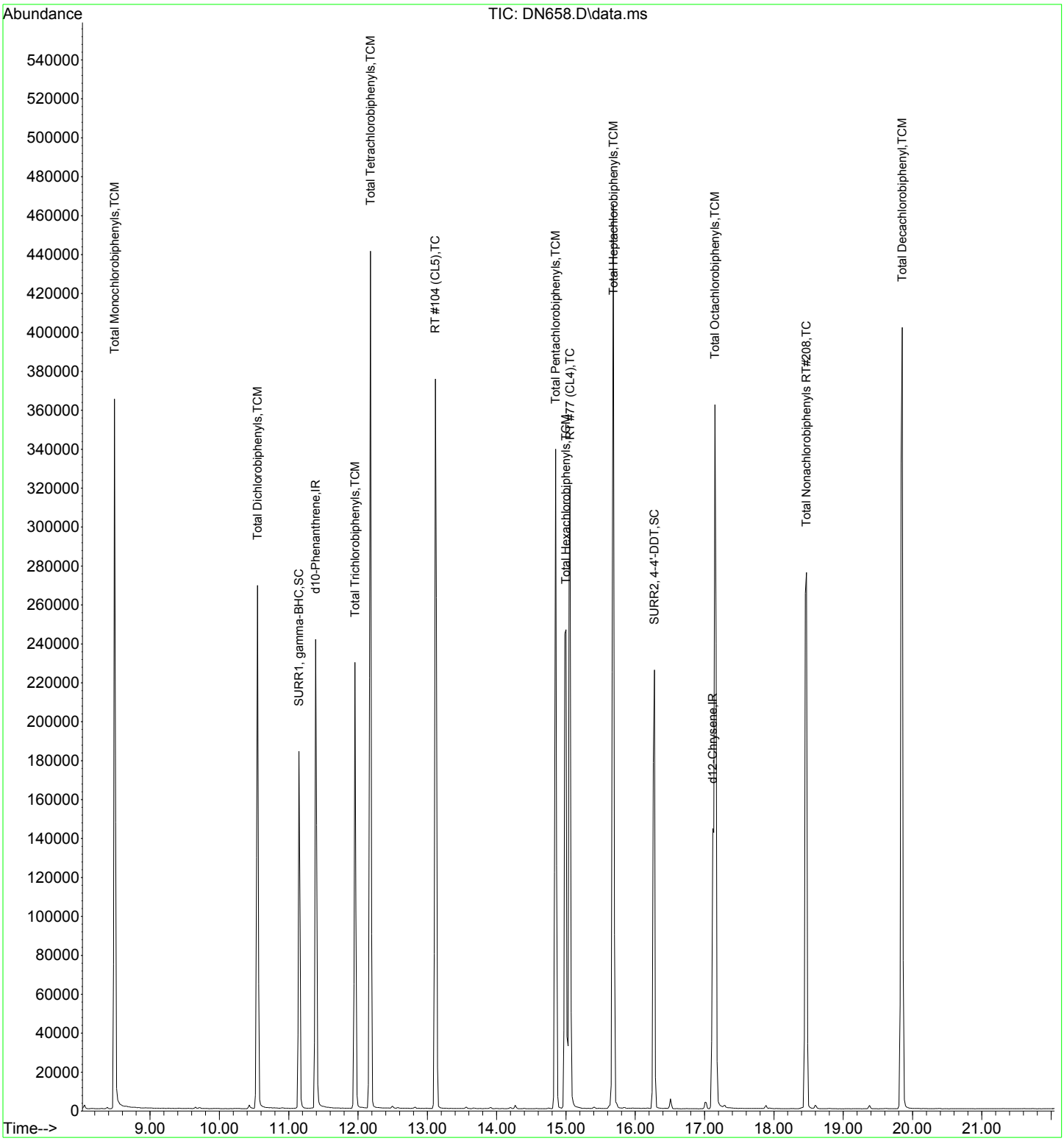
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	285136	0.75	ppm	0.00
2) d12-Chrysene	17.118	240	217072	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.148	219	64612	1.84	ppm	0.00
Spiked Amount 1.000	Range 55 - 133		Recovery = 184.00%#			
13) SURR2, 4-4'-DDT	16.275	235	193371	2.40	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 240.00%#			
Target Compounds						Qvalue
3) Total Monochlorobiphenyls	8.487	188	234657	0.829	ppm	91
4) Total Dichlorobiphenyls	10.550	222	159104	0.854	ppm	90
6) Total Trichlorobiphenyls	11.956	256	115526	0.910	ppm	98
7) Total Tetrachlorobiphe...	12.180	292	151012	1.782	ppm	97
8) RT #104 (CL5)	13.116	324	109862	1.749	ppm	95
9) Total Pentachlorobiphe...	14.850	326	118269	1.948	ppm	94
10) Total Hexachlorobiphenyls	15.000	360	111892	1.843	ppm	90
11) RT #77 (CL4)	15.059	292	187250	1.945	ppm	97
12) Total Heptachlorobiphe...	15.683	394	161251	2.759	ppm	95
14) Total Octachlorobiphenyls	17.149	428	113518	2.834	ppm	88
15) Total Nonachlorobiphen...	18.470	464	135432	3.956	ppm	97
16) Total Decachlorobiphenyl	19.851	498	141428	4.877	ppm	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN658.D
Acq On : 19 Feb 2019 3:05 pm
Operator : J.Misiurewicz
Sample : CAL STD 3.0
Misc : Initial Calibration 680 PCB
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 21 11:55:14 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN657.D
Acq On : 19 Feb 2019 2:37 pm
Operator : J.Misiurewicz
Sample : CAL STD 2.0
Misc : Initial Calibration 680 PCB
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 21 11:55:06 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration

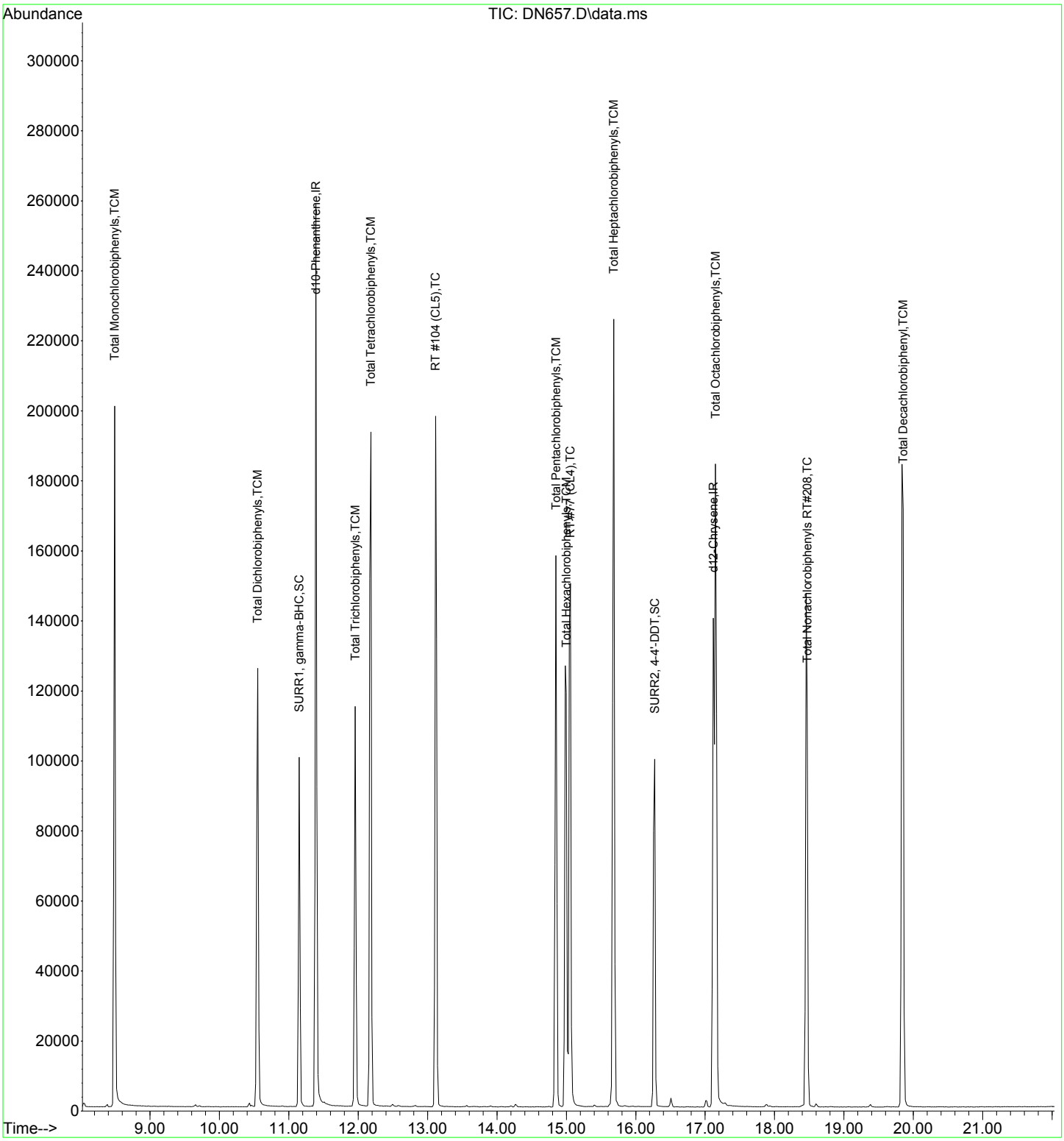
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.391	188	280609	0.75	ppm	0.00
2) d12-Chrysene	17.118	240	206682	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.151	219	32242	0.96	ppm	0.00
Spiked Amount 1.000	Range 55 - 133		Recovery = 96.00%			
13) SURR2, 4-4'-DDT	16.274	235	87336	1.14	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 114.00%			
Target Compounds						Qvalue
3) Total Monochlorobiphenyls	8.490	188	125829	0.467	ppm	87
4) Total Dichlorobiphenyls	10.553	222	82075	0.463	ppm	88
6) Total Trichlorobiphenyls	11.959	256	57505	0.476	ppm	100
7) Total Tetrachlorobiphe...	12.183	292	76631	0.950	ppm	93
8) RT #104 (CL5)	13.115	324	56803	0.950	ppm	94
9) Total Pentachlorobiphe...	14.850	326	57504	0.995	ppm	94
10) Total Hexachlorobiphenyls	14.999	360	56417	0.976	ppm	91
11) RT #77 (CL4)	15.059	292	91134	0.994	ppm	96
12) Total Heptachlorobiphe...	15.682	394	77692	1.396	ppm	90
14) Total Octachlorobiphenyls	17.149	428	55117	1.445	ppm	89
15) Total Nonachlorobiphen...	18.471	464	66798	2.049	ppm	97
16) Total Decachlorobiphenyl	19.852	498	68658	2.487	ppm	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN657.D
Acq On : 19 Feb 2019 2:37 pm
Operator : J.Misiurewicz
Sample : CAL STD 2.0
Misc : Initial Calibration 680 PCB
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 21 11:55:06 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN656.D
Acq On : 19 Feb 2019 2:08 pm
Operator : J.Misiurewicz
Sample : CAL STD 1.5
Misc : Initial Calibration 680 PCB
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 21 11:54:59 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration

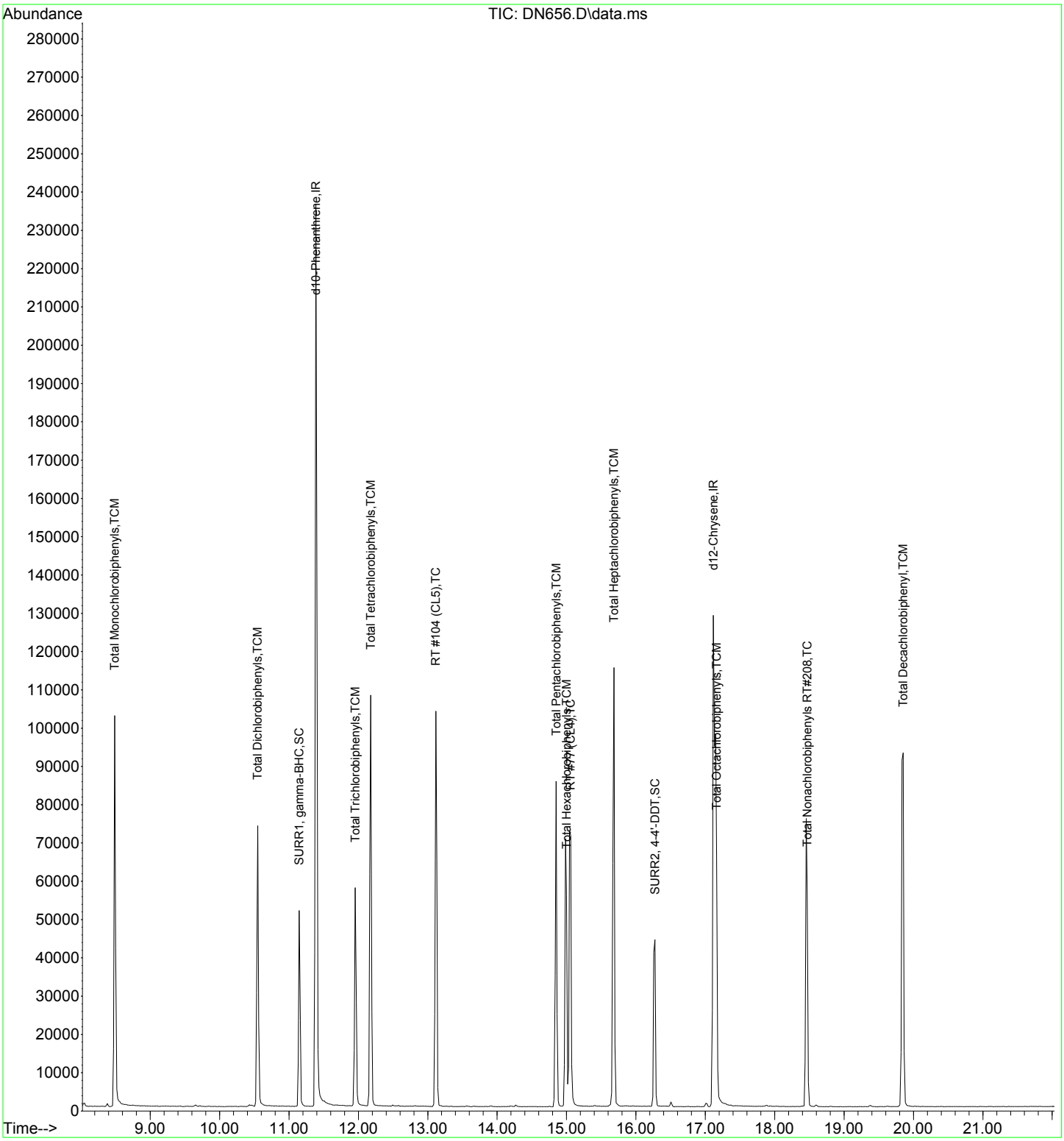
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.387	188	291048	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	206113	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.148	219	16932	0.51	ppm	0.00
Spiked Amount 1.000	Range 55 - 133		Recovery = 51.00%#			
13) SURR2, 4-4'-DDT	16.275	235	40452	0.53	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 53.00%#			
Target Compounds						Qvalue
3) Total Monochlorobiphenyls	8.487	188	67098	0.250	ppm	97
4) Total Dichlorobiphenyls	10.550	222	44821	0.253	ppm	94
6) Total Trichlorobiphenyls	11.955	256	29934	0.248	ppm	96
7) Total Tetrachlorobiphe...	12.179	292	39224	0.487	ppm	95
8) RT #104 (CL5)	13.116	324	29505	0.495	ppm	96
9) Total Pentachlorobiphe...	14.850	326	28995	0.503	ppm	95
10) Total Hexachlorobiphenyls	15.000	360	28445	0.493	ppm	88
11) RT #77 (CL4)	15.060	292	48145m	0.527	ppm	
12) Total Heptachlorobiphe...	15.683	394	41320	0.744	ppm	94
14) Total Octachlorobiphenyls	17.164	428	28196	0.741	ppm	98
15) Total Nonachlorobiphen...	18.470	464	33396	1.027	ppm	99
16) Total Decachlorobiphenyl	19.851	498	35619	1.294	ppm	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN656.D
Acq On : 19 Feb 2019 2:08 pm
Operator : J.Misiurewicz
Sample : CAL STD 1.5
Misc : Initial Calibration 680 PCB
ALS Vial : 8 Sample Multiplier: 1

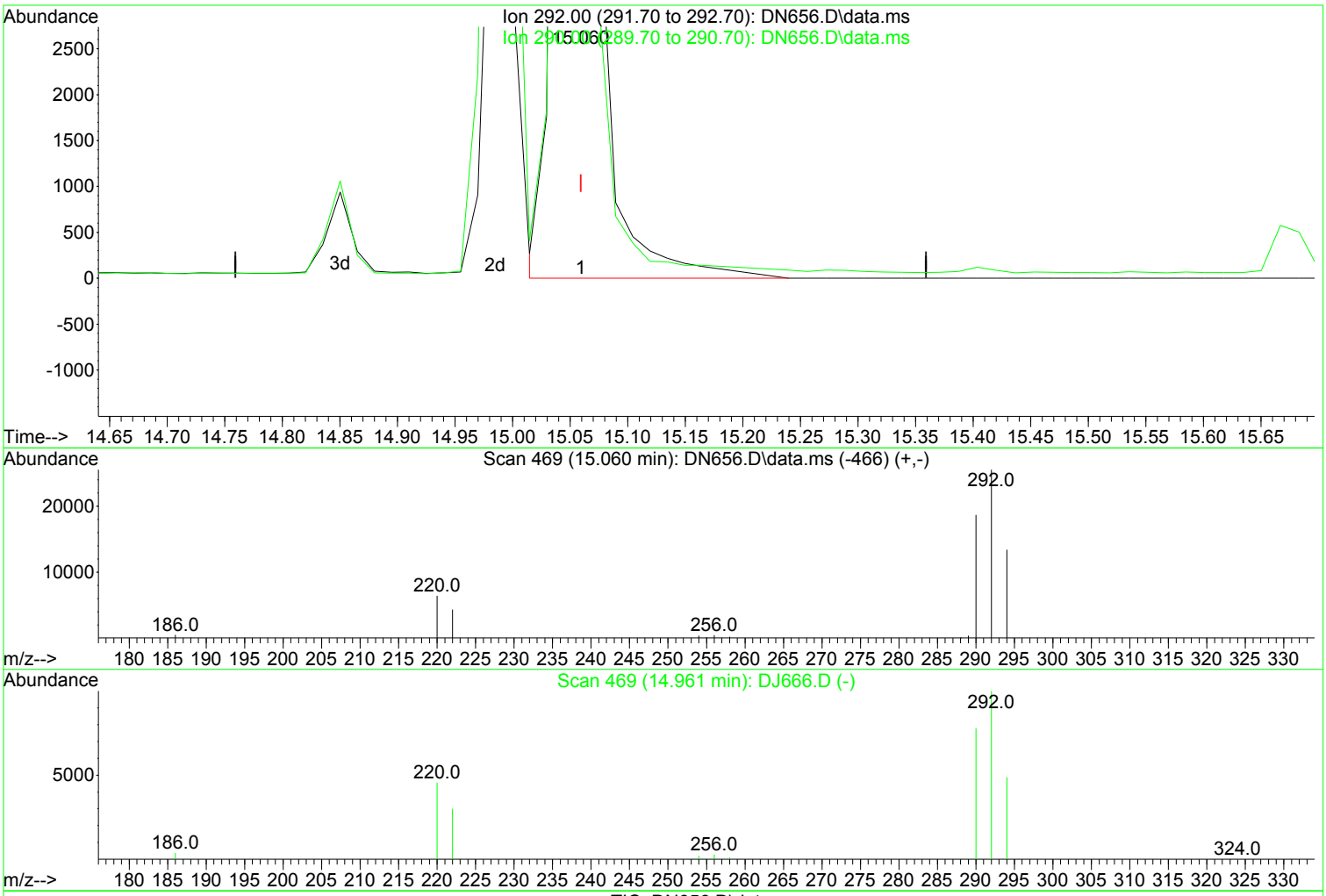
Quant Time: Feb 21 11:54:59 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration



Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN656.D
Acq On : 19 Feb 2019 2:08 pm
Operator : J.Misiurewicz
Sample : CAL STD 1.5
Misc : Initial Calibration 680 PCB
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 21 11:54:59 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration



TIC: DN656.D\data.ms

(11) RT #77 (CL4) (TC)

15.060min (+ 0.000) 0.73 ppm

response 66987

Ion	Exp%	Act%
292.00	100.00	100.00
290.00	78.40	73.09
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

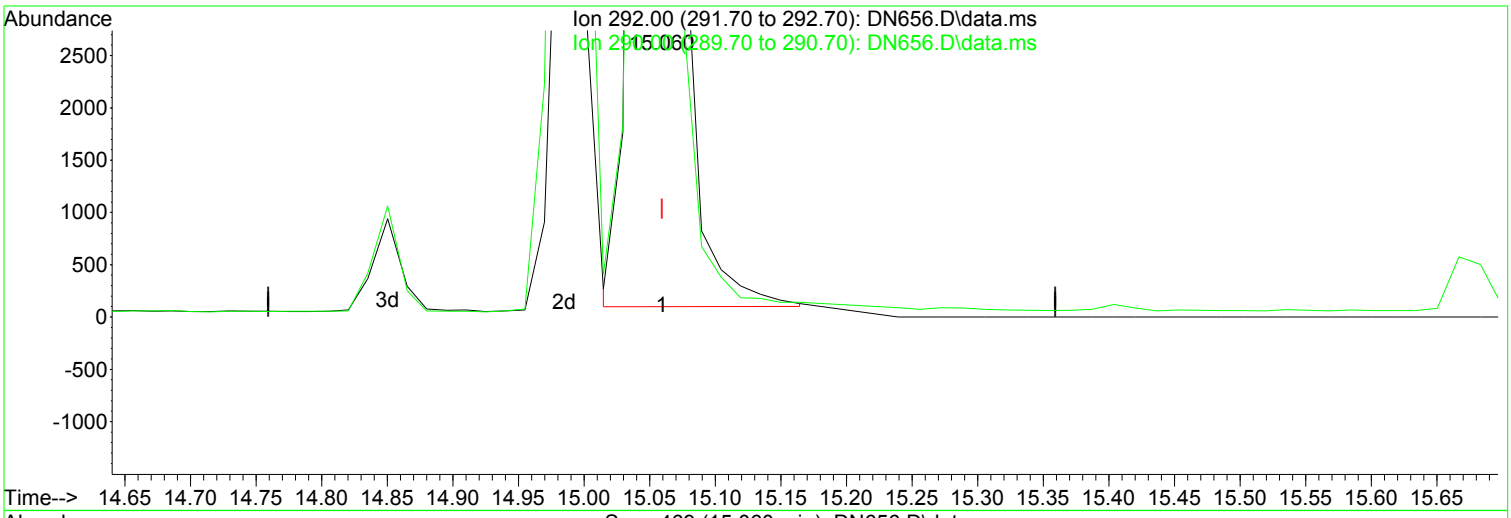
Before

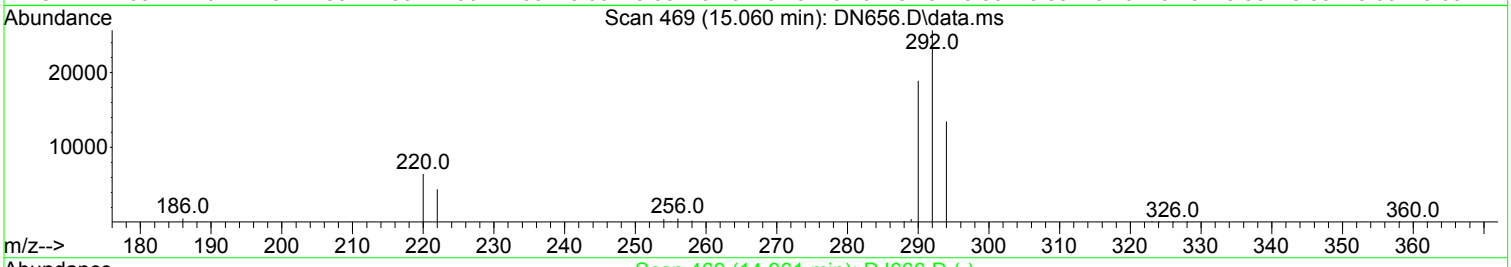
02/21/19

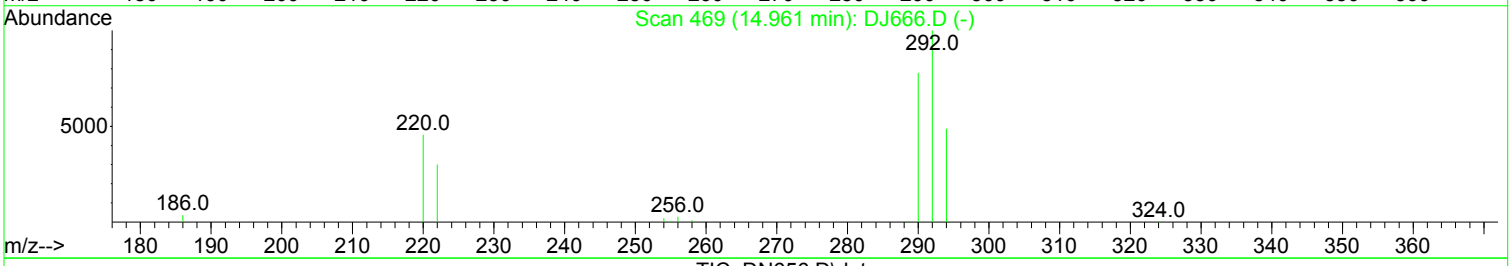
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN656.D
Acq On : 19 Feb 2019 2:08 pm
Operator : J.Misiurewicz
Sample : CAL STD 1.5
Misc : Initial Calibration 680 PCB
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 21 11:54:59 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration







TIC: DN656.D\data.ms

(11) RT #77 (CL4) (TC)

15.060min (+ 0.000) 0.53 ppm m

response 48145

Ion	Exp%	Act%
292.00	100.00	100.00
290.00	78.40	73.67
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

02/21/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN655.D
Acq On : 19 Feb 2019 1:39 pm
Operator : J.Misiurewicz
Sample : CAL STD 1.0
Misc : Initial Calibration 680 PCB
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 21 11:54:51 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration

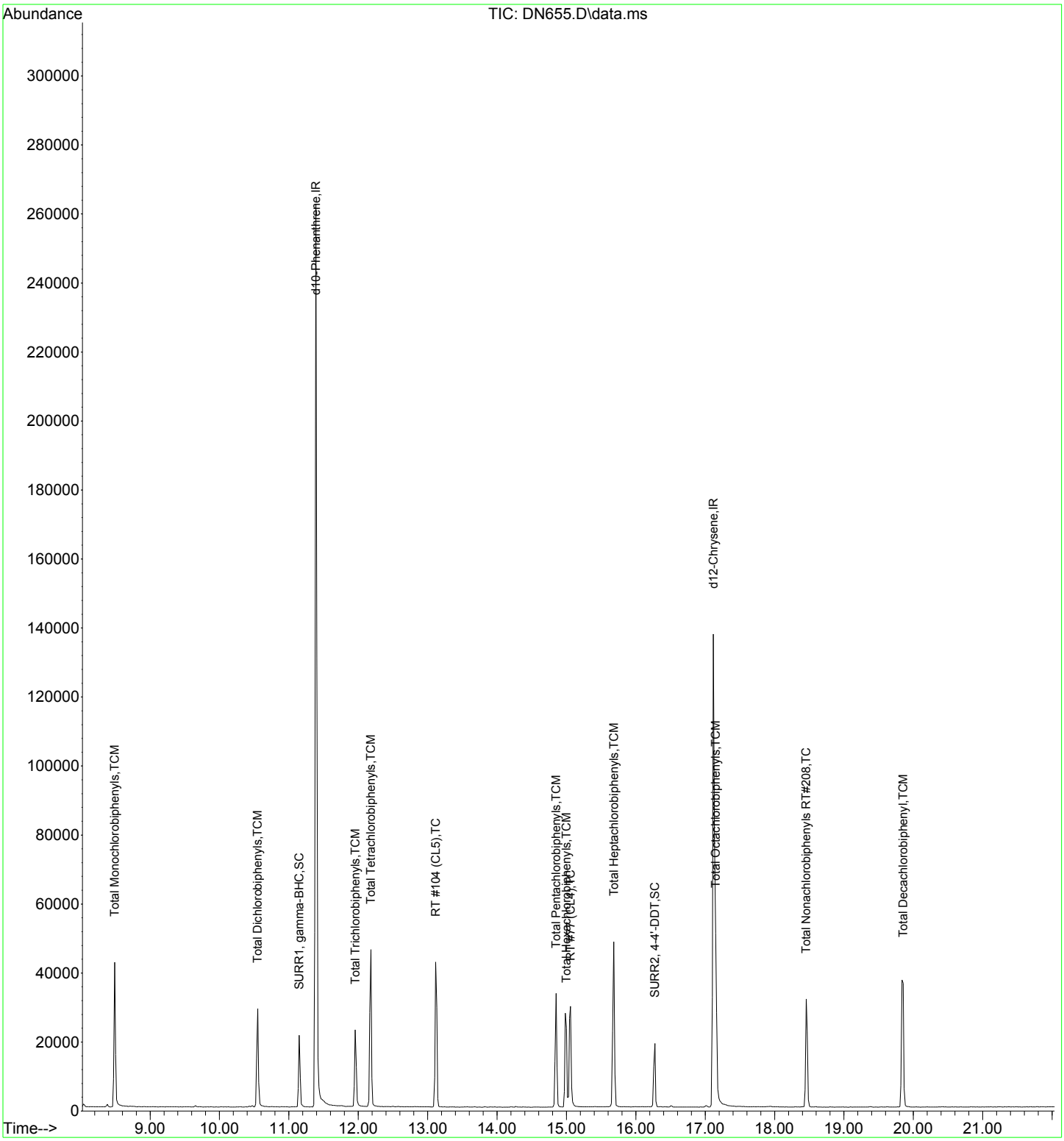
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	306820	0.75	ppm	0.00
2) d12-Chrysene	17.118	240	212029	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.149	219	7048	0.21	ppm	0.00
Spiked Amount 1.000	Range 55 - 133		Recovery = 21.00%#			
13) SURR2, 4-4'-DDT	16.274	235	15052	0.19	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery = 19.00%#			
Target Compounds						Qvalue
3) Total Monochlorobiphenyls	8.488	188	28203	0.102	ppm	96
4) Total Dichlorobiphenyls	10.551	222	18573	0.102	ppm	97
6) Total Trichlorobiphenyls	11.956	256	11994	0.097	ppm	95
7) Total Tetrachlorobiphe...	12.181	292	17005	0.205	ppm	95
8) RT #104 (CL5)	13.116	324	12461	0.203	ppm	100
9) Total Pentachlorobiphe...	14.850	326	11962	0.202	ppm	93
10) Total Hexachlorobiphenyls	15.000	360	11764	0.198	ppm	93
11) RT #77 (CL4)	15.060	292	18555	0.197	ppm	95
12) Total Heptachlorobiphe...	15.682	394	17097	0.299	ppm	96
14) Total Octachlorobiphenyls	17.149	428	12020	0.307	ppm	86
15) Total Nonachlorobiphen...	18.455	464	13862	0.415	ppm	89
16) Total Decachlorobiphenyl	19.852	498	13988	0.494	ppm	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN655.D
Acq On : 19 Feb 2019 1:39 pm
Operator : J.Misiurewicz
Sample : CAL STD 1.0
Misc : Initial Calibration 680 PCB
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 21 11:54:51 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN654.D
Acq On : 19 Feb 2019 1:11 pm
Operator : J.Misiurewicz
Sample : CAL STD 0.5
Misc : Initial Calibration 680 PCB
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 21 11:54:44 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration

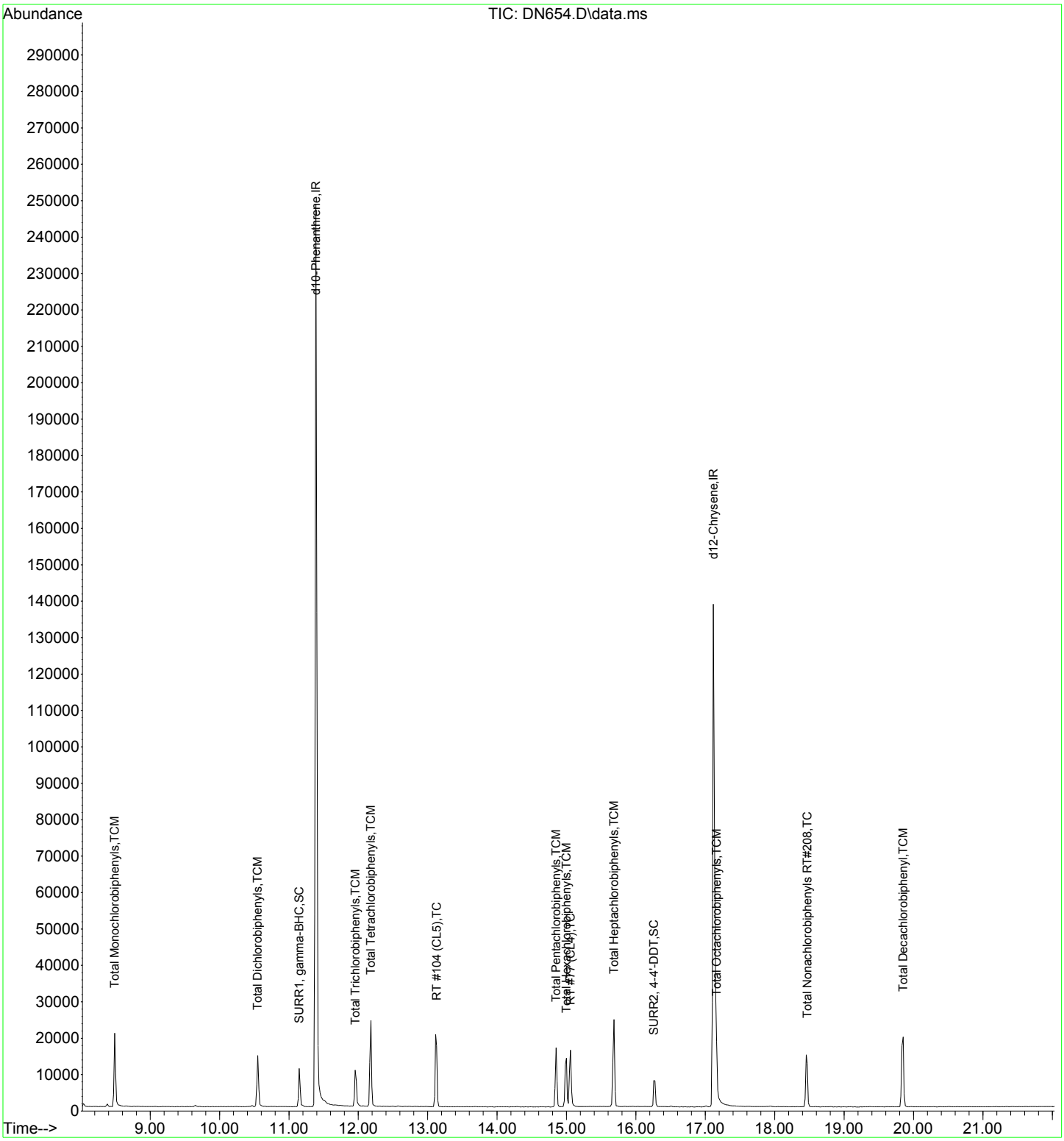
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	303818	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	212429	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.149	219	3476	0.10	ppm	0.00
Spiked Amount 1.000	Range 55 - 133		Recovery = 10.00%#			
13) SURR2, 4-4'-DDT	16.259	235	7094	0.09	ppm	-0.02
Spiked Amount 1.000	Range 57 - 200		Recovery = 9.00%#			
Target Compounds						Qvalue
3) Total Monochlorobiphenyls	8.488	188	14739	0.053	ppm	99
4) Total Dichlorobiphenyls	10.551	222	9307	0.051	ppm	98
6) Total Trichlorobiphenyls	11.956	256	6234	0.050	ppm	93
7) Total Tetrachlorobiphe...	12.180	292	8658	0.104	ppm	94
8) RT #104 (CL5)	13.129	324	6424	0.105	ppm	95
9) Total Pentachlorobiphe...	14.849	326	5963	0.100	ppm	89
10) Total Hexachlorobiphenyls	14.998	360	5933	0.100	ppm	93
11) RT #77 (CL4)	15.058	292	9457m	0.100	ppm	
12) Total Heptachlorobiphe...	15.683	394	8729	0.153	ppm	94
14) Total Octachlorobiphenyls	17.164	428	5843	0.149	ppm	94
15) Total Nonachlorobiphen...	18.470	464	6717	0.201	ppm	92
16) Total Decachlorobiphenyl	19.851	498	6883	0.243	ppm	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN654.D
Acq On : 19 Feb 2019 1:11 pm
Operator : J.Misiurewicz
Sample : CAL STD 0.5
Misc : Initial Calibration 680 PCB
ALS Vial : 6 Sample Multiplier: 1

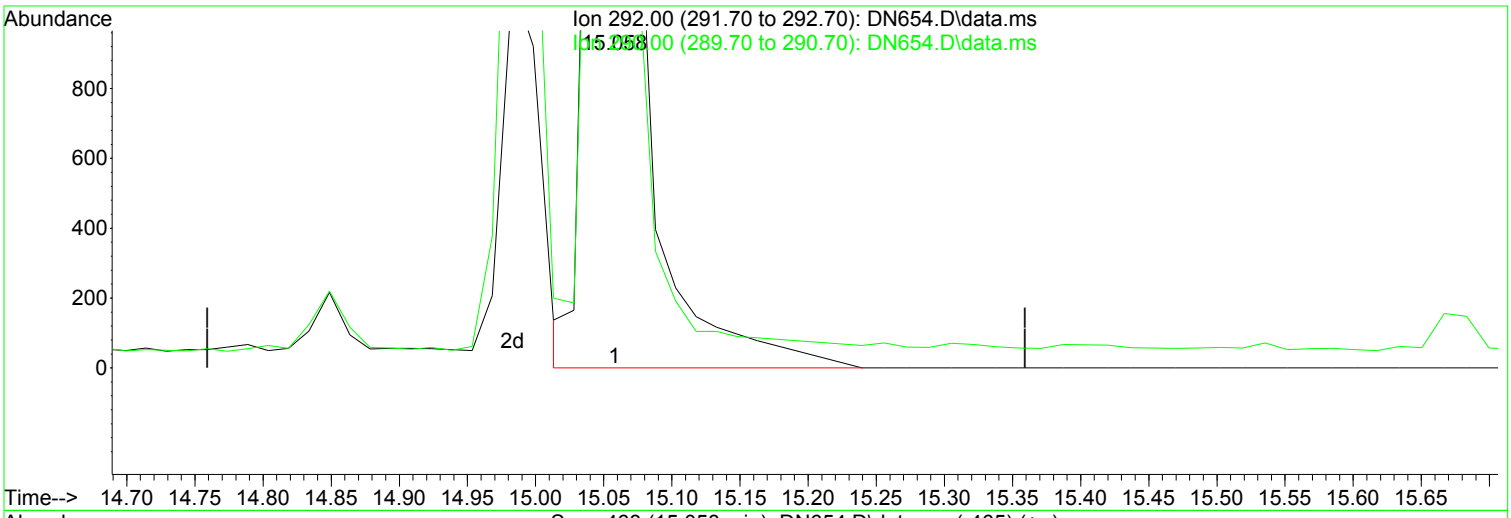
Quant Time: Feb 21 11:54:44 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration

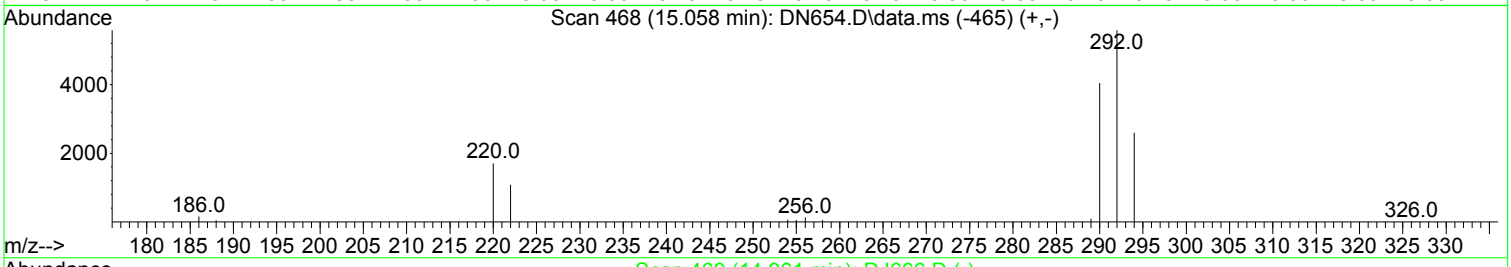


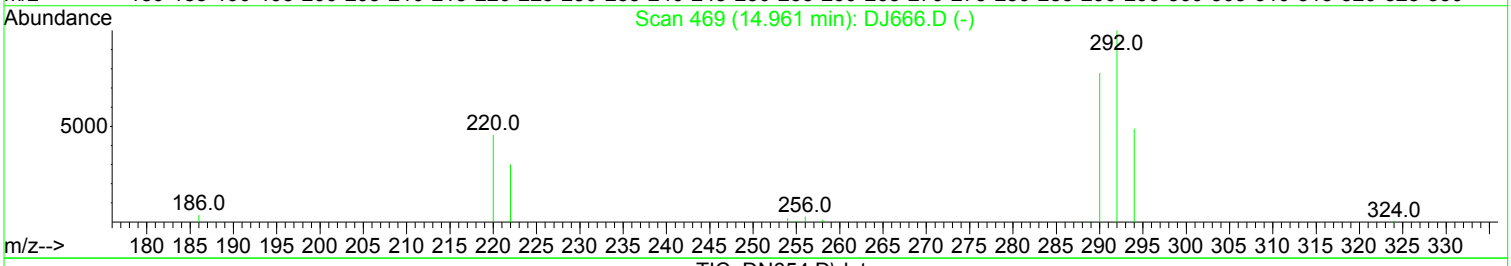
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN654.D
Acq On : 19 Feb 2019 1:11 pm
Operator : J.Misiurewicz
Sample : CAL STD 0.5
Misc : Initial Calibration 680 PCB
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 21 11:54:44 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration







TIC: DN654.D\data.ms

(11) RT #77 (CL4) (TC)

15.058min (-0.001) 0.15 ppm

response 13853

Ion	Exp%	Act%
292.00	100.00	100.00
290.00	78.40	72.41
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

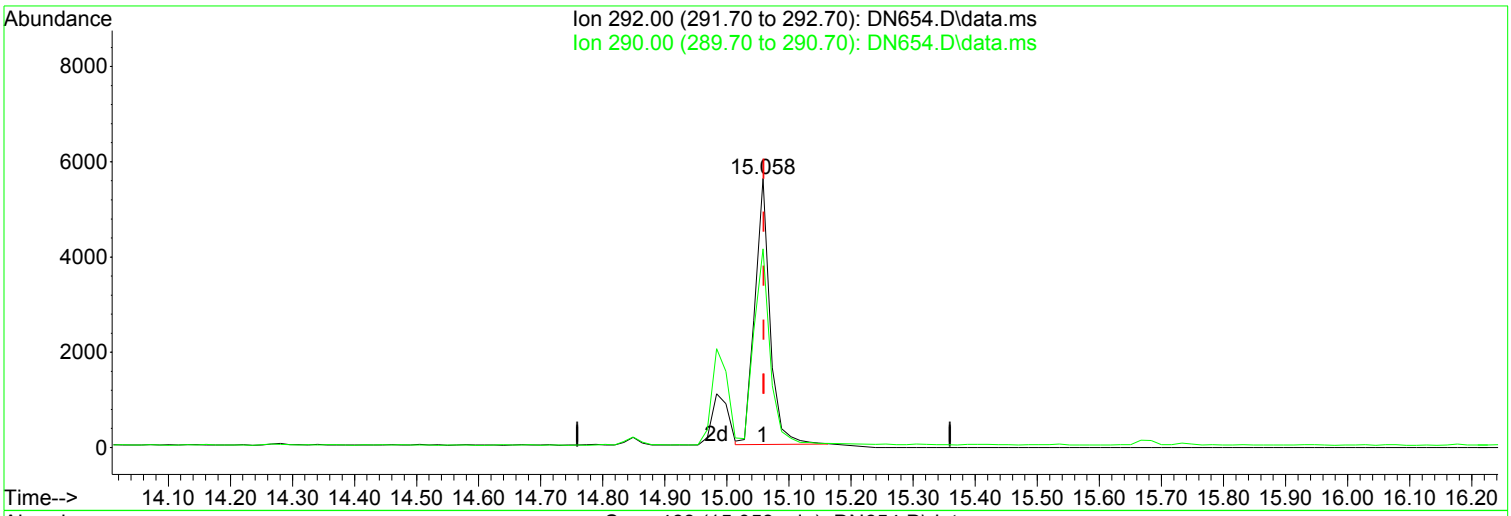
Before

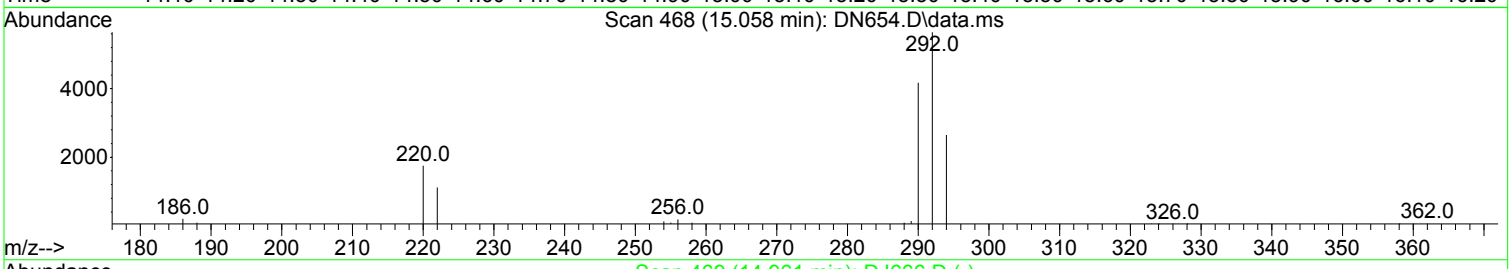
02/21/19

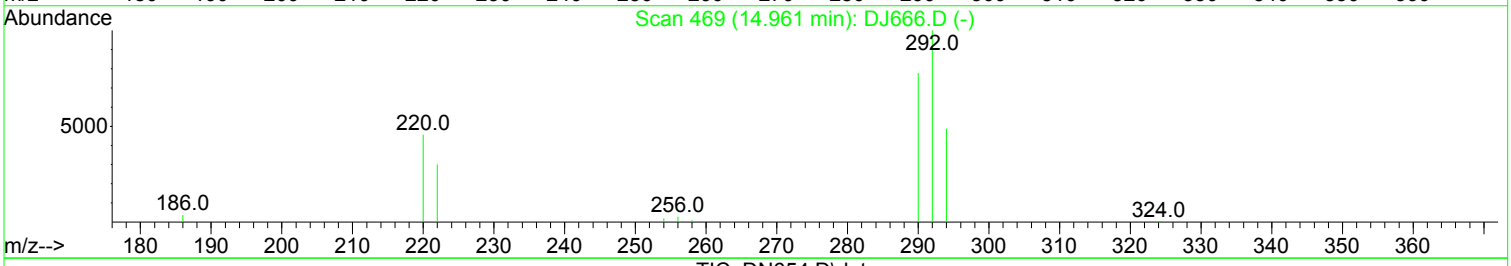
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN654.D
Acq On : 19 Feb 2019 1:11 pm
Operator : J.Misiurewicz
Sample : CAL STD 0.5
Misc : Initial Calibration 680 PCB
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 21 11:54:44 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration







TIC: DN654.D\data.ms

(11) RT #77 (CL4) (TC)

15.058min (-0.001) 0.10 ppm m

response 9457

Ion	Exp%	Act%
292.00	100.00	100.00
290.00	78.40	73.87
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

02/21/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN653.D
Acq On : 19 Feb 2019 12:42 pm
Operator : J.Misiurewicz
Sample : CAL STD 0
Misc : Initial Calibration 680 PCB
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 21 11:54:37 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration

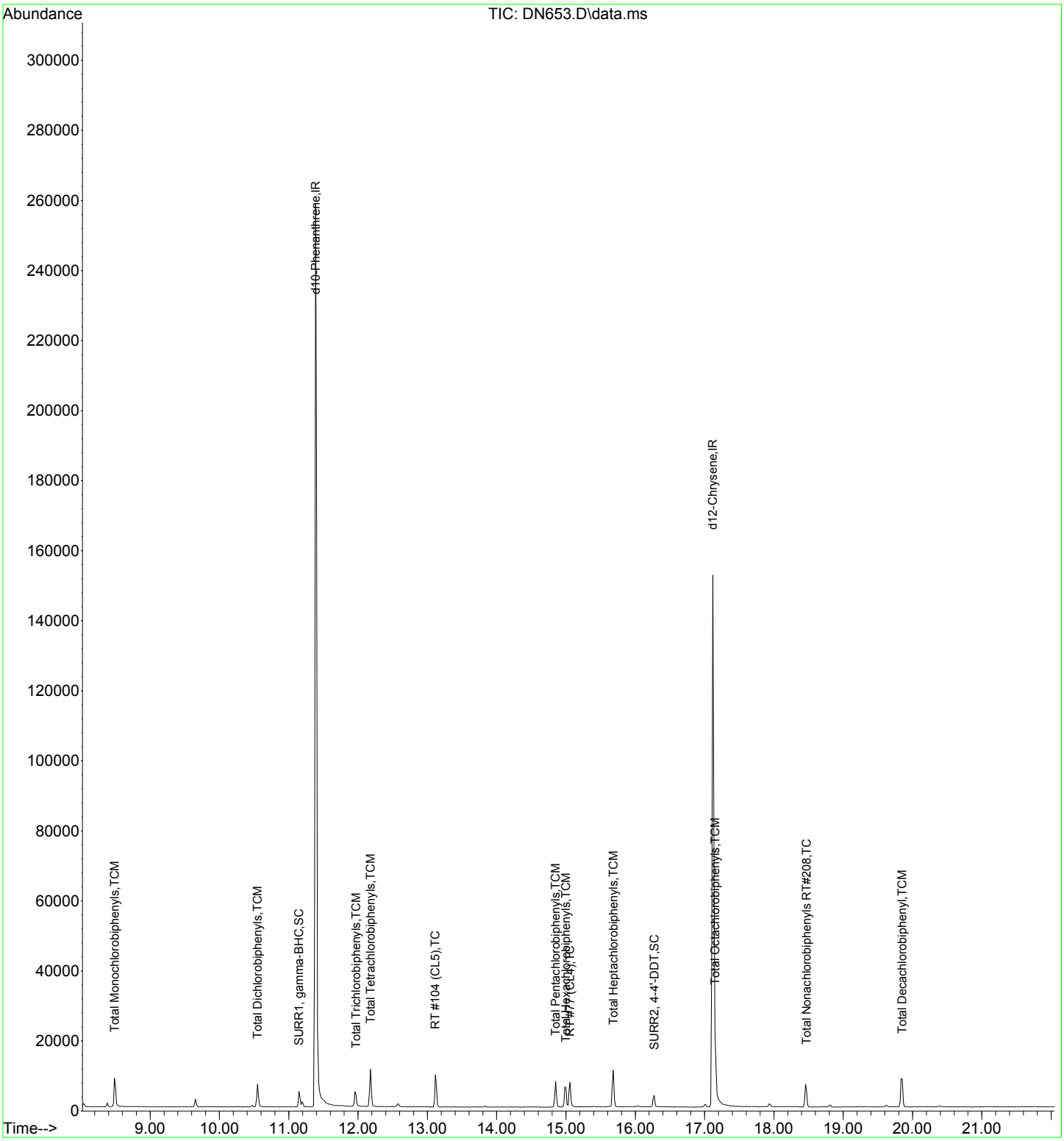
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.386	188	331954	0.75	ppm	0.00
2) d12-Chrysene	17.118	240	231294	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.147	219	1502	0.04	ppm	0.00
Spiked Amount 1.000	Range 55 - 133		Recovery =	4.00%#		
13) SURR2, 4-4'-DDT	16.275	235	2988	0.03	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery =	3.00%#		
Target Compounds						Qvalue
3) Total Monochlorobiphenyls	8.486	188	6501	0.022	ppm	100
4) Total Dichlorobiphenyls	10.549	222	4266	0.021	ppm	99
6) Total Trichlorobiphenyls	11.970	256	2888	0.021	ppm	99
7) Total Tetrachlorobiphe...	12.179	292	3872	0.043	ppm	97
8) RT #104 (CL5)	13.115	324	2794	0.042	ppm	87
9) Total Pentachlorobiphe...	14.850	326	2656	0.041	ppm	92
10) Total Hexachlorobiphenyls	14.999	360	2776	0.043	ppm	92
11) RT #77 (CL4)	15.059	292	4176	0.041	ppm	96
12) Total Heptachlorobiphe...	15.683	394	3848	0.062	ppm	97
14) Total Octachlorobiphenyls	17.149	428	2628	0.062	ppm	87
15) Total Nonachlorobiphen...	18.470	464	2876m	0.079	ppm	
16) Total Decachlorobiphenyl	19.851	498	2977	0.096	ppm	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN653.D
Acq On : 19 Feb 2019 12:42 pm
Operator : J.Misiurewicz
Sample : CAL STD 0
Misc : Initial Calibration 680 PCB
ALS Vial : 5 Sample Multiplier: 1

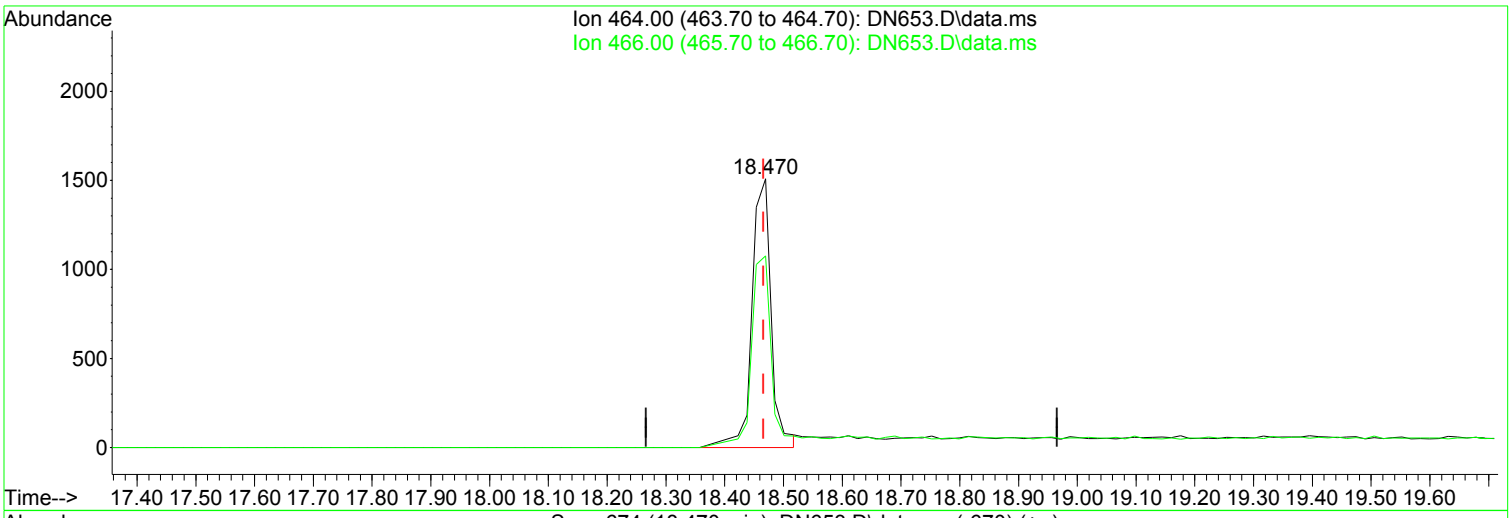
Quant Time: Feb 21 11:54:37 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration

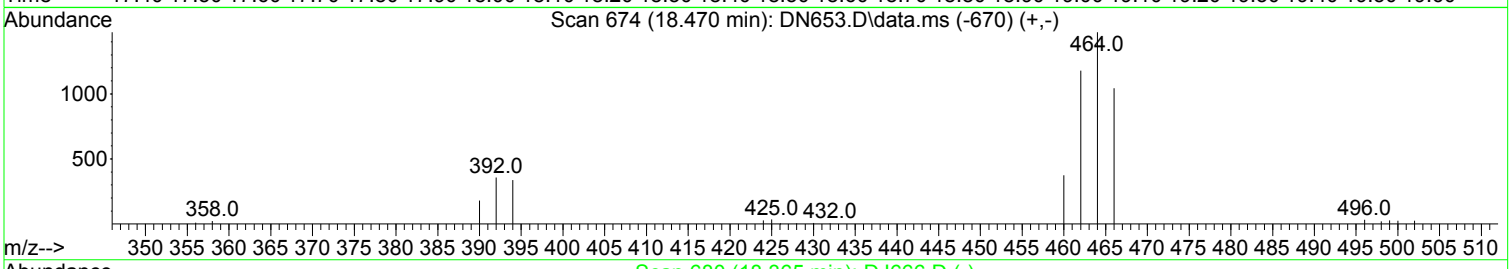


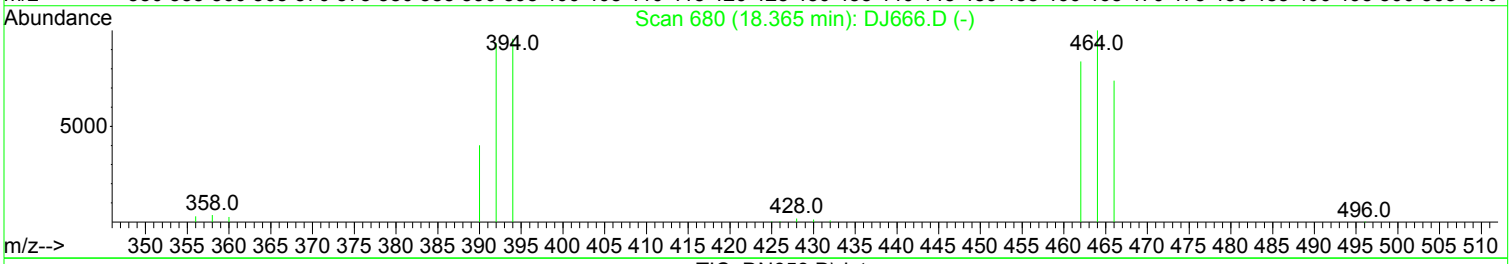
Quantitation Report (Qedit)

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN653.D
Acq On : 19 Feb 2019 12:42 pm
Operator : J.Misiurewicz
Sample : CAL STD 0
Misc : Initial Calibration 680 PCB
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 21 11:54:37 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration







TIC: DN653.D\data.ms

(15) Total Nonachlorobiphenyls RT#208 (TC)

18.470min (+ 0.004) 0.13 ppm

response 4804

Ion	Exp%	Act%
464.00	100.00	100.00
466.00	78.30	70.77
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

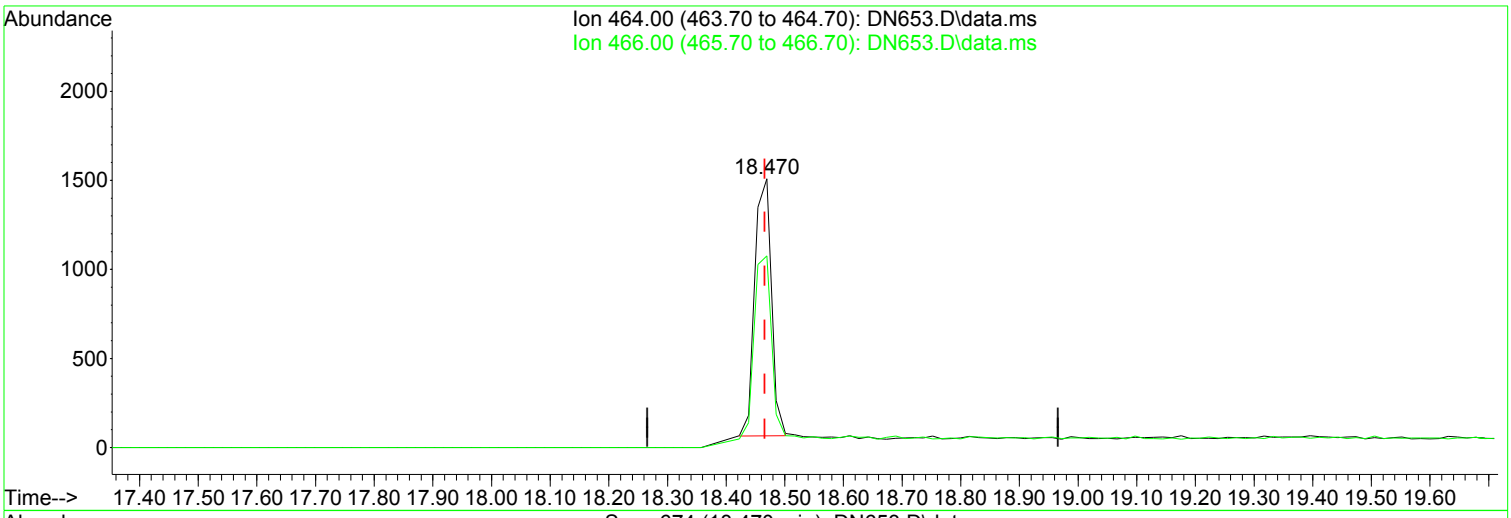
Before

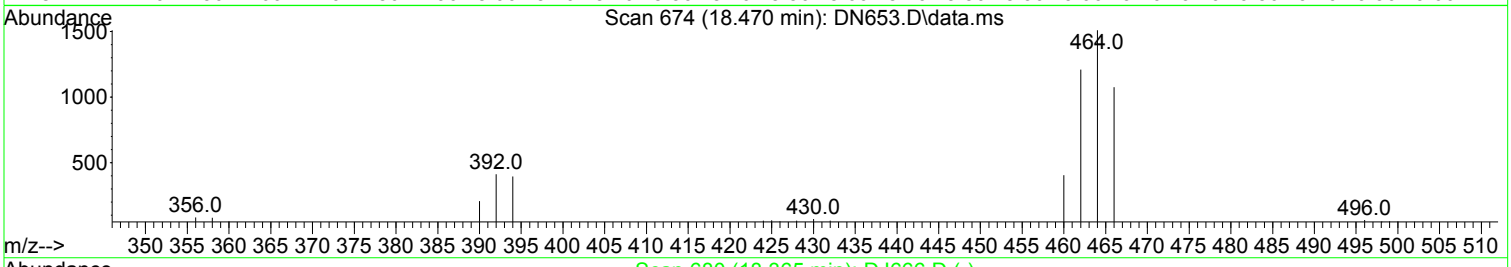
02/21/19

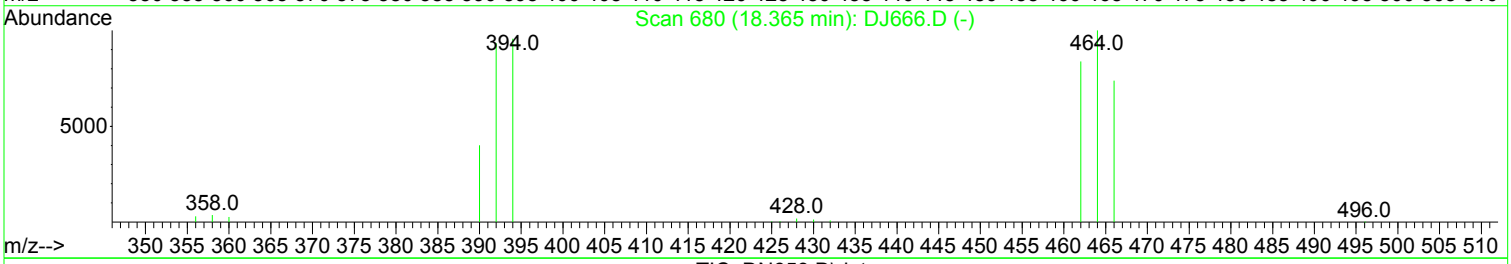
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN653.D
Acq On : 19 Feb 2019 12:42 pm
Operator : J.Misiurewicz
Sample : CAL STD 0
Misc : Initial Calibration 680 PCB
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 21 11:54:37 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration







TIC: DN653.D\data.ms

(15) Total Nonachlorobiphenyls RT#208 (TC)

18.470min (+ 0.004) 0.08 ppm m

response 2876

Ion	Exp%	Act%
464.00	100.00	100.00
466.00	78.30	71.26
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

02/21/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN652.D
Acq On : 19 Feb 2019 12:13 pm
Operator : J.Misiurewicz
Sample : CAL STD 00
Misc : Initial Calibration 680 PCB
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 21 11:54:29 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration

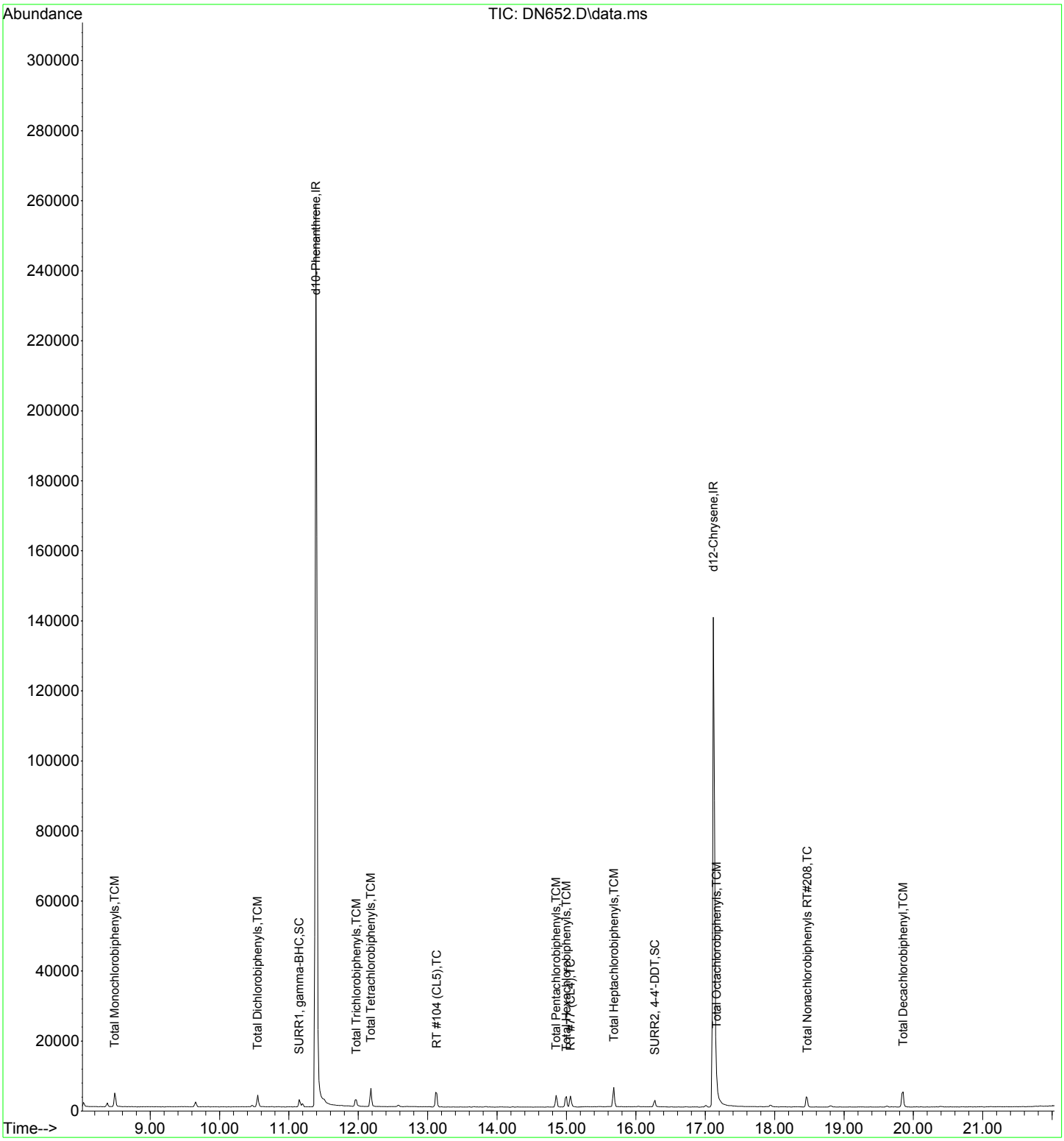
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	333223	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	231191	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.149	219	841	0.02	ppm	0.00
Spiked Amount 1.000	Range 55 - 133		Recovery =	2.00%#		
13) SURR2, 4-4'-DDT	16.275	235	1505	0.02	ppm	0.00
Spiked Amount 1.000	Range 57 - 200		Recovery =	2.00%#		
Target Compounds						Qvalue
3) Total Monochlorobiphenyls	8.488	188	3250	0.011	ppm	94
4) Total Dichlorobiphenyls	10.551	222	2169	0.011	ppm	93
6) Total Trichlorobiphenyls	11.971	256	1497	0.011	ppm	95
7) Total Tetrachlorobiphe...	12.180	292	1847	0.020	ppm	96
8) RT #104 (CL5)	13.130	324	1461	0.022	ppm	92
9) Total Pentachlorobiphe...	14.850	326	1278	0.020	ppm	80
10) Total Hexachlorobiphenyls	14.999	360	1356	0.021	ppm	87
11) RT #77 (CL4)	15.059	292	2007	0.020	ppm	98
12) Total Heptachlorobiphe...	15.683	394	2077	0.033	ppm	98
14) Total Octachlorobiphenyls	17.164	428	1355	0.032	ppm	93
15) Total Nonachlorobiphen...	18.471	464	1344m	0.037	ppm	
16) Total Decachlorobiphenyl	19.852	498	1658	0.054	ppm	91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN652.D
Acq On : 19 Feb 2019 12:13 pm
Operator : J.Misiurewicz
Sample : CAL STD 00
Misc : Initial Calibration 680 PCB
ALS Vial : 4 Sample Multiplier: 1

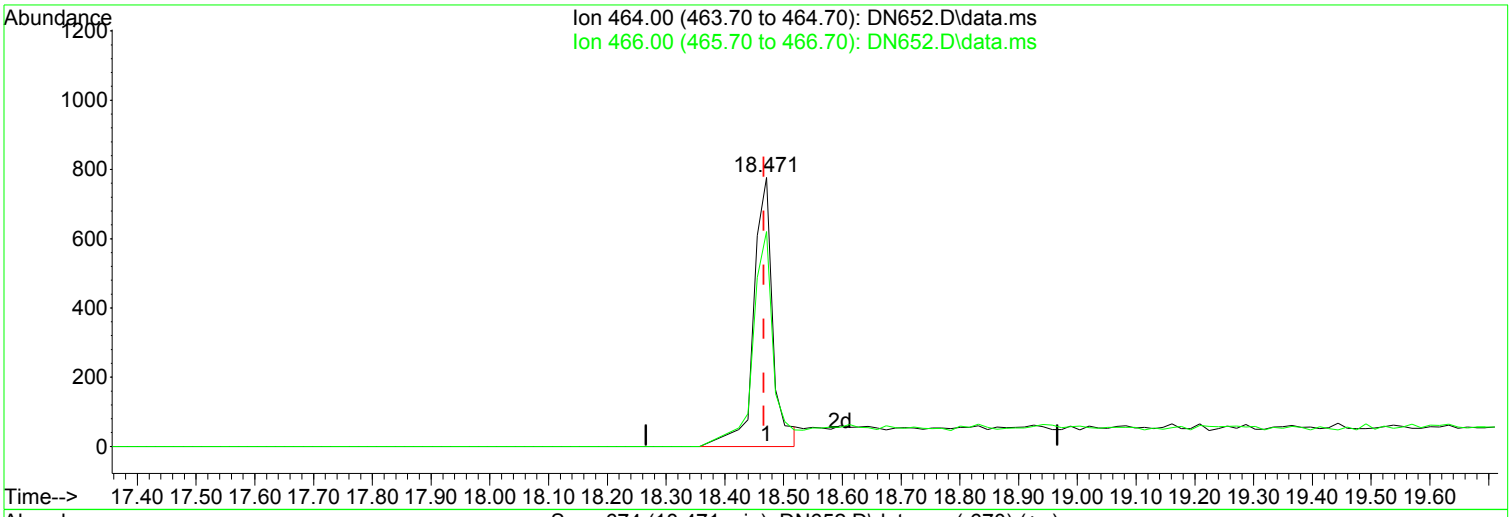
Quant Time: Feb 21 11:54:29 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration

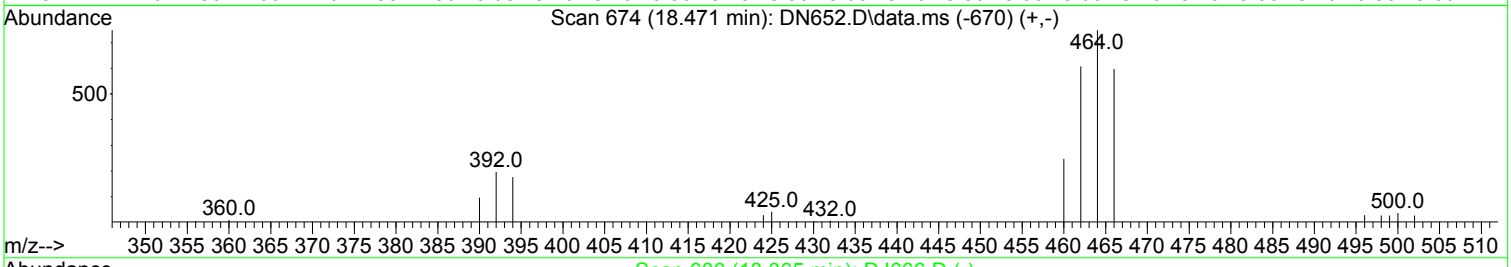


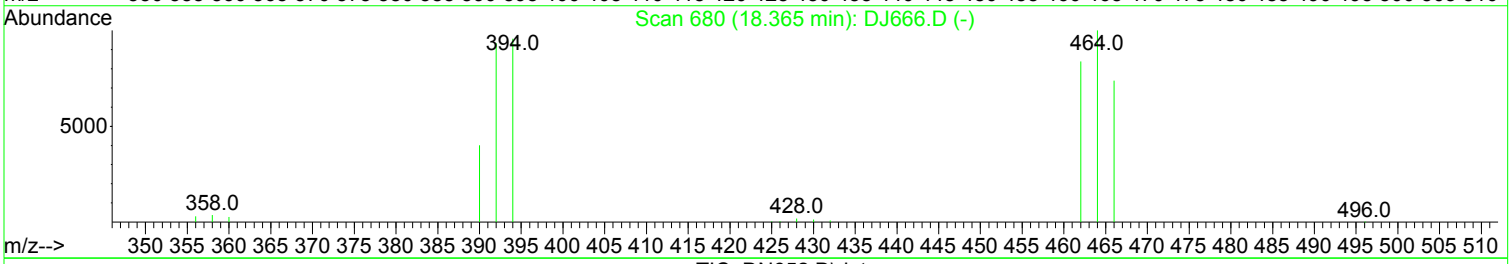
1st DM 02/22/19
2nd MP 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN652.D
Acq On : 19 Feb 2019 12:13 pm
Operator : J.Misiurewicz
Sample : CAL STD 00
Misc : Initial Calibration 680 PCB
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 21 11:54:29 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration







TIC: DN652.D\data.ms

(15) Total Nonachlorobiphenyls RT#208 (TC)

18.471min (+ 0.005) 0.07 ppm

response 2471

Ion	Exp%	Act%
464.00	100.00	100.00
466.00	78.30	79.76
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

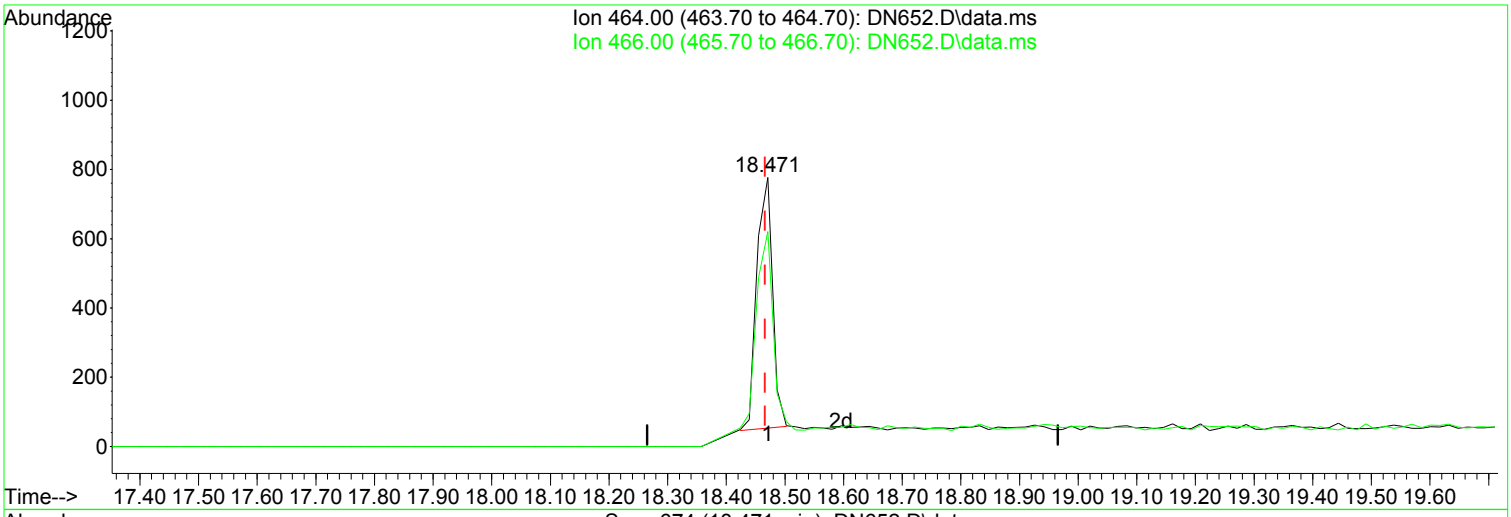
Before

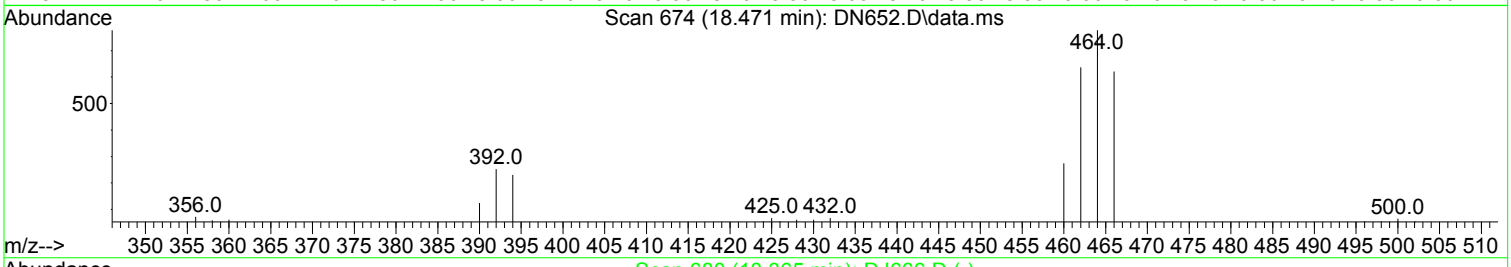
02/21/19

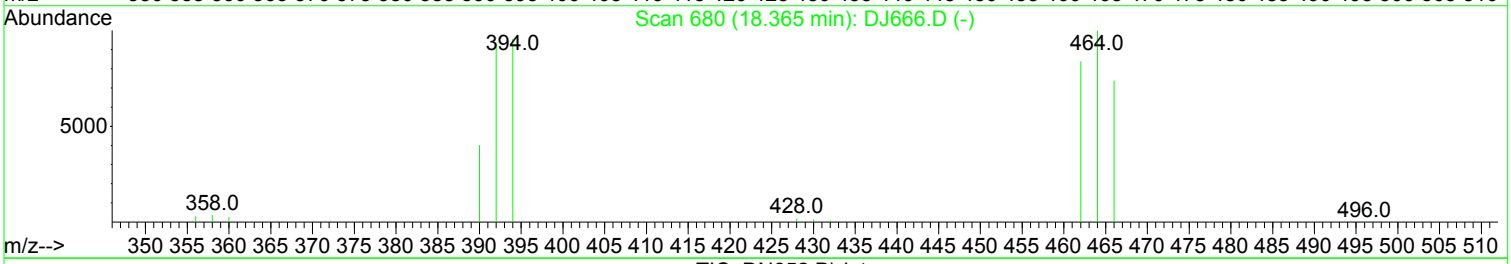
1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN652.D
Acq On : 19 Feb 2019 12:13 pm
Operator : J.Misiurewicz
Sample : CAL STD 00
Misc : Initial Calibration 680 PCB
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 21 11:54:29 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration







TIC: DN652.D\data.ms

(15) Total Nonachlorobiphenyls RT#208 (TC)

18.471min (+ 0.005) 0.04 ppm m

response 1344

Ion	Exp%	Act%
464.00	100.00	100.00
466.00	78.30	79.92
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Poor integration.

02/21/19

Quantitation Report (QT Reviewed)

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN651.D
Acq On : 19 Feb 2019 11:38 am
Operator : J.Misiurewicz
Sample : BLK
Misc : Initial Calibration 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 21 14:18:56 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

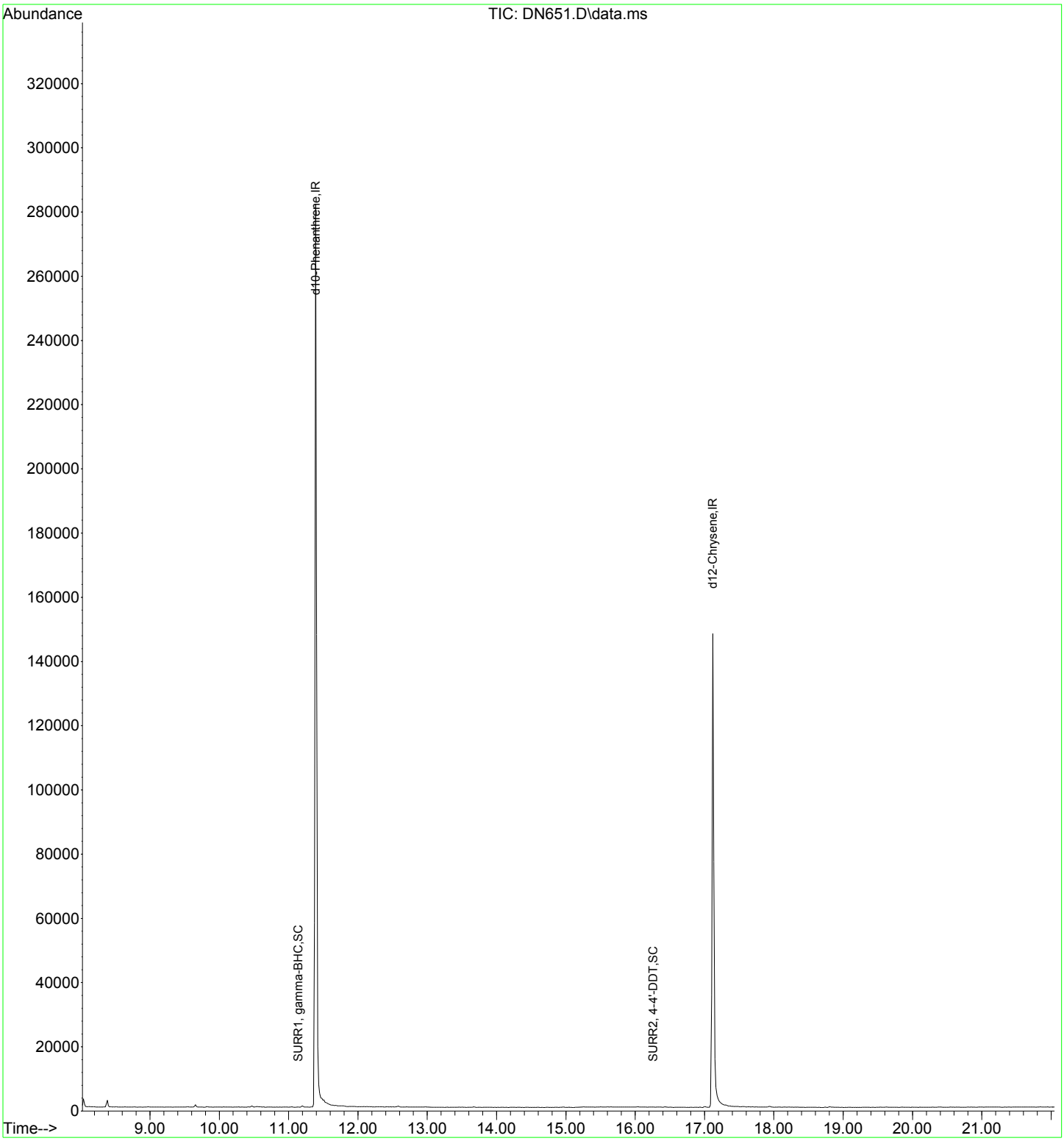
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.389	188	340864	0.75	ppm	0.00
2) d12-Chrysene	17.118	240	232806	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.135	219	54	0.00	ppm	-0.01
Spiked Amount 1.000	Range 55 - 133		Recovery =	0.00%#		
13) SURR2, 4-4'-DDT	16.259	235	24	0.00	ppm	-0.01
Spiked Amount 1.000	Range 57 - 200		Recovery =	0.00%#		
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN651.D
Acq On : 19 Feb 2019 11:38 am
Operator : J.Misiurewicz
Sample : BLK
Misc : Initial Calibration 680 PCB
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 21 14:18:56 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration

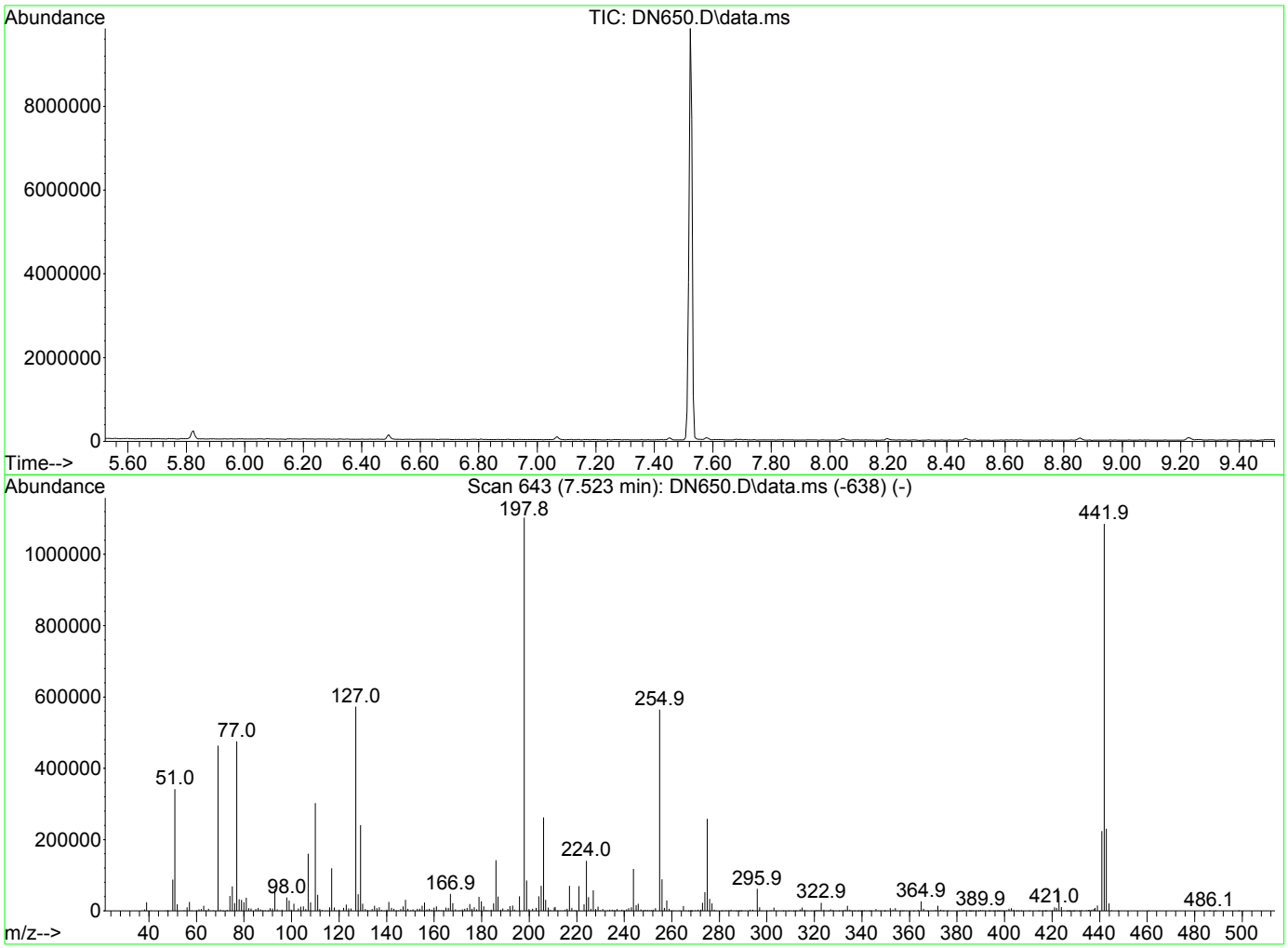


1st 02/22/19
2nd 02/22/19

Data Path : I:\ACQUDATA\5973B\DATA\021919\
Data File : DN650.D
Acq On : 19 Feb 2019 11:19 am
Operator : J.Misiurewicz
Sample : TUNE
Misc : DFTPP
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : I:\ACQUDATA\5973B\METHODS\DFTPP680.M
Title : 50 ng DFTPP analysis.
Last Update : Wed Jun 22 12:20:24 2005



Spectrum Information: Scan 643

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
127	198	40	60	51.9	572672	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	1103058	PASS
199	198	5	9	7.7	85296	PASS
275	198	10	30	23.4	258304	PASS
365	198	1	100	2.4	26928	PASS
441	443	0.01	100	97.3	223936	PASS
442	198	50	110	98.4	1085440	PASS
443	442	17	23	21.2	230145	PASS

Analysis: 1,8D PCB | Analyst: DMISURTWIRE | Run Method: 68D / 68DTune
Date: 2/19/19 | Instr. 5973B (MS-52) | Quant Method: 68D02-19B.M
Syringes: | LIMS Run#:

Pos.	Sample	Diln.	Stds. ID	File#	OK?	Comments
1	Blk			DN643	—	
2	Tune			44	Y	
3	CCV			45	(N)	
3	CCV			46	↓	
2	Tune		195858	47	Y	
3	CCV			48	(N)	
3	STD Check			49	—	
2	Tune		195858	50	Y	
3	Blk			51	Y	
4	Cal STD 00		197092	52	Y	
5	0		93	53	Y	
6	0.5		94	54	Y	
7	1.0		95	55	Y	
8	1.5		96	56	Y	
9	2.0		97	57	Y	
10	3.0		98	58	Y	
11	ICV		197100	59	YQ	

68D02-19B.M
RC190506

JM 2/21/19

All samples = _____mL + _____uL Combined IS/Surr.;

Primary :_____ exp:
Primary:_____ exp:
Reagents:

Secondary :_____ exp:
Secondary :_____ exp:

Client: AECOM **Service Request:** R1901380
Project: Lockheed Martin Middle River Comparison Study SW **Calibration Date:** 2/19/2019

Initial Calibration Summary
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Calibration ID: RC1900016 **Signal ID:** 1
Instrument ID: R-MS-52

#	Lab Code	Sample Name	File Location	Acquisition Date
01	RC1900016-01	CAL STD 00	I:\ACQUDATA\5973B\DATA\021919\DN652.D	02/19/2019 12:13
02	RC1900016-02	CAL STD 0	I:\ACQUDATA\5973B\DATA\021919\DN653.D	02/19/2019 12:42
03	RC1900016-03	CAL STD 0.5	I:\ACQUDATA\5973B\DATA\021919\DN654.D	02/19/2019 13:11
04	RC1900016-04	CAL STD 1.0	I:\ACQUDATA\5973B\DATA\021919\DN655.D	02/19/2019 13:39
05	RC1900016-05	CAL STD 1.5	I:\ACQUDATA\5973B\DATA\021919\DN656.D	02/19/2019 14:08
06	RC1900016-06	CAL STD 2.0	I:\ACQUDATA\5973B\DATA\021919\DN657.D	02/19/2019 14:37
07	RC1900016-07	CAL STD 3.0	I:\ACQUDATA\5973B\DATA\021919\DN658.D	02/19/2019 15:05

Analyte

4,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.020	0.2441	02	0.040	0.2422	03	0.100	0.2505	04	0.200	0.2662
05	0.500	0.2944	06	1.000	0.3169	07	2.000	0.3341			

Decachlorobiphenyl

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.050	0.1076	02	0.100	0.09653	03	0.250	0.0972	04	0.500	0.09896
05	1.250	0.1037	06	2.500	0.09966	07	5.000	0.09773			

Dichlorobiphenyls, Total

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.010	0.7036	02	0.020	0.6917	03	0.050	0.6572	04	0.100	0.657
05	0.250	0.6524	06	0.500	0.5957	07	1.000	0.5497			

Heptachlorobiphenyls, Total

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.030	0.2246	02	0.060	0.208	03	0.150	0.2055	04	0.300	0.2016
05	0.750	0.2005	06	1.500	0.188	07	3.000	0.1857			

Hexachlorobiphenyls, Total

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.020	0.2199	02	0.040	0.225	03	0.100	0.2095	04	0.200	0.2081
05	0.500	0.207	06	1.000	0.2047	07	2.000	0.1933			

Monochlorobiphenyls, Total

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.010	1.054	02	0.020	1.054	03	0.050	1.041	04	0.100	0.9976
05	0.250	0.9766	06	0.500	0.9132	07	1.000	0.8108			

Nonachlorobiphenyls, Total

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.040	0.109	02	0.080	0.1166	03	0.200	0.1186	04	0.400	0.1226
05	1.000	0.1215	06	2.000	0.1212	07	4.000	0.117			

Octachlorobiphenyls, Total

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.030	0.1465	02	0.060	0.142	03	0.150	0.1375	04	0.300	0.1417

QA/QC Report

Client: AECOM **Service Request:** R1901380
Project: Lockheed Martin Middle River Comparison Study SW **Calibration Date:** 2/19/2019

Initial Calibration Summary
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Calibration ID: RC1900016 **Signal ID:** 1
Instrument ID: R-MS-52

Analyte

Octachlorobiphenyls, Total

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
05	0.750	0.1368	06	1.500	0.1333	07	3.000	0.1307			

Pentachlorobiphenyls, Total

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.020	0.2073	02	0.040	0.2153	03	0.100	0.2105	04	0.200	0.2116
05	0.500	0.211	06	1.000	0.2087	07	2.000	0.2043			

Tetrachlorobiphenyls, Total

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.020	0.2996	02	0.040	0.3139	03	0.100	0.3057	04	0.200	0.3008
05	0.500	0.2855	06	1.000	0.2781	07	2.000	0.2609			

Trichlorobiphenyls, Total

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.010	0.4856	02	0.020	0.4682	03	0.050	0.4402	04	0.100	0.4243
05	0.250	0.4357	06	0.500	0.4173	07	1.000	0.3992			

gamma-BHC (Lindane)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.020	0.1364	02	0.040	0.1218	03	0.100	0.1227	04	0.200	0.1247
05	0.500	0.1232	06	1.000	0.117	07	2.000	0.1116			

Client: AECOM **Service Request:** R1901380
Project: Lockheed Martin Middle River Comparison Study SW **Calibration Date:** 2/19/2019

Initial Calibration Summary
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Calibration ID: RC1900016 **Signal ID:** 1
Instrument ID: R-MS-52

		Calibration Evaluation				Calibration Evaluation	
Analyte Name	Compound Type	Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
4,4'-DDT	SURR	Average RF	% RSD	13.3	≤20	0.2783	
Decachlorobiphenyl	TRG	Average RF	% RSD	4.0	≤20	0.1002	
Dichlorobiphenyls, Total	TRG	Average RF	% RSD	8.4	≤20	0.6439	
Heptachlorobiphenyls, Total	TRG	Average RF	% RSD	6.5	≤20	0.202	
Hexachlorobiphenyls, Total	TRG	Average RF	% RSD	4.9	≤20	0.2096	
Monochlorobiphenyls, Total	TRG	Average RF	% RSD	9.2	≤20	0.9782	
Nonachlorobiphenyls, Total	TRG	Average RF	% RSD	3.9	≤20	0.1181	
Octachlorobiphenyls, Total	TRG	Average RF	% RSD	3.9	≤20	0.1384	
Pentachlorobiphenyls, Total	TRG	Average RF	% RSD	1.7	≤20	0.2098	
Tetrachlorobiphenyls, Total	TRG	Average RF	% RSD	6.3	≤20	0.292	
Trichlorobiphenyls, Total	TRG	Average RF	% RSD	6.8	≤20	0.4386	
gamma-BHC (Lindane)	SURR	Average RF	% RSD	6.2	≤20	0.1225	

QA/QC Report

Client: AECOM **Service Request:** R1901380
Project: Lockheed Martin Middle River Comparison Study SW **Calibration Date:** 2/19/2019

Initial Calibration Verification Summary
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Calibration ID: RC1900016 **Signal ID:** 1
Instrument ID: R-MS-52

#	Lab Code	Sample Name	File Location	Acquisition Date
08	RC1900016-08	ICV	I:\ACQUDATA\5973B\DATA\021919\DN659.D	02/19/2019 15:34

Analyte Name	Expected	Result	Average RF	SSV RF	Rec.	Criteria	Curve Fit
Decachlorobiphenyl	0.500	0.484	1.002E-1	9.691E-2	96.8	70-130	Average RF
Dichlorobiphenyls, Total	0.100	0.0894	6.439E-1	5.758E-1	89.4	70-130	Average RF
Heptachlorobiphenyls, Total	0.300	0.288	2.02E-1	1.94E-1	96.0	70-130	Average RF
Hexachlorobiphenyls, Total	0.200	0.190	2.096E-1	1.988E-1	95.0	70-130	Average RF
Monochlorobiphenyls, Total	0.100	0.0989	9.782E-1	9.673E-1	98.9	70-130	Average RF
Nonachlorobiphenyls, Total	0.400	0.397	1.181E-1	1.17E-1	99.3	70-130	Average RF
Octachlorobiphenyls, Total	0.300	0.297	1.384E-1	1.37E-1	99.0	70-130	Average RF
Pentachlorobiphenyls, Total	0.200	0.197	2.098E-1	2.067E-1	98.5	70-130	Average RF
Tetrachlorobiphenyls, Total	0.200	0.198	2.92E-1	2.896E-1	99.0	70-130	Average RF
Trichlorobiphenyls, Total	0.100	0.0968	4.386E-1	4.246E-1	96.8	70-130	Average RF

Analyte Name	Expected	Result	Average RF	SSV RF	Rec.	Criteria	Curve Fit
gamma-BHC (Lindane)	0.200	0.188	1.225E-1	1.152E-1	94.0	70-130	Average RF
4,4'-DDT	0.200	0.179	2.783E-1	2.485E-1	89.5	70-130	Average RF

QA/QC Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Analyzed:**	02/21/19 16:59

Continuing Calibration Verification (CCV) Summary
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method:	680	**Calibration Date:**	2/19/2019
File ID:	I:\ACQUDATA\5973B\DATA\022119\DN730.D\	**Calibration ID:**	RC1900016
Signal ID:	1	**Analysis Lot:**	625888
		Units:	ppm

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Decachlorobiphenyl	0.500	0.438	0.1002	0.0878	-12.4	NA	±20	Average RF
Dichlorobiphenyls, Total	0.100	0.0870	0.6439	0.5629	-12.6	NA	±20	Average RF
Heptachlorobiphenyls, Total	0.300	0.269	0.202	0.1808	-10.5	NA	±20	Average RF
Hexachlorobiphenyls, Total	0.200	0.190	0.2096	0.1992	-5.0	NA	±20	Average RF
Monochlorobiphenyls, Total	0.100	0.0810	0.9782	0.7926	-19.0	NA	±20	Average RF
Nonachlorobiphenyls, Total	0.400	0.362	0.1181	0.1068	-9.5	NA	±20	Average RF
Octachlorobiphenyls, Total	0.300	0.257	0.1384	0.1187	-14.3	NA	±20	Average RF
Pentachlorobiphenyls, Total	0.200	0.193	0.2098	0.2022	-3.6	NA	±20	Average RF
Tetrachlorobiphenyls, Total	0.200	0.181	0.292	0.2638	-9.7	NA	±20	Average RF
Trichlorobiphenyls, Total	0.100	0.0930	0.4386	0.4066	-7.3	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
gamma-BHC (Lindane)	0.200	0.171	0.1225	0.1045	-14.7	NA	±20	Average RF
4,4'-DDT	0.200	0.230	0.2783	0.3207	15.2	NA	±20	Average RF

QA/QC Report

Client:	AECOM	**Service Request:**	R1901380
Project:	Lockheed Martin Middle River Comparison Study SW/60555202	**Date Analyzed:**	02/21/19 23:15

Continuing Calibration Verification (CCV) Summary
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method:	680	**Calibration Date:**	2/19/2019
File ID:	I:\ACQUDATA\5973B\DATA\022119\DN743.D\	**Calibration ID:**	RC1900016
Signal ID:	1	**Analysis Lot:**	625888
		Units:	ppm

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Decachlorobiphenyl	0.500	0.453	0.1002	0.0909	-9.3	NA	±20	Average RF
Dichlorobiphenyls, Total	0.100	0.0900	0.6439	0.5818	-9.6	NA	±20	Average RF
Heptachlorobiphenyls, Total	0.300	0.280	0.202	0.1882	-6.8	NA	±20	Average RF
Hexachlorobiphenyls, Total	0.200	0.192	0.2096	0.2013	-4.0	NA	±20	Average RF
Monochlorobiphenyls, Total	0.100	0.0810	0.9782	0.7945	-18.8	NA	±20	Average RF
Nonachlorobiphenyls, Total	0.400	0.373	0.1181	0.11	-6.8	NA	±20	Average RF
Octachlorobiphenyls, Total	0.300	0.271	0.1384	0.1249	-9.8	NA	±20	Average RF
Pentachlorobiphenyls, Total	0.200	0.200	0.2098	0.2097	0.0	NA	±20	Average RF
Tetrachlorobiphenyls, Total	0.200	0.184	0.292	0.2682	-8.2	NA	±20	Average RF
Trichlorobiphenyls, Total	0.100	0.0960	0.4386	0.4223	-3.7	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
gamma-BHC (Lindane)	0.200	0.178	0.1225	0.1087	-11.2	NA	±20	Average RF
4,4'-DDT	0.200	0.236	0.2783	0.328	17.8	NA	±20	Average RF

QA/QC Report

Client: AECOM **Service Request:** R1901380
Project: Lockheed Martin Middle River Comparison Study SW/60555202 **Date Analyzed:** 02/22/19 00:02

Continuing Calibration Verification (CCV) Summary
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680 **Calibration Date:** 2/19/2019
File ID: I:\ACQUDATA\5973B\DATA\022119\DN745.D\ **Calibration ID:** RC1900016
Signal ID: 1 **Analysis Lot:** 625889
Units: ppm

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Decachlorobiphenyl	0.500	0.450	0.1002	0.0901	-10.0	NA	±20	Average RF
Dichlorobiphenyls, Total	0.100	0.0950	0.6439	0.611	-5.1	NA	±20	Average RF
Heptachlorobiphenyls, Total	0.300	0.279	0.202	0.1875	-7.2	NA	±20	Average RF
Hexachlorobiphenyls, Total	0.200	0.194	0.2096	0.203	-3.2	NA	±20	Average RF
Monochlorobiphenyls, Total	0.100	0.0890	0.9782	0.8691	-11.2	NA	±20	Average RF
Nonachlorobiphenyls, Total	0.400	0.392	0.1181	0.1158	-1.9	NA	±20	Average RF
Octachlorobiphenyls, Total	0.300	0.280	0.1384	0.129	-6.8	NA	±20	Average RF
Pentachlorobiphenyls, Total	0.200	0.208	0.2098	0.2182	4.0	NA	±20	Average RF
Tetrachlorobiphenyls, Total	0.200	0.187	0.292	0.2736	-6.3	NA	±20	Average RF
Trichlorobiphenyls, Total	0.100	0.0950	0.4386	0.4175	-4.8	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
gamma-BHC (Lindane)	0.200	0.176	0.1225	0.108	-11.8	NA	±20	Average RF
4,4'-DDT	0.200	0.227	0.2783	0.3157	13.4	NA	±20	Average RF

QA/QC Report

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Service Request: R1901380
Date Analyzed: 02/22/19 11:02

Continuing Calibration Verification (CCV) Summary
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
File ID: I:\ACQUDATA\5973B\DATA\022119\DN768.D\
Signal ID: 1
Calibration Date: 2/19/2019
Calibration ID: RC1900016
Analysis Lot: 625889
Units: ppm

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Decachlorobiphenyl	0.500	0.449	0.1002	0.0899	-10.2	NA	±20	Average RF
Dichlorobiphenyls, Total	0.100	0.0890	0.6439	0.57	-11.5	NA	±20	Average RF
Heptachlorobiphenyls, Total	0.300	0.256	0.202	0.1725	-14.6	NA	±20	Average RF
Hexachlorobiphenyls, Total	0.200	0.176	0.2096	0.1847	-11.9	NA	±20	Average RF
Monochlorobiphenyls, Total	0.100	0.0830	0.9782	0.8122	-17.0	NA	±20	Average RF
Nonachlorobiphenyls, Total	0.400	0.371	0.1181	0.1094	-7.3	NA	±20	Average RF
Octachlorobiphenyls, Total	0.300	0.256	0.1384	0.1183	-14.5	NA	±20	Average RF
Pentachlorobiphenyls, Total	0.200	0.189	0.2098	0.1982	-5.5	NA	±20	Average RF
Tetrachlorobiphenyls, Total	0.200	0.172	0.292	0.2509	-14.1	NA	±20	Average RF
Trichlorobiphenyls, Total	0.100	0.0930	0.4386	0.4089	-6.8	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
gamma-BHC (Lindane)	0.200	0.163	0.1225	0.0998	-18.6	NA	±20	Average RF
4,4'-DDT	0.200	0.0510	0.2783	0.0706	-74.6*	NA	±20	Average RF

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: AECOM **Service Request:**R1901380
Project: Lockheed Martin Middle River Comparison Study SW/60555202

Analysis Run Log
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: **Analysis Lot:**625888
Instrument ID:R-MS-52

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
I:\ACQUDATA\5973B\DATA\022119\DN729.D\	ZZZZZZZ	ZZZZZZZ	2/21/2019	16:41:00	
I:\ACQUDATA\5973B\DATA\022119\DN730.D\	Continuing Calibration Verification	RQ1901484-02	2/21/2019	16:59:00	
I:\ACQUDATA\5973B\DATA\022119\DN731.D\	Method Blank	RQ1901357-01	2/21/2019	17:28:00	
I:\ACQUDATA\5973B\DATA\022119\DN732.D\	FB-SW-021419-A	R1901380-003	2/21/2019	17:57:00	
I:\ACQUDATA\5973B\DATA\022119\DN733.D\	MRC-SW30-021419-A	R1901380-008	2/21/2019	18:26:00	
I:\ACQUDATA\5973B\DATA\022119\DN734.D\	EB-Tube 2-021419-A	R1901380-011	2/21/2019	18:55:00	
I:\ACQUDATA\5973B\DATA\022119\DN735.D\	EB-Tube 1-021419-A	R1901380-012	2/21/2019	19:24:00	
I:\ACQUDATA\5973B\DATA\022119\DN736.D\	MRC-SW31-021419-A	R1901380-013	2/21/2019	19:53:00	
I:\ACQUDATA\5973B\DATA\022119\DN737.D\	MRC-SW40-S-021419-A	R1901380-015	2/21/2019	20:22:00	
I:\ACQUDATA\5973B\DATA\022119\DN738.D\	Lab Control Sample	RQ1901357-02	2/21/2019	20:51:00	
I:\ACQUDATA\5973B\DATA\022119\DN739.D\	Duplicate Lab Control Sample	RQ1901357-03	2/21/2019	21:20:00	
I:\ACQUDATA\5973B\DATA\022119\DN740.D\	Method Detection Limit Verification	RQ1901357-06	2/21/2019	21:49:00	
I:\ACQUDATA\5973B\DATA\022119\DN741.D\	Method Detection Limit Verification	RQ1901357-07	2/21/2019	22:17:00	
I:\ACQUDATA\5973B\DATA\022119\DN742.D\	Method Detection Limit Verification	RQ1901357-08	2/21/2019	22:46:00	
I:\ACQUDATA\5973B\DATA\022119\DN743.D\	Continuing Calibration Verification	RQ1901484-03	2/21/2019	23:15:00	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: AECOM **Service Request:**R1901380
Project: Lockheed Martin Middle River Comparison Study SW/60555202

Analysis Run Log
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: **Analysis Lot:**625889
Instrument ID:R-MS-52

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
I:\ACQUDATA\5973B\DATA\022119 \DN744.D\	ZZZZZZZ	ZZZZZZZ	2/21/2019	23:43:00	
I:\ACQUDATA\5973B\DATA\022119 \DN745.D\	Continuing Calibration Verification	RQ1901485-02	2/22/2019	00:02:00	
I:\ACQUDATA\5973B\DATA\022119 \DN746.D\	MRC-SW7A-S-021419-A-DUP	R1901380-001	2/22/2019	00:30:00	
I:\ACQUDATA\5973B\DATA\022119 \DN748.D\	MRC-SW8A-S-021419-A	R1901380-002	2/22/2019	01:28:00	
I:\ACQUDATA\5973B\DATA\022119 \DN750.D\	MRC-SW5A1-S-021419-A	R1901380-004	2/22/2019	02:25:00	
I:\ACQUDATA\5973B\DATA\022119 \DN752.D\	MRC-SW5A2-S-021419-A	R1901380-005	2/22/2019	03:22:00	
I:\ACQUDATA\5973B\DATA\022119 \DN754.D\	MRC-SW13A-S-021419-A	R1901380-006	2/22/2019	04:19:00	
I:\ACQUDATA\5973B\DATA\022119 \DN756.D\	MRC-SW8B-S-021419-A	R1901380-007	2/22/2019	05:16:00	
I:\ACQUDATA\5973B\DATA\022119 \DN758.D\	MRC-SW15A-S-021419-A	R1901380-009	2/22/2019	06:14:00	
I:\ACQUDATA\5973B\DATA\022119 \DN760.D\	MRC-SW9A-S-021419-A	R1901380-010	2/22/2019	07:11:00	
I:\ACQUDATA\5973B\DATA\022119 \DN762.D\	MRC-SW7A-S-021419-A	R1901380-014	2/22/2019	08:09:00	
I:\ACQUDATA\5973B\DATA\022119 \DN764.D\	MRC-SW7A-S-021419-A MS	RQ1901357-04	2/22/2019	09:07:00	
I:\ACQUDATA\5973B\DATA\022119 \DN766.D\	MRC-SW7A-S-021419-A DMS	RQ1901357-05	2/22/2019	10:04:00	
I:\ACQUDATA\5973B\DATA\022119 \DN768.D\	Continuing Calibration Verification	RQ1901485-03	2/22/2019	11:02:00	

Analysis: 680 PCB **Analyst:** OMS-Unknown **Run Method:** 680 / 680Tune
Date: 2/21/19 **Instr.** 5973B (MS-52) **Quant Method:** 680 02191 9B.M
Syringes: _____ **LIMS Run#:** 625888 / 625889

Pos.	Sample	Diln.	Stds. ID	File#	OK?	Comments
1	Blk			DN727	–	
1	Blk			28	–	
2	Tune		195858	29	Y	
3	CCV		197095	30	YC	
4	RQ1901357-01	Blk	331543	31	Y	
5	R1901380-003			32	Y	
6	-005			33	Y	
7	-011			34	Y	
8	-012			35	Y	
9	-013			36	Y	
10	-015			37	Y	
11	RQ1901357-02	LCS		38	YQ	
12	-03	LCSD		39	YQ	
13	-06	MDLV		40	Y	
14	-07	MDLV		41	Y	
15	-08	MDLV		42	Y	
16	CCV		197095	43	YC	
17	Tune		195858	44	Y	
18	CCV		197095	45	YC	
19	R1901380-001			46	Y	
20	Blk			47	–	
21	-002			48	Y	
22	Blk			49	–	
23	-004			50	Y	
24	Blk			51	–	
25	-005			52	Y	
26	Blk			53	–	
27	-006			54	Y	
28	Blk			55	–	
29	-007			56	Y	
30	Blk			57	–	
31	-009			58	Y	
32	Blk			59	–	
33	-010			60	Y	
34	Blk			61	–	
35	-014			62	Y	
36	Blk			63	–	
37	RQ1901357-04			64	Y	
38	Blk			65	–	
39	-05			66	Y	

All samples = 1 mL + 10 uL Combined IS/Surr.; 195577

Primary :_____ exp: Secondary :_____ exp:
Primary:_____ exp: Secondary :_____ exp:

Reagents:
40 Blk
41 CCV 197095 67 – 68 YCC DDT b

Analysis: 680 PCB **Analyst:** OMIS.UREMIC **Run Method:** 680 / 680Tune
Date: 2/21/19 **Instr.** 5973B (MS-52) **Quant Method:** 680 0219 19B.M
Syringes: **LIMS Run#:** 625888

Pos.	Sample	Diln.	Stds. ID	File#	OK?	Comments
1	Blk			DN727	–	
1	Blk			28	–	
2	Tune		195858	29	YT	
3	CCV		197095	30	YCC	
4	RQ1901357-01	Blk	331543	31	Y	
5	R1901380-003			32	Y	
6	-008			33	Y	
7	-011			34	Y	
8	-012			35	Y	
9	-013			36	Y	
10	-015			37	Y	
11	RQ1901357-02	LCS		38	YQ	
12	-03	LCSD		39	YQ	
13	-06	MDLV		40	Y	
14	-07	MDLV		41	Y	
15	-08	MDLV		42	Y	
16	CCV		197095	43	YCC	
17	Tune		195858	44		
18	CCV		197095	45		
19	R1901380-001			46		
20	Blk			47		
21	-002			48		
22	Blk			49		
23	-004			50		
24	Blk			51		
25	-005			52		
26	Blk			53		
27	-006			54		
28	Blk			55		
29	-007			56		
30	Blk			57		
31	-009			58		
32	Blk			59		
33	-010			60		
34	Blk			61		
35	-014			62		
36	Blk			63		
37	RQ1901357-04			64		
38	Blk			65		
39	-05			66		

All samples = 1 mL + 10 uL Combined IS/Surr.; 195577

Primary :_____ exp: Secondary :_____ exp:
Primary:_____ exp: Secondary :_____ exp:
Reagents:
40 Blk
41 CCV

67

Analysis: 1,8D PCB | Analyst: DMISURTWIRE | Run Method: 68D / 68DTune
Date: 2/19/19 | Instr. 5973B (MS-52) | Quant Method: 68D02-19B.M
Syringes: | LIMS Run#:

Pos.	Sample	Diln.	Stds. ID	File#	OK?	Comments
1	Blk			DN643	—	
2	Tune			44	Y	
3	CCV			45	(N)	
3	CCV			46	↓	
2	Tune		195858	47	Y	
3	CCV			48	(N)	
3	STD check			49	—	
2	Tune		195858	50	Y	
3	Blk			51	Y	
4	Cal STD 00		197092	52	Y	
5	0		93	53	Y	
6	0.5		94	54	Y	
7	1.0		95	55	Y	
8	1.5		96	56	Y	
9	2.0		97	57	Y	
10	3.0		98	58	Y	
11	ICV		197100	59	YQ	

68D02-19B.M
RC19-05-16

JM 2/21/19

All samples = _____mL + _____uL Combined IS/Surr.;

Primary :_____ exp:
Primary:_____ exp:
Reagents:

Secondary :_____ exp:
Secondary :_____ exp:

Prep Summary Report

Client: AECOM **Service Request:** R1901380
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Prep Method: EPA 3510C **Extraction Lot:** 331543
Analytical Method: 680 **Extraction Date:** 02/15/19 09:15

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
MRC-SW7A-S-021419-A-DUP	R1901380-001	2/14/19	2/15/19	1060.0000	0.5 mL	
MRC-SW8A-S-021419-A	R1901380-002	2/14/19	2/15/19	1060.0000	0.5 mL	
FB-SW-021419-A	R1901380-003	2/14/19	2/15/19	1060.0000	0.5 mL	
MRC-SW5A1-S-021419-A	R1901380-004	2/14/19	2/15/19	1060.0000	0.5 mL	
MRC-SW5A2-S-021419-A	R1901380-005	2/14/19	2/15/19	1060.0000	0.5 mL	
MRC-SW13A-S-021419-A	R1901380-006	2/14/19	2/15/19	1060.0000	0.5 mL	
MRC-SW8B-S-021419-A	R1901380-007	2/14/19	2/15/19	1020.0000	0.5 mL	
MRC-SW30-021419-A	R1901380-008	2/14/19	2/15/19	1060.0000	0.5 mL	
MRC-SW15A-S-021419-A	R1901380-009	2/14/19	2/15/19	1040.0000	0.5 mL	
MRC-SW9A-S-021419-A	R1901380-010	2/14/19	2/15/19	1040.0000	0.5 mL	
EB-Tube 2-021419-A	R1901380-011	2/14/19	2/15/19	1040.0000	0.5 mL	
EB-Tube 1-021419-A	R1901380-012	2/14/19	2/15/19	1020.0000	0.5 mL	
MRC-SW31-021419-A	R1901380-013	2/14/19	2/15/19	1060.0000	0.5 mL	
MRC-SW7A-S-021419-A	R1901380-014	2/14/19	2/15/19	1060.0000	0.5 mL	
MRC-SW40-S-021419-A	R1901380-015	2/14/19	2/15/19	1040.0000	0.5 mL	
Method Blank	RQ1901357-01MB	NA	NA	1000 mL	0.5 mL	
Lab Control Sample	RQ1901357-02LCS	NA	NA	1000 mL	0.5 mL	
Duplicate Lab Control Sample	RQ1901357-03DLCS	NA	NA	1000 mL	0.5 mL	
Matrix Spike	RQ1901357-04MS	2/14/19	2/15/19	1060.0000	0.5 mL	
Duplicate Matrix Spike	RQ1901357-05DMS	2/14/19	2/15/19	1060.0000	0.5 mL	
Method Detection Limit Verification	RQ1901357-06MDLV	NA	NA	1000 mL	0.5 mL	
Method Detection Limit Verification	RQ1901357-07MDLV	NA	NA	1000 mL	0.5 mL	
Method Detection Limit Verification	RQ1901357-08MDLV	NA	NA	1000 mL	0.5 mL	

Preparation Information Benchsheet

Prep Run#: 331543
Team: Semivoa GCMS/JMISIUREWICZ

Prep WorkFlow: OrgExtAq(7)
Prep Method: EPA 3510C

Status: Prepped
Prep Date/Time: 2/15/19 09:15 AM

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ1901357-01	MB		1000mL	680/PCB Homologs	7			0.50mL	Colorless/Clear	0.5000 mL/195962	
2	RQ1901357-02	LCS		1000mL	680/PCB Homologs	7			0.50mL	Colorless/Clear	0.5000 mL/195962; 0.5000 mL/193625	
3	RQ1901357-03	DLCS		1000mL	680/PCB Homologs	7			0.50mL	Colorless/Clear	0.5000 mL/195962; 0.5000 mL/193625	
4	R1901380-001	MRC-SW7A-S-021419-A-DUP	.01	1060mL	680/PCB Homologs	7			0.50mL	Light Yellow	0.5000 mL/195962	
5	R1901380-002	MRC-SW8A-S-021419-A	.01	1060mL	680/PCB Homologs	7			0.50mL	Light Yellow	0.5000 mL/195962	
6	R1901380-003	FB-SW-021419-A	.01	1060mL	680/PCB Homologs	7			0.50mL	Colorless/Clear	0.5000 mL/195962	
7	R1901380-004	MRC-SW5A1-S-021419-A	.01	1060mL	680/PCB Homologs	7			0.50mL	Light Yellow	0.5000 mL/195962	
8	R1901380-005	MRC-SW5A2-S-021419-A	.01	1060mL	680/PCB Homologs	7			0.50mL	Light Yellow	0.5000 mL/195962	
9	R1901380-006	MRC-SW13A-S-021419-A	.01	1060mL	680/PCB Homologs	7			0.50mL	Light Yellow	0.5000 mL/195962	
10	R1901380-007	MRC-SW8B-S-021419-A	.01	1020mL	680/PCB Homologs	7			0.50mL	Light Yellow	0.5000 mL/195962	
11	R1901380-008	MRC-SW30-021419-A	.01	1060mL	680/PCB Homologs	7			0.50mL	Colorless/Clear	0.5000 mL/195962	
12	R1901380-009	MRC-SW15A-S-021419-A	.01	1040mL	680/PCB Homologs	7			0.50mL	Light Yellow	0.5000 mL/195962	
13	R1901380-010	MRC-SW9A-S-021419-A	.01	1040mL	680/PCB Homologs	7			0.50mL	Light Yellow	0.5000 mL/195962	
14	R1901380-011	EB-Tube 2-021419-A	.01	1040mL	680/PCB Homologs	7			0.50mL	Colorless/Clear	0.5000 mL/195962	
15	R1901380-012	EB-Tube 1-021419-A	.01	1020mL	680/PCB Homologs	7			0.50mL	Colorless/Clear	0.5000 mL/195962	
16	R1901380-013	MRC-SW31-021419-A	.01	1060mL	680/PCB Homologs	7			0.50mL	Colorless/Clear	0.5000 mL/195962	
17	R1901380-014	MRC-SW7A-S-021419-A	.01	1060mL	680/PCB Homologs	7			0.50mL	Light Yellow	0.5000 mL/195962	
18	RQ1901357-04	R1901380-014 MS	.02	1060mL	680/PCB Homologs	7			0.50mL	Light Yellow	0.5000 mL/193625; 0.5000 mL/195962	
19	RQ1901357-05	R1901380-014 DMS	.03	1060mL	680/PCB Homologs	7			0.50mL	Light Yellow	0.5000 mL/195962; 0.5000 mL/193625	
20	R1901380-015	MRC-SW40-S-021419-A	.01	1040mL	680/PCB Homologs	7			0.50mL	Colorless/Clear	0.5000 mL/195962	
21	RQ1901357-06	MDLV		1000mL	680/PCB Homologs	7			0.50mL	Colorless/Clear	0.5000 mL/195962; 0.5000 mL/195963	
22	RQ1901357-07	MDLV		1000mL	680/PCB Homologs	7			0.50mL	Colorless/Clear	0.5000 mL/195962; 0.5000 mL/195963	
23	RQ1901357-08	MDLV		1000mL	680/PCB Homologs	7			0.50mL	Colorless/Clear	0.5000 mL/195962; 0.5000 mL/195963	

Spiking Solutions

Name:	680 Matrix Spike 0.5-2.0 ug/mL	Inventory ID	193625	Logbook Ref:		Expires On:	03/30/2019
Name:	680 PCB Surrogate 1 ug/mL	Inventory ID	195962	Logbook Ref:		Expires On:	06/16/2019
Name:	680 MDL Spike	Inventory ID	195963	Logbook Ref:		Expires On:	02/28/2019

Preparation Information Benchsheet

Prep Run#: 331543
Team: Semivoa GCMS/JMISIUREWICZ

Prep WorkFlow: OrgExtAq(7)
Prep Method: EPA 3510C

Status: Prepped
Prep Date/Time: 2/15/19 09:15 AM

Preparation Materials

Eppendorf Pipette Repeater	EXT #18 (184837)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	canister (195312)	pH Paper 0-14	(195979)
Prepared Sodium Sulfate Na2SO4	(196861)				

Preparation Steps

Step:	Extraction	Step:	Concentration	Step:	Final Volume
Started:	2/15/19 09:15	Started:	2/15/19 10:45	Started:	2/15/19 13:45
Finished:	2/15/19 11:30	Finished:	2/15/19 13:45	Finished:	2/15/19 13:45
By:	JMISIUREWICZ	By:	JMISIUREWICZ	By:	JMISIUREWICZ
Comments		Comments		Comments	

Comments: _____

Reviewed By: _____ Date: 2/19/19 Spike Witness: BALLGEIER Date: _____

Chain of Custody

Relinquished By:		Date:	Extracts Examined
Received By:		Date:	Yes No

January 25, 2019 Service Request No:R1900554

Naoum Tavantzis
AECOM
1600 Perimeter Park Drive
Suite 400
Morrisville, NC 27560

Laboratory Results for: Lockheed Martin Middle River Comparison Study

Dear Naoum,

Enclosed are the results of the sample(s) submitted to our laboratory January 18, 2019
For your reference, these analyses have been assigned our service request number **R1900554.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janice Jaeger
Project Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study
Sample Matrix: Water

Service Request: R1900554
Date Received: 01/18/2019

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV, validation deliverables including all summary forms and associated raw data. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt:

One water sample was received for analysis at ALS Environmental on 01/18/2019. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The sample was received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at 0 to 6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature. If any sample was received for the analysis of pH, chlorine residual, sulfite, dissolved oxygen, or ferrous iron, the samples were analyzed past their holding time expiration since these analyses are required to be analyzed within 15 minutes of sampling.

Semivolatiles by GC/MS:

Method 680, 01/24/2019: The control limit was exceeded for one or more surrogates in the Continuing Calibration Verification (CCV). The surrogates were within acceptance limits for the associated field samples. The data quality was not significantly affected and no further corrective action was taken.

Method 680, 01/24/2019: The lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one or more analyte. There were no detections of the analyte(s) in the associated field samples. The discrepancy associated with reduced recovery equates to a potential low bias. Additional analysis of the associated field samples could not be performed because insufficient sample remained for testing. The analytes affected are flagged in the LCS Summary.

Approved by _____ Date 01/25/2019

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: AECOM **Service Request:**R1900554

Project: Lockheed Martin Middle River Comparison Study/60555202

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1900554-001	Bottle Blank	1/18/2019	

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 52585

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE _____ OF _____

Project Name: Lab Comparison Study	Project Number:
Project Manager: Nasum Tavantzis	Report QC:
Company/Address: AECOM 11600 Penmer Park Dr. Morrisonville, NC	
Phone #:	Email:
Sampler's Signature:	Sampler's Printed Name:

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs • 8260 • 624 • CLP	GC/MS SVOAs • 8270 • 625	GC VOAs • 8021 • 601/602	PESTICIDES • 8081 • 608	PCBs • 8082 • 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	680								REMARKS/ ALTERNATE DESCRIPTION
Bottle blank		1/8/19		W									X								

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS
Metals

See QAPP ☐

TURNAROUND REQUIREMENTS
_____ RUSH (SURCHARGES APPLY)
_____ 1 day ____ 2 day ____ 3 day
_____ 4 day ☒ 5 day
_____ Standard (10 business days-No Surcharge)

REQUESTED REPORT DATE
_____

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
☒ IV. Data Validation Report with Raw Data

Edata ____ Yes ____ No

INVOICE INFORMATION
PO #
BILL TO:

STATE WHERE SAMPLES WERE COLLECTED

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature	Signature	Signature	Signature	Signature
Printed Name	Printed Name	Printed Name	Printed Name	Printed Name	Printed Name
Firm	Firm	Firm	Firm	Firm	
Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	

R1900554 5
AECOM
Lockheed Martin Middle River Comparison Study

Distribution: White - Lab Copy; Yellow - Return to Originator

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
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REPORT QUALIFIERS AND DEFINITIONS

U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.

J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).

B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.

E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.

E Organics- Concentration has exceeded the calibration range for that specific analysis.

D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.

* Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.

H Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.

Spike was diluted out.

\+ Correlation coefficient for MSA is <0.995.

N Inorganics- Matrix spike recovery was outside laboratory limits.

N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.

S Concentration has been determined using Method of Standard Additions (MSA).

W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.

P Concentration >40% difference between the two GC columns.

C Confirmed by GC/MS

Q DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).

X See Case Narrative for discussion.

MRL Method Reporting Limit. Also known as:
LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.

MDL Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).

LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.

ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	Pennsylvania ID# 68-786
Delaware Approved	New Hampshire ID # 2941	Rhode Island ID # 158
DoD ELAP #65817	New York ID # 10145	Virginia #460167
Florida ID # E87674	North Carolina #676	

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client:	AECOM	**Service Request:**	R1900554
Project:	Lockheed Martin Middle River Comparison Study/60555202		

Sample Name:	Bottle Blank	**Date Collected:**	01/18/19
Lab Code:	R1900554-001	**Date Received:**	01/18/19
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
680	VSTAUFFER	JMISIUREWICZ

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental—Rochester Laboratory
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Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
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Analytical Report

Client:	AECOM	**Service Request:**	R1900554
Project:	Lockheed Martin Middle River Comparison Study/60555202	**Date Collected:**	01/18/19
Sample Matrix:	Water	**Date Received:**	01/18/19 08:39
Sample Name:	Bottle Blank	**Units:**	ug/L
Lab Code:	R1900554-001	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.024	0.012	1	01/24/19 12:15	1/23/19	
Dichlorobiphenyls, Total	ND U	0.0047	0.0016	1	01/24/19 12:15	1/23/19	
Heptachlorobiphenyls, Total	ND U	0.014	0.0090	1	01/24/19 12:15	1/23/19	
Hexachlorobiphenyls, Total	ND U	0.0094	0.0047	1	01/24/19 12:15	1/23/19	
Monochlorobiphenyls, Total	ND U	0.0047	0.00059	1	01/24/19 12:15	1/23/19	
Nonachlorobiphenyls, Total	ND U	0.019	0.0088	1	01/24/19 12:15	1/23/19	
Octachlorobiphenyls, Total	ND U	0.014	0.0099	1	01/24/19 12:15	1/23/19	
Pentachlorobiphenyls, Total	ND U	0.0094	0.0043	1	01/24/19 12:15	1/23/19	
Tetrachlorobiphenyls, Total	ND U	0.0094	0.0023	1	01/24/19 12:15	1/23/19	
Trichlorobiphenyls, Total	ND U	0.0047	0.0022	1	01/24/19 12:15	1/23/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	89	55 - 133	01/24/19 12:15	
4,4'-DDT	124	57 - 200	01/24/19 12:15	

QC Summary Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: AECOM **Service Request:** R1900554

Project: Lockheed Martin Middle River Comparison Study/60555202

Sample Matrix: Water

SURROGATE RECOVERY SUMMARY

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680

Extraction Method: EPA 3510C

Sample Name	Lab Code	gamma-BHC (Lindane) 55-133	4,4'-DDT 57-200
Bottle Blank	R1900554-001	89	124
Method Blank	RQ1900602-01	93	135
Lab Control Sample	RQ1900602-02	91	128
Duplicate Lab Control Sample	RQ1900602-03	99	139

Analytical Report

Client:	AECOM	**Service Request:**	R1900554
Project:	Lockheed Martin Middle River Comparison Study/60555202	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1900602-01	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND	U	0.025	0.012	1	01/24/19 10:48	1/23/19	
Dichlorobiphenyls, Total	**0.0020**	**J**	0.0050	0.0016	1	01/24/19 10:48	1/23/19	
Heptachlorobiphenyls, Total	ND	U	0.015	0.0090	1	01/24/19 10:48	1/23/19	
Hexachlorobiphenyls, Total	ND	U	0.010	0.0047	1	01/24/19 10:48	1/23/19	
Monochlorobiphenyls, Total	ND	U	0.0050	0.00059	1	01/24/19 10:48	1/23/19	
Nonachlorobiphenyls, Total	ND	U	0.020	0.0088	1	01/24/19 10:48	1/23/19	
Octachlorobiphenyls, Total	ND	U	0.015	0.0099	1	01/24/19 10:48	1/23/19	
Pentachlorobiphenyls, Total	ND	U	0.010	0.0043	1	01/24/19 10:48	1/23/19	
Tetrachlorobiphenyls, Total	ND	U	0.010	0.0023	1	01/24/19 10:48	1/23/19	
Trichlorobiphenyls, Total	ND	U	0.0050	0.0022	1	01/24/19 10:48	1/23/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	93	55 - 133	01/24/19 10:48	
4,4'-DDT	135	57 - 200	01/24/19 10:48	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: AECOM **Service Request:** R1900554
Project: Lockheed Martin Middle River Comparison Study/60555202 **Date Analyzed:** 01/24/19
Sample Matrix: Water

Duplicate Lab Control Sample Summary
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Units:ug/L
Basis:NA

		Lab Control Sample RQ1900602-02			**Duplicate Lab Control Sample** RQ1900602-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Decachlorobiphenyl	680	0.517	1.25	41	0.581	1.25	46	29-162	12	30
Dichlorobiphenyls, Total	680	0.209	0.250	84	0.226	0.250	90	37-139	8	30
Heptachlorobiphenyls, Total	680	0.408	0.750	54	0.452	0.750	60	53-120	10	30
Hexachlorobiphenyls, Total	680	0.303	0.500	61	0.352	0.500	70	11-160	15	30
Monochlorobiphenyls, Total	680	0.192	0.250	77	0.210	0.250	84	34-137	9	30
Octachlorobiphenyls, Total	680	0.353	0.750	47 *	0.403	0.750	54 *	57-125	13	30
Pentachlorobiphenyls, Total	680	0.353	0.500	71	0.392	0.500	78	10-180	10	30
Tetrachlorobiphenyls, Total	680	0.394	0.500	79	0.442	0.500	88	14-153	11	30
Trichlorobiphenyls, Total	680	0.207	0.250	83	0.229	0.250	91	10-173	10	30

ANALYTICAL REPORT

Job Number: 680-163273-1

Job Description: MRC Surface Water Sampling

Contract Number: No Number Assigned

For:
AECOM
1600 Perimeter Park Drive
Suite 400
Morrisville, NC 27560

Attention: Mr. Naoum Tavantzis

Approved for release.
Eddie T Barnett
Project Manager I
1/23/2019 9:05 AM

Eddie T Barnett, Project Manager I
5102 LaRoche Avenue, Savannah, GA, 31404
(912)250-0280
eddie.barnett@testamericainc.com
01/23/2019

Savannah Certifications and ID #s: A2LA: 0399.01; AL: 41450; ARDEQ: 88-0692; ARDOH; AZ: AZ0741; CA: 03217CA; CO; CT: PH0161; DE; FL: E87052; GA: 803; Guam; HI; IL: 200022; IN: C-GA-02; IA: 353; KS: E-10322; KY EPPC: 90084; KY UST; LA DEQ: 30690; LA DHH: LA080008; ME: 2008022; MD: 250; MA: M-GA006; MI: 9925; MS; NFESC: 249; NV: GA00006; NJ: GA769; NM; NY: 10842; NC DWQ: 269; NC DHHS: 13701; PA: 68-00474; PR: GA00006; RI: LAO00244; SC: 98001001; TN: TN0296; TX: T104704185; USEPA: GA00006; VT: VT-87052; VA: 00302; WA; WV DEP: 094; WV DHHR: 9950 C; WI DNR: 999819810; WY/EPAR8: 8TMS-Q

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Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE
Client: AECOM
Project: MRC Surface Water Sampling

Report Number: 680-163273-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT
The sample was received in the laboratory at ambient temperature on 01/16/2019.

POLYCHLORINATED BIPHENYLS (PCBS)
Sample Lot Bottle Blank (680-163273-1) was analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA Method 680. The sample was prepared on 01/17/2019 and analyzed on 01/18/2019.

Several analytes recovered high for LCS 680-555398/3-A. Several analytes exceeded the RPD limit for LCSD 680-555398/4-A. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data has been reported. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-163273-1

Client Sample ID: Lot Bottle Blank **Lab Sample ID: 680-163273-1**

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: Lot Bottle Blank
Lab Sample ID: 680-163273-1
Date Collected: 01/16/19 10:15
Matrix: Water
Date Received: 01/16/19 10:45

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlorobiphenyl	ND	*	0.30	0.030	ug/L		01/17/19 13:27	01/18/19 20:41	1
Hexachlorobiphenyl	ND	*	0.20	0.015	ug/L		01/17/19 13:27	01/18/19 20:41	1
Nonachlorobiphenyl	ND	*	0.49	0.048	ug/L		01/17/19 13:27	01/18/19 20:41	1
Octachlorobiphenyl	ND	*	0.30	0.038	ug/L		01/17/19 13:27	01/18/19 20:41	1
Monochlorobiphenyl	ND	*	0.099	0.0055	ug/L		01/17/19 13:27	01/18/19 20:41	1
DCB Decachlorobiphenyl	ND	*	0.49	0.069	ug/L		01/17/19 13:27	01/18/19 20:41	1
Total Dichlorobiphenyls	ND	*	0.099	0.0053	ug/L		01/17/19 13:27	01/18/19 20:41	1
Total Pentachlorobiphenyls	ND	*	0.20	0.014	ug/L		01/17/19 13:27	01/18/19 20:41	1
Total Tetrachlorobiphenyls	ND	*	0.20	0.013	ug/L		01/17/19 13:27	01/18/19 20:41	1
Total Trichlorobiphenyls	ND	*	0.099	0.0064	ug/L		01/17/19 13:27	01/18/19 20:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl-13C12	*76*		*25 - 113*	*01/17/19 13:27*	*01/18/19 20:41*	*1*

Default Detection Limits

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-163273-1

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Prep: 680

Analyte	RL	MDL	Units	Method
DCB Decachlorobiphenyl	0.50	0.070	ug/L	680
Heptachlorobiphenyl	0.30	0.030	ug/L	680
Hexachlorobiphenyl	0.20	0.015	ug/L	680
Monochlorobiphenyl	0.10	0.0056	ug/L	680
Nonachlorobiphenyl	0.50	0.049	ug/L	680
Octachlorobiphenyl	0.30	0.038	ug/L	680
Total Dichlorobiphenyls	0.10	0.0054	ug/L	680
Total Pentachlorobiphenyls	0.20	0.014	ug/L	680
Total Tetrachlorobiphenyls	0.20	0.013	ug/L	680
Total Trichlorobiphenyls	0.10	0.0065	ug/L	680

Surrogate Summary

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-163273-1

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	13CDCB (25-113)
680-163273-1	Lot Bottle Blank	76
LCS 680-555398/3-A	Lab Control Sample	92
LCSD 680-555398/4-A	Lab Control Sample Dup	86
MB 680-555398/2-A	Method Blank	80

Surrogate Legend

13CDCB = Decachlorobiphenyl-13C12

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS)

Lab Sample ID: MB 680-555398/2-A
Matrix: Water
Analysis Batch: 555586

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 555398

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlorobiphenyl	ND		0.30	0.030	ug/L		01/17/19 13:27	01/18/19 19:16	1
Hexachlorobiphenyl	ND		0.20	0.015	ug/L		01/17/19 13:27	01/18/19 19:16	1
Nonachlorobiphenyl	ND		0.50	0.049	ug/L		01/17/19 13:27	01/18/19 19:16	1
Octachlorobiphenyl	ND		0.30	0.038	ug/L		01/17/19 13:27	01/18/19 19:16	1
Monochlorobiphenyl	ND		0.10	0.0056	ug/L		01/17/19 13:27	01/18/19 19:16	1
DCB Decachlorobiphenyl	ND		0.50	0.070	ug/L		01/17/19 13:27	01/18/19 19:16	1
Total Dichlorobiphenyls	ND		0.10	0.0054	ug/L		01/17/19 13:27	01/18/19 19:16	1
Total Pentachlorobiphenyls	ND		0.20	0.014	ug/L		01/17/19 13:27	01/18/19 19:16	1
Total Tetrachlorobiphenyls	ND		0.20	0.013	ug/L		01/17/19 13:27	01/18/19 19:16	1
Total Trichlorobiphenyls	ND		0.10	0.0065	ug/L		01/17/19 13:27	01/18/19 19:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Decachlorobiphenyl-13C12	*80*		*25 - 113*	*01/17/19 13:27*	*01/18/19 19:16*	*1*

Lab Sample ID: LCS 680-555398/3-A
Matrix: Water
Analysis Batch: 555586

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 555398

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Heptachlorobiphenyl	6.00	8.55	*	ug/L		142	62 - 130
Hexachlorobiphenyl	4.00	6.26	*	ug/L		156	62 - 130
Nonachlorobiphenyl	10.0	22.0	*	ug/L		220	70 - 195
Octachlorobiphenyl	6.00	9.33	*	ug/L		156	64 - 130
Monochlorobiphenyl	2.00	2.43		ug/L		122	42 - 130
DCB Decachlorobiphenyl	10.0	14.2	*	ug/L		142	59 - 130
Total Dichlorobiphenyls	2.00	2.72	*	ug/L		136	49 - 130
Total Pentachlorobiphenyls	4.00	6.26	*	ug/L		157	63 - 130
Total Tetrachlorobiphenyls	4.00	5.74	*	ug/L		144	54 - 130
Total Trichlorobiphenyls	2.00	2.90	*	ug/L		145	51 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Decachlorobiphenyl-13C12	*92*		*25 - 113*

Lab Sample ID: LCSD 680-555398/4-A
Matrix: Water
Analysis Batch: 555586

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 555398

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Heptachlorobiphenyl	6.00	4.89	*	ug/L		81	62 - 130	55	40
Hexachlorobiphenyl	4.00	3.54	*	ug/L		88	62 - 130	56	40
Nonachlorobiphenyl	10.0	14.7		ug/L		147	70 - 195	39	40
Octachlorobiphenyl	6.00	5.25	*	ug/L		88	64 - 130	56	40
Monochlorobiphenyl	2.00	1.53	*	ug/L		76	42 - 130	46	40
DCB Decachlorobiphenyl	10.0	8.39	*	ug/L		84	59 - 130	51	40
Total Dichlorobiphenyls	2.00	1.60	*	ug/L		80	49 - 130	52	40
Total Pentachlorobiphenyls	4.00	3.53	*	ug/L		88	63 - 130	56	40
Total Tetrachlorobiphenyls	4.00	3.36	*	ug/L		84	54 - 130	52	40

Method: 680 - Polychlorinated Biphenyls (PCBs) (GC/MS) (Continued)

Lab Sample ID: LCSD 680-555398/4-A
Matrix: Water
Analysis Batch: 555586

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 555398

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Trichlorobiphenyls			2.00	1.63	*	ug/L		82	51 - 130	56	40

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Decachlorobiphenyl-13C12	*86*		*25 - 113*

QC Association Summary

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-163273-1

GC/MS Semi VOA

Prep Batch: 555398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-163273-1	Lot Bottle Blank	Total/NA	Water	680	
MB 680-555398/2-A	Method Blank	Total/NA	Water	680	
LCS 680-555398/3-A	Lab Control Sample	Total/NA	Water	680	
LCSD 680-555398/4-A	Lab Control Sample Dup	Total/NA	Water	680	

Analysis Batch: 555586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-163273-1	Lot Bottle Blank	Total/NA	Water	680	555398
MB 680-555398/2-A	Method Blank	Total/NA	Water	680	555398
LCS 680-555398/3-A	Lab Control Sample	Total/NA	Water	680	555398
LCSD 680-555398/4-A	Lab Control Sample Dup	Total/NA	Water	680	555398

Client Sample ID: Lot Bottle Blank

Date Collected: 01/16/19 10:15
Date Received: 01/16/19 10:45

Lab Sample ID: 680-163273-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	680			555398	01/17/19 13:27	CEW	TAL SAV
Total/NA	Analysis	680		1	555586	01/18/19 20:41	NED	TAL SAV

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Accreditation/Certification Summary

Client: AECOM
TestAmerica Job ID: 680-163273-1
Project/Site: MRC Surface Water Sampling

Laboratory: TestAmerica Savannah

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Maryland	State Program	3	250	12-31-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
680	680	Water	DCB Decachlorobiphenyl
680	680	Water	Heptachlorobiphenyl
680	680	Water	Hexachlorobiphenyl
680	680	Water	Monochlorobiphenyl
680	680	Water	Nonachlorobiphenyl
680	680	Water	Octachlorobiphenyl
680	680	Water	Total Dichlorobiphenyls
680	680	Water	Total Pentachlorobiphenyls
680	680	Water	Total Tetrachlorobiphenyls
680	680	Water	Total Trichlorobiphenyls

Method Summary

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-163273-1

Method	Method Description	Protocol	Laboratory
680	Polychlorinated Biphenyls (PCBs) (GC/MS)	EPA	TAL SAV
680	Liquid-Liquid Extraction (Separatory Funnel)	EPA	TAL SAV

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Sample Summary

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-163273-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-163273-1	Lot Bottle Blank	Water	01/16/19 10:15	01/16/19 10:45

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Instrument ID: CMSX Analysis Batch Number: 546611

Lab Sample ID: ICISAV 680-546611/3 Client Sample ID:

Date Analyzed: 11/07/18 13:33 Lab File ID: xk0703.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.57	Peak assignment corrected	davisn	11/08/18 08:22
DCB Decachlorobiphenyl	21.67	Peak assignment corrected	davisn	11/08/18 08:23
Decachlorobiphenyl-13C12	21.67	Peak assignment corrected	davisn	11/08/18 08:23

Lab Sample ID: IC 680-546611/4 Client Sample ID:

Date Analyzed: 11/07/18 15:12 Lab File ID: xk0706.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.57	Peak assignment corrected	davisn	11/08/18 08:24
DCB Decachlorobiphenyl	21.69	Peak assignment corrected	davisn	11/08/18 08:25
Decachlorobiphenyl-13C12	21.69	Peak assignment corrected	davisn	11/08/18 08:25

Lab Sample ID: IC 680-546611/11 Client Sample ID:

Date Analyzed: 11/07/18 15:40 Lab File ID: xk0707.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.55	Peak assignment corrected	davisn	11/08/18 08:26

Lab Sample ID: IC 680-546611/12 Client Sample ID:

Date Analyzed: 11/07/18 16:09 Lab File ID: xk0708.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.57	Peak assignment corrected	davisn	11/08/18 08:27
DCB Decachlorobiphenyl	21.67	Peak assignment corrected	davisn	11/08/18 08:27
Decachlorobiphenyl-13C12	21.67	Peak assignment corrected	davisn	11/08/18 08:27

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Instrument ID: CMSX Analysis Batch Number: 546611

Lab Sample ID: IC 680-546611/13 Client Sample ID:

Date Analyzed: 11/07/18 16:37 Lab File ID: xk0709.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.57	Peak assignment corrected	davisn	11/08/18 08:28
DCB Decachlorobiphenyl	21.67	Peak assignment corrected	davisn	11/08/18 08:28
Decachlorobiphenyl-13C12	21.67	Peak assignment corrected	davisn	11/08/18 08:28

Lab Sample ID: IC 680-546611/14 Client Sample ID:

Date Analyzed: 11/07/18 17:06 Lab File ID: xk0710.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.57	Peak assignment corrected	davisn	11/08/18 08:28
DCB Decachlorobiphenyl	21.67	Peak assignment corrected	davisn	11/08/18 08:28
Decachlorobiphenyl-13C12	21.67	Peak assignment corrected	davisn	11/08/18 08:28

Lab Sample ID: ICV 680-546611/15 Client Sample ID:

Date Analyzed: 11/07/18 17:34 Lab File ID: xk0711.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.57	Peak assignment corrected	davisn	11/08/18 08:30
DCB Decachlorobiphenyl	21.67	Peak assignment corrected	davisn	11/08/18 08:31
Decachlorobiphenyl-13C12	21.67	Peak assignment corrected	davisn	11/08/18 08:30

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Instrument ID: CMSX Analysis Batch Number: 555586

Lab Sample ID: WDM 680-555586/2 Client Sample ID:

Date Analyzed: 01/18/19 14:39 Lab File ID: xa1803.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	21.80	Peak assignment corrected	davisn	01/18/19 16:17

Lab Sample ID: CCVIS 680-555586/3 Client Sample ID:

Date Analyzed: 01/18/19 16:35 Lab File ID: xa1807.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.67	Peak assignment corrected	davisn	01/20/19 12:27

Lab Sample ID: LCS 680-555398/3-A Client Sample ID:

Date Analyzed: 01/18/19 19:44 Lab File ID: xa1810.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.67	Peak assignment corrected	davisn	01/20/19 12:29
Decachlorobiphenyl-13C12	21.79	Peak assignment corrected	davisn	01/20/19 12:30
DCB Decachlorobiphenyl	21.81	Peak assignment corrected	davisn	01/20/19 12:30

Lab Sample ID: LCSD 680-555398/4-A Client Sample ID:

Date Analyzed: 01/18/19 20:13 Lab File ID: xa1811.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.67	Peak assignment corrected	davisn	01/20/19 12:31
DCB Decachlorobiphenyl	21.80	Peak assignment corrected	davisn	01/20/19 12:32
Decachlorobiphenyl-13C12	21.80	Peak assignment corrected	davisn	01/20/19 12:31

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Instrument ID: CMSX Analysis Batch Number: 555586

Lab Sample ID: CCV 680-555586/9 Client Sample ID:

Date Analyzed: 01/18/19 21:10 Lab File ID: xa1813.D GC Column: HP-5MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chrysene-d12	18.67	Peak assignment corrected	davisn	01/20/19 12:33
DCB Decachlorobiphenyl	21.80	Peak assignment corrected	davisn	01/20/19 12:33
Decachlorobiphenyl-13C12	21.80	Peak assignment corrected	davisn	01/20/19 12:33

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
680cal3ICV_00054	10/13/19	10/13/18	Hexane, Lot K29E01	2 mL	SM-680istd_00045	60 uL	Chrysene-d12	0.75 ug/mL
							Phenanthrene-d10	0.75 ug/mL
.SM-680istd_00045	10/13/19	10/13/18	Hexane, Lot 135581	10 mL	Chrys-12_00030	125 uL	Chrysene-d12	25 ug/mL
					Phenan-d10_00038	250 uL	Phenanthrene-d10	25 ug/mL
..Chrys-12_00030	10/13/19	ultra, Lot cs-2540			(Purchased Reagent)		Chrysene-d12	2000 ug/mL
..Phenan-d10_00038	10/13/19	ultra, Lot CM-4742			(Purchased Reagent)		Phenanthrene-d10	1000 ug/mL
680cal3ICV_00054	10/13/19	10/13/18	Hexane, Lot K29E01	2 mL	680conCALa_00037	40 uL	DCB Decachlorobiphenyl	5 ug/mL
							Heptachlorobiphenyl	3 ug/mL
							Hexachlorobiphenyl	2 ug/mL
							Monochlorobiphenyl	1 ug/mL
							Octachlorobiphenyl	3 ug/mL
							Total Dichlorobiphenyls	1 ug/mL
							Total Pentachlorobiphenyls	2 ug/mL
							Total Tetrachlorobiphenyls	2 ug/mL
							Total Trichlorobiphenyls	1 ug/mL
					DB(680)SUR_00339	250 uL	Decachlorobiphenyl-13C12	5 ug/mL
					PCB RTmixa_00030	40 uL	Nonachlorobiphenyl	4 ug/mL
.680conCALa_00037	10/13/19	AccuStandard, Lot 215031273			(Purchased Reagent)		DCB Decachlorobiphenyl	250 ug/mL
							Heptachlorobiphenyl	150 ug/mL
							Hexachlorobiphenyl	100 ug/mL
							Monochlorobiphenyl	50 ug/mL
							Octachlorobiphenyl	150 ug/mL
							Total Dichlorobiphenyls	50 ug/mL
							Total Pentachlorobiphenyls	100 ug/mL
							Total Tetrachlorobiphenyls	100 ug/mL
							Total Trichlorobiphenyls	50 ug/mL
.DB(680)SUR_00339	10/13/19	Cambridge, Lot SDFB-007			(Purchased Reagent)		Decachlorobiphenyl-13C12	40 ug/mL
.PCB RTmixa_00030	10/13/19	AccuStandard, Lot 215031484			(Purchased Reagent)		Nonachlorobiphenyl	200 ug/mL
680isomerCal1_00021	02/28/19	10/13/18	Hexane, Lot 00207	2 mL	680conCAL_00154	4 uL	DCB Decachlorobiphenyl	0.5 ug/mL
							Heptachlorobiphenyl	0.3 ug/mL
							Hexachlorobiphenyl	0.2 ug/mL
							Monochlorobiphenyl	0.1 ug/mL
							Octachlorobiphenyl	0.3 ug/mL
							Total Dichlorobiphenyls	0.1 ug/mL
							Total Pentachlorobiphenyls	0.2 ug/mL
							Total Tetrachlorobiphenyls	0.2 ug/mL
							Total Trichlorobiphenyls	0.1 ug/mL
					DB(680)SUR_00339	25 uL	Decachlorobiphenyl-13C12	0.5 ug/mL
					SM-680istd_00045	60 uL	Chrysene-d12	0.75 ug/mL
							Phenanthrene-d10	0.75 ug/mL
.680conCAL_00154	10/13/19	ULTRA, Lot CM-5140			(Purchased Reagent)		DCB Decachlorobiphenyl	250 ug/mL
							Heptachlorobiphenyl	150 ug/mL
							Hexachlorobiphenyl	100 ug/mL
							Monochlorobiphenyl	50 ug/mL
							Octachlorobiphenyl	150 ug/mL
							Total Dichlorobiphenyls	50 ug/mL
							Total Pentachlorobiphenyls	100 ug/mL

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Total Tetrachlorobiphenyls	100 ug/mL
							Total Trichlorobiphenyls	50 ug/mL
.DB(680)SUR_00339	10/13/19		Cambridge, Lot SDFB-007		(Purchased Reagent)		Decachlorobiphenyl-13C12	40 ug/mL
.SM-680istd_00045	10/13/19	10/13/18	Hexane, Lot 135581	10 mL	Chrys-12_00030	125 uL	Chrysene-d12	25 ug/mL
					Phenan-d10_00038	250 uL	Phenanthrene-d10	25 ug/mL
..Chrys-12_00030	10/13/19		ultra, Lot cs-2540		(Purchased Reagent)		Chrysene-d12	2000 ug/mL
..Phenan-d10_00038	10/13/19		ultra, Lot CM-4742		(Purchased Reagent)		Phenanthrene-d10	1000 ug/mL
680isomerCal2_00019	02/28/19	10/13/18	Hexane, Lot 00207	2 mL	680conCAL_00154	20 uL	DCB Decachlorobiphenyl	2.5 ug/mL
							Heptachlorobiphenyl	1.5 ug/mL
							Hexachlorobiphenyl	1 ug/mL
							Monochlorobiphenyl	0.5 ug/mL
							Octachlorobiphenyl	1.5 ug/mL
							Total Dichlorobiphenyls	0.5 ug/mL
							Total Pentachlorobiphenyls	1 ug/mL
							Total Tetrachlorobiphenyls	1 ug/mL
							Total Trichlorobiphenyls	0.5 ug/mL
					DB(680)SUR_00339	125 uL	Decachlorobiphenyl-13C12	2.5 ug/mL
					SM-680istd_00045	60 uL	Chrysene-d12	0.75 ug/mL
							Phenanthrene-d10	0.75 ug/mL
.680conCAL_00154	10/13/19		ULTRA, Lot CM-5140		(Purchased Reagent)		DCB Decachlorobiphenyl	250 ug/mL
							Heptachlorobiphenyl	150 ug/mL
							Hexachlorobiphenyl	100 ug/mL
							Monochlorobiphenyl	50 ug/mL
							Octachlorobiphenyl	150 ug/mL
							Total Dichlorobiphenyls	50 ug/mL
							Total Pentachlorobiphenyls	100 ug/mL
							Total Tetrachlorobiphenyls	100 ug/mL
							Total Trichlorobiphenyls	50 ug/mL
.DB(680)SUR_00339	10/13/19		Cambridge, Lot SDFB-007		(Purchased Reagent)		Decachlorobiphenyl-13C12	40 ug/mL
.SM-680istd_00045	10/13/19	10/13/18	Hexane, Lot 135581	10 mL	Chrys-12_00030	125 uL	Chrysene-d12	25 ug/mL
					Phenan-d10_00038	250 uL	Phenanthrene-d10	25 ug/mL
..Chrys-12_00030	10/13/19		ultra, Lot cs-2540		(Purchased Reagent)		Chrysene-d12	2000 ug/mL
..Phenan-d10_00038	10/13/19		ultra, Lot CM-4742		(Purchased Reagent)		Phenanthrene-d10	1000 ug/mL
680isomerCal3_00044	02/28/19	10/13/18	Hexane, Lot 00207	2 mL	680conCAL_00154	40 uL	DCB Decachlorobiphenyl	5 ug/mL
							Heptachlorobiphenyl	3 ug/mL
							Hexachlorobiphenyl	2 ug/mL
							Monochlorobiphenyl	1 ug/mL
							Octachlorobiphenyl	3 ug/mL
							Total Dichlorobiphenyls	1 ug/mL
							Total Pentachlorobiphenyls	2 ug/mL
							Total Tetrachlorobiphenyls	2 ug/mL
							Total Trichlorobiphenyls	1 ug/mL
					DB(680)SUR_00339	250 uL	Decachlorobiphenyl-13C12	5 ug/mL
					PCB RTmix_00013	40 uL	Nonachlorobiphenyl	4 ug/mL
							PCB-104	2 ug/mL
							PCB-208	4 ug/mL
							PCB-77	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					SM-680istd_00045	60 uL	Chrysene-d12	0.75 ug/mL
							Phenanthrene-d10	0.75 ug/mL
.680conCAL_00154	10/13/19		ULTRA, Lot CM-5140		(Purchased Reagent)		DCB Decachlorobiphenyl	250 ug/mL
							Heptachlorobiphenyl	150 ug/mL
							Hexachlorobiphenyl	100 ug/mL
							Monochlorobiphenyl	50 ug/mL
							Octachlorobiphenyl	150 ug/mL
							Total Dichlorobiphenyls	50 ug/mL
							Total Pentachlorobiphenyls	100 ug/mL
							Total Tetrachlorobiphenyls	100 ug/mL
							Total Trichlorobiphenyls	50 ug/mL
.DB(680)SUR_00339	10/13/19		Cambridge, Lot SDFB-007		(Purchased Reagent)		Decachlorobiphenyl-13C12	40 ug/mL
.PCB RTmix_00013	02/28/19		Ultra Scientific, Lot cm-0434		(Purchased Reagent)		Nonachlorobiphenyl	200 ug/mL
							PCB-104	100 ug/mL
							PCB-208	200 ug/mL
							PCB-77	100 ug/mL
.SM-680istd_00045	10/13/19	10/13/18	Hexane, Lot 135581	10 mL	Chrys-12_00030	125 uL	Chrysene-d12	25 ug/mL
					Phenan-d10_00038	250 uL	Phenanthrene-d10	25 ug/mL
..Chrys-12_00030	10/13/19		ultra, Lot cs-2540		(Purchased Reagent)		Chrysene-d12	2000 ug/mL
..Phenan-d10_00038	10/13/19		ultra, Lot CM-4742		(Purchased Reagent)		Phenanthrene-d10	1000 ug/mL
680isomerCal3_00045	02/28/19	01/08/19	Hexane, Lot 00207	2 mL	SM-680istd_00045	60 uL	Chrysene-d12	0.75 ug/mL
							Phenanthrene-d10	0.75 ug/mL
.SM-680istd_00045	10/13/19	10/13/18	Hexane, Lot 135581	10 mL	Chrys-12_00030	125 uL	Chrysene-d12	25 ug/mL
					Phenan-d10_00038	250 uL	Phenanthrene-d10	25 ug/mL
..Chrys-12_00030	10/13/19		ultra, Lot cs-2540		(Purchased Reagent)		Chrysene-d12	2000 ug/mL
..Phenan-d10_00038	10/13/19		ultra, Lot CM-4742		(Purchased Reagent)		Phenanthrene-d10	1000 ug/mL
680isomerCal3_00045	02/28/19	01/08/19	Hexane, Lot 00207	2 mL	680conCAL_00154	40 uL	DCB Decachlorobiphenyl	5 ug/mL
							Heptachlorobiphenyl	3 ug/mL
							Hexachlorobiphenyl	2 ug/mL
							Monochlorobiphenyl	1 ug/mL
							Octachlorobiphenyl	3 ug/mL
							Total Dichlorobiphenyls	1 ug/mL
							Total Pentachlorobiphenyls	2 ug/mL
							Total Tetrachlorobiphenyls	2 ug/mL
							Total Trichlorobiphenyls	1 ug/mL
					DB(680)SUR_00358	250 uL	Decachlorobiphenyl-13C12	5 ug/mL
.680conCAL_00154	10/13/19		ULTRA, Lot CM-5140		(Purchased Reagent)		DCB Decachlorobiphenyl	250 ug/mL
							Heptachlorobiphenyl	150 ug/mL
							Hexachlorobiphenyl	100 ug/mL
							Monochlorobiphenyl	50 ug/mL
							Octachlorobiphenyl	150 ug/mL
							Total Dichlorobiphenyls	50 ug/mL
							Total Pentachlorobiphenyls	100 ug/mL
							Total Tetrachlorobiphenyls	100 ug/mL
							Total Trichlorobiphenyls	50 ug/mL
.DB(680)SUR_00358	01/08/20		Cambridge, Lot SDgf-025		(Purchased Reagent)		Decachlorobiphenyl-13C12	40 ug/mL
680isomerCal4_00019	02/28/19	10/13/18	Hexane, Lot 00207	2 mL	680conCAL_00154	80 uL	DCB Decachlorobiphenyl	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Heptachlorobiphenyl	6 ug/mL
							Hexachlorobiphenyl	4 ug/mL
							Monochlorobiphenyl	2 ug/mL
							Octachlorobiphenyl	6 ug/mL
							Total Dichlorobiphenyls	2 ug/mL
							Total Pentachlorobiphenyls	4 ug/mL
							Total Tetrachlorobiphenyls	4 ug/mL
							Total Trichlorobiphenyls	2 ug/mL
					DB(680)SUR_00339	500 uL	Decachlorobiphenyl-13C12	10 ug/mL
					SM-680istd_00045	60 uL	Chrysene-d12	0.75 ug/mL
							Phenanthrene-d10	0.75 ug/mL
.680conCAL_00154	10/13/19		ULTRA, Lot CM-5140		(Purchased Reagent)		DCB Decachlorobiphenyl	250 ug/mL
							Heptachlorobiphenyl	150 ug/mL
							Hexachlorobiphenyl	100 ug/mL
							Monochlorobiphenyl	50 ug/mL
							Octachlorobiphenyl	150 ug/mL
							Total Dichlorobiphenyls	50 ug/mL
							Total Pentachlorobiphenyls	100 ug/mL
							Total Tetrachlorobiphenyls	100 ug/mL
							Total Trichlorobiphenyls	50 ug/mL
.DB(680)SUR_00339	10/13/19		Cambridge, Lot SDFB-007		(Purchased Reagent)		Decachlorobiphenyl-13C12	40 ug/mL
.SM-680istd_00045	10/13/19	10/13/18	Hexane, Lot 135581	10 mL	Chrys-12_00030	125 uL	Chrysene-d12	25 ug/mL
					Phenan-d10_00038	250 uL	Phenanthrene-d10	25 ug/mL
..Chrys-12_00030	10/13/19		ultra, Lot cs-2540		(Purchased Reagent)		Chrysene-d12	2000 ug/mL
..Phenan-d10_00038	10/13/19		ultra, Lot CM-4742		(Purchased Reagent)		Phenanthrene-d10	1000 ug/mL
680isomerCal5_00020	02/28/19	10/13/18	Hexane, Lot 00207	2 mL	680conCAL_00154	200 uL	DCB Decachlorobiphenyl	25 ug/mL
							Heptachlorobiphenyl	15 ug/mL
							Hexachlorobiphenyl	10 ug/mL
							Monochlorobiphenyl	5 ug/mL
							Octachlorobiphenyl	15 ug/mL
							Total Dichlorobiphenyls	5 ug/mL
							Total Pentachlorobiphenyls	10 ug/mL
							Total Tetrachlorobiphenyls	10 ug/mL
							Total Trichlorobiphenyls	5 ug/mL
					DB(680)SUR_00339	1000 uL	Decachlorobiphenyl-13C12	20 ug/mL
					SM-680istd_00045	60 uL	Chrysene-d12	0.75 ug/mL
							Phenanthrene-d10	0.75 ug/mL
.680conCAL_00154	10/13/19		ULTRA, Lot CM-5140		(Purchased Reagent)		DCB Decachlorobiphenyl	250 ug/mL
							Heptachlorobiphenyl	150 ug/mL
							Hexachlorobiphenyl	100 ug/mL
							Monochlorobiphenyl	50 ug/mL
							Octachlorobiphenyl	150 ug/mL
							Total Dichlorobiphenyls	50 ug/mL
							Total Pentachlorobiphenyls	100 ug/mL
							Total Tetrachlorobiphenyls	100 ug/mL
							Total Trichlorobiphenyls	50 ug/mL
.DB(680)SUR_00339	10/13/19		Cambridge, Lot SDFB-007		(Purchased Reagent)		Decachlorobiphenyl-13C12	40 ug/mL

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.SM-680istd_00045	10/13/19	10/13/18	Hexane, Lot 135581	10 mL	Chrys-12_00030	125 uL	Chrysene-d12	25 ug/mL
					Phenan-d10_00038	250 uL	Phenanthrene-d10	25 ug/mL
..Chrys-12_00030	10/13/19		ultra, Lot cs-2540		(Purchased Reagent)		Chrysene-d12	2000 ug/mL
..Phenan-d10_00038	10/13/19		ultra, Lot CM-4742		(Purchased Reagent)		Phenanthrene-d10	1000 ug/mL
680isomerCal6_00002	02/28/19	10/13/18	Hexane, Lot 00207	2 mL	680conCAL_00154	2 uL	DCB Decachlorobiphenyl	0.25 ug/mL
							Heptachlorobiphenyl	0.15 ug/mL
							Hexachlorobiphenyl	0.1 ug/mL
							Monochlorobiphenyl	0.05 ug/mL
							Octachlorobiphenyl	0.15 ug/mL
							Total Dichlorobiphenyls	0.05 ug/mL
							Total Pentachlorobiphenyls	0.1 ug/mL
							Total Tetrachlorobiphenyls	0.1 ug/mL
							Total Trichlorobiphenyls	0.05 ug/mL
					DB(680)SUR_00339	12.5 uL	Decachlorobiphenyl-13C12	0.25 ug/mL
					SM-680istd_00045	60 uL	Chrysene-d12	0.75 ug/mL
							Phenanthrene-d10	0.75 ug/mL
.680conCAL_00154	10/13/19		ULTRA, Lot CM-5140		(Purchased Reagent)		DCB Decachlorobiphenyl	250 ug/mL
							Heptachlorobiphenyl	150 ug/mL
							Hexachlorobiphenyl	100 ug/mL
							Monochlorobiphenyl	50 ug/mL
							Octachlorobiphenyl	150 ug/mL
							Total Dichlorobiphenyls	50 ug/mL
							Total Pentachlorobiphenyls	100 ug/mL
							Total Tetrachlorobiphenyls	100 ug/mL
							Total Trichlorobiphenyls	50 ug/mL
.DB(680)SUR_00339	10/13/19		Cambridge, Lot SDFB-007		(Purchased Reagent)		Decachlorobiphenyl-13C12	40 ug/mL
.SM-680istd_00045	10/13/19	10/13/18	Hexane, Lot 135581	10 mL	Chrys-12_00030	125 uL	Chrysene-d12	25 ug/mL
					Phenan-d10_00038	250 uL	Phenanthrene-d10	25 ug/mL
..Chrys-12_00030	10/13/19		ultra, Lot cs-2540		(Purchased Reagent)		Chrysene-d12	2000 ug/mL
..Phenan-d10_00038	10/13/19		ultra, Lot CM-4742		(Purchased Reagent)		Phenanthrene-d10	1000 ug/mL
680wkSPIKE_00119	03/27/19	12/27/18	ACETONE, Lot 5707478	10 mL	680conCAL_00148	400 uL	DCB Decachlorobiphenyl	10 ug/mL
							Heptachlorobiphenyl	6 ug/mL
							Hexachlorobiphenyl	4 ug/mL
							Monochlorobiphenyl	2 ug/mL
							Octachlorobiphenyl	6 ug/mL
							Total Dichlorobiphenyls	2 ug/mL
							Total Pentachlorobiphenyls	4 ug/mL
							Total Tetrachlorobiphenyls	4 ug/mL
							Total Trichlorobiphenyls	2 ug/mL
					EX-NONA(208)_00068	1 mL	Nonachlorobiphenyl	10 ug/mL
							Nonachlorobiphenyl range	10 ug/mL
							PCB-208	10 ug/mL
.680conCAL_00148	04/07/19		ULTRA, Lot CM-5140		(Purchased Reagent)		DCB Decachlorobiphenyl	250 ug/mL
							Heptachlorobiphenyl	150 ug/mL
							Hexachlorobiphenyl	100 ug/mL
							Monochlorobiphenyl	50 ug/mL
							Octachlorobiphenyl	150 ug/mL

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Total Dichlorobiphenyls	50 ug/mL
							Total Pentachlorobiphenyls	100 ug/mL
							Total Tetrachlorobiphenyls	100 ug/mL
							Total Trichlorobiphenyls	50 ug/mL
.EX-NONA(208)_00068	04/07/19		ULTRA, Lot CP-5808		(Purchased Reagent)		Nonachlorobiphenyl	100 ug/mL
							Nonachlorobiphenyl range	100 ug/mL
							PCB-208	100 ug/mL
680wkSPIKE_00120	04/17/19	01/17/19	ACETONE, Lot 5707478	10 mL	680conCAL_00147	400 uL	DCB Decachlorobiphenyl	10 ug/mL
							Heptachlorobiphenyl	6 ug/mL
							Hexachlorobiphenyl	4 ug/mL
							Monochlorobiphenyl	2 ug/mL
							Octachlorobiphenyl	6 ug/mL
							Total Dichlorobiphenyls	2 ug/mL
							Total Pentachlorobiphenyls	4 ug/mL
							Total Tetrachlorobiphenyls	4 ug/mL
							Total Trichlorobiphenyls	2 ug/mL
					EX-NONA(208)_00069	1 mL	Nonachlorobiphenyl	10 ug/mL
							Nonachlorobiphenyl range	10 ug/mL
							PCB-208	10 ug/mL
.680conCAL_00147	10/31/19		ULTRA, Lot CM-5140		(Purchased Reagent)		DCB Decachlorobiphenyl	250 ug/mL
							Heptachlorobiphenyl	150 ug/mL
							Hexachlorobiphenyl	100 ug/mL
							Monochlorobiphenyl	50 ug/mL
							Octachlorobiphenyl	150 ug/mL
							Total Dichlorobiphenyls	50 ug/mL
							Total Pentachlorobiphenyls	100 ug/mL
							Total Tetrachlorobiphenyls	100 ug/mL
							Total Trichlorobiphenyls	50 ug/mL
.EX-NONA(208)_00069	04/17/19		ULTRA, Lot CP-5808		(Purchased Reagent)		Nonachlorobiphenyl	100 ug/mL
							Nonachlorobiphenyl range	100 ug/mL
							PCB-208	100 ug/mL
680wkSURR-NEW_00034	03/03/19	12/27/18	ACETONE, Lot 5315641	50 mL	DB(680)SUR_00356	125 uL	Decachlorobiphenyl-13C12	2.5 ug/mL
					DB(680)SUR_00357	3 mL	Decachlorobiphenyl-13C12	2.5 ug/mL
.DB(680)SUR_00356	03/03/19		Cambridge, Lot SDGF-025		(Purchased Reagent)		Decachlorobiphenyl-13C12	40 ug/mL
.DB(680)SUR_00357	03/27/19		Cambridge, Lot SDGF-025		(Purchased Reagent)		Decachlorobiphenyl-13C12	40 ug/mL
SM-680istd_00045	10/13/19	10/13/18	Hexane, Lot 135581	10 mL	Chrys-12_00030	125 uL	Chrysene-d12	25 ug/mL
					Phenan-d10_00038	250 uL	Phenanthrene-d10	25 ug/mL
.Chrys-12_00030	10/13/19		ultra, Lot cs-2540		(Purchased Reagent)		Chrysene-d12	2000 ug/mL
.Phenan-d10_00038	10/13/19		ultra, Lot CM-4742		(Purchased Reagent)		Phenanthrene-d10	1000 ug/mL
SM680dftpp_00038							Polychlorinated biphenyls, Total	
					8270TUNE_00216	50 uL	DFTPP	10 ug/mL
.8270TUNE_00216	02/28/19		restek, Lot a0138460		(Purchased Reagent)		DFTPP	1000 ug/mL
SM680WDM_00031	10/13/19	10/13/18	Hexane, Lot EX HEXANE00007	10 mL	PCB Elut_00103	100 uL	DCB Decachlorobiphenyl	1 ug/mL
.PCB Elut_00103	09/21/18		ULTRA SCIENTIFIC, Lot cr-2703		(Purchased Reagent)		DCB Decachlorobiphenyl	100 ug/mL

Reagent

680conCAL_00147

Certificate of Analysis

Concentration Calibration Standard Mixture

Product Number: CB-681MN **Page:** 1 of 1

Lot Number: CM-5140 **Lot Issue Date:** 29-Sep-2015 **Expiration Date:** 31-Oct-2019

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
2-chlorobiphenyl (BZ # 1)	002051-60-7	RM00451	50.2 ± 0.3 µg/mL
2,3-dichlorobiphenyl (BZ # 5)	016605-91-7	NT00011	50.0 ± 0.3 µg/mL
2,4,5-trichlorobiphenyl (BZ # 29)	015862-07-4	RM07168	50.2 ± 0.3 µg/mL
2,2',4,6-tetrachlorobiphenyl (BZ # 50)	062796-65-0	NT00017	100.4 ± 0.5 µg/mL
2,2',3,4,5'-pentachlorobiphenyl (BZ # 87)	038380-02-8	NT00062	99.7 ± 0.5 µg/mL
2,2',4,4',5,6'-hexachlorobiphenyl (BZ # 154)	060145-22-4	NT00031	99.8 ± 0.5 µg/mL
2,2',3,4',5,6,6'-heptachlorobiphenyl (BZ # 188)	074487-85-7	NT00067	150.5 ± 0.8 µg/mL
2,2',3,3',4,5',6,6'-octachlorobiphenyl (BZ # 200)	040186-71-8	RM00694	150.7 ± 0.8 µg/mL
decachlorobiphenyl (BZ # 209)	002051-24-3	RM01256	251.0 ± 1.3 µg/mL

Matrix: hexane

Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

ISO 9001
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William J. Leary
Quality Assurance Manager

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Reagent

680conCAL_00148

Certificate of Analysis

Concentration Calibration Standard Mixture

Product Number: CB-681MN **Page:** 1 of 1

Lot Number: CM-5140 **Lot Issue Date:** 29-Sep-2015 **Expiration Date:** 31-Oct-2019

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
2-chlorobiphenyl (BZ # 1)	002051-60-7	RM00451	50.2 ± 0.3 µg/mL
2,3-dichlorobiphenyl (BZ # 5)	016605-91-7	NT00011	50.0 ± 0.3 µg/mL
2,4,5-trichlorobiphenyl (BZ # 29)	015862-07-4	RM07168	50.2 ± 0.3 µg/mL
2,2',4,6-tetrachlorobiphenyl (BZ # 50)	062796-65-0	NT00017	100.4 ± 0.5 µg/mL
2,2',3,4,5'-pentachlorobiphenyl (BZ # 87)	038380-02-8	NT00062	99.7 ± 0.5 µg/mL
2,2',4,4',5,6'-hexachlorobiphenyl (BZ # 154)	060145-22-4	NT00031	99.8 ± 0.5 µg/mL
2,2',3,4',5,6,6'-heptachlorobiphenyl (BZ # 188)	074487-85-7	NT00067	150.5 ± 0.8 µg/mL
2,2',3,3',4,5',6,6'-octachlorobiphenyl (BZ # 200)	040186-71-8	RM00694	150.7 ± 0.8 µg/mL
decachlorobiphenyl (BZ # 209)	002051-24-3	RM01256	251.0 ± 1.3 µg/mL

Matrix: hexane

Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

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William J. Leary
Quality Assurance Manager

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Reagent

680conCAL_00154

Certificate of Analysis

Concentration Calibration Standard Mixture

Product Number: CB-681MN **Page:** 1 of 1

Lot Number: CM-5140 **Lot Issue Date:** 29-Sep-2015 **Expiration Date:** 31-Oct-2019

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
2-chlorobiphenyl (BZ # 1)	002051-60-7	RM00451	50.2 ± 0.3 µg/mL
2,3-dichlorobiphenyl (BZ # 5)	016605-91-7	NT00011	50.0 ± 0.3 µg/mL
2,4,5-trichlorobiphenyl (BZ # 29)	015862-07-4	RM07168	50.2 ± 0.3 µg/mL
2,2',4,6-tetrachlorobiphenyl (BZ # 50)	062796-65-0	NT00017	100.4 ± 0.5 µg/mL
2,2',3,4,5'-pentachlorobiphenyl (BZ # 87)	038380-02-8	NT00062	99.7 ± 0.5 µg/mL
2,2',4,4',5,6'-hexachlorobiphenyl (BZ # 154)	060145-22-4	NT00031	99.8 ± 0.5 µg/mL
2,2',3,4',5,6,6'-heptachlorobiphenyl (BZ # 188)	074487-85-7	NT00067	150.5 ± 0.8 µg/mL
2,2',3,3',4,5',6,6'-octachlorobiphenyl (BZ # 200)	040186-71-8	RM00694	150.7 ± 0.8 µg/mL
decachlorobiphenyl (BZ # 209)	002051-24-3	RM01256	251.0 ± 1.3 µg/mL

Matrix: hexane

Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

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William J. Leary
Quality Assurance Manager

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Reagent

8270TUNE_00216

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31615 **Lot No.:** A0138460

Description : GC/MS Tuning Mixture

GC/MS Tuning Mixture 1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2021 **Storage:** 10°C or colder

Handling: Contains carcinogen/reproductive toxin.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Pentachlorophenol	1,005.5 µg/mL	+/- 5.9007 µg/mL	Gravimetric
	CAS # 87-86-5 (Lot 170717KJA)		+/- 45.7988 µg/mL	Unstressed
	Purity 99%		+/- 66.1273 µg/mL	Stressed
2	DFTPP (Decafluorotriphenylphosphine)	1,005.4 µg/mL	+/- 5.9003 µg/mL	Gravimetric
	CAS # 5074-71-5 (Lot Q15B005)		+/- 45.7952 µg/mL	Unstressed
	Purity 99%		+/- 66.1220 µg/mL	Stressed
3	Benzidine	1,006.5 µg/mL	+/- 5.9068 µg/mL	Gravimetric
	CAS # 92-87-5 (Lot 180406JNA)		+/- 45.8462 µg/mL	Unstressed
	Purity 99%		+/- 66.1957 µg/mL	Stressed
4	4,4'-DDT	1,005.4 µg/mL	+/- 5.9000 µg/mL	Gravimetric
	CAS # 50-29-3 (Lot S37912V)		+/- 45.7934 µg/mL	Unstressed
	Purity 99%		+/- 66.1194 µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

Chrys-12_00030

Certificate of Analysis

Agilent

Chrysene-d12 Solution

Product Number: ATS-120 **Page:** 1 of 1

Lot Number: CS-2540 **Lot Issue Date:** 11-May-2018 **Expiration Date:** 30-Jun-2022

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
chrysene-d12	001719-03-5	RM11825	2006 ± 10 µg/mL

Matrix: methylene chloride (dichloromethane)

Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

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Reagent

DB(680)SUR_00339

Cambridge Isotope Laboratories, Inc.

Certificate of Analysis

Quality Standards:
ISO Guide 34 • ISO/IEC 17025 • ISO 13485 • cGMP

Product Description: DecaCB (PCB-209) ($^{13}C_{12}$, 99%)
Catalog Number: EC-1410-1.2 (1.2 mL size)
Catalog Number: EC-1410-3 (3 mL size)
Lot Number: SDFB-007
Solvent: n-Nonane
Volume per Ampoule: 1.2 mL or 3 mL
Storage Conditions: Store at room temperature, protect from light.
Intended Use: For laboratory use only.
Release Date: April 23, 2015
Expiration Date: April 23, 2025

Component	PCB #	Purity	Target Concentration (µg/mL)	Concentration by Gravimetry (µg/mL)	Analyzed Concentration ± Uncertainty, k=2 (µg/mL)
DecaCB ($^{13}C_{12}$, 99%)	209	99.9%	40 ± 2	40.2	39.6 ± 1.5

Notes:

- CB = chlorobiphenyl. Enriched isotope abundances are given as the atom percent.
- For more information regarding this numbering system see K. Ballschmiter and M. Zell, "Analysis of Polychlorinated Biphenyls by Capillary Gas Chromatography," Fresenius Z. Analytical Chemistry, 302, 20-31 (1980).
- Chemical Purity was determined using a Shimadzu GC-17A gas chromatograph with electron capture detection or a Hewlett Packard 5973 GC/MS system.
- The analyzed concentration was determined by comparison of the isotope-labeled solution to an equivalent, gravimetrically prepared, unlabeled standard.
- The uncertainty value reported for the concentration is the expanded uncertainty, coverage factor (k) = 2.
- The calculation and reporting of uncertainty conforms to the practices outlined in the Eurachem/CITAC Guide. "Quantifying Uncertainty in Analytical Measurement", Second Edition.

Cambridge Isotope Laboratories certifies that this product meets the concentration specification stated above. Volumetric measurements were made with Class A glassware. Gravimetry is traceable to the NIST through calibrated balances and certified, calibrated, standard weights. The calibrations are traceable to the NIST under Test No. 822/270236-04. The calibrations also meet specifications outlined in ISO 9001, ISO/IEC 17025, ANSI/NSCLZ540-1-1994, NCR Document 10CFR50 Appendix B, and applicable subdocuments. For further information see Daniel L. Bolt and Joel C. Bradley "The Preparation and Validation of Isotope Dilution Standards: A Case Study in PCBs", Reference Material for Environmental Analysis, Chap. 2, p. 15-23 (1997).

Authorized Signature: Thomas Dorsey
Quality Review

Product Description:	DecaCB (PCB-209) ($^{13}C_{12}$, 99%)
Catalog Number:	EC-1410-1.2 (1.2 mL size)
Catalog Number:	EC-1410-3 (3 mL size)
Lot Number:	SDFB-007
Solvent:	n-Nonane
Volume per Ampoule:	1.2 mL or 3 mL
Storage Conditions:	Store at room temperature, protect from light.
Intended Use:	For laboratory use only.
Release Date:	April 23, 2015
Expiration Date:	April 23, 2025

Component	PCB #	Purity	Target Concentration (µg/mL)	Concentration by Gravimetry (µg/mL)	Analyzed Concentration ± Uncertainty, k=2 (µg/mL)
DecaCB ($^{13}C_{12}$, 99%)	209	99.9%	40 ± 2	40.2	39.6 ± 1.5

Notes:

- CB = chlorobiphenyl. Enriched isotope abundances are given as the atom percent.
- For more information regarding this numbering system see K. Ballschmiter and M. Zell, "Analysis of Polychlorinated Biphenyls by Capillary Gas Chromatography," Fresenius Z. Analytical Chemistry, 302, 20-31 (1980).
- Chemical Purity was determined using a Shimadzu GC-17A gas chromatograph with electron capture detection or a Hewlett Packard 5973 GC/MS system.
- The analyzed concentration was determined by comparison of the isotope-labeled solution to an equivalent, gravimetrically prepared, unlabeled standard.
- The uncertainty value reported for the concentration is the expanded uncertainty, coverage factor (k) = 2.
- The calculation and reporting of uncertainty conforms to the practices outlined in the Eurachem/CITAC Guide. "Quantifying Uncertainty in Analytical Measurement", Second Edition.

Cambridge Isotope Laboratories certifies that this product meets the concentration specification stated above. Volumetric measurements were made with Class A glassware. Gravimetry is traceable to the NIST through calibrated balances and certified, calibrated, standard weights. The calibrations are traceable to the NIST under Test No. 822/270236-04. The calibrations also meet specifications outlined in ISO 9001, ISO/IEC 17025, ANSI/NSCLZ540-1-1994, NCR Document 10CFR50 Appendix B, and applicable subdocuments. For further information see Daniel L. Bolt and Joel C. Bradley "The Preparation and Validation of Isotope Dilution Standards: A Case Study in PCBs", Reference Material for Environmental Analysis, Chap. 2, p. 15-23 (1997).

Authorized Signature: Thomas Dorsey
Quality Review

Reagent

DB(680)SUR_00358

Certificate of Analysis

10/23

Product Description:	DecaCB (PCB-209) ($^{13}C_{12}$, 99%)
Catalog Number:	EC-1410-1.2 (1.2 mL size)
Catalog Number:	EC-1410-3 (3 mL size)
Lot Number:	SDGF-025
Solvent:	n-Nonane
Volume per Ampoule:	1.2 mL or 3 mL
Storage Conditions:	Store at room temperature away from light and moisture.
Intended Use:	For laboratory use only.
Release Date:	August 3, 2016
Expiration Date:	August 3, 2026

Component	PCB #	Purity	Target Concentration (µg/mL)	Concentration by Gravimetry ± Uncertainty, (k=2) (µg/mL)	Analyzed Concentration ± Uncertainty, (k=2) (µg/mL)
DecaCB ($^{13}C_{12}$, 99%)	209	99.9%	40.0	40.0 ± 0.4	40.4 ± 2.0

Notes:

- CB = chlorobiphenyl. Enriched isotope abundances are given as the atom percent.
- For more information regarding this numbering system see K. Ballschmiter and M. Zell, "Analysis of Polychlorinated Biphenyls by Capillary Gas Chromatography," Fresenius Z. Analytical Chemistry, 302, 20-31 (1980).
- Chemical Purity was determined using a Shimadzu GC-17A gas chromatograph with electron capture detection or a Hewlett Packard 5973 GC/MS system.
- The analyzed concentration was determined by comparison of the isotope-labeled solution to an equivalent, gravimetrically prepared, unlabeled standard.
- The uncertainty value reported for the concentration is the expanded uncertainty, coverage factor (k) = 2.
- The calculation and reporting of uncertainty conforms to the practices outlined in the Eurachem/CITAC Guide. "Quantifying Uncertainty in Analytical Measurement", Second Edition.

Cambridge Isotope Laboratories certifies that this product meets the concentration specification stated above. Volumetric measurements were made with Class A glassware. Gravimetry is traceable to the NIST through calibrated balances and certified, calibrated, standard weights. The calibrations are traceable to the NIST under Test No. 822/270236-04. The calibrations also meet specifications outlined in ISO 9001, ISO/IEC 17025, ANSI/NSCLZ540-1-1994, NCR Document 10CFR50 Appendix B, and applicable subdocuments. For further information see Daniel L. Bolt and Joel C. Bradley "The Preparation and Validation of Isotope Dilution Standards: A Case Study in PCBs", Reference Material for Environmental Analysis, Chap. 2, p. 15-23 (1997).

Authorized Signature: Sashi Sivendran-Basak

Quality Review

Reagent

EX-NONA(208)_00068

Certificate of Analysis

Agilent

2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl Solution

Product Number: RPC-081S **Page:** 1 of 1

Lot Number: CP-5808 **Lot Issue Date:** 29-Nov-2016 **Expiration Date:** 31-Dec-2020

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
2,2',3,3',4,5,5',6,6'-nonachlorobiphenyl (BZ # 208)	052663-77-1	RM00313	100.1 ± 0.5 µg/mL

Matrix: hexane

Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

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Reagent

PCB Elut_00103

Certificate of Analysis

PCB Elution Window Mixture

Product Number: RPCW-110 **Page:** 1 of 1

Lot Number: CR-2703 **Lot Issue Date:** 16-Jun-2017 **Expiration Date:** 31-Jul-2025

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
decachlorobiphenyl (BZ # 209)	002051-24-3	RM01256	100.0 ± 0.5 µg/mL

Matrix: hexane

Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

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Reagent

PCB RTmix_00013

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

Retention Time Calibration Standard Mixture

Product Number CB-682MN **Page:** 1 of 1

Lot Number: CM-0434 **Lot Issue Date:** 02-Feb-2015 **Expiration Date:** 28-Feb-2019

This certified Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
3,3',4,4'-tetrachlorobiphenyl (BZ # 77)	032598-13-3	RM09725	100.3 ± 0.5 µg/mL
2,2',4,6,6'-pentachlorobiphenyl (BZ # 104)	056558-16-8	NT00027	100.4 ± 0.5 µg/mL
2,2',3,3',4,5,5',6,6'-nonachlorobiphenyl (BZ # 208)	052663-77-1	RM00313	200.6 ± 1.0 µg/mL

Matrix: hexane

Storage: Store at Room Temperature (15-30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

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William J Leahy
Quality Assurance Manager

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Reagent

PCB RTmixa_00030

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New Haven, CT 06513
USA

AccuStandard® Inc.

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CERTIFICATE OF ANALYSIS

Catalog No: M-680-RT
Description: Retention Time Calibration Standard
Lot: 215031484
Solvent: Hexane
Hazards: **HIGHLY FLAMMABLE** - *Refer to SDS for safety info*

Danger 2

Date Certified: Apr 6, 2015
Expiration: Apr 6, 2025
Sample Size: 1 mL
Components: 3
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
3,3',4,4'-Tetrachlorobiphenyl	32598-13-3	99.5	100.1	99.6
2,2',4,6,6'-Pentachlorobiphenyl	56558-16-8	99.1	100.5	99.6
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	52663-77-1	99.1	200.3	198.5

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. The CRM Uncertainty calculated for this product is ±5%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values:
A comma (,) is used to separate units of one-thousand or greater.
A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By: _____
Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/INO-001
Rev. 7/11

CERTIFICATION REPORT

1. **Quality Documentation:** This certificate is designed in accordance with ISO Guide 31 (Reference Materials - Contents of Certificates and Labels) and ISO Guide 35 (Reference Materials – General and Statistical Principles for Certification).

2. **Quality Standards:**

   ISO Guide 34 - General Requirements for the Competence of Reference Material Producers ACLASS Certificate Number AR-1463

   AR-1463

   ISO/IEC 17025:2005 - General Requirements for the Competence of Testing and Calibration Laboratories ACLASS Certificate Number AT-1339

   AT-1339

   ISO 9001:2008 Quality Management System - Requirements Eagle Registrations Certificate Number 3774

3. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 11. If dilution is required, use only Class A glassware and diluent compatible with all certified analytes in this preparation. All solutions should be thoroughly mixed prior to use.

4. **Raw Materials:** Reference standards are prepared from the highest quality starting materials with defined purities. All analytes and solvents are obtained from pre-qualified vendors and then analyzed or evaluated prior to use.

5. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this CRM.

6. **Homogeneity Assessment:** Homogeneity of the finished product is assessed by analyzing sample batches or by other methods consistent with the intended use of the product and by procedures that comply with the appropriate Quality System requirements, and ISO Guide 35.

7. **Stability Assessment:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label. To ensure a uniform solution, mix the contents of the sealed container thoroughly prior to use. Care should be taken not to contaminate the contents of the original container.

8. **Analytical Quality Control:** Products are tested by validated analytical methods specified in the manufacturer's quality system.

9. **Uncertainty Statistics and Confidence Limits:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide (Quantifying Uncertainty in Analytical Measurement). We have evaluated both Type A (based on a series of observations) and Type B (manufacturers specifications and calibration data) factors and report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_{\mathrm{m}} = \sqrt{(u(\mathrm{P}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{V}))^2}$. The expanded uncertainty, U, assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level. Laboratories accredited to ISO/IEC 17025 and ISO Guide 34 are required to estimate uncertainty budgets associated with the measurements they make. However, for analysis, the certified value should be used as the actual value.

10. **Warranties:** The manufacturer warrants that its products shall conform to the description of such products as provided in its catalog or on the specific product label. This warranty is exclusive, and the manufacturer makes no other warranty, express or implied, including any implied warranty of merchantability or fitness for any particular purpose.

11. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. Due to the hazardous nature, only trained personnel should handle this product. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

Reagent

Phenan-d10_00038

Certificate of Analysis

Phenanthrene-d10 Solution

Product Number: IST-230 **Page:** 1 of 1

Lot Number: CM-4742 **Lot Issue Date:** 11-Sep-2015 **Expiration Date:** 31-Oct-2019

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
phenanthrene-d10	001517-22-2	RM09918	1004 ± 5 µg/mL

Matrix: methylene chloride (dichloromethane)

Storage: Store at Room Temperature (15-30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

ISO 9001
Registered
TUV USA, Inc.

William J. Leary
Quality Assurance Manager

250 SMITH STREET ▪ NORTH KINGSTOWN, RHODE ISLAND 02852 ▪ WWW.ULTRASCI.COM

Method 680

Polychlorinated Biphenyls (PCBs) (GC/MS) by Method 680

FORM II
PCBS SURROGATE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): HP-5MS ID: 0.25(mm)

Client Sample ID	Lab Sample ID	13CDCB #
Lot Bottle Blank	680-163273-1	76
	MB 680-555398/2-A	80
	LCS 680-555398/3-A	92
	LCSD 680-555398/4-A	86

	QC LIMITS
13CDCB = Decachlorobiphenyl-13C12	25-113

Column to be used to flag recovery values

FORM II 680

FORM III
PCBS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Matrix: Water Level: Low Lab File ID: xa1810.D

Lab ID: LCS 680-555398/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Heptachlorobiphenyl	6.00	8.55	142	62-130	*
Hexachlorobiphenyl	4.00	6.26	156	62-130	*
Nonachlorobiphenyl	10.0	22.0	220	70-195	*
Octachlorobiphenyl	6.00	9.33	156	64-130	*
Monochlorobiphenyl	2.00	2.43	122	42-130	
DCB Decachlorobiphenyl	10.0	14.2	142	59-130	*
Total Dichlorobiphenyls	2.00	2.72	136	49-130	*
Total Pentachlorobiphenyls	4.00	6.26	157	63-130	*
Total Tetrachlorobiphenyls	4.00	5.74	144	54-130	*
Total Trichlorobiphenyls	2.00	2.90	145	51-130	*

Column to be used to flag recovery and RPD values

FORM III 680

FORM III
PCBS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Matrix: Water Level: Low Lab File ID: xa1811.D

Lab ID: LCSD 680-555398/4-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Heptachlorobiphenyl	6.00	4.89	81	55	40	62-130	*
Hexachlorobiphenyl	4.00	3.54	88	56	40	62-130	*
Nonachlorobiphenyl	10.0	14.7	147	39	40	70-195	
Octachlorobiphenyl	6.00	5.25	88	56	40	64-130	*
Monochlorobiphenyl	2.00	1.53	76	46	40	42-130	*
DCB Decachlorobiphenyl	10.0	8.39	84	51	40	59-130	*
Total Dichlorobiphenyls	2.00	1.60	80	52	40	49-130	*
Total Pentachlorobiphenyls	4.00	3.53	88	56	40	63-130	*
Total Tetrachlorobiphenyls	4.00	3.36	84	52	40	54-130	*
Total Trichlorobiphenyls	2.00	1.63	82	56	40	51-130	*

Column to be used to flag recovery and RPD values

FORM III 680

FORM IV
PCBS METHOD BLANK SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Lab File ID: xa1809.D Lab Sample ID: MB 680-555398/2-A

Matrix: Water Date Extracted: 01/17/2019 13:27

Instrument ID: CMSX Date Analyzed: 01/18/2019 19:16

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 680-555398/3-A	xa1810.D	01/18/2019 19:44
	LCSD 680-555398/4-A	xa1811.D	01/18/2019 20:13
Lot Bottle Blank	680-163273-1	xa1812.D	01/18/2019 20:41

FORM V
PCBS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Lab File ID: xk0701.D DFTPP Injection Date: 11/07/2018

Instrument ID: CMSX DFTPP Injection Time: 12:32

Analysis Batch No.: 546611

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
127	40 - 60 % of mass 198	51.5
197	Less than 1 % of mass 198	0.7
198	Base peak, 100 % Relative abundance	100.0
199	5 - 9 % of mass 198	6.3
275	10 - 30% of mass 198	25.6
365	Greater than 1% of mass 198	4.3
441	Present but less than mass 443	13.6 (77.6) 2
442	Greater than 40% of mass 198	96.3
443	17 - 23% of mass 442	17.5 (18.1) 1

1-Value is % mass 442 2-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	ICISAV 680-546611/3	xk0703.D	11/07/2018	13:33
	IC 680-546611/4	xk0706.D	11/07/2018	15:12
	IC 680-546611/11	xk0707.D	11/07/2018	15:40
	IC 680-546611/12	xk0708.D	11/07/2018	16:09
	IC 680-546611/13	xk0709.D	11/07/2018	16:37
	IC 680-546611/14	xk0710.D	11/07/2018	17:06
	ICV 680-546611/15	xk0711.D	11/07/2018	17:34

FORM V
PCBS INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Lab File ID: xa1802.D DFTPP Injection Date: 01/18/2019

Instrument ID: CMSX DFTPP Injection Time: 14:09

Analysis Batch No.: 555586

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
127	40 - 60 % of mass 198	58.1
197	Less than 1 % of mass 198	1.0
198	Base peak, 100 % Relative abundance	100.0
199	5 - 9 % of mass 198	6.9
275	10 - 30% of mass 198	25.6
365	Greater than 1% of mass 198	4.0
441	Present but less than mass 443	13.3 (80.2) 2
442	Greater than 40% of mass 198	84.0
443	17 - 23% of mass 442	16.6 (19.8) 1

1-Value is % mass 442 2-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	WDM 680-555586/2	xa1803.D	01/18/2019	14:39
	CCVIS 680-555586/3	xa1807.D	01/18/2019	16:35
	MB 680-555398/2-A	xa1809.D	01/18/2019	19:16
	LCS 680-555398/3-A	xa1810.D	01/18/2019	19:44
	LCSD 680-555398/4-A	xa1811.D	01/18/2019	20:13
Lot Bottle Blank	680-163273-1	xa1812.D	01/18/2019	20:41
	CCV 680-555586/9	xa1813.D	01/18/2019	21:10

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Instrument ID: CMSX Calibration Start Date: 11/07/2018 13:33

GC Column: HP-5MS ID: 0.25(mm) Calibration End Date: 11/07/2018 17:06

Calibration ID: 61546

		PHN		CRY			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MEAN AREA AND MEAN RT		182659	12.30	170607	18.56		
UPPER LIMIT		273989	12.80	255911	19.06		
LOWER LIMIT		91330	11.80	85304	18.06		
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 680-546611/15		171986	12.30	140292	18.57		
CCVIS 680-555586/3		159535	12.41	143472	18.67		
MB 680-555398/2-A		162028	12.41	153612	18.67		
LCS 680-555398/3-A		164798	12.41	149327	18.67		
LCSD 680-555398/4-A		174788	12.41	162896	18.67		
680-163273-1	Lot Bottle Blank	144202	12.41	131828	18.67		
CCV 680-555586/9		155735	12.41	141829	18.67		

PHN = Phenanthrene-d10
CRY = Chrysene-d12

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 680

FORM VIII
PCBS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Sample No.: CCVIS 680-555586/3 Date Analyzed: 01/18/2019 16:35

Instrument ID: CMSX GC Column: HP-5MS ID: 0.25(mm)

Lab File ID (Standard): xa1807.D Heated Purge: (Y/N) N

Calibration ID: 63054

		PHN		CRY			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		159535	12.41	143472	18.67		
UPPER LIMIT		207396	12.91	186514	19.17		
LOWER LIMIT		111675	11.91	100430	18.17		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 680-555398/2-A		162028	12.41	153612	18.67		
LCS 680-555398/3-A		164798	12.41	149327	18.67		
LCSD 680-555398/4-A		174788	12.41	162896	18.67		
680-163273-1	Lot Bottle Blank	144202	12.41	131828	18.67		
CCV 680-555586/9		155735	12.41	141829	18.67		

PHN = Phenanthrene-d10
CRY = Chrysene-d12

Area Limit = 70%-130% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 680

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-163273-1

SDG No.:

Client Sample ID: Lot Bottle Blank | Lab Sample ID: 680-163273-1

Matrix: Water | Lab File ID: xa1812.D

Analysis Method: 680 | Date Collected: 01/16/2019 10:15

Extract. Method: 680 | Date Extracted: 01/17/2019 13:27

Sample wt/vol: 1011.5(mL) | Date Analyzed: 01/18/2019 20:41

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 555586 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	ND	*	0.30	0.030
26601-64-9	Hexachlorobiphenyl	ND	*	0.20	0.015
53742-07-7	Nonachlorobiphenyl	ND	*	0.49	0.048
55722-26-4	Octachlorobiphenyl	ND	*	0.30	0.038
27323-18-8	Monochlorobiphenyl	ND	*	0.099	0.0055
2051-24-3	DCB Decachlorobiphenyl	ND	*	0.49	0.069
25512-42-9	Total Dichlorobiphenyls	ND	*	0.099	0.0053
25429-29-2	Total Pentachlorobiphenyls	ND	*	0.20	0.014
26914-33-0	Total Tetrachlorobiphenyls	ND	*	0.20	0.013
25323-68-6	Total Trichlorobiphenyls	ND	*	0.099	0.0064

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	76		25-113

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1812.D
Lims ID: 680-163273-A-1-A
Client ID: Lot Bottle Blank
Sample Type: Client
Inject. Date: 18-Jan-2019 20:41:30 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 680-163273-A-1-A
Misc. Info.: 680-0053301-008
Operator ID: Instrument ID: CMSX

Method: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\680_CMSX.m
Limit Group: 680
Last Update: 20-Jan-2019 12:32:04 Calib Date: 08-Jan-2019 18:02:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: davisn Date: 20-Jan-2019 12:32:14

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	144202	0.7500	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	131828	0.7500	
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	34	18070	1.91	

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	144202	0.7500			
189	12.409	12.409	0.0		21347		5.9- 7.5	6.8	
* 15 Chrysene-d12									
240	18.668	18.668	0.0	100	131828	0.7500			
241	18.668	18.668	0.0		25195		4.3- 5.9	5.2	
$ 22 Decachlorobiphenyl-13C12									
510	21.796	21.796	0.0	34	18070	1.91			
512	21.796	21.796	0.0		14146		0.9- 1.3	1.3	

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

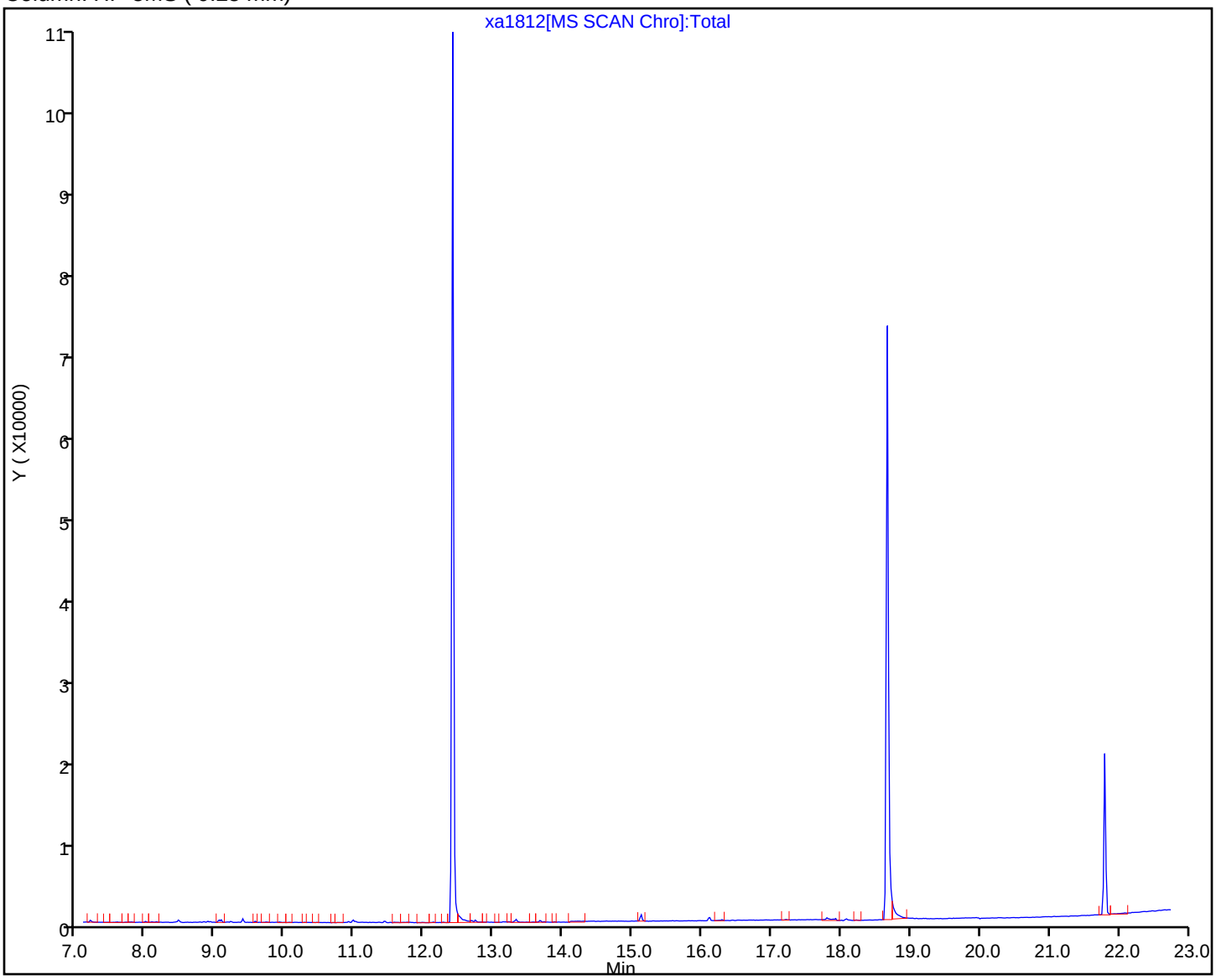
Report Date: 20-Jan-2019 12:32:15 Chrom Revision: 2.3 13-Dec-2018 17:23:12

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1812.D

Injection Date:	18-Jan-2019 20:41:30	Instrument ID:	CMSX		
Lims ID:	680-163273-A-1-A	Lab Sample ID:	680-163273-1		
Client ID:	Lot Bottle Blank				
Operator ID:		ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah
Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1812.D				
Lims ID:	680-163273-A-1-A				
Client ID:	Lot Bottle Blank				
Sample Type:	Client				
Inject. Date:	18-Jan-2019 20:41:30	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-163273-A-1-A				
Misc. Info.:	680-0053301-008				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190118-53301.b\680_CMSX.m				
Limit Group:	680				
Last Update:	20-Jan-2019 12:32:04	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0323				

First Level Reviewer: davisn Date: 20-Jan-2019 12:32:14

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	1.91	76.30

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Savannah Job No.: 680-163273-1 Analy Batch No.: 546611

SDG No.:

Instrument ID: CMSX GC Column: HP-5MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/07/2018 13:33 Calibration End Date: 11/07/2018 17:06 Calibration ID: 61546

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-546611/14	xk0710.D
Level 2	IC 680-546611/13	xk0709.D
Level 3	IC 680-546611/12	xk0708.D
Level 4	ICISAV 680-546611/3	xk0703.D
Level 5	IC 680-546611/11	xk0707.D
Level 6	IC 680-546611/4	xk0706.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Monochlorobiphenyl	0.9108 0.8416	0.9802	0.9313	0.9369	0.7037	Ave		0.8841				11.2		20.0			
Total Dichlorobiphenyls	0.5964 0.5881	0.6423	0.6270	0.6409	0.5052	Ave		0.6000				8.6		20.0			
Total Trichlorobiphenyls	0.4212 0.4257	0.4565	0.4288	0.4529	0.3659	Ave		0.4252				7.7		20.0			
PCB-104				0.3985		Ave		0.3985						30.0			
Total Tetrachlorobiphenyls	0.3004 0.3071	0.3311	0.3291	0.3353	0.2635	Ave		0.3111				8.7		20.0			
Total Pentachlorobiphenyls	0.2150 0.2427	0.2331	0.2414	0.2570	0.2116	Ave		0.2335				7.5		20.0			
PCB-77				0.4889		Ave		0.4889						30.0			
Hexachlorobiphenyl	0.2279 0.2512	0.2468	0.2550	0.2750	0.2206	Ave		0.2461				8.0		20.0			
Heptachlorobiphenyl	0.2701 0.2213	0.2658	0.2282	0.2397	0.1940	Ave		0.2365				12.1		20.0			
Octachlorobiphenyl	0.1909 0.2059	0.2077	0.2099	0.2148	0.1831	Ave		0.2020				6.1		20.0			
PCB-208				0.0820		Ave		0.0820						30.0			
Nonachlorobiphenyl				0.0658		Ave		0.0444				11.6		20.0			
DCB Decachlorobiphenyl	0.0364 0.0500	0.0411	0.0443	0.0493	0.0451	Ave		0.0444				11.6		20.0			
Decachlorobiphenyl-13C12	0.0412 0.0594	0.0468	0.0585	0.0588	0.0544	Ave		0.0532				14.2		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Savannah Job No.: 680-163273-1 Analy Batch No.: 546611

SDG No.:

Instrument ID: CMSX GC Column: HP-5MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/07/2018 13:33 Calibration End Date: 11/07/2018 17:06 Calibration ID: 61546

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-546611/14	xk0710.D
Level 2	IC 680-546611/13	xk0709.D
Level 3	IC 680-546611/12	xk0708.D
Level 4	ICISAV 680-546611/3	xk0703.D
Level 5	IC 680-546611/11	xk0707.D
Level 6	IC 680-546611/4	xk0706.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Monochlorobiphenyl	CRY	Ave	8598 1123962	17755	96712	191582	444271	0.0500 5.00	0.100	0.500	1.00	2.00
Total Dichlorobiphenyls	CRY	Ave	5630 785435	11635	65115	131055	318959	0.0500 5.00	0.100	0.500	1.00	2.00
Total Trichlorobiphenyls	CRY	Ave	3976 568519	8269	44525	92606	231006	0.0500 5.00	0.100	0.500	1.00	2.00
PCB-104	CRY	Ave				162987					2.00	
Total Tetrachlorobiphenyls	CRY	Ave	5672 820280	11993	68346	137111	332705	0.100 10.0	0.200	1.00	2.00	4.00
Total Pentachlorobiphenyls	CRY	Ave	4059 648334	8446	50131	105118	267163	0.100 10.0	0.200	1.00	2.00	4.00
PCB-77	CRY	Ave				199923					2.00	
Hexachlorobiphenyl	CRY	Ave	4303 671022	8939	52953	112466	278590	0.100 10.0	0.200	1.00	2.00	4.00
Heptachlorobiphenyl	CRY	Ave	7650 886590	14441	71084	147067	367439	0.150 15.0	0.300	1.50	3.00	6.00
Octachlorobiphenyl	CRY	Ave	5405 824822	11289	65375	131782	346847	0.150 15.0	0.300	1.50	3.00	6.00
PCB-208	CRY	Ave				67068					4.00	
Nonachlorobiphenyl	CRY	Ave				67282					5.00	
DCB Decachlorobiphenyl	CRY	Ave	1716 333740	3725	23021	50447	142326	0.250 25.0	0.500	2.50	5.00	10.0
Decachlorobiphenyl-13C12	CRY	Ave	1944 317550	4242	30354	60087	171791	0.250 20.0	0.500	2.50	5.00	10.0

Curve Type Legend:
Ave = Average ISTD

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0703.D
Lims ID: icis
Client ID:
Sample Type: ICIS Calib Level: 3
Inject. Date: 07-Nov-2018 13:33:30 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS
Misc. Info.: 680-0051662-003
Operator ID: Instrument ID: CMSX
Sublist: chrom-680_CMSX*sub13

Method: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\680_CMSX.m
Limit Group: 680
Last Update: 08-Nov-2018 09:12:15 Calib Date: 07-Nov-2018 17:06:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0710.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0317

First Level Reviewer: davisn Date: 08-Nov-2018 08:23:24

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.657	9.160 - 10.154		0	191582	1.06	
A 24 Total Dichlorobiphenyls	222	11.459	10.487 - 12.430		0	131055	1.07	
* 5 Phenanthrene-d10	188	12.305	12.305	0.0	100	172266	0.7500	
A 25 Total Trichlorobiphenyls	256	13.144	11.794 - 14.495		0	92606	1.07	
9 PCB-104	326	14.271	14.271	0.0	83	162987	2.00	
A 26 Total Tetrachlorobiphenyls	292	14.660	12.932 - 16.389		0	137111	2.16	
A 27 Total Pentachlorobiphenyls	326	16.076	14.211 - 17.940		0	105118	2.20	
12 PCB-77	292	16.329	16.329	0.0	94	199923	2.00	
A 28 Total Hexachlorobiphenyls	360	17.364	15.386 - 19.341		0	112466	2.24	
A 29 Total Heptachlorobiphenyls	394	18.502	17.019 - 19.984		0	147067	3.04	
* 15 Chrysene-d12	240	18.567	18.567	0.0	100	153362	0.7500	a
A 30 Total Octachlorobiphenyls	430	19.603	18.526 - 20.679		0	131782	3.19	
19 PCB-208	464	20.161	20.161	0.0	88	67068	4.00	
A 31 Total Nonachlorobiphenyls	464	20.250	18.500 - 22.000		0	67282	7.42	
$ 22 Decachlorobiphenyl-13C12	510	21.672	21.672	0.0	77	60087	5.52	a
32 DCB Decachlorobiphenyl	498	21.672	21.672	0.0	77	50447	5.56	a

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

680isomerCal3_00044 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	S/N	Flags
A 23 Total Monochlorobiphenyls										
188	9.209	9.160 -	10.154	23	191582	1.06				
190	9.223				62645		2.5- 3.5	3.1		
152	9.209				102981		50.7- 50.7	0.6		
153	9.209				46427		23.2- 23.2	1.3		
A 24 Total Dichlorobiphenyls										
222	11.450	10.487 -	12.430	25	131055	1.07				
224	11.450				84157		1.3- 1.7	1.6		
152	11.450				101766		31.7- 111.7	0.8		
153	11.450				13035		0.0- 49.1	6.5		
186	11.450				12819		0.0- 48.9	6.6		
188	11.450				4762		0.0- 43.3	17.7		
* 5 Phenanthrene-d10										
188	12.305	12.305	0.0	100	172266	0.7500				
189	12.305	12.305	0.0		25901		5.9- 7.5	6.7		
A 25 Total Trichlorobiphenyls										
256	12.983	11.794 -	14.495	91	92606	1.07				
258	12.983				88687		0.8- 1.2	1.0		
186	12.968				64724		26.5- 106.5	1.4		
188	12.968				21368		0.0- 61.5	4.2		
A 26 Total Tetrachlorobiphenyls										
292	13.233	12.932 -	16.389	0	137111	2.16				
290	13.233				107081		1.1- 1.5	1.3		
220	13.233				130278		58.1- 138.1	0.8		
222	13.233				82759		22.9- 102.9	1.3		
A 27 Total Pentachlorobiphenyls										
326	16.121	14.211 -	17.940	72	105118	2.20				
324	16.121				65662		1.4- 1.8	1.6		
254	16.121				79358		41.9- 121.9	0.8		
256	16.121				76093		38.2- 118.2	0.9		
258	16.121				25233		0.0- 65.4	2.6		
A 28 Total Hexachlorobiphenyls										
360	16.329	15.386 -	19.341	96	112466	2.24				
362	16.329				89418		1.0- 1.4	1.3		
288	16.311				63541		61.3- 61.3	1.4		
290	16.311				206000		220.6- 220.6	0.4		
292	16.329				199923		0.0- 0.0	0.4		
A 29 Total Heptachlorobiphenyls										
394	17.081	17.019 -	19.984	82	147067	3.04				
396	17.081				138809		0.8- 1.2	1.1		
322	17.081				61522		48.3- 48.3	2.3		
324	17.081				97747		77.4- 77.4	1.4		
* 15 Chrysene-d12										a
240	18.567	18.567	0.0	100	153362	0.7500			236	a
241	18.567	18.567	0.0		29632		4.3- 5.9	5.2		

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	S/N	Flags
A 30 Total Octachlorobiphenyls										
430	18.723	18.526	-20.679	76	131782	3.19				
428	18.723				120300		0.9- 1.3	1.1		
356	18.723				50390		39.6- 39.6	2.4		
358	18.723				95056		75.2- 75.2	1.3		
360	18.723				76215		59.6- 59.6	1.6		
A 31 Total Nonachlorobiphenyls										
464	20.161	18.500	-22.000	72	67282	7.42				
466	20.161				47886		1.1- 1.5	1.4		
390	20.161				28738		0.0- 0.0	1.7		
392	20.161				63424		0.0- 0.0	0.8		
394	20.161				59517		0.0- 0.0	0.8		
$ 22 Decachlorobiphenyl-13C12										a
510	21.672	21.672	0.0	77	60087	5.52				a
512	21.672	21.672	0.0		47497		0.9- 1.3	1.3		
32 DCB Decachlorobiphenyl										a
498	21.672	21.672	0.0	77	50447	5.56			29232	a
500	21.672	21.672	0.0		39913		0.9- 1.3	1.3		
424	21.672	21.672	0.0		19520		0.0- 0.0	1.0		
426	21.672	21.672	0.0		47792		0.0- 0.0	1.0		
428	21.672	21.672	0.0		52021		0.0- 0.0	1.0		
430	21.672	21.672	0.0		32465		0.0- 0.0	1.0		

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal3_00044 Amount Added: 1.00 Units: mL

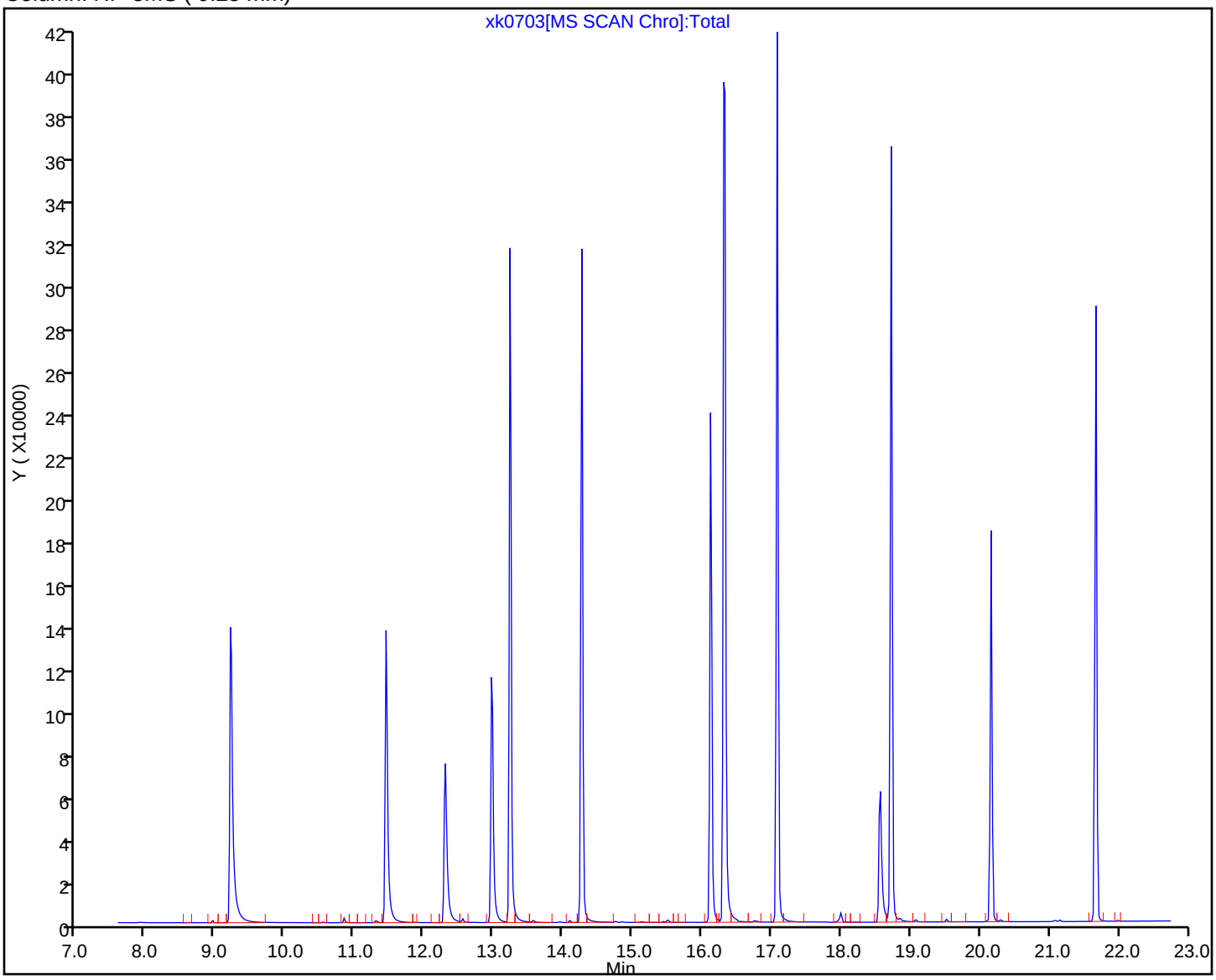
Report Date: 08-Nov-2018 09:12:16 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0703.D

Injection Date:	07-Nov-2018 13:33:30	Instrument ID:	CMSX		
Lims ID:	icis				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



Manual Integration/User Assign Peak Report

TestAmerica Savannah

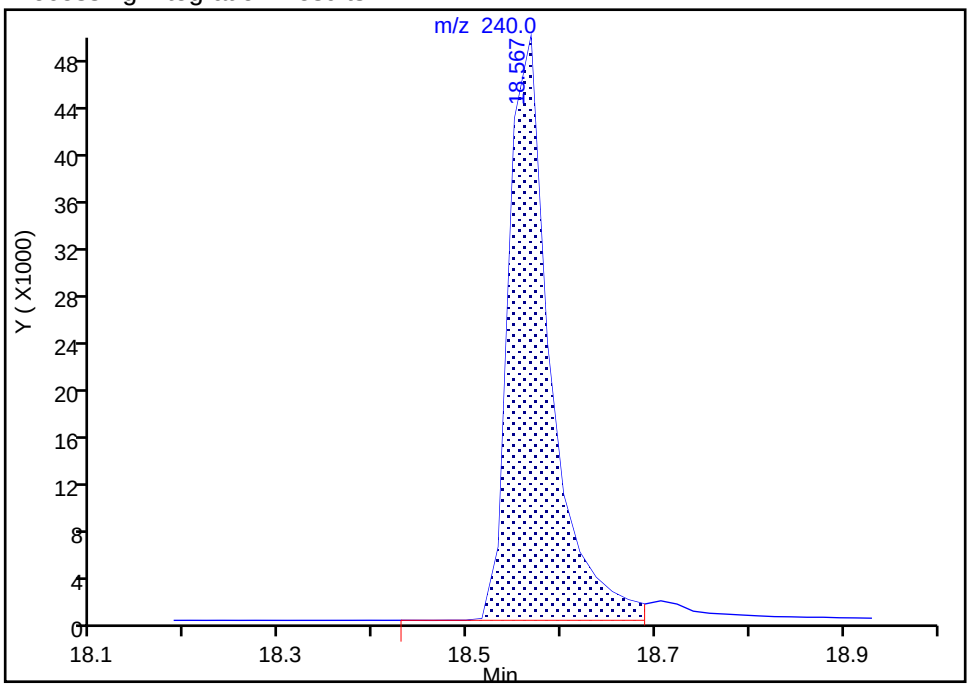
Data File:	\\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0703.D				
Injection Date:	07-Nov-2018 13:33:30	Instrument ID:	CMSX		
Lims ID:	icis				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

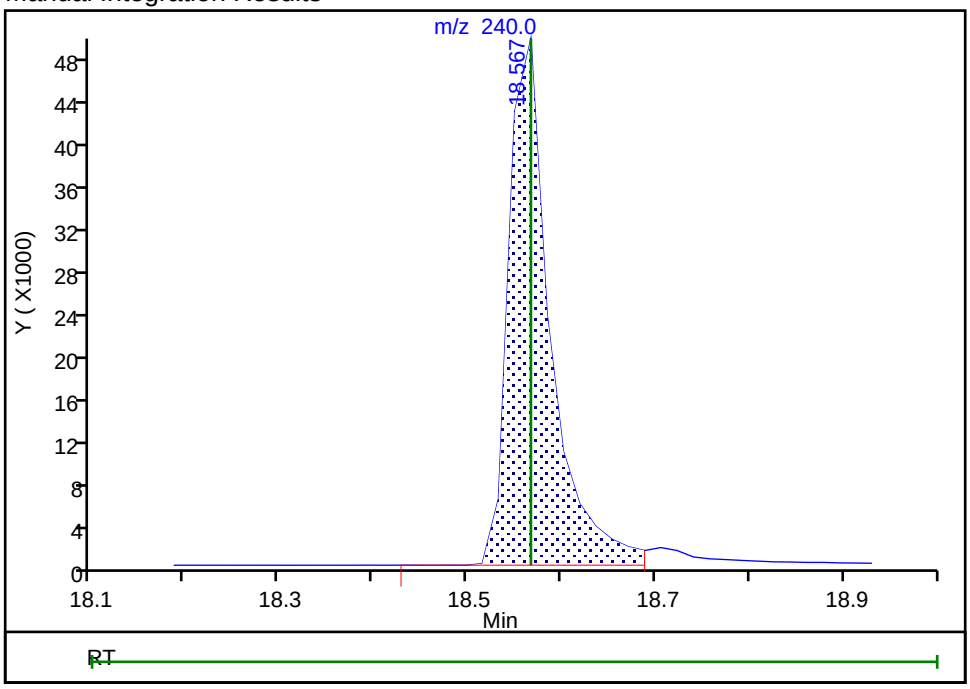
Processing Integration Results

RT: 18.57
Area: 153362
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.57
Area: 153362
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 08-Nov-2018 08:22:52

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Savannah

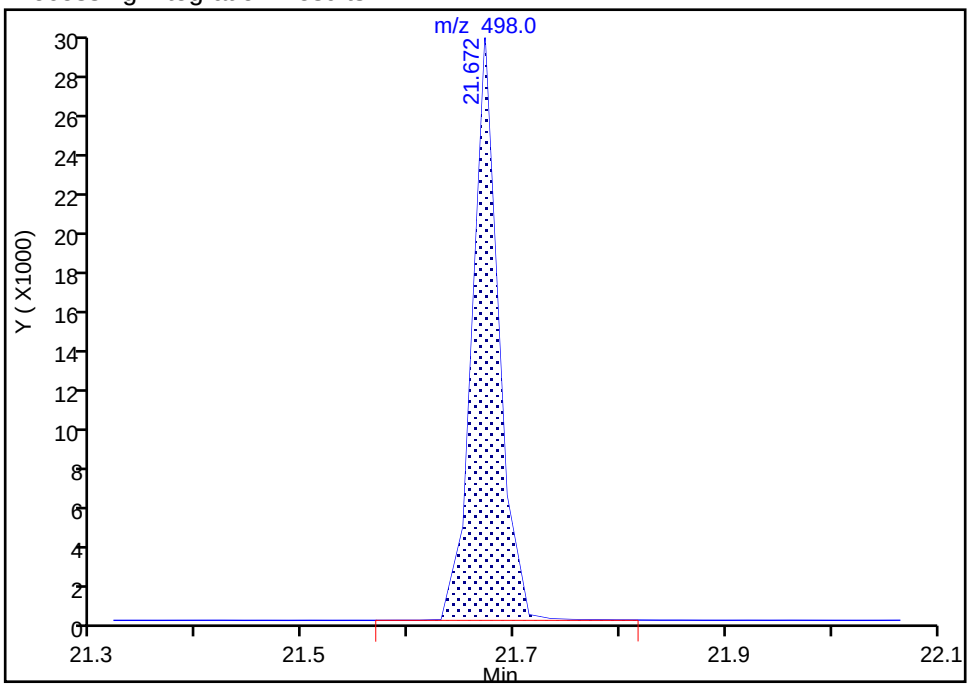
Data File:	\\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0703.D				
Injection Date:	07-Nov-2018 13:33:30	Instrument ID:	CMSX		
Lims ID:	icis				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

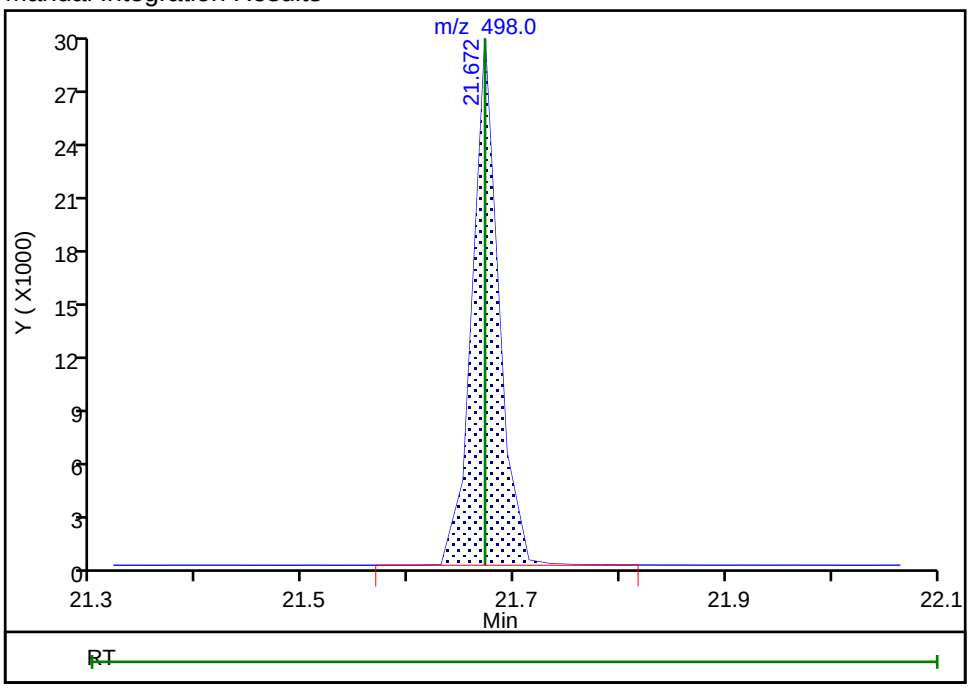
Processing Integration Results

RT: 21.67
Area: 50447
Amount: 5.559882
Amount Units: ug/ml



Manual Integration Results

RT: 21.67
Area: 50447
Amount: 5.559882
Amount Units: ug/ml



Reviewer: davisn, 08-Nov-2018 08:23:20

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Savannah

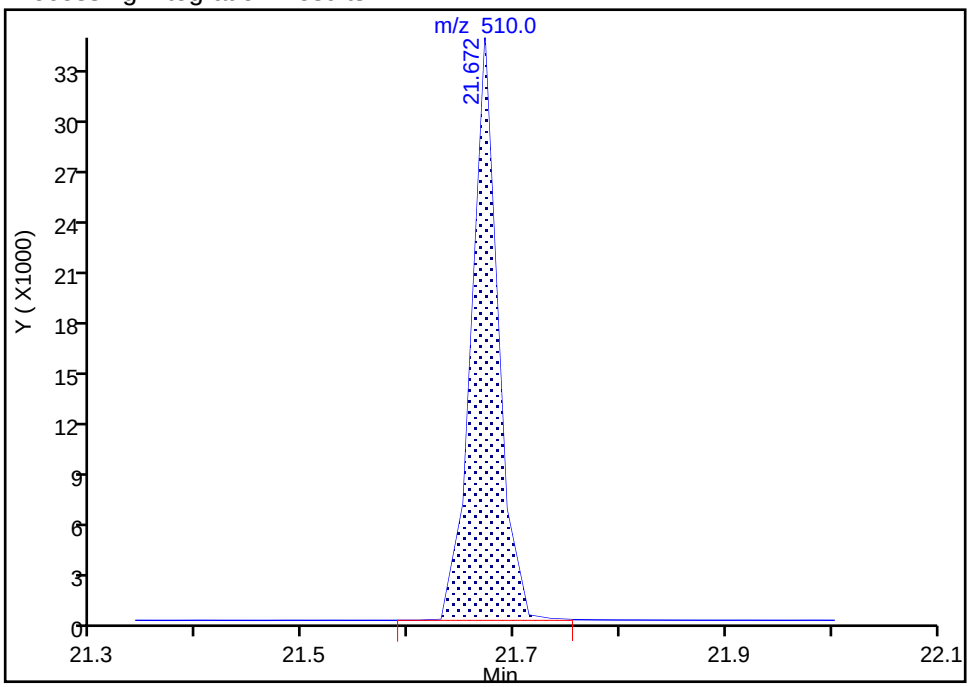
Data File:	\\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0703.D				
Injection Date:	07-Nov-2018 13:33:30	Instrument ID:	CMSX		
Lims ID:	icis				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

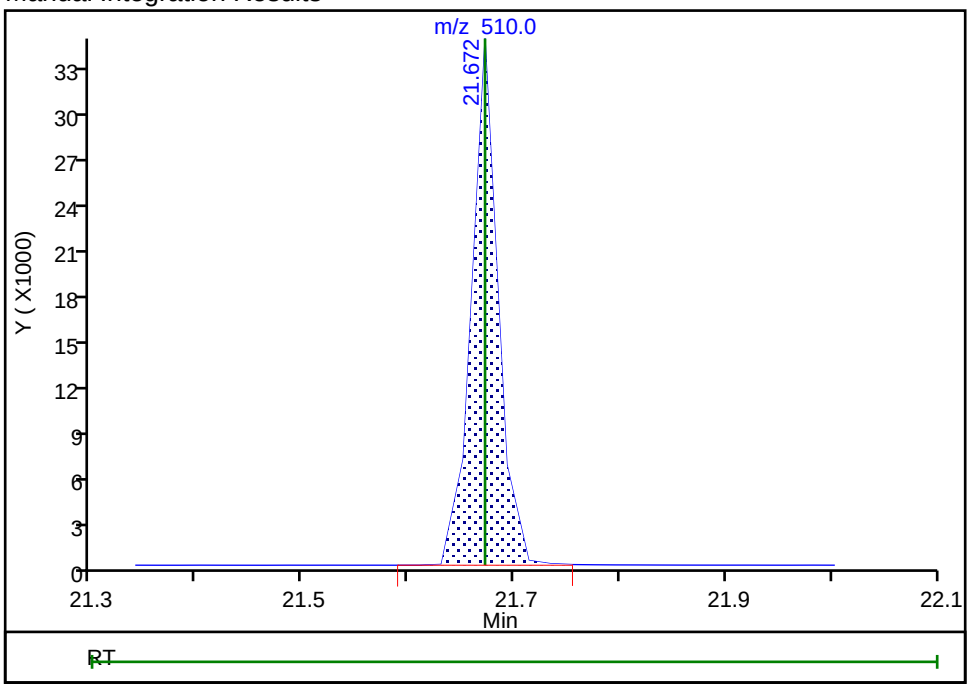
Processing Integration Results

RT: 21.67
Area: 60087
Amount: 5.524783
Amount Units: ug/ml



Manual Integration Results

RT: 21.67
Area: 60087
Amount: 5.524783
Amount Units: ug/ml



Reviewer: davisn, 08-Nov-2018 08:23:17

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0706.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 07-Nov-2018 15:12:30 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IB
Misc. Info.: 680-0051662-004
Operator ID: Instrument ID: CMSX
Sublist: chrom-680_CMSX*sub13

Method: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\680_CMSX.m
Limit Group: 680
Last Update: 08-Nov-2018 09:12:17 Calib Date: 07-Nov-2018 17:06:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0710.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0317

First Level Reviewer: davisn Date: 08-Nov-2018 08:25:13

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.657	9.160 - 10.154		0	1123962	4.76	
A 24 Total Dichlorobiphenyls	222	11.459	10.487 - 12.430		0	785435	4.90	
* 5 Phenanthrene-d10	188	12.290	12.305	-0.015	100	199540	0.7500	
A 25 Total Trichlorobiphenyls	256	13.144	11.794 - 14.495		0	568519	5.01	
A 26 Total Tetrachlorobiphenyls	292	14.660	12.932 - 16.389		0	820280	9.87	
A 27 Total Pentachlorobiphenyls	326	16.076	14.211 - 17.940		0	648334	10.4	
A 28 Total Hexachlorobiphenyls	360	17.364	15.386 - 19.341		0	671022	10.2	
A 29 Total Heptachlorobiphenyls	394	18.502	17.019 - 19.984		0	886590	14.0	
* 15 Chrysene-d12	240	18.567	18.567	0.0	100	200323	0.7500	a
A 30 Total Octachlorobiphenyls	430	19.603	18.526 - 20.679		0	824822	15.3	
$ 22 Decachlorobiphenyl-13C12	510	21.692	21.672	0.020	54	317550	22.4	a
32 DCB Decachlorobiphenyl	498	21.692	21.672	0.020	54	333740	28.2	a

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

680isomerCal5_00020 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.194	9.160 -	10.154	22	1123962	4.76			
190	9.194				368136		2.5- 3.5	3.1	
152	9.194				600406		50.7- 50.7	0.6	
153	9.194				270291		23.2- 23.2	1.4	
A 24 Total Dichlorobiphenyls									
222	11.435	10.487 -	12.430	25	785435	4.90			
224	11.435				505795		1.3- 1.7	1.6	
152	11.435				604860		31.7- 111.7	0.8	
153	11.435				77570		0.0- 49.1	6.5	
186	11.435				75580		0.0- 48.9	6.7	
188	11.435				27027		0.0- 43.3	18.7	
* 5 Phenanthrene-d10									
188	12.290	12.305	-0.015	100	199540	0.7500			
189	12.290	12.305	-0.015		29380		5.9- 7.5	6.8	
A 25 Total Trichlorobiphenyls									
256	12.968	11.794 -	14.495	95	568519	5.01			
258	12.968				552080		0.8- 1.2	1.0	
186	12.953				404865		26.5- 106.5	1.4	
188	12.968				130027		0.0- 61.5	4.2	
A 26 Total Tetrachlorobiphenyls									
292	13.233	12.932 -	16.389	0	820280	9.87			
290	13.233				644098		1.1- 1.5	1.3	
220	13.233				771588		58.1- 138.1	0.8	
222	13.233				496541		22.9- 102.9	1.3	
A 27 Total Pentachlorobiphenyls									
326	16.138	14.211 -	17.940	99	648334	10.4			
324	16.138				406175		1.4- 1.8	1.6	
254	16.121				492716		41.9- 121.9	0.8	
256	16.121				476812		38.2- 118.2	0.9	
258	16.121				155113		0.0- 65.4	2.6	
A 28 Total Hexachlorobiphenyls									
360	16.329	15.386 -	19.341	51	671022	10.2			
362	16.329				532854		1.0- 1.4	1.3	
288	16.311				381647		61.3- 61.3	1.4	
290	16.311				486119		220.6- 220.6	1.1	
292	16.311				234905		0.0- 0.0	2.3	
A 29 Total Heptachlorobiphenyls									
394	17.099	17.019 -	19.984	98	886590	14.0			
396	17.099				842619		0.8- 1.2	1.1	
322	17.081				368082		48.3- 48.3	2.3	
324	17.081				583307		77.4- 77.4	1.4	
* 15 Chrysene-d12									a
240	18.567	18.567	0.0	100	200323	0.7500			a
241	18.567	18.567	0.0		38574		4.3- 5.9	5.2	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.740	18.526	-20.679	96	824822	15.3			
428	18.740				748504		0.9- 1.3	1.1	
356	18.723				311149		39.6- 39.6	2.4	
358	18.723				587370		75.2- 75.2	1.3	
360	18.723				465991		59.6- 59.6	1.6	
$ 22 Decachlorobiphenyl-13C12									a
510	21.692	21.672	0.020	54	317550	22.4			a
512	21.692	21.672	0.020		253064		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									a
498	21.692	21.672	0.020	54	333740	28.2			a
500	21.692	21.672	0.020		279688		0.9- 1.3	1.2	
424	21.672	21.672	0.0		118467		0.0- 0.0	1.0	
426	21.672	21.672	0.0		287319		0.0- 0.0	1.0	
428	21.672	21.672	0.0		309388		0.0- 0.0	1.0	
430	21.672	21.672	0.0		194413		0.0- 0.0	1.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal5_00020 Amount Added: 1.00 Units: mL

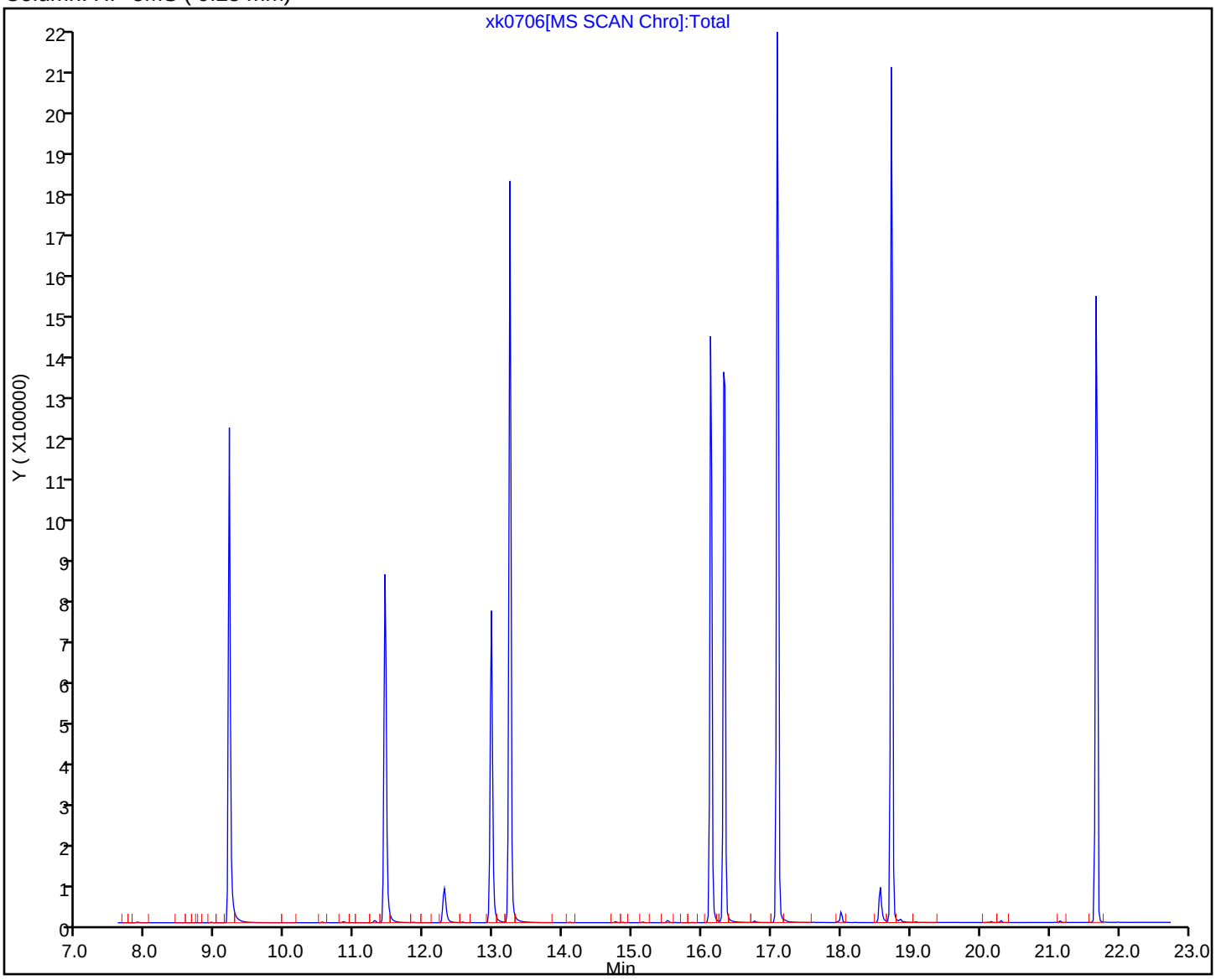
Report Date: 08-Nov-2018 09:12:17 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0706.D

Injection Date:	07-Nov-2018 15:12:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



Manual Integration/User Assign Peak Report

TestAmerica Savannah

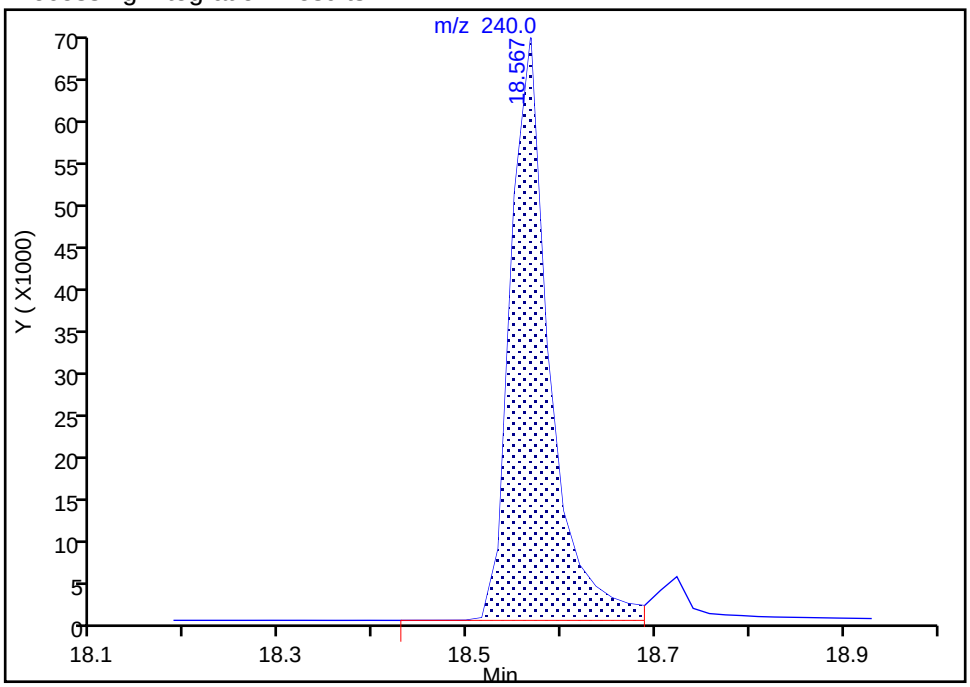
Data File:	\\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0706.D				
Injection Date:	07-Nov-2018 15:12:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

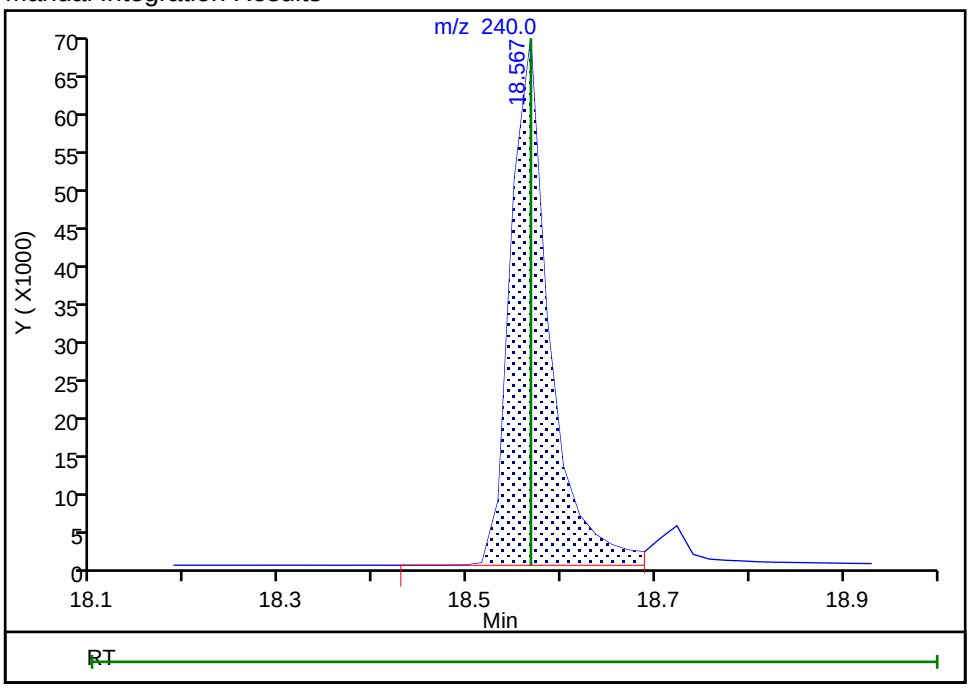
Processing Integration Results

RT: 18.57
Area: 200323
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.57
Area: 200323
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 08-Nov-2018 08:24:55

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Savannah

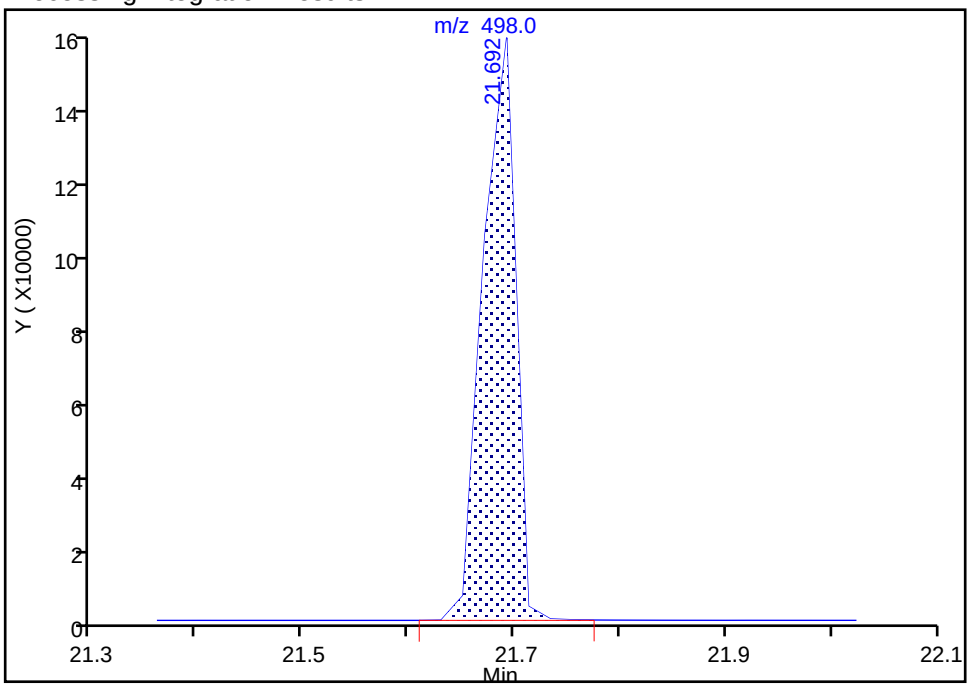
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0706.D
Injection Date: 07-Nov-2018 15:12:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

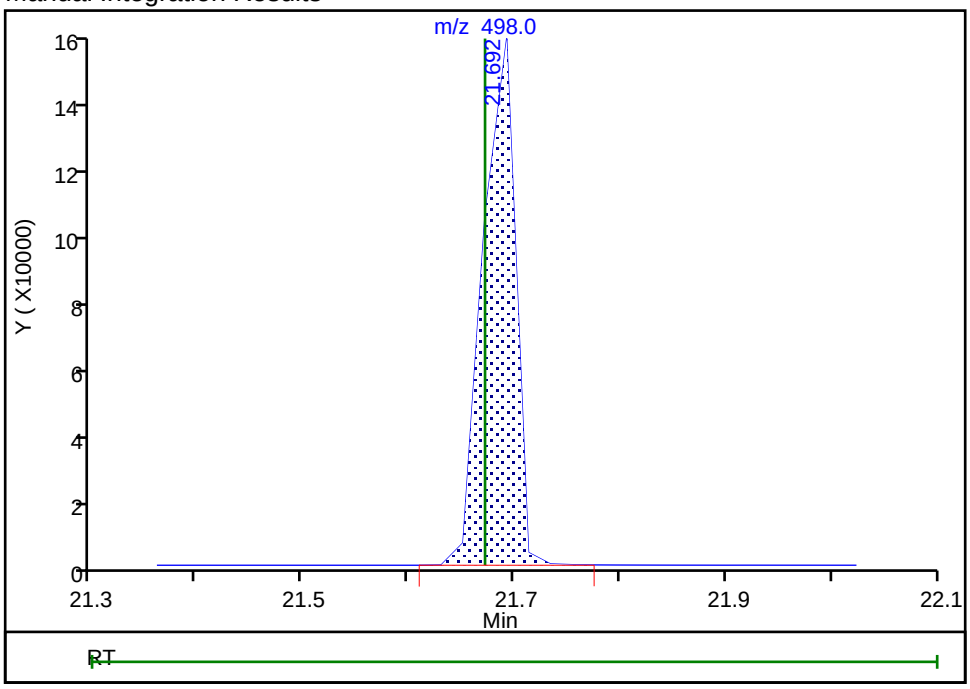
Processing Integration Results

RT: 21.69
Area: 333740
Amount: 28.159534
Amount Units: ug/ml



Manual Integration Results

RT: 21.69
Area: 333740
Amount: 28.159534
Amount Units: ug/ml



Reviewer: davisn, 08-Nov-2018 08:25:07
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Savannah

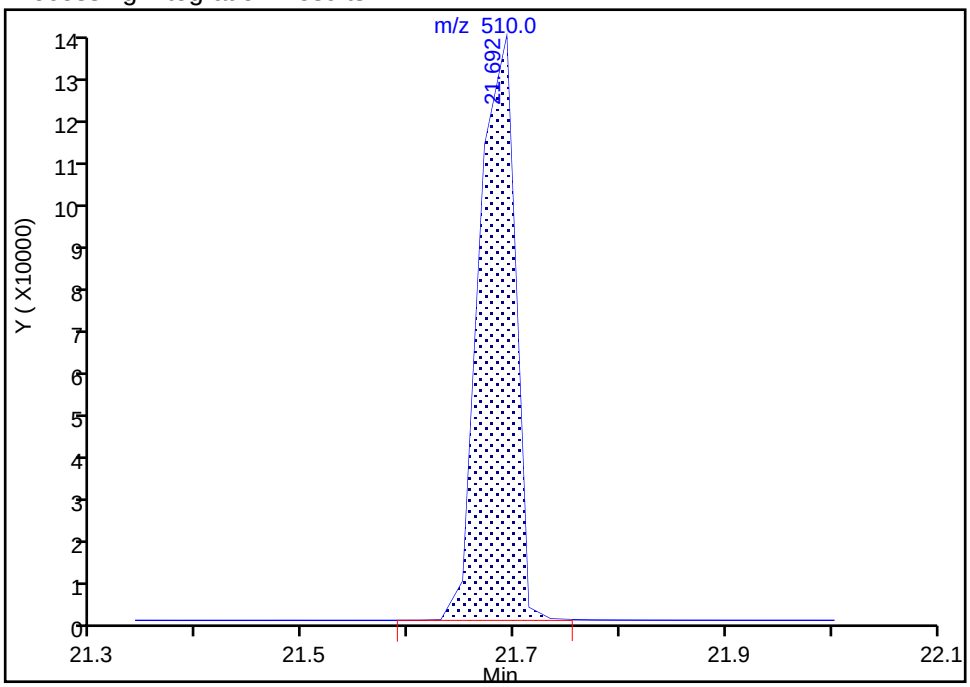
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0706.D
Injection Date: 07-Nov-2018 15:12:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

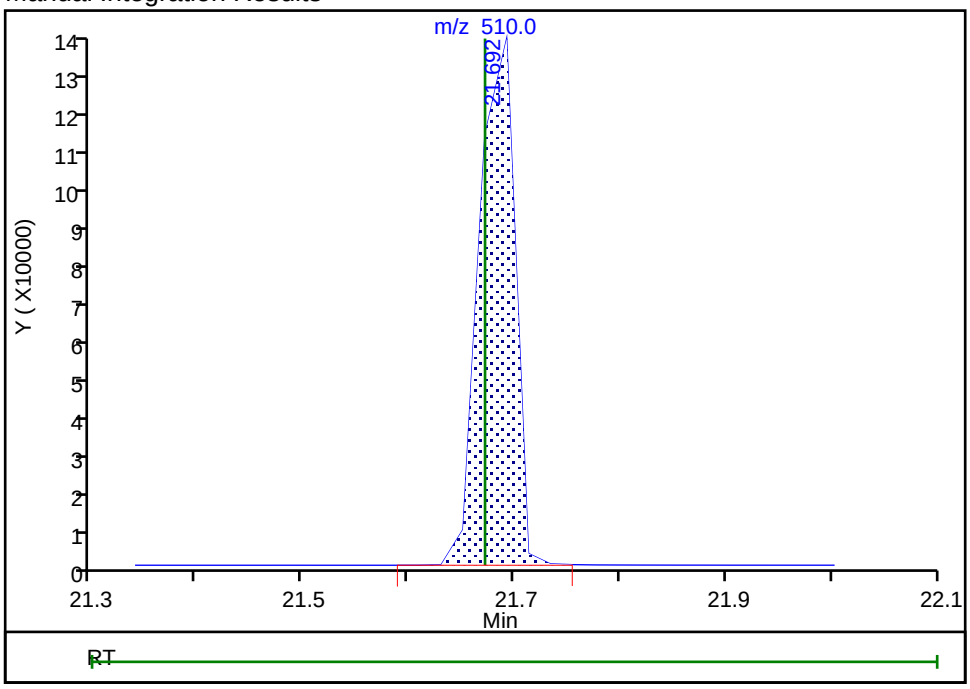
Processing Integration Results

RT: 21.69
Area: 317550
Amount: 22.352894
Amount Units: ug/ml



Manual Integration Results

RT: 21.69
Area: 317550
Amount: 22.352894
Amount Units: ug/ml



Reviewer: davisn, 08-Nov-2018 08:25:10
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0707.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 07-Nov-2018 15:40:30 ALS Bottle#: 6 Worklist Smp#: 11
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IB
Misc. Info.: 680-0051662-004
Operator ID: Instrument ID: CMSX
Sublist: chrom-680_CMSX*sub13

Method: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\680_CMSX.m
Limit Group: 680
Last Update: 08-Nov-2018 09:12:18 Calib Date: 07-Nov-2018 17:06:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0710.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0317

First Level Reviewer: davisn Date: 08-Nov-2018 08:26:31

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.657	9.160 - 10.154		0	444271	1.59	
A 24 Total Dichlorobiphenyls	222	11.459	10.487 - 12.430		0	318959	1.68	
* 5 Phenanthrene-d10	188	12.290	12.305	-0.015	100	219687	0.7500	
A 25 Total Trichlorobiphenyls	256	13.144	11.794 - 14.495		0	231006	1.72	
A 26 Total Tetrachlorobiphenyls	292	14.660	12.932 - 16.389		0	332705	3.39	
A 27 Total Pentachlorobiphenyls	326	16.076	14.211 - 17.940		0	267163	3.63	
A 28 Total Hexachlorobiphenyls	360	17.364	15.386 - 19.341		0	278590	3.59	
A 29 Total Heptachlorobiphenyls	394	18.502	17.019 - 19.984		0	367439	4.92	
* 15 Chrysene-d12	240	18.550	18.567	-0.017	100	236737	0.7500	a
A 30 Total Octachlorobiphenyls	430	19.603	18.526 - 20.679		0	346847	5.44	
$ 22 Decachlorobiphenyl-13C12	510	21.672	21.672	0.0	86	171791	10.2	
32 DCB Decachlorobiphenyl	498	21.672	21.672	0.0	86	142326	10.2	

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

680isomerCal4_00019 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.209	9.160 -	10.154	22	444271	1.59			
190	9.209				144239		2.5- 3.5	3.1	
152	9.194				244692		50.7- 50.7	0.6	
153	9.194				110811		23.2- 23.2	1.3	
A 24 Total Dichlorobiphenyls									
222	11.450	10.487 -	12.430	23	318959	1.68			
224	11.450				203699		1.3- 1.7	1.6	
152	11.435				241224		31.7- 111.7	0.8	
153	11.435				30982		0.0- 49.1	6.6	
186	11.435				30160		0.0- 48.9	6.8	
188	11.435				10958		0.0- 43.3	18.6	
* 5 Phenanthrene-d10									
188	12.290	12.305	-0.015	100	219687	0.7500			
189	12.290	12.305	-0.015		32448		5.9- 7.5	6.8	
A 25 Total Trichlorobiphenyls									
256	12.968	11.794 -	14.495	98	231006	1.72			
258	12.968				222040		0.8- 1.2	1.0	
186	12.968				159886		26.5- 106.5	1.4	
188	12.968				51569		0.0- 61.5	4.3	
A 26 Total Tetrachlorobiphenyls									
292	13.234	12.932 -	16.389	0	332705	3.39			
290	13.234				259654		1.1- 1.5	1.3	
220	13.234				311986		58.1- 138.1	0.8	
222	13.234				200801		22.9- 102.9	1.3	
A 27 Total Pentachlorobiphenyls									
326	16.121	14.211 -	17.940	77	267163	3.63			
324	16.121				168514		1.4- 1.8	1.6	
254	16.121				204455		41.9- 121.9	0.8	
256	16.121				197138		38.2- 118.2	0.9	
258	16.121				64650		0.0- 65.4	2.6	
A 28 Total Hexachlorobiphenyls									
360	16.312	15.386 -	19.341	63	278590	3.59			
362	16.312				222254		1.0- 1.4	1.3	
288	16.312				156763		61.3- 61.3	1.4	
290	16.312				201919		220.6- 220.6	1.1	
292	16.312				97496		0.0- 0.0	2.3	
A 29 Total Heptachlorobiphenyls									
394	17.081	17.019 -	19.984	82	367439	4.92			
396	17.081				344804		0.8- 1.2	1.1	
322	17.081				155212		48.3- 48.3	2.2	
324	17.081				249015		77.4- 77.4	1.4	
* 15 Chrysene-d12									a
240	18.550	18.567	-0.017	100	236737	0.7500			a
241	18.550	18.567	-0.017		45602		4.3- 5.9	5.2	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.723	18.526	-20.679	77	346847	5.44			
428	18.723				312687		0.9- 1.3	1.1	
356	18.723				132055		39.6- 39.6	2.4	
358	18.723				250202		75.2- 75.2	1.2	
360	18.723				197627		59.6- 59.6	1.6	
$ 22 Decachlorobiphenyl-13C12									
510	21.672	21.672	0.0	86	171791	10.2			
512	21.672	21.672	0.0		135405		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									
498	21.672	21.672	0.0	86	142326	10.2			
500	21.672	21.672	0.0		113005		0.9- 1.3	1.3	
424	21.672	21.672	0.0		56233		0.0- 0.0	1.0	
426	21.672	21.672	0.0		138083		0.0- 0.0	1.0	
428	21.672	21.672	0.0		150807		0.0- 0.0	1.0	
430	21.672	21.672	0.0		94369		0.0- 0.0	1.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal4_00019 Amount Added: 1.00 Units: mL

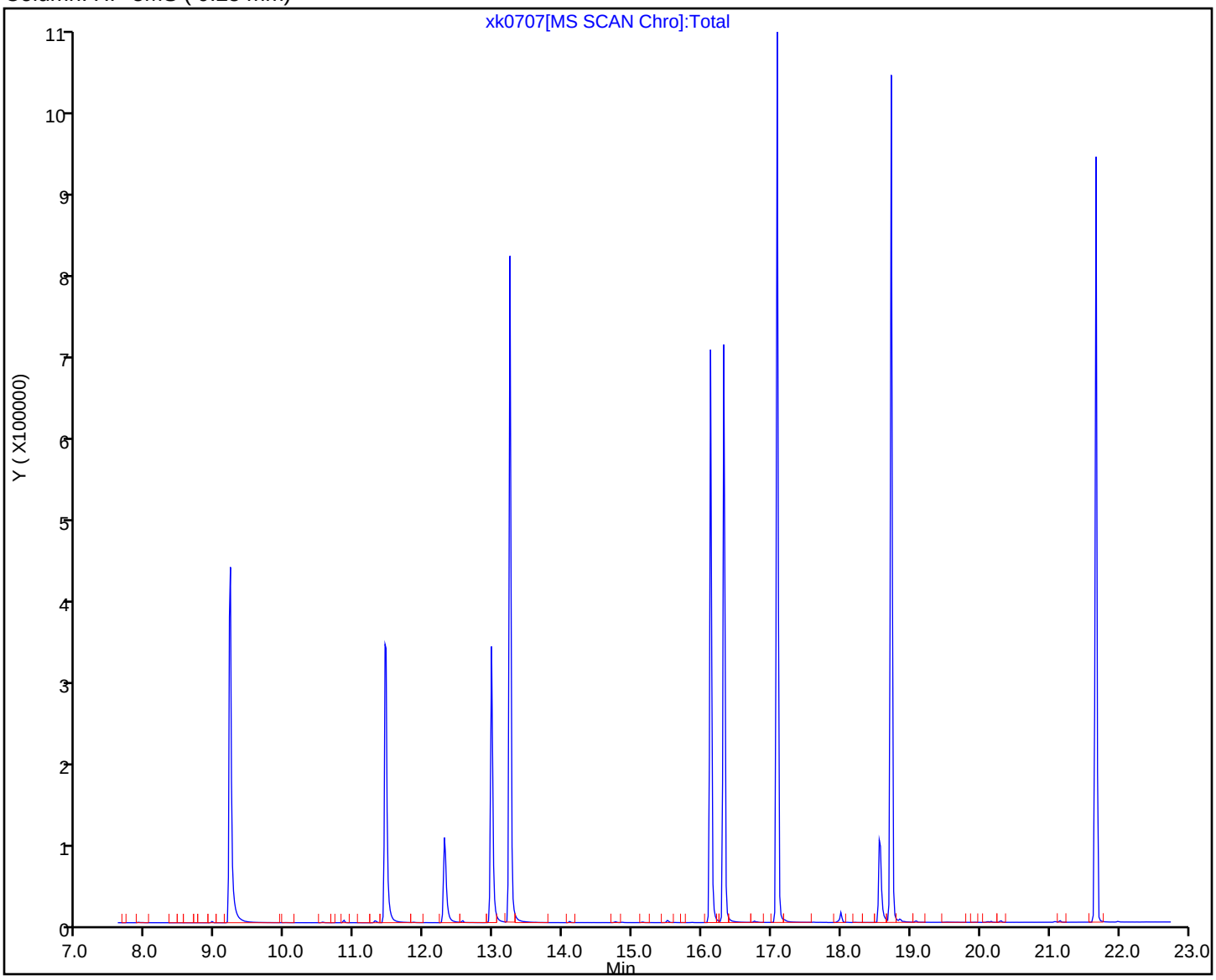
Report Date: 08-Nov-2018 09:12:19 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0707.D

Injection Date:	07-Nov-2018 15:40:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



Manual Integration/User Assign Peak Report

TestAmerica Savannah

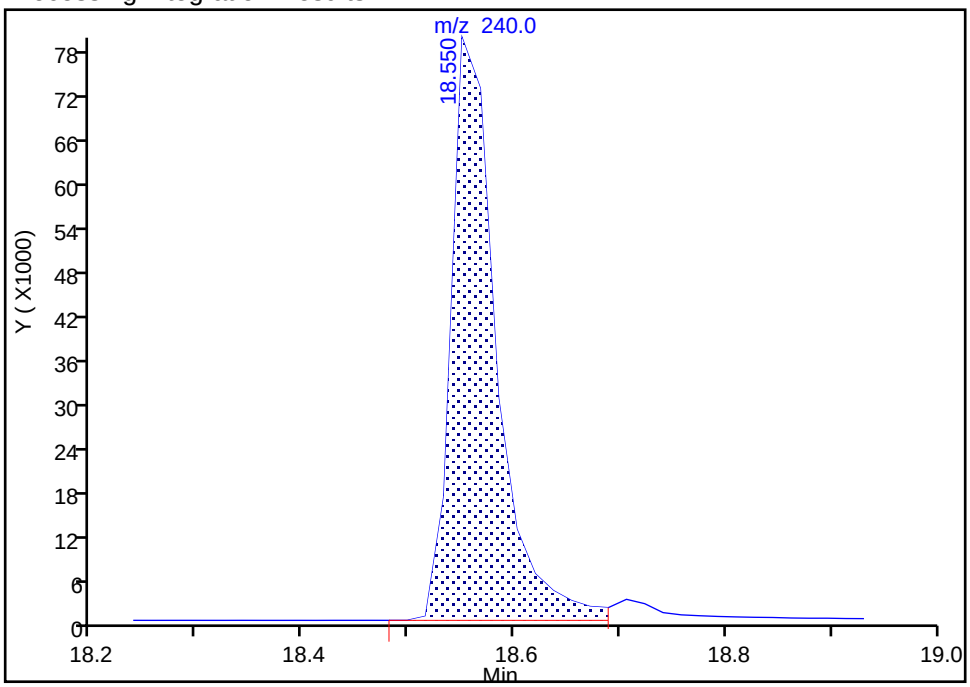
Data File:	\\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0707.D				
Injection Date:	07-Nov-2018 15:40:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

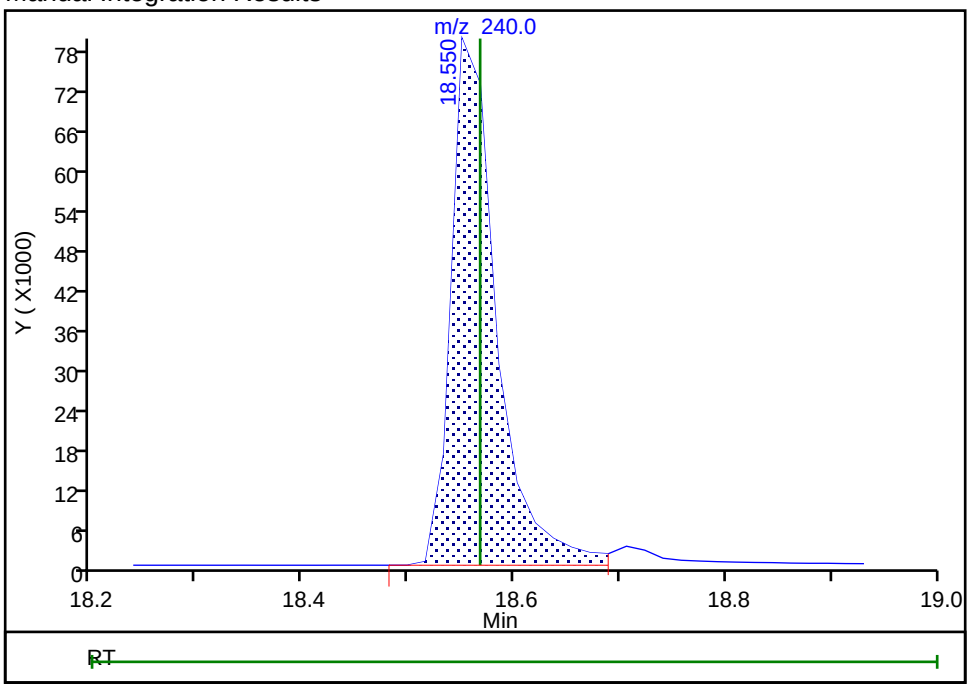
Processing Integration Results

RT: 18.55
Area: 236737
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.55
Area: 236737
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 08-Nov-2018 08:26:25

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0708.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 07-Nov-2018 16:09:30 ALS Bottle#: 7 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IB
Misc. Info.: 680-0051662-004
Operator ID: Instrument ID: CMSX
Sublist: chrom-680_CMSX*sub13

Method: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\680_CMSX.m
Limit Group: 680
Last Update: 08-Nov-2018 09:12:19 Calib Date: 07-Nov-2018 17:06:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0710.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0317

First Level Reviewer: davisn Date: 08-Nov-2018 08:27:29

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.657	9.160 - 10.154		0	96712	0.5267	
A 24 Total Dichlorobiphenyls	222	11.459	10.487 - 12.430		0	65115	0.5225	
* 5 Phenanthrene-d10	188	12.305	12.305	0.0	100	178968	0.7500	
A 25 Total Trichlorobiphenyls	256	13.144	11.794 - 14.495		0	44525	0.5042	
A 26 Total Tetrachlorobiphenyls	292	14.660	12.932 - 16.389		0	68346	1.06	
A 27 Total Pentachlorobiphenyls	326	16.076	14.211 - 17.940		0	50131	1.03	
A 28 Total Hexachlorobiphenyls	360	17.364	15.386 - 19.341		0	52953	1.04	
A 29 Total Heptachlorobiphenyls	394	18.502	17.019 - 19.984		0	71084	1.45	
* 15 Chrysene-d12	240	18.567	18.567	0.0	100	155766	0.7500	a
A 30 Total Octachlorobiphenyls	430	19.603	18.526 - 20.679		0	65375	1.56	
$ 22 Decachlorobiphenyl-13C12	510	21.672	21.672	0.0	74	30354	2.75	a
32 DCB Decachlorobiphenyl	498	21.672	21.672	0.0	74	23021	2.50	a

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

680isomerCal2_00019 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.223	9.160 -	10.154	22	96712	0.5267			
190	9.223				31452		2.5- 3.5	3.1	
152	9.223				51834		50.7- 50.7	0.6	
153	9.223				23391		23.2- 23.2	1.3	
A 24 Total Dichlorobiphenyls									
222	11.464	10.487 -	12.430	23	65115	0.5225			
224	11.464				41652		1.3- 1.7	1.6	
152	11.450				50094		31.7- 111.7	0.8	
153	11.450				6308		0.0- 49.1	6.6	
186	11.450				6215		0.0- 48.9	6.7	
188	11.450				2365		0.0- 43.3	17.6	
* 5 Phenanthrene-d10									
188	12.305	12.305	0.0	100	178968	0.7500			
189	12.305	12.305	0.0		26407		5.9- 7.5	6.8	
A 25 Total Trichlorobiphenyls									
256	12.983	11.794 -	14.495	95	44525	0.5042			
258	12.983				43823		0.8- 1.2	1.0	
186	12.968				31174		26.5- 106.5	1.4	
188	12.968				9956		0.0- 61.5	4.4	
A 26 Total Tetrachlorobiphenyls									
292	13.248	12.932 -	16.389	0	68346	1.06			
290	13.248				52834		1.1- 1.5	1.3	
220	13.234				63060		58.1- 138.1	0.8	
222	13.234				40885		22.9- 102.9	1.3	
A 27 Total Pentachlorobiphenyls									
326	16.139	14.211 -	17.940	97	50131	1.03			
324	16.139				31179		1.4- 1.8	1.6	
254	16.121				37887		41.9- 121.9	0.8	
256	16.121				36331		38.2- 118.2	0.9	
258	16.121				12233		0.0- 65.4	2.5	
A 28 Total Hexachlorobiphenyls									
360	16.329	15.386 -	19.341	50	52953	1.04			
362	16.329				42236		1.0- 1.4	1.3	
288	16.312				30658		61.3- 61.3	1.4	
290	16.312				39096		220.6- 220.6	1.1	
292	16.312				19107		0.0- 0.0	2.2	
A 29 Total Heptachlorobiphenyls									
394	17.081	17.019 -	19.984	80	71084	1.45			
396	17.081				66244		0.8- 1.2	1.1	
322	17.081				30072		48.3- 48.3	2.2	
324	17.081				47628		77.4- 77.4	1.4	
* 15 Chrysene-d12									a
240	18.567	18.567	0.0	100	155766	0.7500			a
241	18.567	18.567	0.0		29924		4.3- 5.9	5.2	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.723	18.526	-20.679	78	65375	1.56			
428	18.723				59000		0.9- 1.3	1.1	
356	18.723				23965		39.6- 39.6	2.5	
358	18.723				45879		75.2- 75.2	1.3	
360	18.723				36704		59.6- 59.6	1.6	
$ 22 Decachlorobiphenyl-13C12									a
510	21.672	21.672	0.0	74	30354	2.75			a
512	21.672	21.672	0.0		23761		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									a
498	21.672	21.672	0.0	74	23021	2.50			a
500	21.672	21.672	0.0		18600		0.9- 1.3	1.2	
424	21.672	21.672	0.0		8873		0.0- 0.0	1.0	
426	21.672	21.672	0.0		21534		0.0- 0.0	1.0	
428	21.672	21.672	0.0		23550		0.0- 0.0	1.0	
430	21.672	21.672	0.0		15227		0.0- 0.0	1.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal2_00019 Amount Added: 1.00 Units: mL

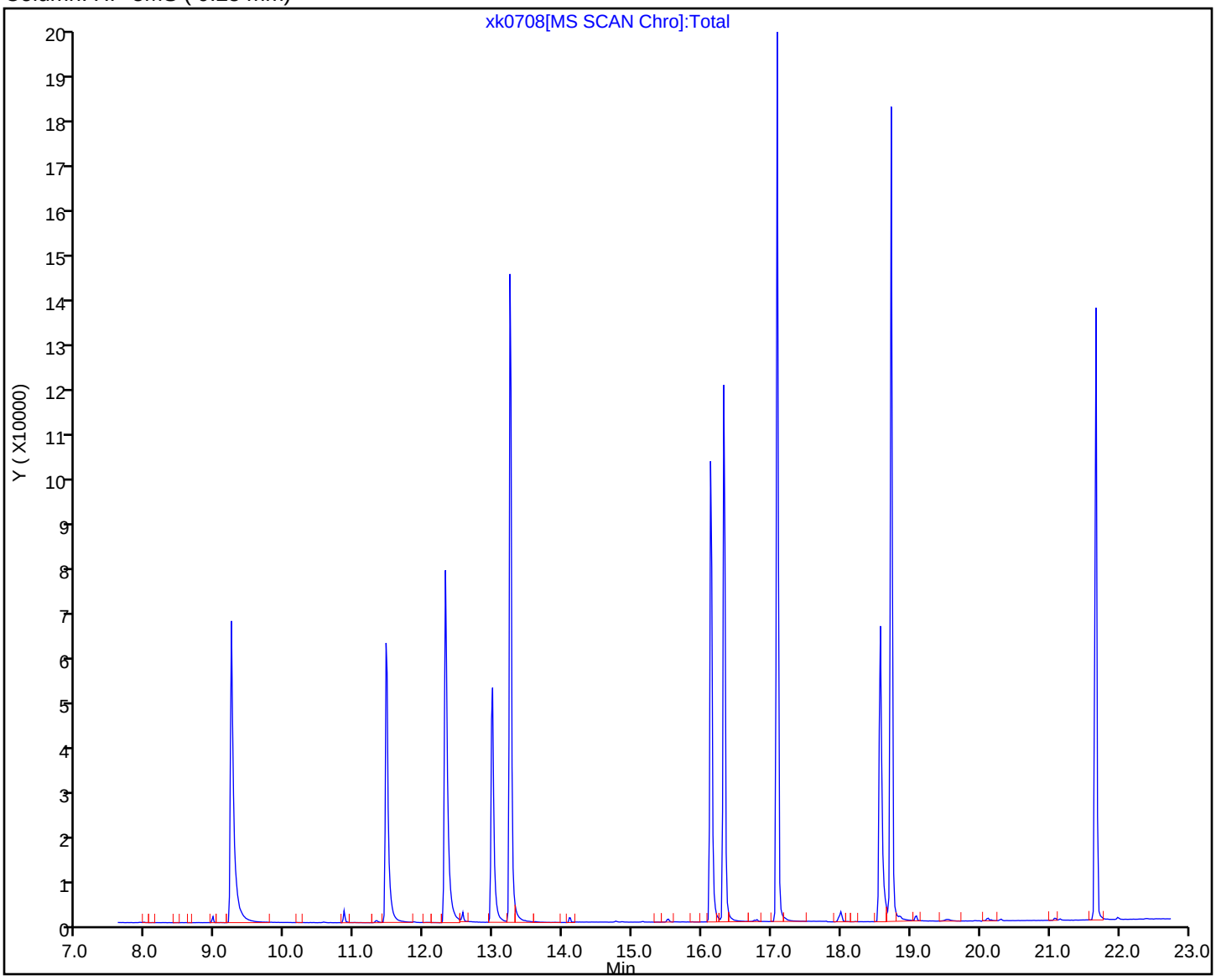
Report Date: 08-Nov-2018 09:12:20 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0708.D

Injection Date:	07-Nov-2018 16:09:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



Manual Integration/User Assign Peak Report

TestAmerica Savannah

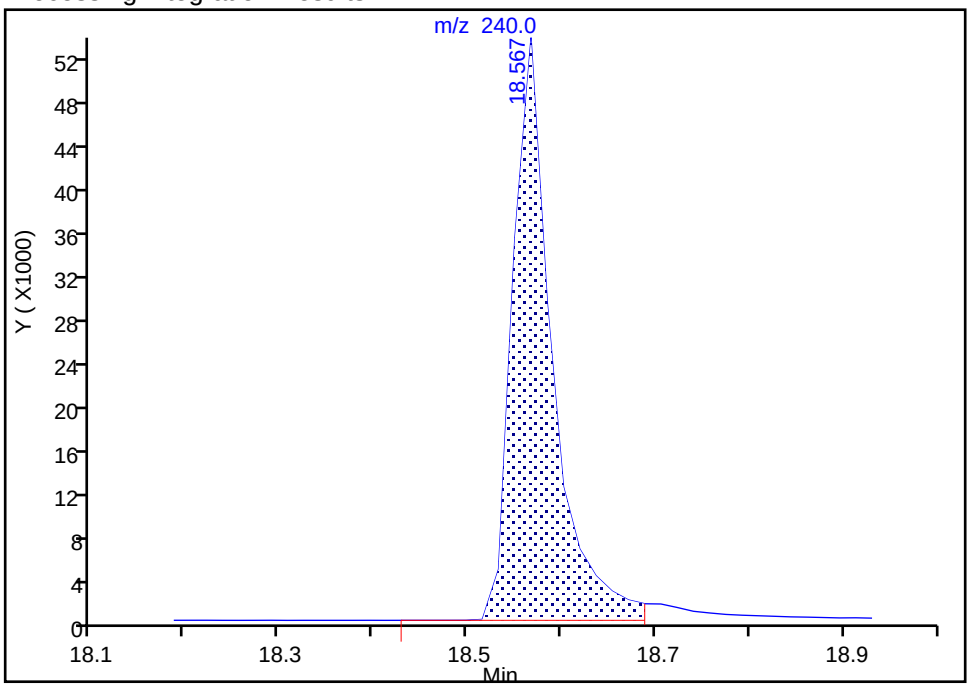
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0708.D
Injection Date: 07-Nov-2018 16:09:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

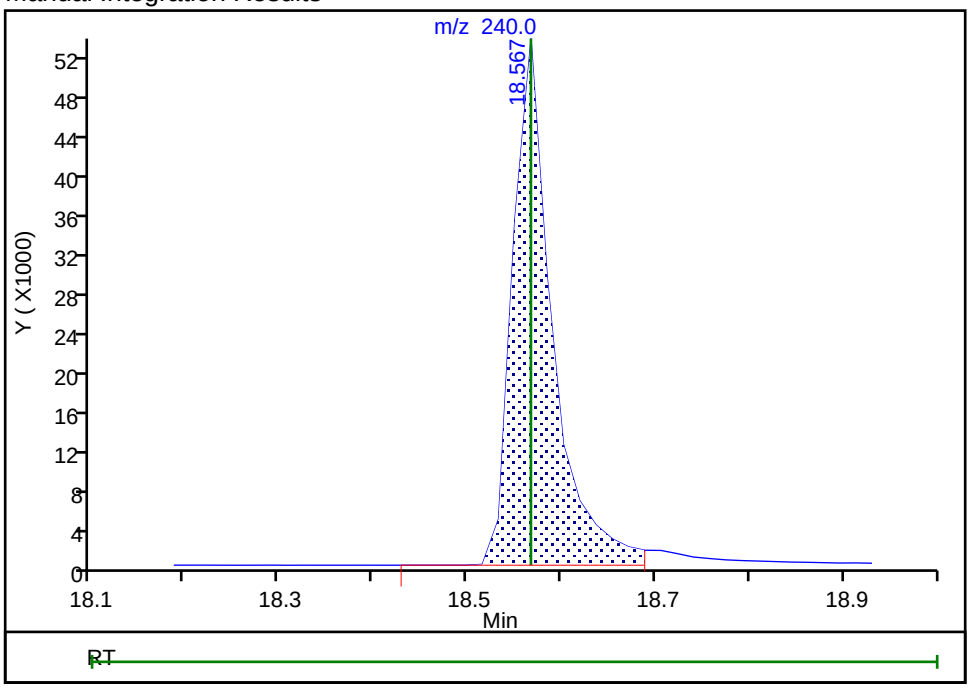
Processing Integration Results

RT: 18.57
Area: 155766
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.57
Area: 155766
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 08-Nov-2018 08:27:19
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Savannah

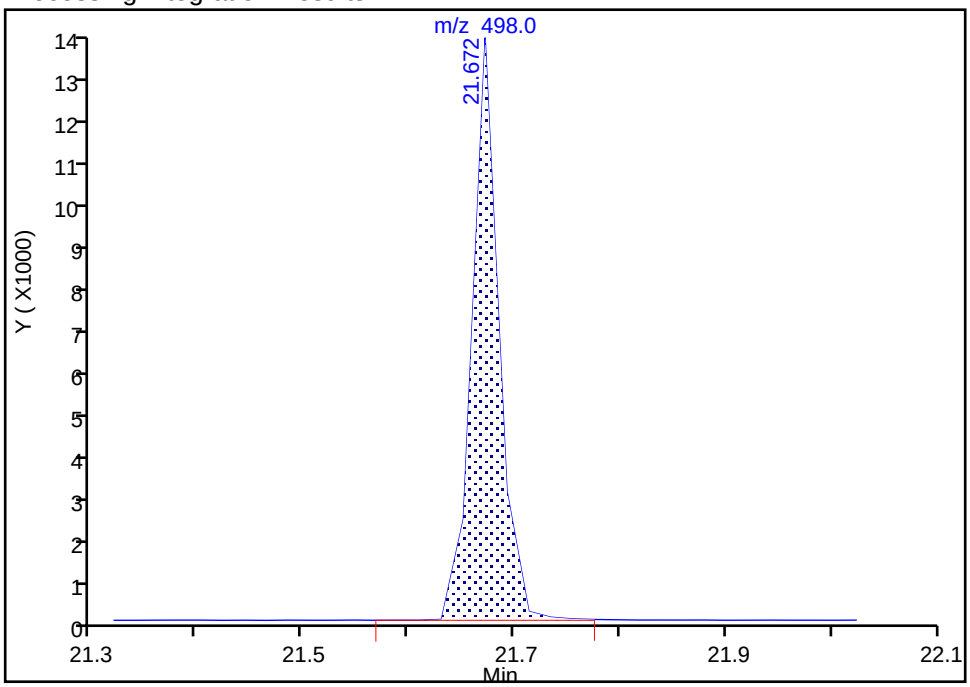
Data File:	\\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0708.D				
Injection Date:	07-Nov-2018 16:09:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

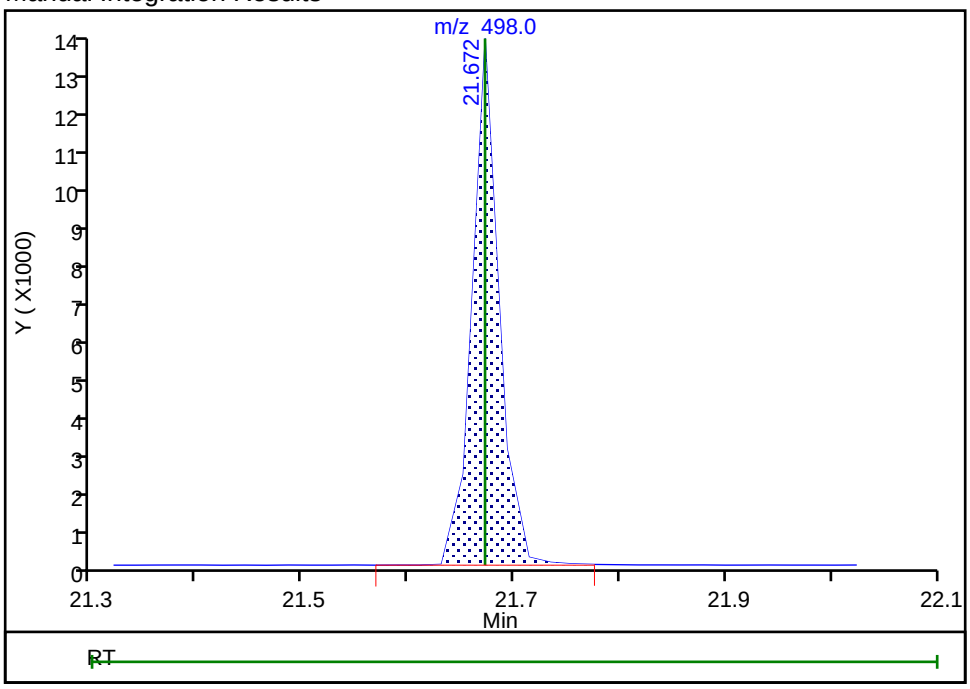
Processing Integration Results

RT: 21.67
Area: 23021
Amount: 2.498041
Amount Units: ug/ml



Manual Integration Results

RT: 21.67
Area: 23021
Amount: 2.498041
Amount Units: ug/ml



Reviewer: davisn, 08-Nov-2018 08:27:25

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Savannah

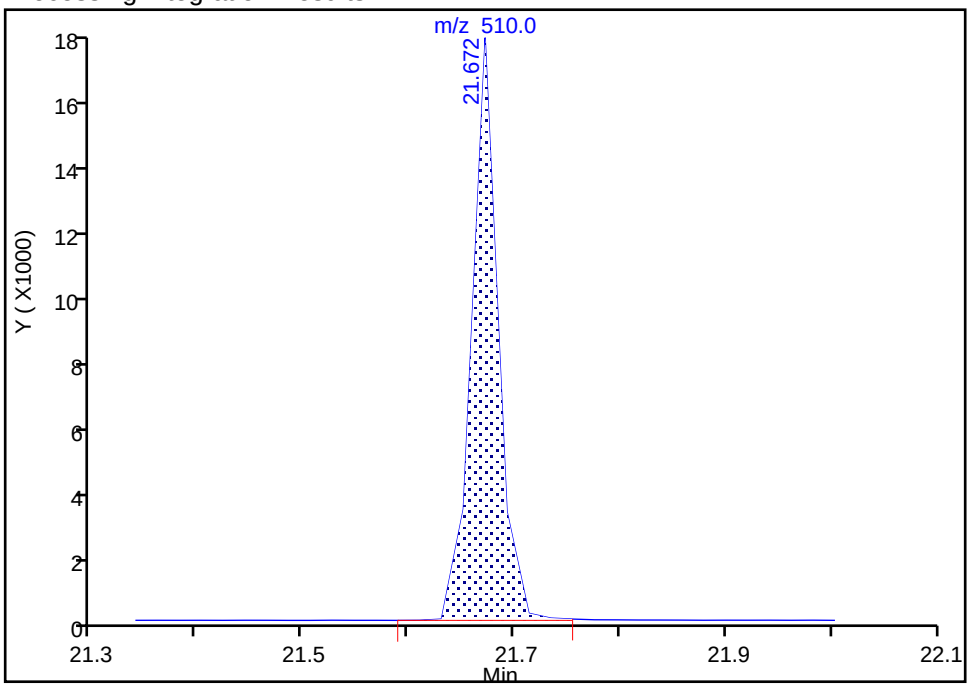
Data File:	\\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0708.D				
Injection Date:	07-Nov-2018 16:09:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

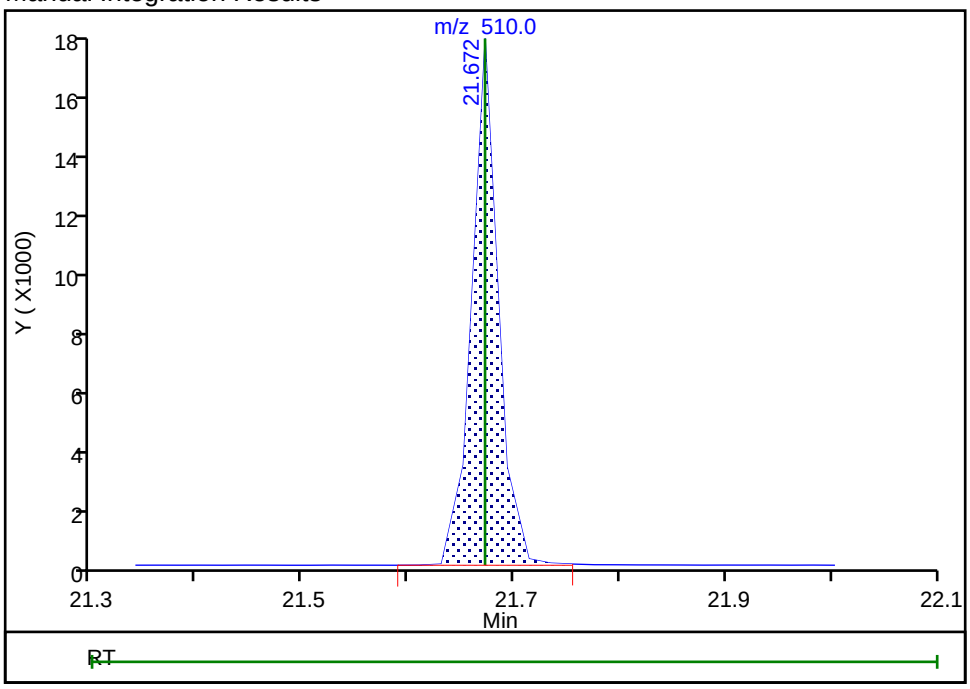
Processing Integration Results

RT: 21.67
Area: 30354
Amount: 2.747867
Amount Units: ug/ml



Manual Integration Results

RT: 21.67
Area: 30354
Amount: 2.747867
Amount Units: ug/ml



Reviewer: davisn, 08-Nov-2018 08:27:28

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0709.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 07-Nov-2018 16:37:30 ALS Bottle#: 8 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IB
Misc. Info.: 680-0051662-004
Operator ID: Instrument ID: CMSX
Sublist: chrom-680_CMSX*sub13

Method: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\680_CMSX.m
Limit Group: 680
Last Update: 08-Nov-2018 09:12:21 Calib Date: 07-Nov-2018 17:06:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0710.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0317

First Level Reviewer: davisn Date: 08-Nov-2018 08:28:11

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.657	9.160 - 10.154		0	17755	0.1109	
A 24 Total Dichlorobiphenyls	222	11.459	10.487 - 12.430		0	11635	0.1071	
* 5 Phenanthrene-d10	188	12.305	12.305	0.0	100	167905	0.7500	
A 25 Total Trichlorobiphenyls	256	13.144	11.794 - 14.495		0	8269	0.1074	
A 26 Total Tetrachlorobiphenyls	292	14.660	12.932 - 16.389		0	11993	0.2128	
A 27 Total Pentachlorobiphenyls	326	16.076	14.211 - 17.940		0	8446	0.1997	
A 28 Total Hexachlorobiphenyls	360	17.364	15.386 - 19.341		0	8939	0.2005	
A 29 Total Heptachlorobiphenyls	394	18.502	17.019 - 19.984		0	14441	0.3371	
* 15 Chrysene-d12	240	18.567	18.567	0.0	100	135849	0.7500	a
A 30 Total Octachlorobiphenyls	430	19.603	18.526 - 20.679		0	11289	0.3085	
$ 22 Decachlorobiphenyl-13C12	510	21.672	21.672	0.0	79	4242	0.4403	a
32 DCB Decachlorobiphenyl	498	21.672	21.672	0.0	79	3725	0.4635	a

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

680isomerCal1_00021 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.238	9.160 -	10.154	24	17755	0.1109			
190	9.238				5735		2.5- 3.5	3.1	
152	9.238				9666		50.7- 50.7	0.6	
153	9.238				4300		23.2- 23.2	1.3	
A 24 Total Dichlorobiphenyls									
222	11.464	10.487 -	12.430	26	11635	0.1071			
224	11.464				7425		1.3- 1.7	1.6	
152	11.450				9216		31.7- 111.7	0.8	
153	11.450				1212		0.0- 49.1	6.1	
186	11.464				1257		0.0- 48.9	5.9	
188	11.464				367		0.0- 43.3	20.2	
* 5 Phenanthrene-d10									
188	12.305	12.305	0.0	100	167905	0.7500			
189	12.305	12.305	0.0		24788		5.9- 7.5	6.8	
A 25 Total Trichlorobiphenyls									
256	12.983	11.794 -	14.495	98	8269	0.1074			
258	12.983				7891		0.8- 1.2	1.0	
186	12.983				5694		26.5- 106.5	1.4	
188	12.983				2165		0.0- 61.5	3.6	
A 26 Total Tetrachlorobiphenyls									
292	13.248	12.932 -	16.389	0	11993	0.2128			
290	13.248				9243		1.1- 1.5	1.3	
220	13.233				11133		58.1- 138.1	0.8	
222	13.233				7074		22.9- 102.9	1.3	
A 27 Total Pentachlorobiphenyls									
326	16.138	14.211 -	17.940	92	8446	0.1997			
324	16.138				5275		1.4- 1.8	1.6	
254	16.121				6535		41.9- 121.9	0.8	
256	16.121				6185		38.2- 118.2	0.9	
258	16.121				2015		0.0- 65.4	2.6	
A 28 Total Hexachlorobiphenyls									
360	16.329	15.386 -	19.341	53	8939	0.2005			
362	16.329				7138		1.0- 1.4	1.3	
288	16.311				5081		61.3- 61.3	1.4	
290	16.311				6659		220.6- 220.6	1.1	
292	16.311				3715		0.0- 0.0	1.9	
A 29 Total Heptachlorobiphenyls									
394	17.081	17.019 -	19.984	81	14441	0.3371			
396	17.081				13553		0.8- 1.2	1.1	
322	17.081				6264		48.3- 48.3	2.2	
324	17.081				9744		77.4- 77.4	1.4	
* 15 Chrysene-d12									a
240	18.567	18.567	0.0	100	135849	0.7500			a
241	18.567	18.567	0.0		26138		4.3- 5.9	5.2	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.723	18.526	-20.679	77	11289	0.3085			
428	18.723				10029		0.9- 1.3	1.1	
356	18.723				4353		39.6- 39.6	2.3	
358	18.723				7825		75.2- 75.2	1.3	
360	18.723				6274		59.6- 59.6	1.6	
$ 22 Decachlorobiphenyl-13C12									a
510	21.672	21.672	0.0	79	4242	0.4403			a
512	21.672	21.672	0.0		3449		0.9- 1.3	1.2	
32 DCB Decachlorobiphenyl									a
498	21.672	21.672	0.0	79	3725	0.4635			a
500	21.672	21.672	0.0		2950		0.9- 1.3	1.3	
424	21.672	21.672	0.0		1437		0.0- 0.0	1.0	
426	21.672	21.672	0.0		3490		0.0- 0.0	1.0	
428	21.672	21.672	0.0		3734		0.0- 0.0	1.0	
430	21.672	21.672	0.0		2796		0.0- 0.0	1.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal1_00021 Amount Added: 1.00 Units: mL

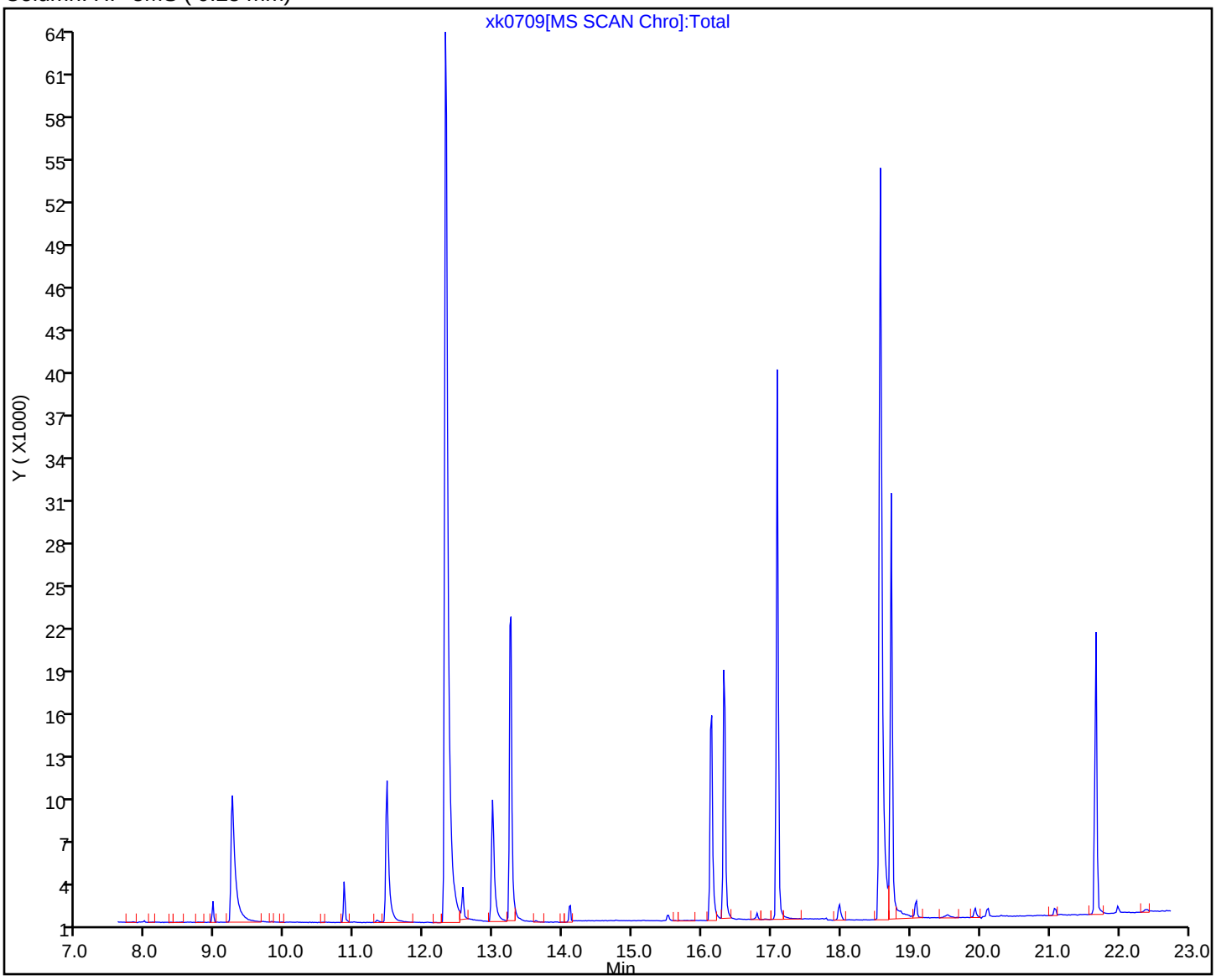
Report Date: 08-Nov-2018 09:12:21 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0709.D

Injection Date:	07-Nov-2018 16:37:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	8	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



Manual Integration/User Assign Peak Report

TestAmerica Savannah

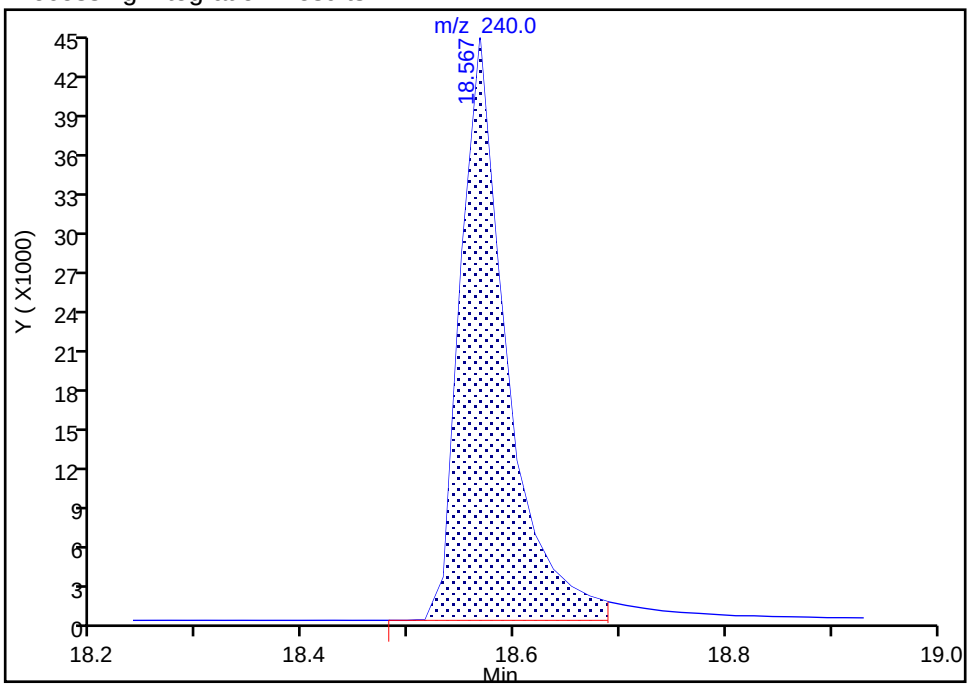
Data File:	\\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0709.D				
Injection Date:	07-Nov-2018 16:37:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	8	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

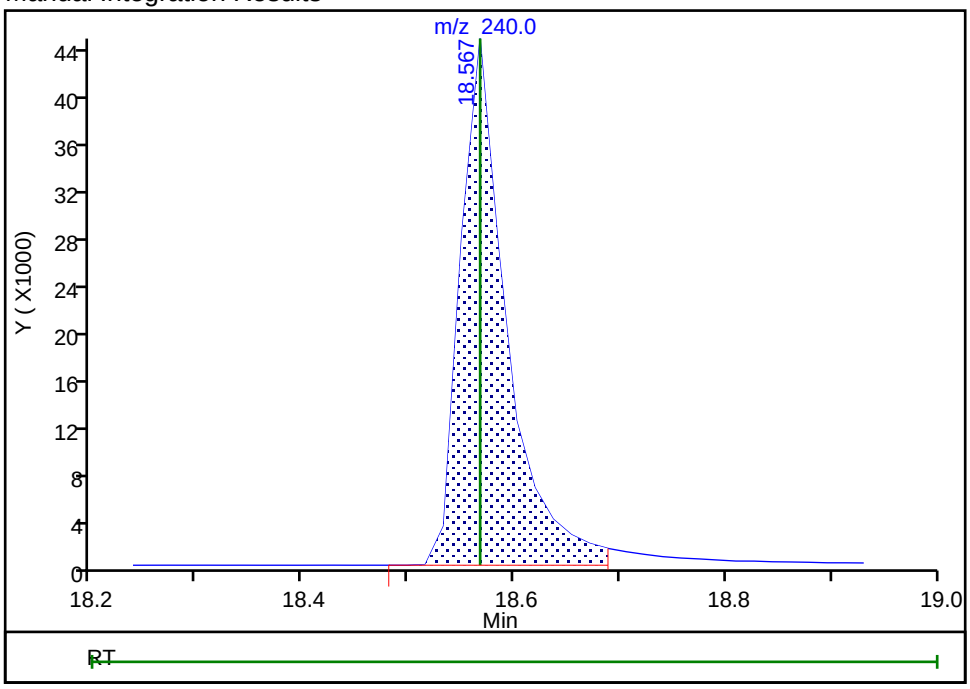
Processing Integration Results

RT: 18.57
Area: 135849
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.57
Area: 135849
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 08-Nov-2018 08:28:01
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Savannah

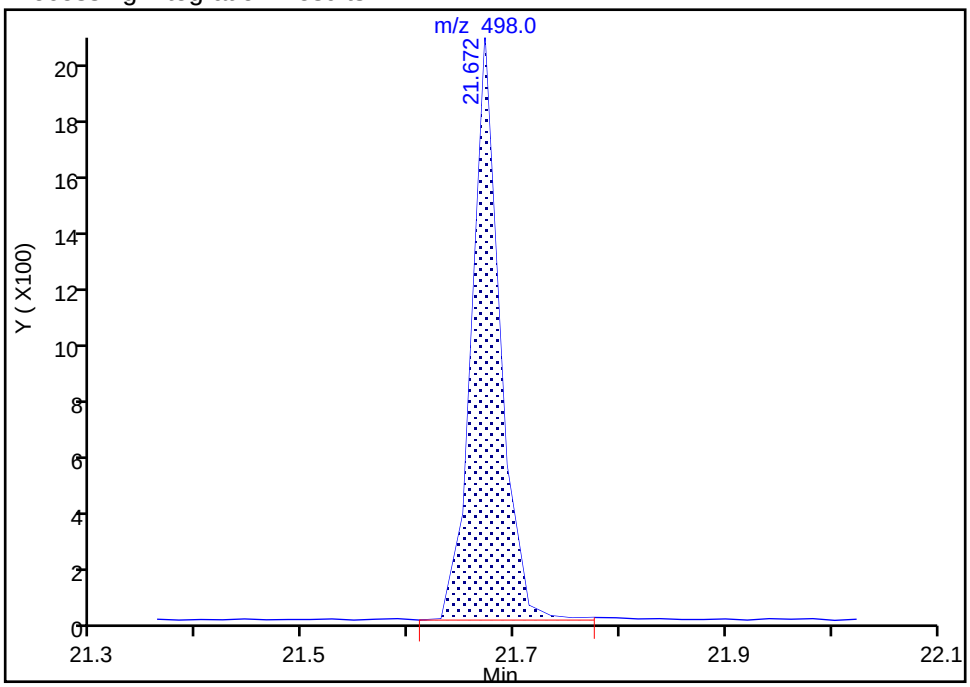
Data File:	\\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0709.D				
Injection Date:	07-Nov-2018 16:37:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	8	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

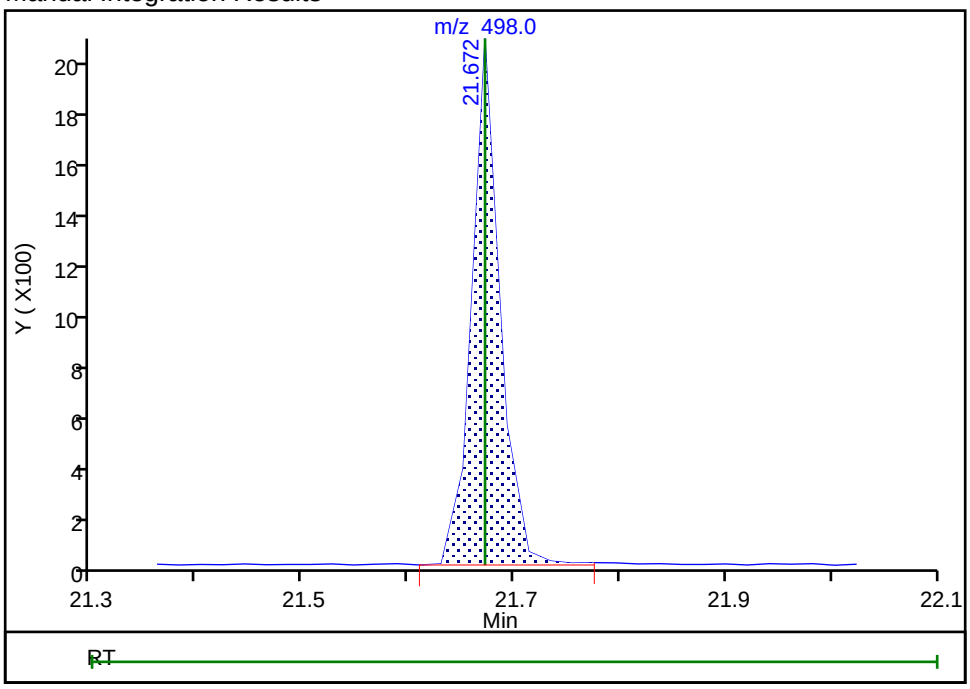
Processing Integration Results

RT: 21.67
Area: 3725
Amount: 0.463466
Amount Units: ug/ml



Manual Integration Results

RT: 21.67
Area: 3725
Amount: 0.463466
Amount Units: ug/ml



Reviewer: davisn, 08-Nov-2018 08:28:08

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Savannah

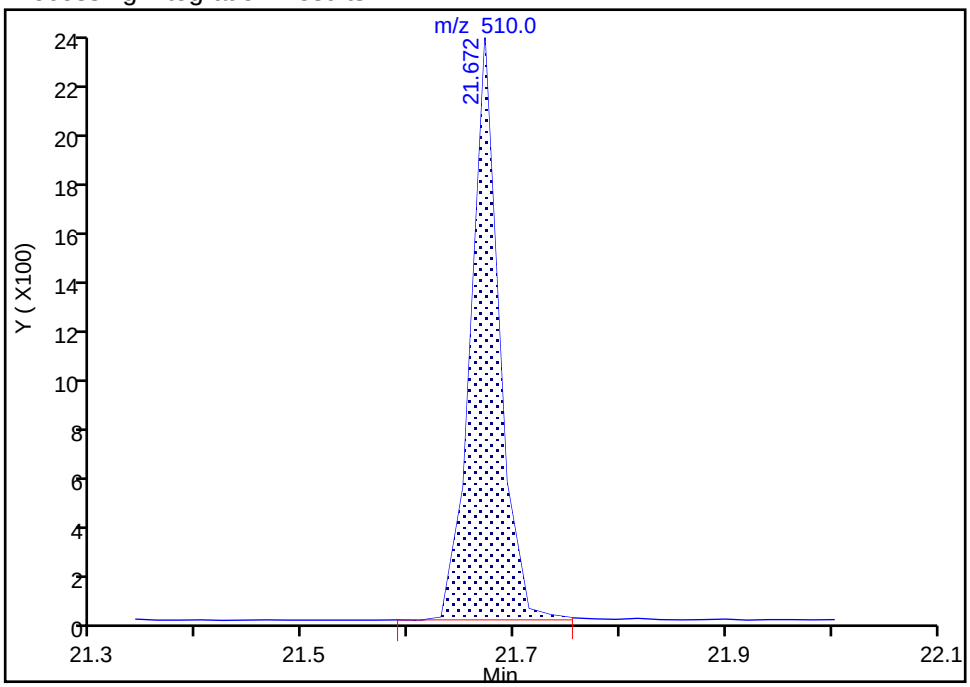
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0709.D
Injection Date: 07-Nov-2018 16:37:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 8 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

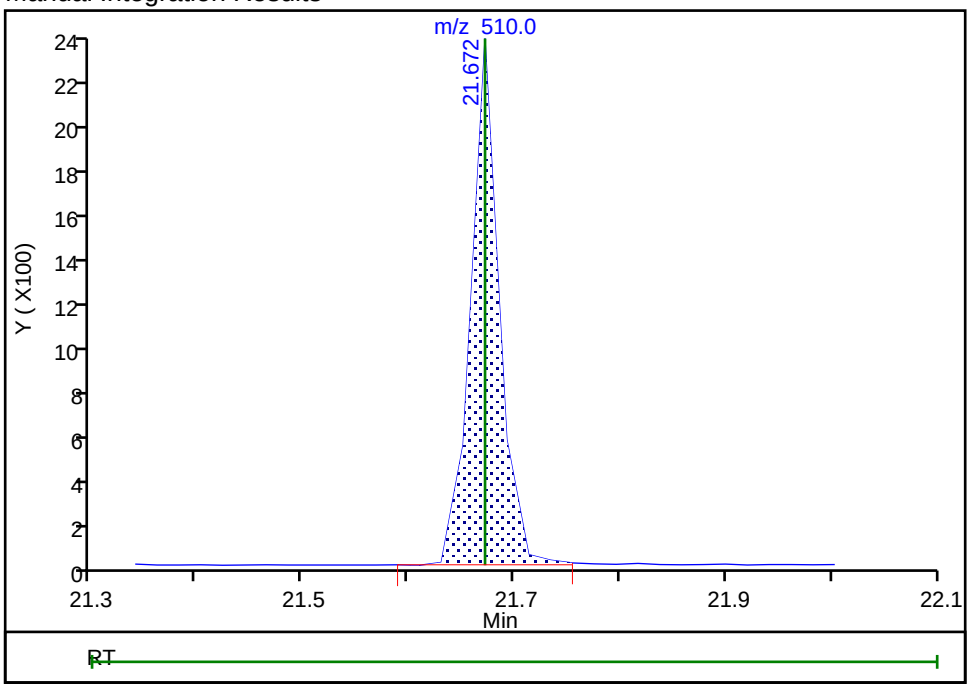
Processing Integration Results

RT: 21.67
Area: 4242
Amount: 0.440318
Amount Units: ug/ml



Manual Integration Results

RT: 21.67
Area: 4242
Amount: 0.440318
Amount Units: ug/ml



Reviewer: davisn, 08-Nov-2018 08:28:09
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0710.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 07-Nov-2018 17:06:30 ALS Bottle#: 9 Worklist Smp#: 14
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IB
Misc. Info.: 680-0051662-004
Operator ID: Instrument ID: CMSX
Sublist: chrom-680_CMSX*sub13

Method: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\680_CMSX.m
Limit Group: 680
Last Update: 08-Nov-2018 09:12:22 Calib Date: 07-Nov-2018 17:06:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0710.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0317

First Level Reviewer: davisn Date: 08-Nov-2018 08:28:59

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.657	9.160 - 10.154		0	8598	0.0515	
A 24 Total Dichlorobiphenyls	222	11.459	10.487 - 12.430		0	5630	0.0497	
* 5 Phenanthrene-d10	188	12.319	12.305	0.014	100	157590	0.7500	
A 25 Total Trichlorobiphenyls	256	13.144	11.794 - 14.495		0	3976	0.0495	
A 26 Total Tetrachlorobiphenyls	292	14.660	12.932 - 16.389		0	5672	0.0966	
A 27 Total Pentachlorobiphenyls	326	16.076	14.211 - 17.940		0	4059	0.0921	
A 28 Total Hexachlorobiphenyls	360	17.364	15.386 - 19.341		0	4303	0.0926	
A 29 Total Heptachlorobiphenyls	394	18.502	17.019 - 19.984		0	7650	0.1713	
* 15 Chrysene-d12	240	18.567	18.567	0.0	100	141602	0.7500	a
A 30 Total Octachlorobiphenyls	430	19.603	18.526 - 20.679		0	5405	0.1417	
$ 22 Decachlorobiphenyl-13C12	510	21.672	21.672	0.0	79	1944	0.1936	a
32 DCB Decachlorobiphenyl	498	21.672	21.672	0.0	79	1716	0.2048	a

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

680isomerCal6_00002 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.238	9.160 -	10.154	26	8598	0.0515			
190	9.238				2839		2.5- 3.5	3.0	
152	9.238				4694		50.7- 50.7	0.6	
153	9.238				2081		23.2- 23.2	1.4	
A 24 Total Dichlorobiphenyls									
222	11.464	10.487 -	12.430	28	5630	0.0497			
224	11.464				3690		1.3- 1.7	1.5	
152	11.464				4470		31.7- 111.7	0.8	
153	11.464				624		0.0- 49.1	5.9	
186	11.464				509		0.0- 48.9	7.2	
188	11.464				241		0.0- 43.3	15.3	
* 5 Phenanthrene-d10									
188	12.319	12.305	0.014	100	157590	0.7500			
189	12.319	12.305	0.014		23326		5.9- 7.5	6.8	
A 25 Total Trichlorobiphenyls									
256	12.983	11.794 -	14.495	94	3976	0.0495			
258	12.983				3814		0.8- 1.2	1.0	
186	12.983				2739		26.5- 106.5	1.4	
188	12.983				1097		0.0- 61.5	3.5	
A 26 Total Tetrachlorobiphenyls									
292	13.248	12.932 -	16.389	0	5672	0.0966			
290	13.248				4568		1.1- 1.5	1.2	
220	13.233				5387		58.1- 138.1	0.8	
222	13.233				3436		22.9- 102.9	1.3	
A 27 Total Pentachlorobiphenyls									
326	16.138	14.211 -	17.940	85	4059	0.0921			
324	16.138				2591		1.4- 1.8	1.6	
254	16.121				3105		41.9- 121.9	0.8	
256	16.121				2973		38.2- 118.2	0.9	
258	16.121				943		0.0- 65.4	2.7	
A 28 Total Hexachlorobiphenyls									
360	16.329	15.386 -	19.341	53	4303	0.0926			
362	16.329				3462		1.0- 1.4	1.2	
288	16.311				2369		61.3- 61.3	1.5	
290	16.311				3076		220.6- 220.6	1.1	
292	16.311				1927		0.0- 0.0	1.8	
A 29 Total Heptachlorobiphenyls									
394	17.081	17.019 -	19.984	81	7650	0.1713			
396	17.081				7188		0.8- 1.2	1.1	
322	17.081				3276		48.3- 48.3	2.2	
324	17.081				5185		77.4- 77.4	1.4	
* 15 Chrysene-d12									a
240	18.567	18.567	0.0	100	141602	0.7500			a
241	18.567	18.567	0.0		25197		4.3- 5.9	5.6	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.723	18.526	-20.679	78	5405	0.1417			
428	18.723				4709		0.9- 1.3	1.1	
356	18.723				2073		39.6- 39.6	2.3	
358	18.723				3839		75.2- 75.2	1.2	
360	18.723				3094		59.6- 59.6	1.5	
$ 22 Decachlorobiphenyl-13C12									a
510	21.672	21.672	0.0	79	1944	0.1936			a
512	21.672	21.672	0.0		1589		0.9- 1.3	1.2	
32 DCB Decachlorobiphenyl									a
498	21.672	21.672	0.0	79	1716	0.2048			a
500	21.672	21.672	0.0		1345		0.9- 1.3	1.3	
424	21.672	21.672	0.0		666		0.0- 0.0	1.0	
426	21.672	21.672	0.0		1593		0.0- 0.0	1.0	
428	21.672	21.672	0.0		1744		0.0- 0.0	1.0	
430	21.672	21.672	0.0		1245		0.0- 0.0	1.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal6_00002 Amount Added: 1.00 Units: mL

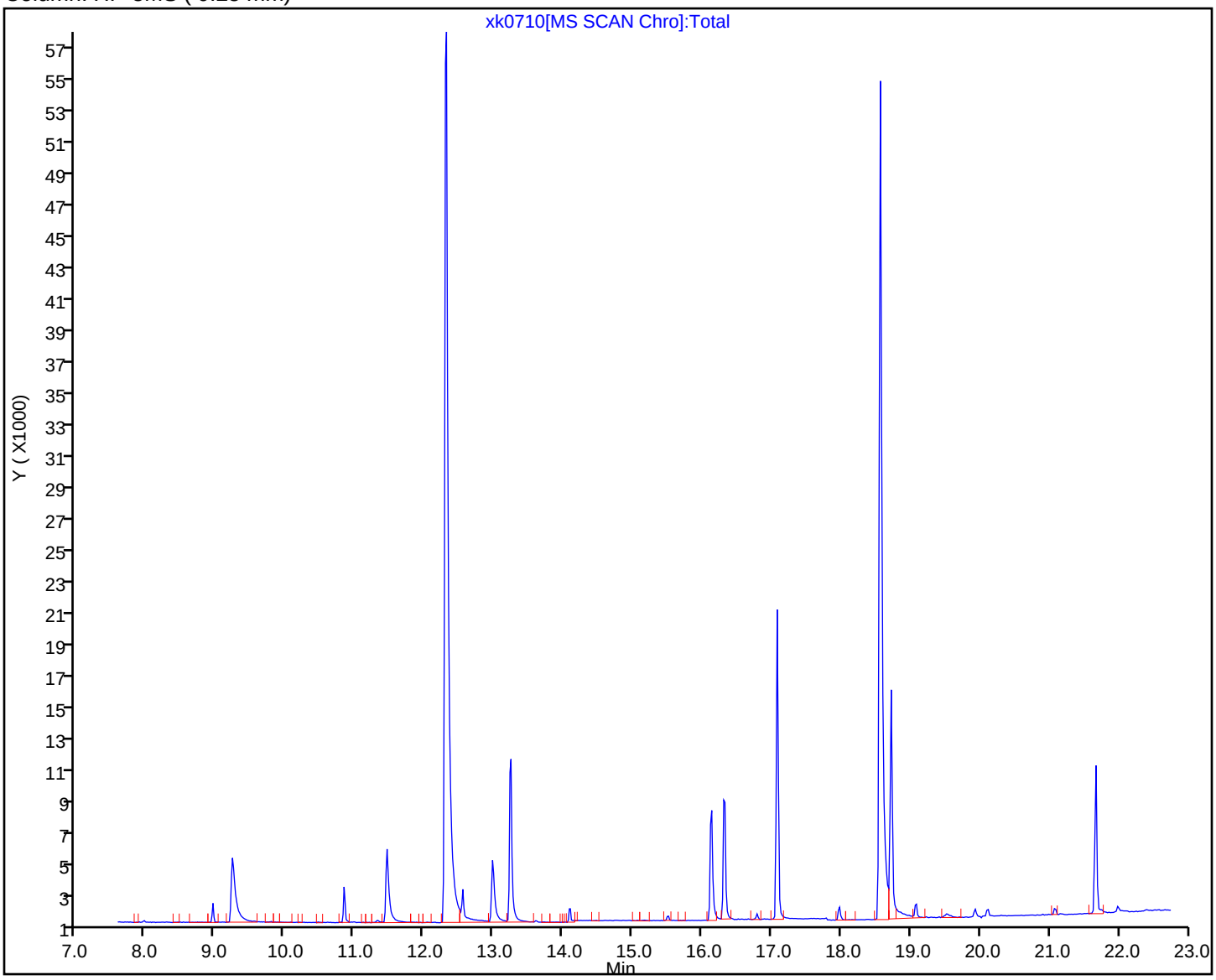
Report Date: 08-Nov-2018 09:12:23 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0710.D

Injection Date:	07-Nov-2018 17:06:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	9	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



Manual Integration/User Assign Peak Report

TestAmerica Savannah

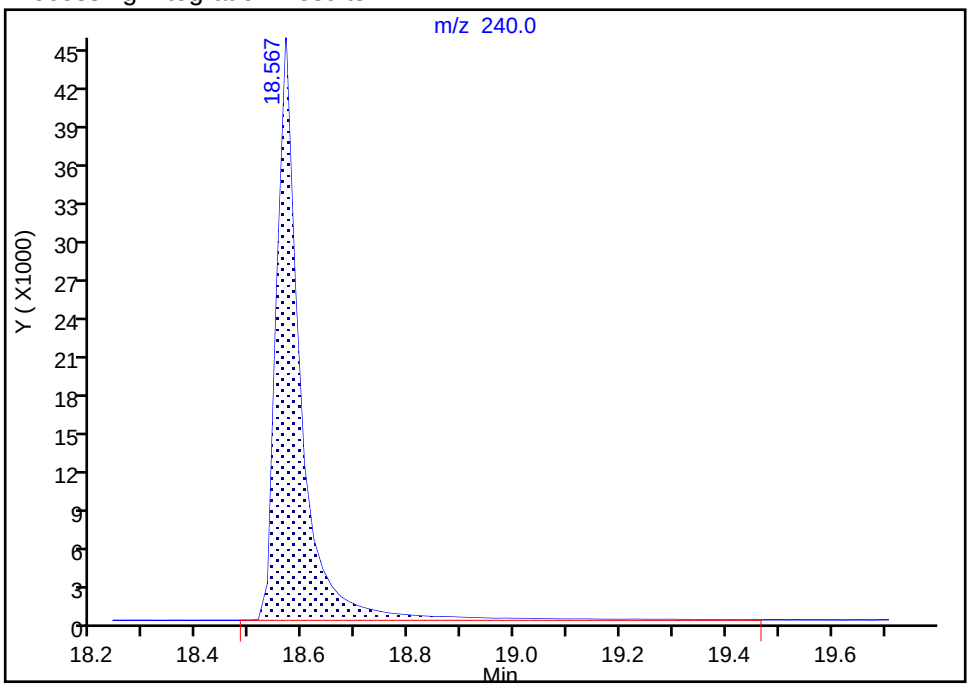
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0710.D
Injection Date: 07-Nov-2018 17:06:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 9 Worklist Smp#: 14
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

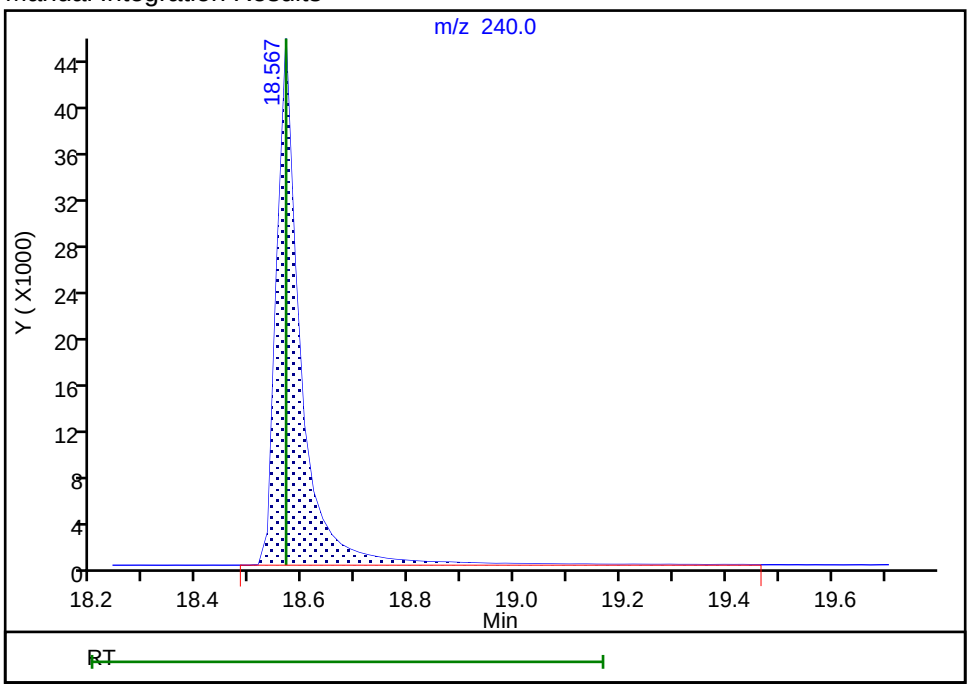
Processing Integration Results

RT: 18.57
Area: 141602
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.57
Area: 141602
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 08-Nov-2018 08:28:49
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Savannah

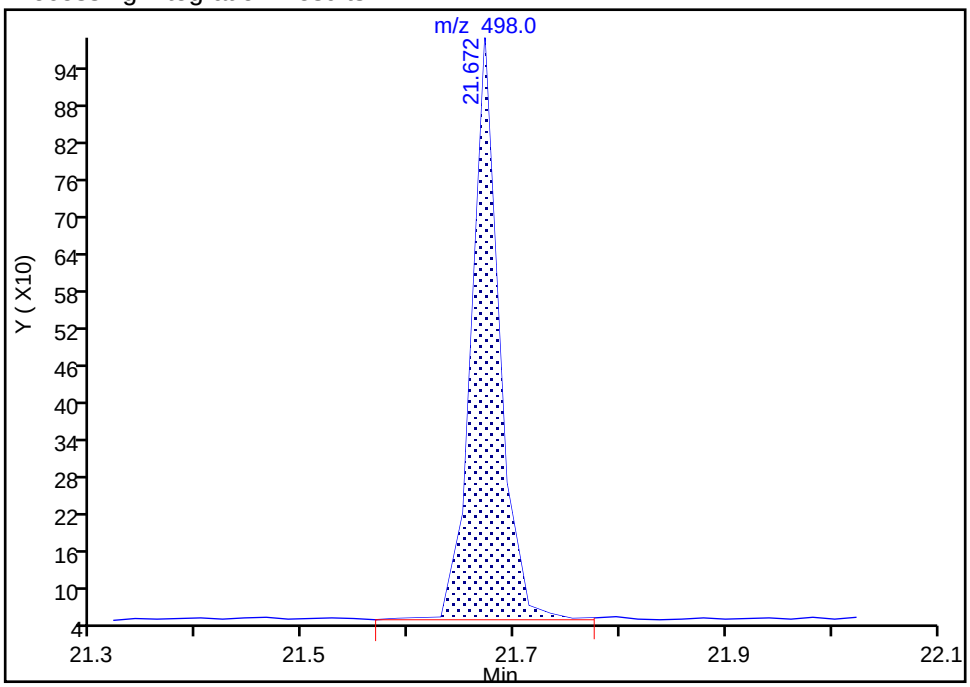
Data File:	\\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0710.D				
Injection Date:	07-Nov-2018 17:06:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	9	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

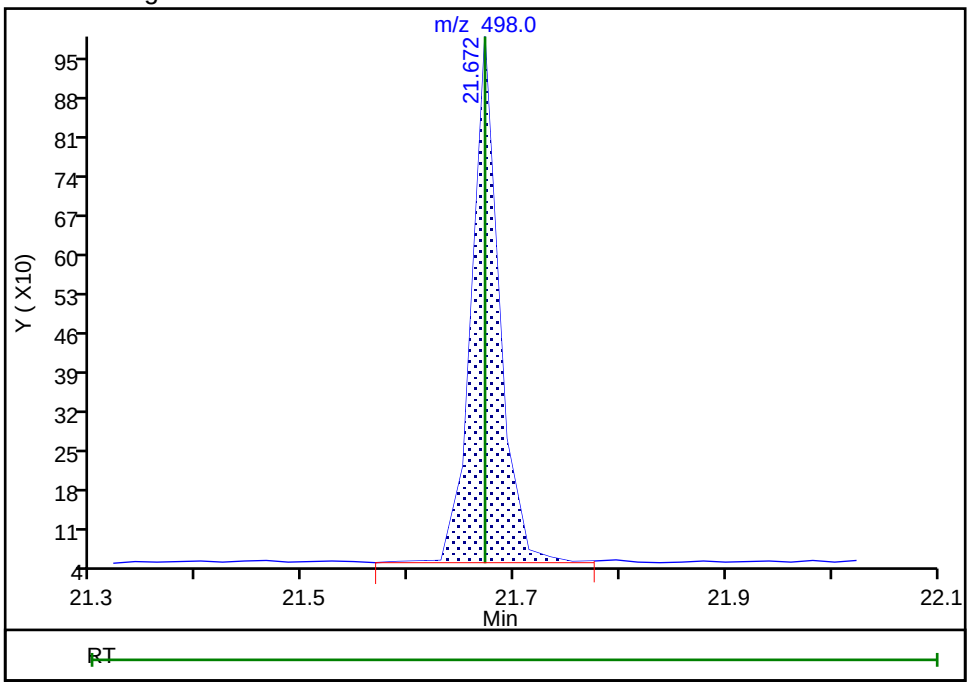
Processing Integration Results

RT: 21.67
Area: 1716
Amount: 0.204831
Amount Units: ug/ml



Manual Integration Results

RT: 21.67
Area: 1716
Amount: 0.204831
Amount Units: ug/ml



Reviewer: davisn, 08-Nov-2018 08:28:58

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Savannah

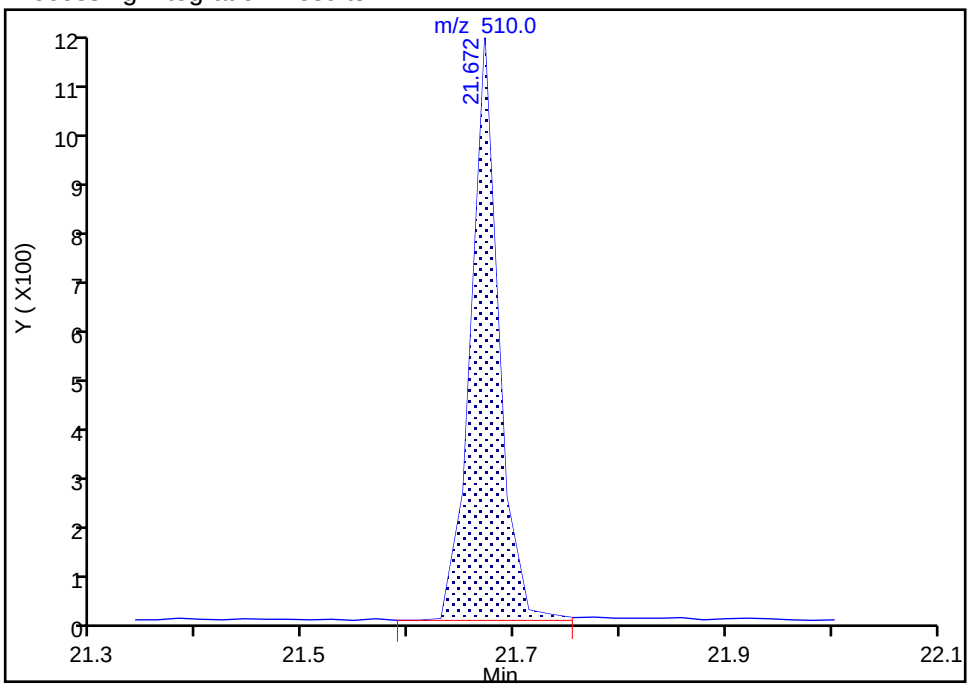
Data File:	\\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0710.D				
Injection Date:	07-Nov-2018 17:06:30	Instrument ID:	CMSX		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	9	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

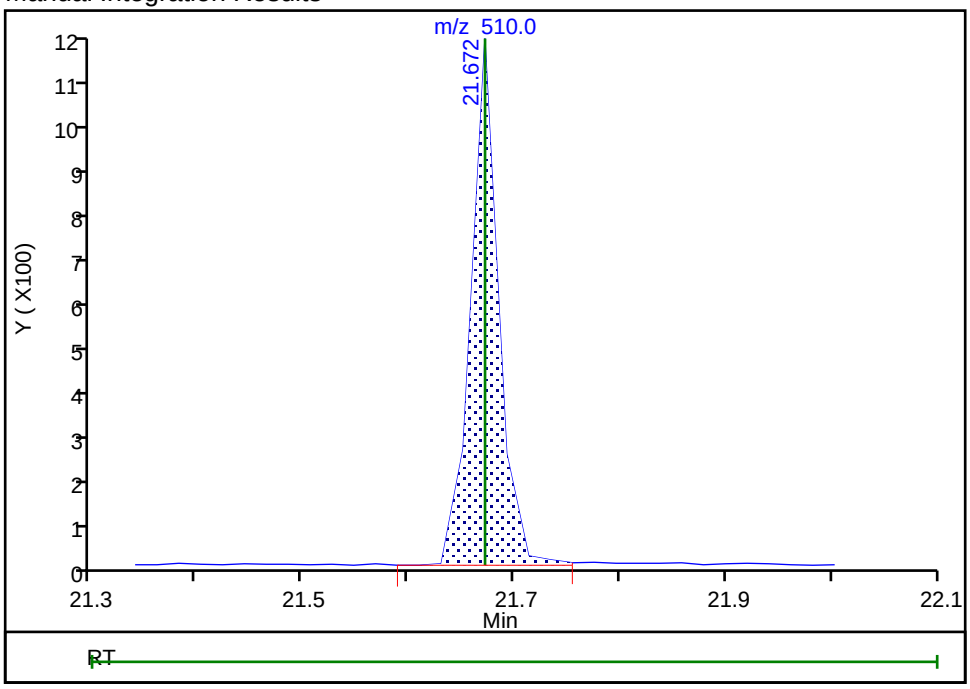
Processing Integration Results

RT: 21.67
Area: 1944
Amount: 0.193588
Amount Units: ug/ml



Manual Integration Results

RT: 21.67
Area: 1944
Amount: 0.193588
Amount Units: ug/ml



Reviewer: davisn, 08-Nov-2018 08:28:56

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Lab Sample ID: ICV 680-546611/15 Calibration Date: 11/07/2018 17:34

Instrument ID: CMSX Calib Start Date: 11/07/2018 15:12

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 11/07/2018 17:06

Lab File ID: xk0711.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.8841	0.9481		1.07	1.00	7.2	20.0
Total Dichlorobiphenyls	Ave	0.6000	0.6288		1.05	1.00	4.8	20.0
Total Trichlorobiphenyls	Ave	0.4252	0.4765		1.12	1.00	12.1	20.0
Total Tetrachlorobiphenyls	Ave	0.3111	0.3387		2.18	2.00	8.9	20.0
Total Pentachlorobiphenyls	Ave	0.2335	0.2535		2.17	2.00	8.6	20.0
Hexachlorobiphenyl	Ave	0.2461	0.2586		2.10	2.00	5.1	20.0
Heptachlorobiphenyl	Ave	0.2365	0.2312		2.93	3.00	-2.3	20.0
Octachlorobiphenyl	Ave	0.2020	0.2163		3.21	3.00	7.0	20.0
DCB Decachlorobiphenyl	Ave	0.0444	0.0473		5.33	5.00	6.6	20.0
Decachlorobiphenyl-13C12	Ave	0.0532	0.0601		5.65	5.00	13.0	20.0

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0711.D
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 07-Nov-2018 17:34:30 ALS Bottle#: 10 Worklist Smp#: 15
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IB
Misc. Info.: 680-0051662-004
Operator ID: Instrument ID: CMSX
Sublist:

Method: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\680_CMSX.m
Limit Group: 680
Last Update: 08-Nov-2018 08:41:25 Calib Date: 07-Nov-2018 17:06:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0710.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0317

First Level Reviewer: davisn Date: 08-Nov-2018 08:31:16

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.657	9.160 - 10.154		0	177353	1.07	
A 24 Total Dichlorobiphenyls	222	11.459	10.487 - 12.430		0	117629	1.05	
* 5 Phenanthrene-d10	188	12.304	12.305	-0.001	100	171986	0.7500	
A 25 Total Trichlorobiphenyls	256	13.144	11.794 - 14.495		0	89130	1.12	
9 PCB-104	326	14.271	14.271	0.0	84	155686	2.09	
A 26 Total Tetrachlorobiphenyls	292	14.656	12.932 - 16.381		0	126721	2.18	
A 27 Total Pentachlorobiphenyls	326	16.073	14.207 - 17.940		0	94852	2.17	
12 PCB-77	292	16.329	16.329	0.0	93	188745	2.06	
A 28 Total Hexachlorobiphenyls	360	17.364	15.386 - 19.341		0	96751	2.10	
A 29 Total Heptachlorobiphenyls	394	18.502	17.019 - 19.984		0	129737	2.93	
* 15 Chrysene-d12	240	18.567	18.567	0.0	100	140292	0.7500	a
A 30 Total Octachlorobiphenyls	430	19.603	18.526 - 20.679		0	121376	3.21	
19 PCB-208	464	20.161	20.161	0.0	87	63535	4.14	
A 31 Total Nonachlorobiphenyls	464	20.250	18.500 - 22.000		0	63560	7.66	
$ 22 Decachlorobiphenyl-13C12	510	21.672	21.672	0.0	74	56195	5.65	a
32 DCB Decachlorobiphenyl	498	21.672	21.672	0.0	74	44221	5.33	a

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

680cal3ICV_00054 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.223	9.160 -	10.154	22	177353	1.07			
190	9.223				57521		2.5- 3.5	3.1	
152	9.208				95442		50.7- 50.7	0.6	
153	9.208				42865		23.2- 23.2	1.3	
A 24 Total Dichlorobiphenyls									
222	11.449	10.487 -	12.430	25	117629	1.05			
224	11.449				75750		1.3- 1.7	1.6	
152	11.449				90573		31.7- 111.7	0.8	
153	11.449				11657		0.0- 49.1	6.5	
186	11.449				11222		0.0- 48.9	6.8	
188	11.449				4147		0.0- 43.3	18.3	
* 5 Phenanthrene-d10									
188	12.304	12.305	-0.001	100	171986	0.7500			
189	12.304	12.305	-0.001		25430		5.9- 7.5	6.8	
A 25 Total Trichlorobiphenyls									
256	12.983	11.794 -	14.495	90	89130	1.12			
258	12.983				86376		0.8- 1.2	1.0	
186	12.968				62656		26.5- 106.5	1.4	
188	12.968				20670		0.0- 61.5	4.2	
A 26 Total Tetrachlorobiphenyls									
292	13.233	12.932 -	16.381	0	126721	2.18			
290	13.233				99504		1.1- 1.5	1.3	
220	13.233				119528		58.1- 138.1	0.8	
222	13.233				77218		22.9- 102.9	1.3	
A 27 Total Pentachlorobiphenyls									
326	16.121	14.207 -	17.940	74	94852	2.17			
324	16.121				59554		1.4- 1.8	1.6	
254	16.121				71481		41.9- 121.9	0.8	
256	16.121				68267		38.2- 118.2	0.9	
258	16.121				22660		0.0- 65.4	2.6	
A 28 Total Hexachlorobiphenyls									
360	16.311	15.386 -	19.341	81	96751	2.10			
362	16.329				76182		1.0- 1.4	1.3	
288	16.311				57383		61.3- 61.3	1.3	
290	16.311				190864		220.6- 220.6	0.4	
292	16.329				188745		0.0- 0.0	0.4	
A 29 Total Heptachlorobiphenyls									
394	17.081	17.019 -	19.984	81	129737	2.93			
396	17.081				122839		0.8- 1.2	1.1	
322	17.081				56280		48.3- 48.3	2.2	
324	17.081				89311		77.4- 77.4	1.4	
* 15 Chrysene-d12									a
240	18.567	18.567	0.0	100	140292	0.7500			a
241	18.567	18.567	0.0		27069		4.3- 5.9	5.2	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.723	18.526	-20.679	78	121376	3.21			
428	18.723				110683		0.9- 1.3	1.1	
356	18.723				44806		39.6- 39.6	2.5	
358	18.723				84834		75.2- 75.2	1.3	
360	18.723				67319		59.6- 59.6	1.6	
A 31 Total Nonachlorobiphenyls									
464	20.161	18.500	-22.000	73	63560	7.66			
466	20.161				45812		1.1- 1.5	1.4	
390	20.161				26860		0.0- 0.0	1.7	
392	20.161				58943		0.0- 0.0	0.8	
394	20.161				55576		0.0- 0.0	0.8	
$ 22 Decachlorobiphenyl-13C12									a
510	21.672	21.672	0.0	74	56195	5.65			a
512	21.672	21.672	0.0		44521		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									a
498	21.672	21.672	0.0	74	44221	5.33			a
500	21.672	21.672	0.0		35699		0.9- 1.3	1.2	
424	21.672	21.672	0.0		16547		0.0- 0.0	1.0	
426	21.672	21.672	0.0		40477		0.0- 0.0	1.0	
428	21.672	21.672	0.0		44064		0.0- 0.0	1.0	
430	21.672	21.672	0.0		27446		0.0- 0.0	1.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680cal3ICV_00054 Amount Added: 1.00 Units: mL

Report Date: 08-Nov-2018 08:41:26 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0711.D

Injection Date: 07-Nov-2018 17:34:30 Instrument ID: CMSX

Lims ID: icv

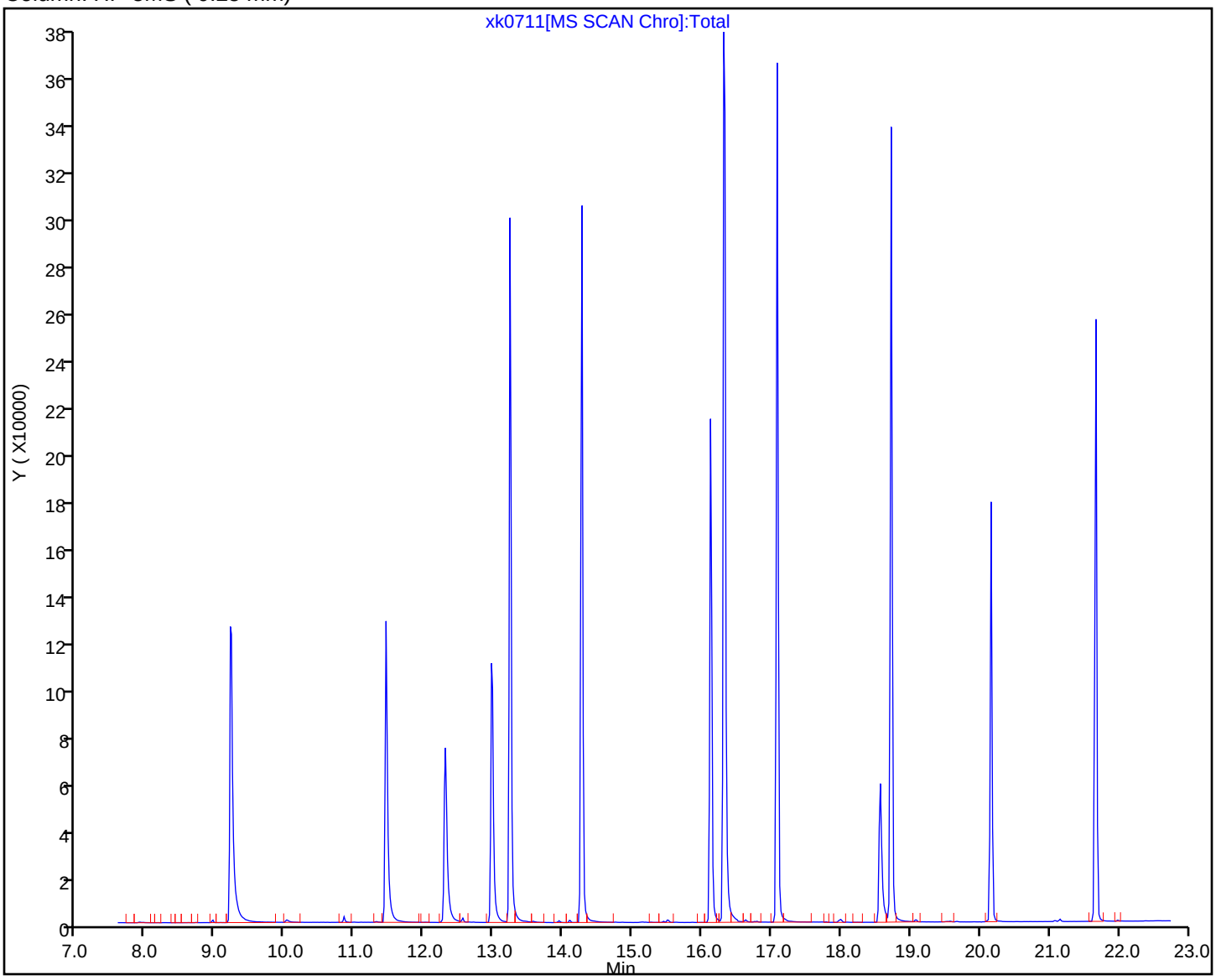
Client ID:

Operator ID: ALS Bottle#: 10 Worklist Smp#: 15

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: 680_CMSX Limit Group: 680

Column: HP-5MS (0.25 mm)



Manual Integration/User Assign Peak Report

TestAmerica Savannah

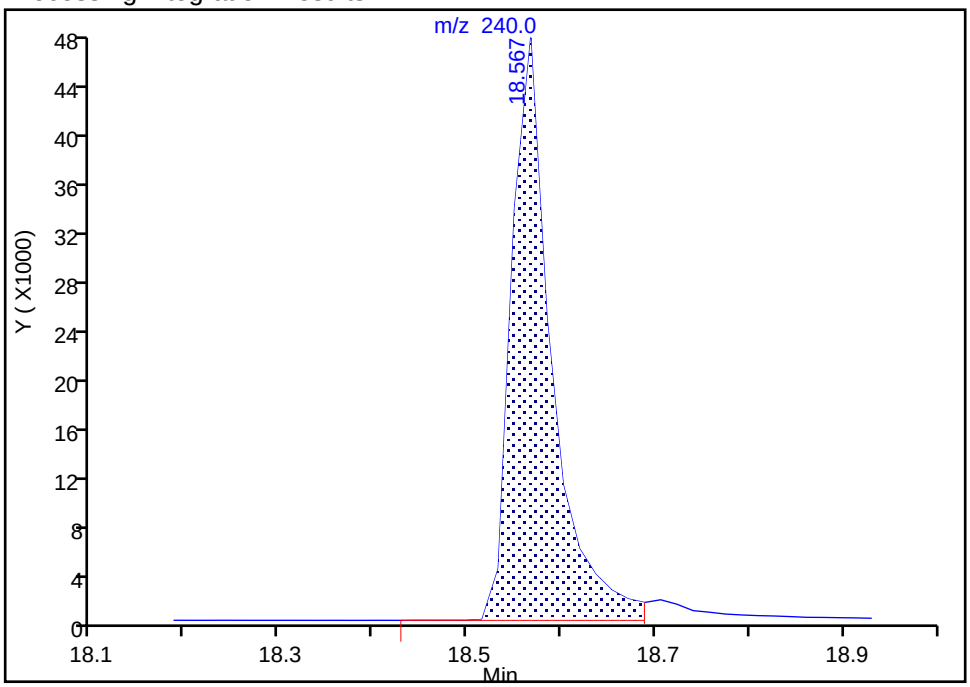
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0711.D
Injection Date: 07-Nov-2018 17:34:30 Instrument ID: CMSX
Lims ID: icv
Client ID:
Operator ID: ALS Bottle#: 10 Worklist Smp#: 15
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

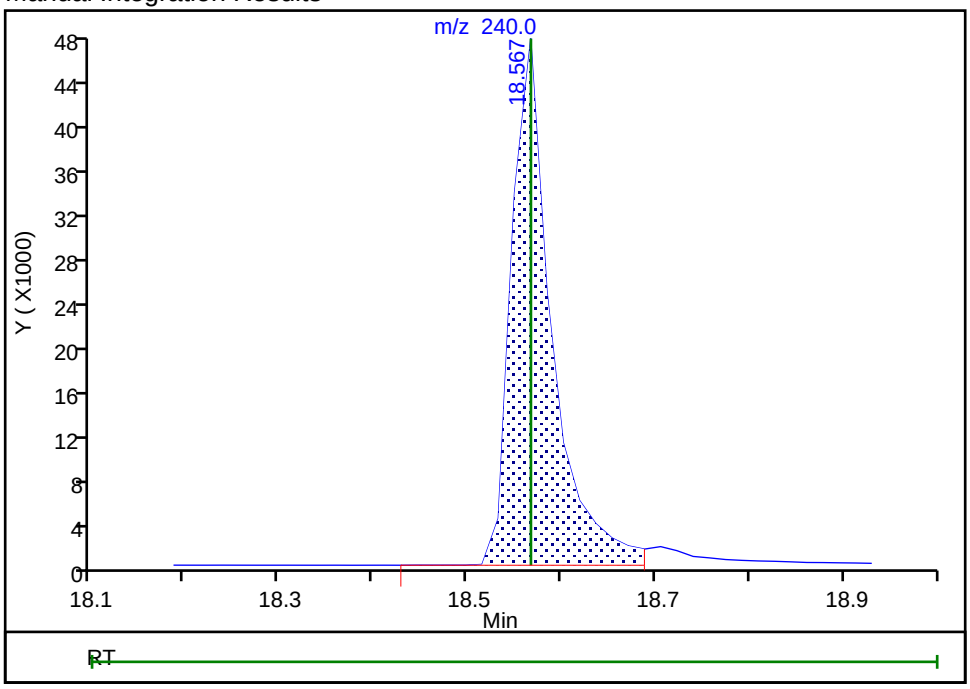
Processing Integration Results

RT: 18.57
Area: 140292
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.57
Area: 140292
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 08-Nov-2018 08:30:44
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Savannah

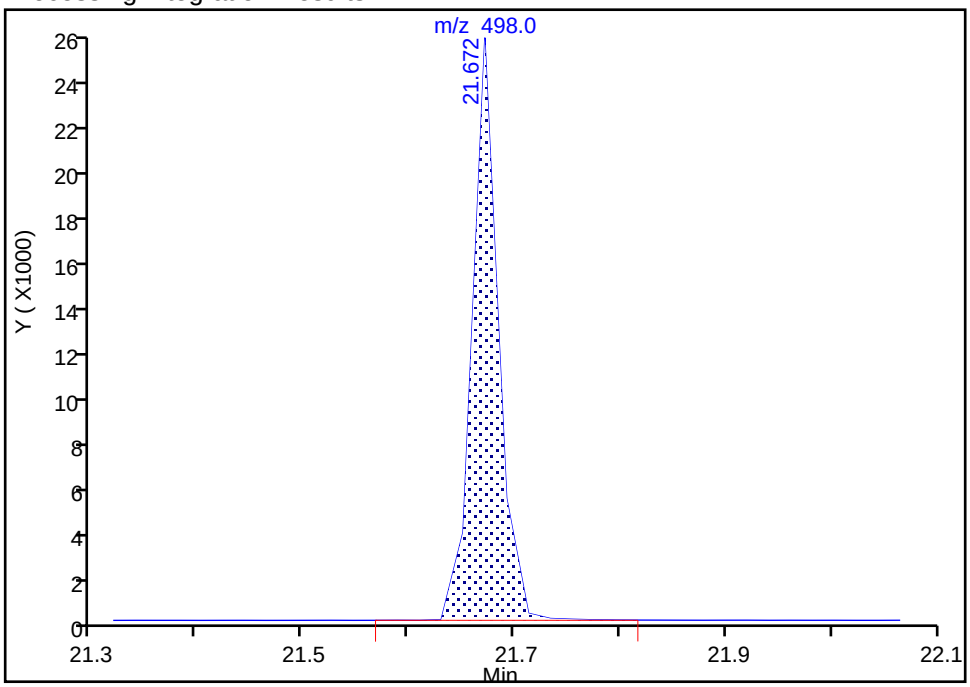
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0711.D
Injection Date: 07-Nov-2018 17:34:30 Instrument ID: CMSX
Lims ID: icv
Client ID:
Operator ID: ALS Bottle#: 10 Worklist Smp#: 15
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

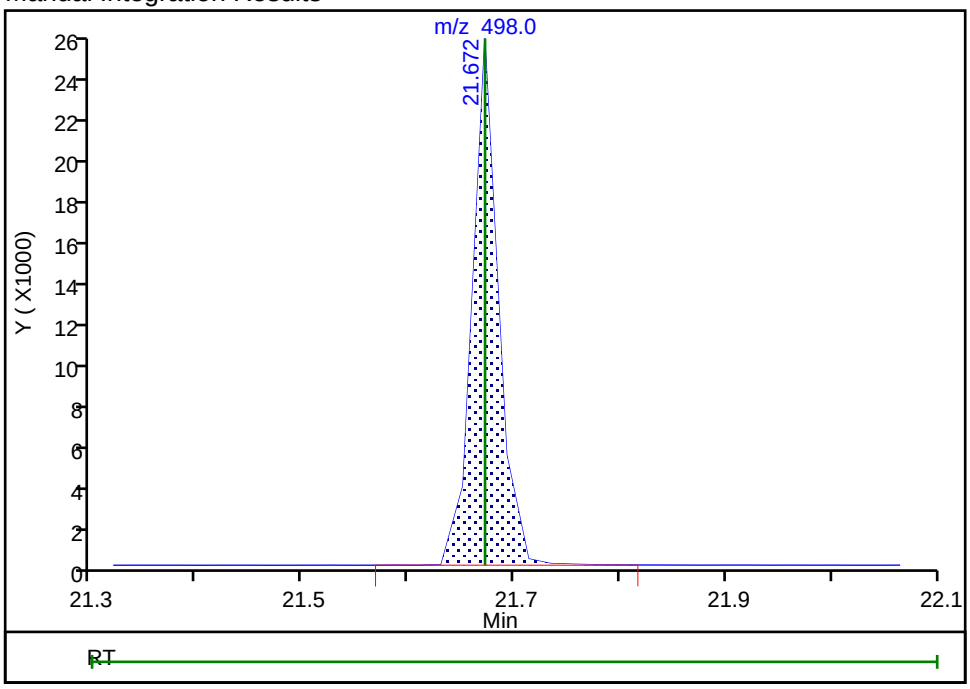
Processing Integration Results

RT: 21.67
Area: 44221
Amount: 5.327748
Amount Units: ug/ml



Manual Integration Results

RT: 21.67
Area: 44221
Amount: 5.327748
Amount Units: ug/ml



Reviewer: davisn, 08-Nov-2018 08:31:00
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Savannah

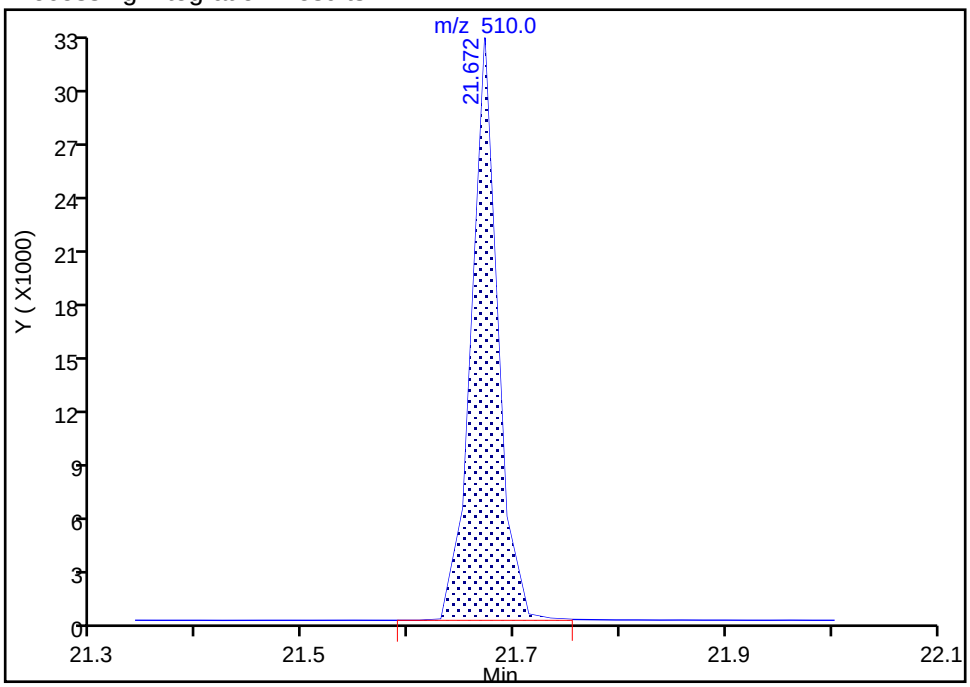
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0711.D
Injection Date: 07-Nov-2018 17:34:30 Instrument ID: CMSX
Lims ID: icv
Client ID:
Operator ID: ALS Bottle#: 10 Worklist Smp#: 15
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

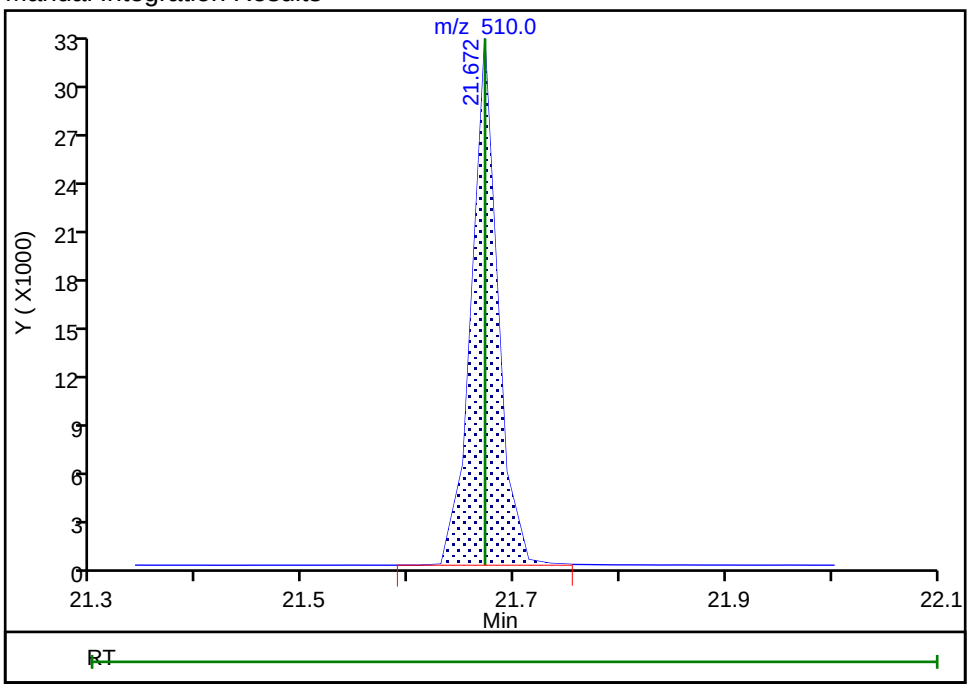
Processing Integration Results

RT: 21.67
Area: 56195
Amount: 5.648293
Amount Units: ug/ml



Manual Integration Results

RT: 21.67
Area: 56195
Amount: 5.648293
Amount Units: ug/ml



Reviewer: davisn, 08-Nov-2018 08:30:57
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Lab Sample ID: ICV 680-546611/15 Calibration Date: 11/07/2018 17:34

Instrument ID: CMSX Calib Start Date: 11/07/2018 13:33

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 11/07/2018 13:33

Lab File ID: xk0711.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nonachlorobiphenyl	Ave	0.0658	0.0850		7.66	4.00	29.1*	20.0

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0711.D
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 07-Nov-2018 17:34:30 ALS Bottle#: 10 Worklist Smp#: 15
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IB
Misc. Info.: 680-0051662-004
Operator ID: Instrument ID: CMSX
Sublist:

Method: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\680_CMSX.m
Limit Group: 680
Last Update: 08-Nov-2018 08:41:25 Calib Date: 07-Nov-2018 17:06:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0710.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0317

First Level Reviewer: davisn Date: 08-Nov-2018 08:31:16

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.657	9.160 - 10.154		0	177353	1.07	
A 24 Total Dichlorobiphenyls	222	11.459	10.487 - 12.430		0	117629	1.05	
* 5 Phenanthrene-d10	188	12.304	12.305	-0.001	100	171986	0.7500	
A 25 Total Trichlorobiphenyls	256	13.144	11.794 - 14.495		0	89130	1.12	
9 PCB-104	326	14.271	14.271	0.0	84	155686	2.09	
A 26 Total Tetrachlorobiphenyls	292	14.656	12.932 - 16.381		0	126721	2.18	
A 27 Total Pentachlorobiphenyls	326	16.073	14.207 - 17.940		0	94852	2.17	
12 PCB-77	292	16.329	16.329	0.0	93	188745	2.06	
A 28 Total Hexachlorobiphenyls	360	17.364	15.386 - 19.341		0	96751	2.10	
A 29 Total Heptachlorobiphenyls	394	18.502	17.019 - 19.984		0	129737	2.93	
* 15 Chrysene-d12	240	18.567	18.567	0.0	100	140292	0.7500	a
A 30 Total Octachlorobiphenyls	430	19.603	18.526 - 20.679		0	121376	3.21	
19 PCB-208	464	20.161	20.161	0.0	87	63535	4.14	
A 31 Total Nonachlorobiphenyls	464	20.250	18.500 - 22.000		0	63560	7.66	
$ 22 Decachlorobiphenyl-13C12	510	21.672	21.672	0.0	74	56195	5.65	a
32 DCB Decachlorobiphenyl	498	21.672	21.672	0.0	74	44221	5.33	a

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

680cal3ICV_00054 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.223	9.160 -	10.154	22	177353	1.07			
190	9.223				57521		2.5- 3.5	3.1	
152	9.208				95442		50.7- 50.7	0.6	
153	9.208				42865		23.2- 23.2	1.3	
A 24 Total Dichlorobiphenyls									
222	11.449	10.487 -	12.430	25	117629	1.05			
224	11.449				75750		1.3- 1.7	1.6	
152	11.449				90573		31.7- 111.7	0.8	
153	11.449				11657		0.0- 49.1	6.5	
186	11.449				11222		0.0- 48.9	6.8	
188	11.449				4147		0.0- 43.3	18.3	
* 5 Phenanthrene-d10									
188	12.304	12.305	-0.001	100	171986	0.7500			
189	12.304	12.305	-0.001		25430		5.9- 7.5	6.8	
A 25 Total Trichlorobiphenyls									
256	12.983	11.794 -	14.495	90	89130	1.12			
258	12.983				86376		0.8- 1.2	1.0	
186	12.968				62656		26.5- 106.5	1.4	
188	12.968				20670		0.0- 61.5	4.2	
A 26 Total Tetrachlorobiphenyls									
292	13.233	12.932 -	16.381	0	126721	2.18			
290	13.233				99504		1.1- 1.5	1.3	
220	13.233				119528		58.1- 138.1	0.8	
222	13.233				77218		22.9- 102.9	1.3	
A 27 Total Pentachlorobiphenyls									
326	16.121	14.207 -	17.940	74	94852	2.17			
324	16.121				59554		1.4- 1.8	1.6	
254	16.121				71481		41.9- 121.9	0.8	
256	16.121				68267		38.2- 118.2	0.9	
258	16.121				22660		0.0- 65.4	2.6	
A 28 Total Hexachlorobiphenyls									
360	16.311	15.386 -	19.341	81	96751	2.10			
362	16.329				76182		1.0- 1.4	1.3	
288	16.311				57383		61.3- 61.3	1.3	
290	16.311				190864		220.6- 220.6	0.4	
292	16.329				188745		0.0- 0.0	0.4	
A 29 Total Heptachlorobiphenyls									
394	17.081	17.019 -	19.984	81	129737	2.93			
396	17.081				122839		0.8- 1.2	1.1	
322	17.081				56280		48.3- 48.3	2.2	
324	17.081				89311		77.4- 77.4	1.4	
* 15 Chrysene-d12									a
240	18.567	18.567	0.0	100	140292	0.7500			a
241	18.567	18.567	0.0		27069		4.3- 5.9	5.2	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.723	18.526	-20.679	78	121376	3.21			
428	18.723				110683		0.9- 1.3	1.1	
356	18.723				44806		39.6- 39.6	2.5	
358	18.723				84834		75.2- 75.2	1.3	
360	18.723				67319		59.6- 59.6	1.6	
A 31 Total Nonachlorobiphenyls									
464	20.161	18.500	-22.000	73	63560	7.66			
466	20.161				45812		1.1- 1.5	1.4	
390	20.161				26860		0.0- 0.0	1.7	
392	20.161				58943		0.0- 0.0	0.8	
394	20.161				55576		0.0- 0.0	0.8	
$ 22 Decachlorobiphenyl-13C12									a
510	21.672	21.672	0.0	74	56195	5.65			a
512	21.672	21.672	0.0		44521		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									a
498	21.672	21.672	0.0	74	44221	5.33			a
500	21.672	21.672	0.0		35699		0.9- 1.3	1.2	
424	21.672	21.672	0.0		16547		0.0- 0.0	1.0	
426	21.672	21.672	0.0		40477		0.0- 0.0	1.0	
428	21.672	21.672	0.0		44064		0.0- 0.0	1.0	
430	21.672	21.672	0.0		27446		0.0- 0.0	1.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680cal3ICV_00054 Amount Added: 1.00 Units: mL

Report Date: 08-Nov-2018 08:41:26 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0711.D

Injection Date: 07-Nov-2018 17:34:30 Instrument ID: CMSX

Lims ID: icv

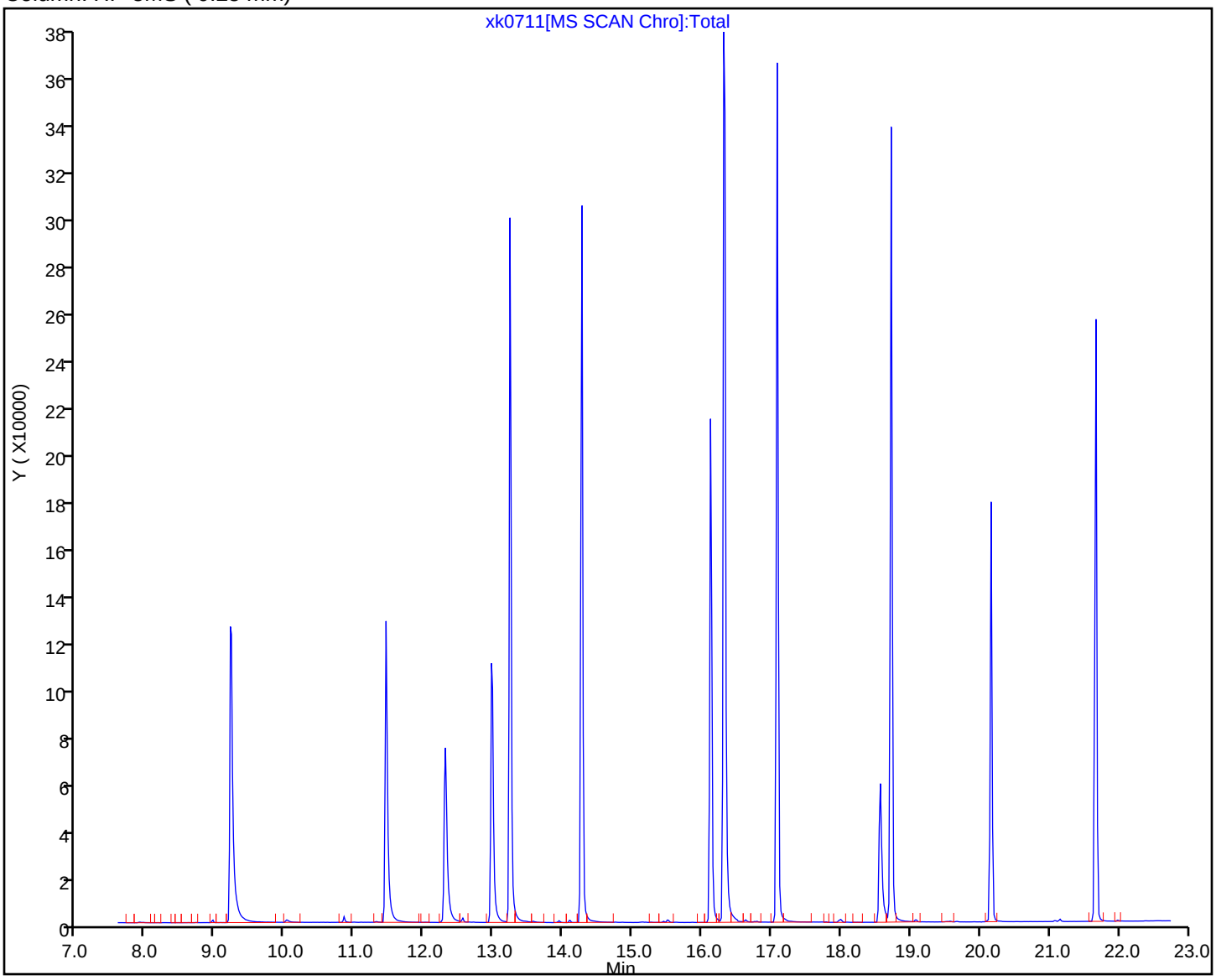
Client ID:

Operator ID: ALS Bottle#: 10 Worklist Smp#: 15

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: 680_CMSX Limit Group: 680

Column: HP-5MS (0.25 mm)



Manual Integration/User Assign Peak Report

TestAmerica Savannah

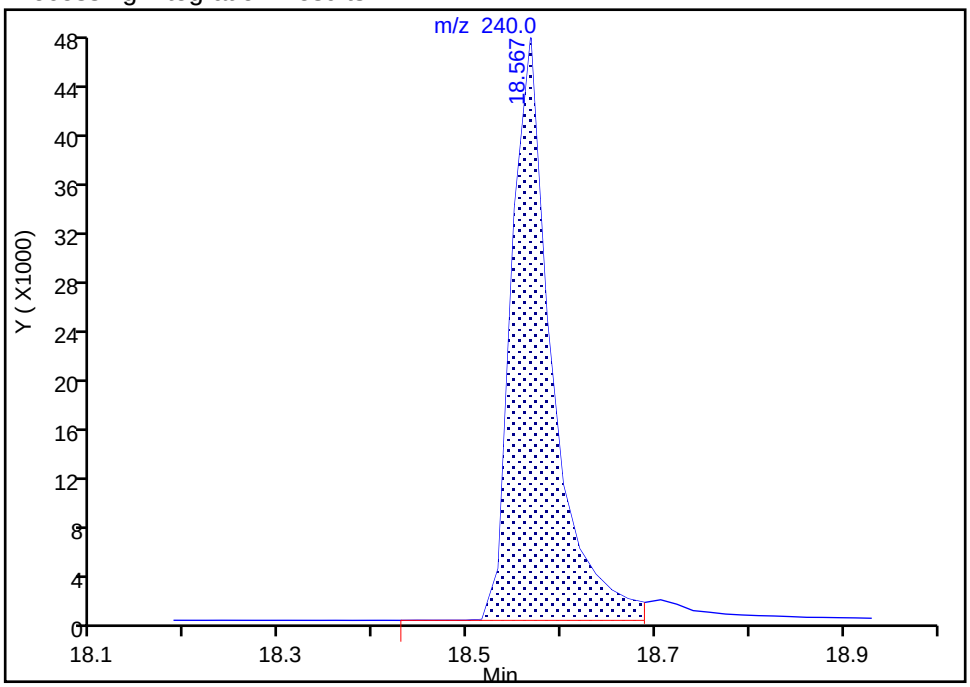
Data File:	\\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0711.D				
Injection Date:	07-Nov-2018 17:34:30	Instrument ID:	CMSX		
Lims ID:	icv				
Client ID:					
Operator ID:		ALS Bottle#:	10	Worklist Smp#:	15
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

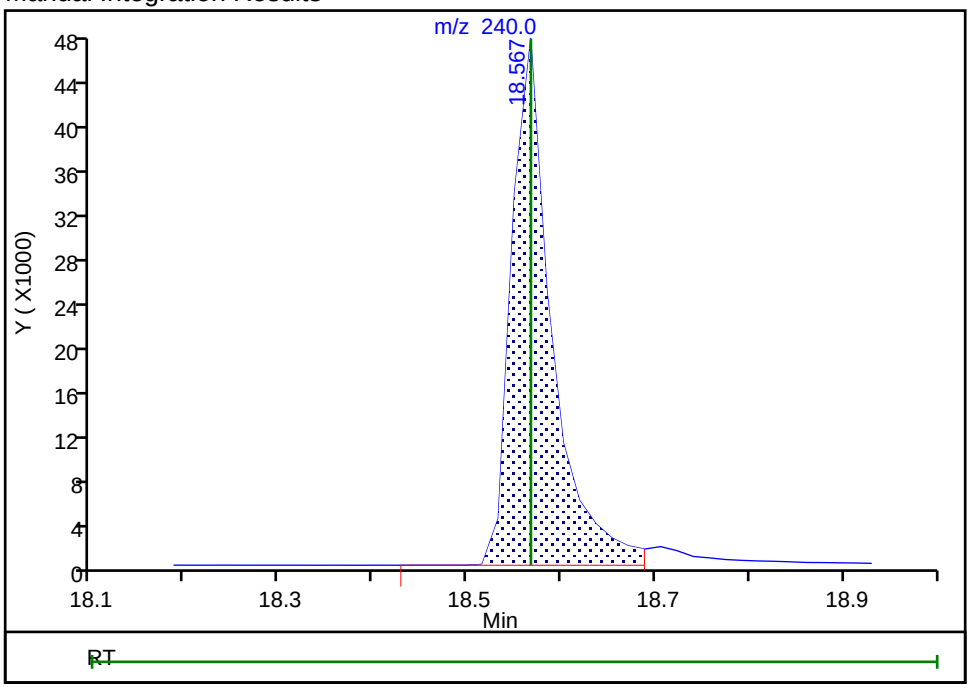
Processing Integration Results

RT: 18.57
Area: 140292
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.57
Area: 140292
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 08-Nov-2018 08:30:44

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Lab Sample ID: CCVIS 680-555586/3 Calibration Date: 01/18/2019 16:35

Instrument ID: CMSX Calib Start Date: 01/08/2019 15:11

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 01/08/2019 18:02

Lab File ID: xa1807.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.8305	0.7786		0.938	1.00	-6.2	20.0
Total Dichlorobiphenyls	Ave	0.5847	0.5256		0.899	1.00	-10.1	20.0
Total Trichlorobiphenyls	Ave	0.4198	0.4219		1.01	1.00	0.5	20.0
Total Tetrachlorobiphenyls	Ave	0.2951	0.2914		1.97	2.00	-1.3	20.0
Total Pentachlorobiphenyls	Ave	0.2400	0.2349		1.96	2.00	-2.1	20.0
Hexachlorobiphenyl	Ave	0.2384	0.2324		1.95	2.00	-2.5	20.0
Heptachlorobiphenyl	Ave	0.2376	0.2133		2.69	3.00	-10.2	20.0
Octachlorobiphenyl	Ave	0.2054	0.1993		2.91	3.00	-3.0	20.0
DCB Decachlorobiphenyl	Ave	0.0420	0.0402		4.79	5.00	-4.3	20.0
Decachlorobiphenyl-13C12	Ave	0.0539	0.0549		5.09	5.00	1.8	20.0

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1807.D
Lims ID: ccvis
Client ID:
Sample Type: CCVIS
Inject. Date: 18-Jan-2019 16:35:30 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS
Misc. Info.: 680-0053301-003
Operator ID: Instrument ID: CMSX
Sublist: chrom-680_CMSX*sub13

Method: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\680_CMSX.m
Limit Group: 680
Last Update: 20-Jan-2019 12:28:04 Calib Date: 08-Jan-2019 18:02:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: davisn Date: 20-Jan-2019 12:28:04

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.762	9.265 - 10.260		0	148943	0.9375	
A 24 Total Dichlorobiphenyls	222	11.569	10.603 - 12.535		0	100536	0.8988	
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	159535	0.7500	
A 25 Total Trichlorobiphenyls	256	13.260	11.920 - 14.600		0	80716	1.01	
9 PCB-104	326	14.399	14.399	0.0	80	141020	0	
A 26 Total Tetrachlorobiphenyls	292	14.778	13.058 - 16.499		0	111480	1.97	
A 27 Total Pentachlorobiphenyls	326	16.192	14.339 - 18.045		0	89885	1.96	
12 PCB-77	292	16.439	16.439	0.0	97	180314	0	
A 28 Total Hexachlorobiphenyls	360	17.480	15.502 - 19.457		0	88898	1.95	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	143472	0.7500	a
A 29 Total Heptachlorobiphenyls	394	18.749	17.146 - 20.353		0	122425	2.69	
A 30 Total Octachlorobiphenyls	430	19.729	18.652 - 20.806		0	114386	2.91	
A 31 Total Nonachlorobiphenyls	464	20.250	18.500 - 22.000		0	54568	6.80	
19 PCB-208	464	20.286	20.286	0.0	98	54882	0	
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	91	52491	5.09	
32 DCB Decachlorobiphenyl	498	21.796	21.796	0.0	91	38416	4.79	

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

680isomerCal3_00045 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	S/N	Flags
A 23 Total Monochlorobiphenyls										
188	9.328	9.265 -	10.260	22	148943	0.9375				
190	9.328				48181		2.5- 3.5	3.1		
152	9.328				83360		50.7- 50.7	0.6		
153	9.328				35597		23.2- 23.2	1.4		
A 24 Total Dichlorobiphenyls										
222	11.569	10.603 -	12.535	23	100536	0.8988				
224	11.569				64747		1.3- 1.7	1.6		
152	11.554				79796		31.7- 111.7	0.8		
153	11.554				10376		0.0- 49.1	6.2		
186	11.554				9766		0.0- 48.9	6.6		
188	11.569				3575		0.0- 43.3	18.1		
* 5 Phenanthrene-d10										
188	12.409	12.409	0.0	100	159535	0.7500				
189	12.409	12.409	0.0		23792		5.9- 7.5	6.7		
A 25 Total Trichlorobiphenyls										
256	13.087	11.920 -	14.600	97	80716	1.01				
258	13.087				77713		0.8- 1.2	1.0		
186	13.087				54943		26.5- 106.5	1.4		
188	13.087				18054		0.0- 61.5	4.3		
A 26 Total Tetrachlorobiphenyls										
292	13.367	13.058 -	16.499	0	111480	1.97				
290	13.367				86985		1.1- 1.5	1.3		
220	13.353				105979		58.1- 138.1	0.8		
222	13.353				68282		22.9- 102.9	1.3		
A 27 Total Pentachlorobiphenyls										
326	16.249	14.339 -	18.045	87	89885	1.96				
324	16.249				56051		1.4- 1.8	1.6		
254	16.249				65354		41.9- 121.9	0.9		
256	16.249				64044		38.2- 118.2	0.9		
258	16.249				21311		0.0- 65.4	2.6		
A 28 Total Hexachlorobiphenyls										
360	16.439	15.502 -	19.457	90	88898	1.95				
362	16.439				70419		1.0- 1.4	1.3		
288	16.439				51524		61.3- 61.3	1.4		
290	16.439				188273		220.6- 220.6	0.4		
292	16.439				180314		0.0- 0.0	0.4		
* 15 Chrysene-d12										a
240	18.668	18.668	0.0	100	143472	0.7500			188	a
241	18.668	18.668	0.0		27331		4.3- 5.9	5.2		
A 29 Total Heptachlorobiphenyls										
394	17.216	17.146 -	20.353	94	122425	2.69				
396	17.216				116607		0.8- 1.2	1.0		
322	17.198				51447		48.3- 48.3	2.3		
324	17.198				82918		77.4- 77.4	1.4		

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	S/N	Flags
A 30 Total Octachlorobiphenyls										
430	18.858	18.652	-20.806	93	114386	2.91				
428	18.858				105180		0.9- 1.3	1.1		
356	18.841				42451		39.6- 39.6	2.5		
358	18.841				79115		75.2- 75.2	1.3		
360	18.841				62434		59.6- 59.6	1.7		
A 31 Total Nonachlorobiphenyls										
464	20.286	18.500	-22.000	56	54568	6.80				
466	20.286				39088		1.1- 1.5	1.4		
390	20.286				27910		0.0- 0.0	1.4		
392	20.286				60280		0.0- 0.0	0.6		
394	20.286				56941		0.0- 0.0	0.7		
$ 22 Decachlorobiphenyl-13C12										
510	21.796	21.796	0.0	91	52491	5.09				
512	21.796	21.796	0.0		40702		0.9- 1.3	1.3		
32 DCB Decachlorobiphenyl										
498	21.796	21.796	0.0	91	38416	4.79			19592	
500	21.796	21.796	0.0		30817		0.9- 1.3	1.2		
424	21.796	21.796	0.0		17392		0.0- 0.0	1.0		
426	21.796	21.796	0.0		42268		0.0- 0.0	1.0		
428	21.796	21.796	0.0		45858		0.0- 0.0	1.0		
430	21.796	21.796	0.0		28844		0.0- 0.0	1.0		

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal3_00045 Amount Added: 1.00 Units: mL

Report Date: 20-Jan-2019 12:28:04 Chrom Revision: 2.3 13-Dec-2018 17:23:12

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1807.D

Injection Date: 18-Jan-2019 16:35:30 Instrument ID: CMSX

Lims ID: ccvis

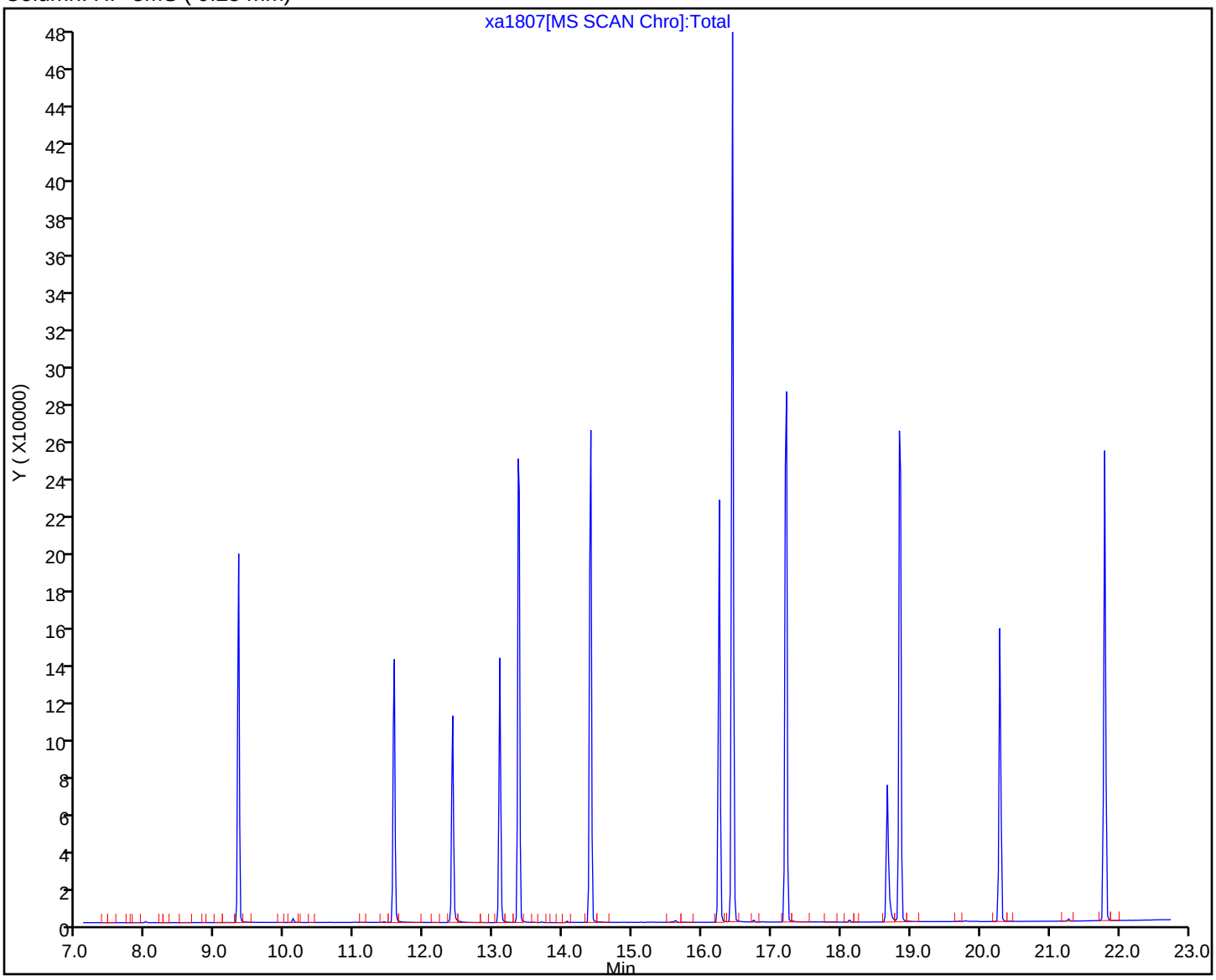
Client ID:

Operator ID: ALS Bottle#: 3 Worklist Smp#: 3

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: 680_CMSX Limit Group: 680

Column: HP-5MS (0.25 mm)



Manual Integration/User Assign Peak Report

TestAmerica Savannah

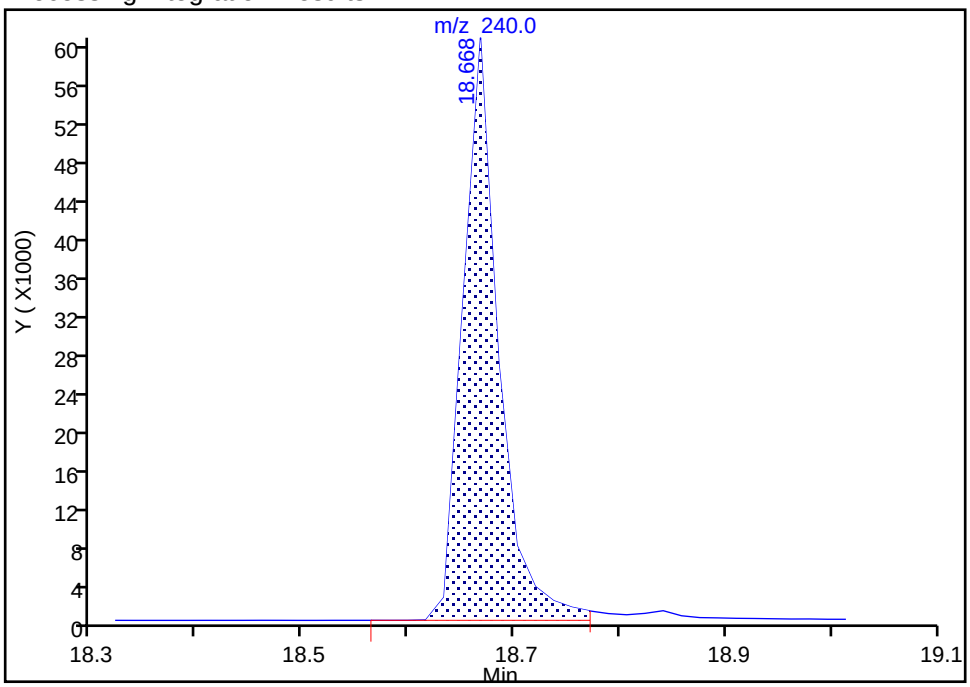
Data File:	\\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1807.D				
Injection Date:	18-Jan-2019 16:35:30	Instrument ID:	CMSX		
Lims ID:	ccvis				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

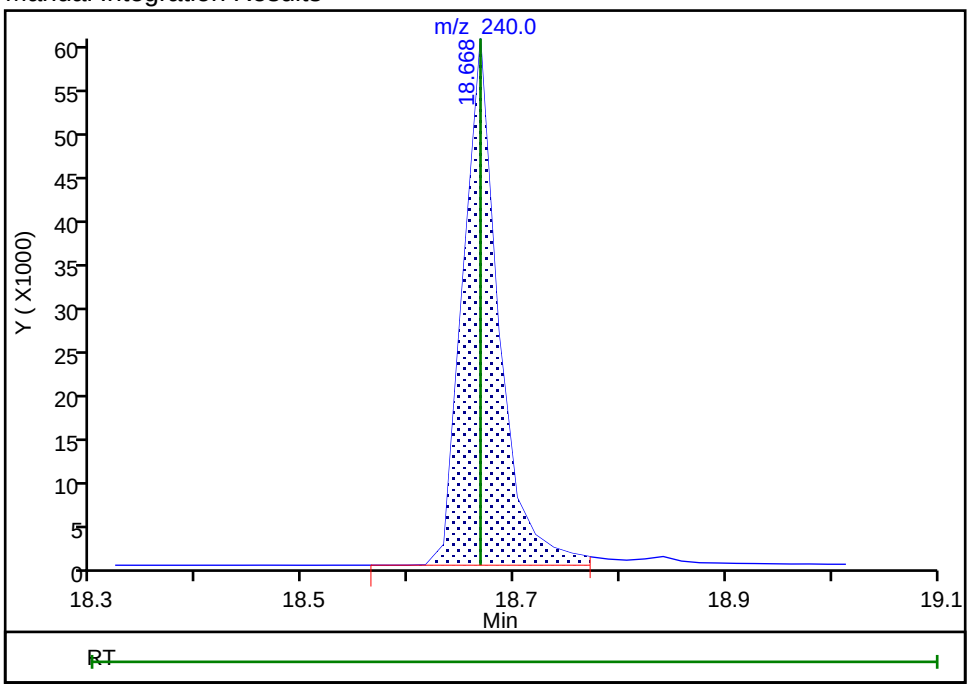
Processing Integration Results

RT: 18.67
Area: 143472
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.67
Area: 143472
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 20-Jan-2019 12:27:28
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Lab Sample ID: CCV 680-555586/9 Calibration Date: 01/18/2019 21:10

Instrument ID: CMSX Calib Start Date: 01/08/2019 15:11

GC Column: HP-5MS ID: 0.25(mm) Calib End Date: 01/08/2019 18:02

Lab File ID: xa1813.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Monochlorobiphenyl	Ave	0.8305	0.7602		0.915	1.00	-8.5	20.0
Total Dichlorobiphenyls	Ave	0.5847	0.5190		0.888	1.00	-11.2	20.0
Total Trichlorobiphenyls	Ave	0.4198	0.4130		0.984	1.00	-1.6	20.0
Total Tetrachlorobiphenyls	Ave	0.2951	0.2799		1.90	2.00	-5.2	20.0
Total Pentachlorobiphenyls	Ave	0.2400	0.2241		1.87	2.00	-6.6	20.0
Hexachlorobiphenyl	Ave	0.2384	0.2220		1.86	2.00	-6.9	20.0
Heptachlorobiphenyl	Ave	0.2376	0.1988		2.51	3.00	-16.3	20.0
Octachlorobiphenyl	Ave	0.2054	0.1876		2.74	3.00	-8.7	20.0
DCB Decachlorobiphenyl	Ave	0.0420	0.0380		4.53	5.00	-9.5	20.0
Decachlorobiphenyl-13C12	Ave	0.0539	0.0534		4.95	5.00	-1.0	20.0

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1813.D
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 18-Jan-2019 21:10:30 ALS Bottle#: 3 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: 680-0053301-009
Operator ID: Instrument ID: CMSX
Sublist: chrom-680_CMSX*sub13

Method: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\680_CMSX.m
Limit Group: 680
Last Update: 20-Jan-2019 12:33:45 Calib Date: 08-Jan-2019 18:02:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: davisn Date: 20-Jan-2019 12:33:45

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.762	9.265 - 10.260		0	143754	0.9153	
A 24 Total Dichlorobiphenyls	222	11.569	10.603 - 12.535		0	98136	0.8875	
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	155735	0.7500	
A 25 Total Trichlorobiphenyls	256	13.260	11.920 - 14.600		0	78103	0.9839	
9 PCB-104	326	14.399	14.399	0.001	79	133098	0	
A 26 Total Tetrachlorobiphenyls	292	14.778	13.058 - 16.499		0	105861	1.90	
A 27 Total Pentachlorobiphenyls	326	16.192	14.339 - 18.045		0	84754	1.87	
12 PCB-77	292	16.439	16.439	0.0	97	173439	0	
A 28 Total Hexachlorobiphenyls	360	17.480	15.502 - 19.457		0	83962	1.86	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	141829	0.7500	a
A 29 Total Heptachlorobiphenyls	394	18.749	17.146 - 20.353		0	112774	2.51	
A 30 Total Octachlorobiphenyls	430	19.729	18.652 - 20.806		0	106433	2.74	
A 31 Total Nonachlorobiphenyls	464	20.250	18.500 - 22.000		0	51513	6.49	
19 PCB-208	464	20.286	20.286	0.0	99	51826	0	
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	88	50451	4.95	a
32 DCB Decachlorobiphenyl	498	21.796	21.796	0.0	88	35912	4.53	a

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

680cal3ICV_00054 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.328	9.265 -	10.260	22	143754	0.9153			
190	9.328				46524		2.5- 3.5	3.1	
152	9.328				81955		50.7- 50.7	0.6	
153	9.328				34509		23.2- 23.2	1.3	
A 24 Total Dichlorobiphenyls									
222	11.569	10.603 -	12.535	23	98136	0.8875			
224	11.569				62579		1.3- 1.7	1.6	
152	11.554				76286		31.7- 111.7	0.8	
153	11.554				9781		0.0- 49.1	6.4	
186	11.554				9171		0.0- 48.9	6.8	
188	11.569				3522		0.0- 43.3	17.8	
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	155735	0.7500			
189	12.409	12.409	0.0		23213		5.9- 7.5	6.7	
A 25 Total Trichlorobiphenyls									
256	13.088	11.920 -	14.600	95	78103	0.9839			
258	13.088				74558		0.8- 1.2	1.0	
186	13.088				52670		26.5- 106.5	1.4	
188	13.088				17100		0.0- 61.5	4.4	
A 26 Total Tetrachlorobiphenyls									
292	13.368	13.058 -	16.499	0	105861	1.90			
290	13.368				83692		1.1- 1.5	1.3	
220	13.353				100718		58.1- 138.1	0.8	
222	13.353				64100		22.9- 102.9	1.3	
A 27 Total Pentachlorobiphenyls									
326	16.249	14.339 -	18.045	89	84754	1.87			
324	16.249				53704		1.4- 1.8	1.6	
254	16.249				61195		41.9- 121.9	0.9	
256	16.249				59863		38.2- 118.2	0.9	
258	16.249				19897		0.0- 65.4	2.7	
A 28 Total Hexachlorobiphenyls									
360	16.439	15.502 -	19.457	92	83962	1.86			
362	16.439				66192		1.0- 1.4	1.3	
288	16.439				49186		61.3- 61.3	1.3	
290	16.439				177337		220.6- 220.6	0.4	
292	16.439				173439		0.0- 0.0	0.4	
* 15 Chrysene-d12									a
240	18.668	18.668	0.0	100	141829	0.7500			a
241	18.668	18.668	0.0		27036		4.3- 5.9	5.2	
A 29 Total Heptachlorobiphenyls									
394	17.216	17.146 -	20.353	94	112774	2.51			
396	17.216				107837		0.8- 1.2	1.0	
322	17.198				49312		48.3- 48.3	2.2	
324	17.198				78335		77.4- 77.4	1.4	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.858	18.652	-20.806	93	106433	2.74			
428	18.858				97186		0.9- 1.3	1.1	
356	18.841				38945		39.6- 39.6	2.5	
358	18.841				74081		75.2- 75.2	1.3	
360	18.841				58868		59.6- 59.6	1.7	
A 31 Total Nonachlorobiphenyls									
464	20.286	18.500	-22.000	62	51513	6.49			
466	20.286				36324		1.1- 1.5	1.4	
390	20.286				25936		0.0- 0.0	1.4	
392	20.286				55954		0.0- 0.0	0.6	
394	20.286				53079		0.0- 0.0	0.7	
$ 22 Decachlorobiphenyl-13C12									a
510	21.796	21.796	0.0	88	50451	4.95			a
512	21.796	21.796	0.0		38975		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									a
498	21.796	21.796	0.0	88	35912	4.53			a
500	21.796	21.796	0.0		28887		0.9- 1.3	1.2	
424	21.796	21.796	0.0		16518		0.0- 0.0	1.0	
426	21.796	21.796	0.0		39827		0.0- 0.0	1.0	
428	21.796	21.796	0.0		42832		0.0- 0.0	1.0	
430	21.796	21.796	0.0		27026		0.0- 0.0	1.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680cal3ICV_00054 Amount Added: 1.00 Units: mL

Report Date: 20-Jan-2019 12:33:45 Chrom Revision: 2.3 13-Dec-2018 17:23:12

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1813.D

Injection Date: 18-Jan-2019 21:10:30 Instrument ID: CMSX

Lims ID: ccv

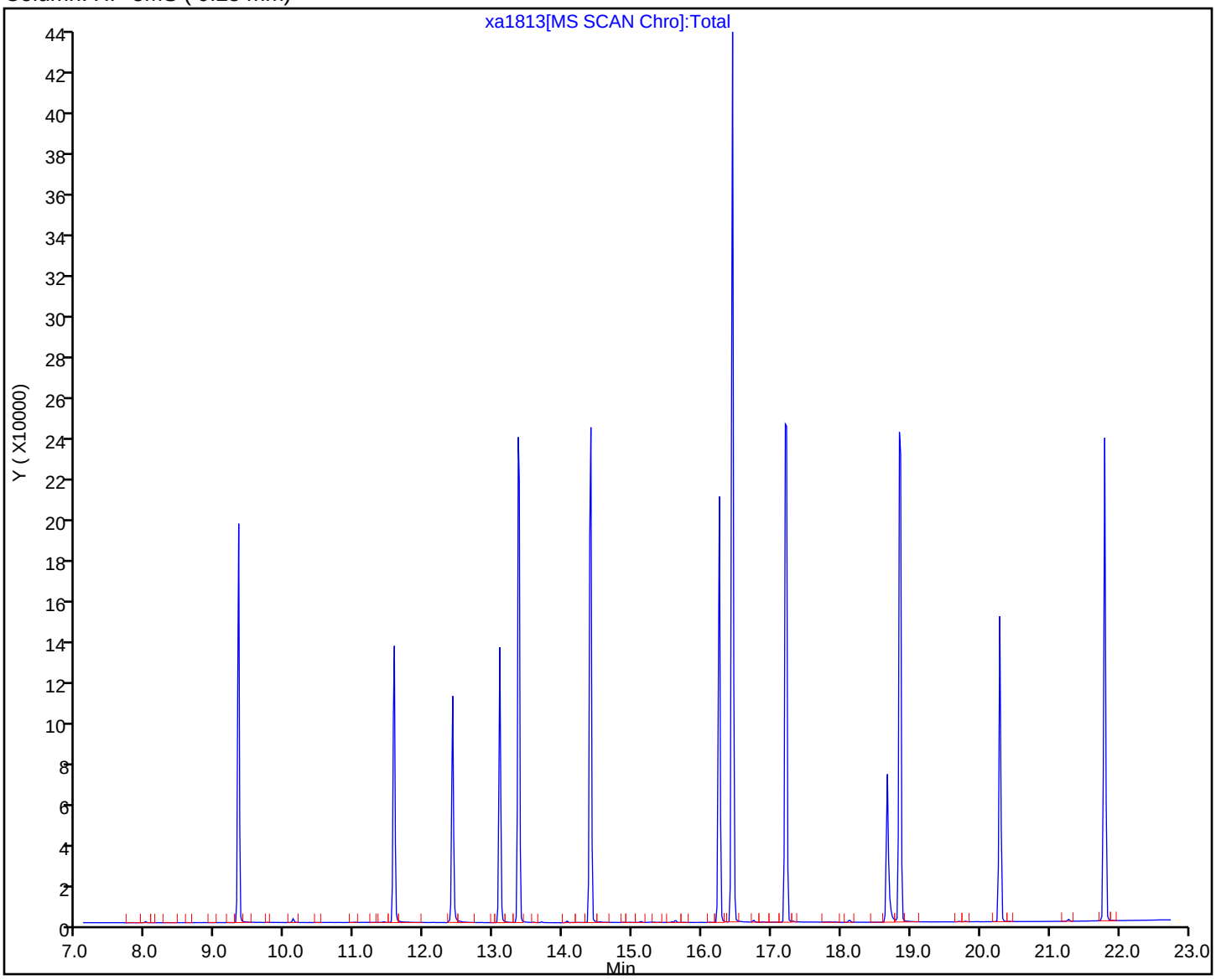
Client ID:

Operator ID: ALS Bottle#: 3 Worklist Smp#: 9

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: 680_CMSX Limit Group: 680

Column: HP-5MS (0.25 mm)



Manual Integration/User Assign Peak Report

TestAmerica Savannah

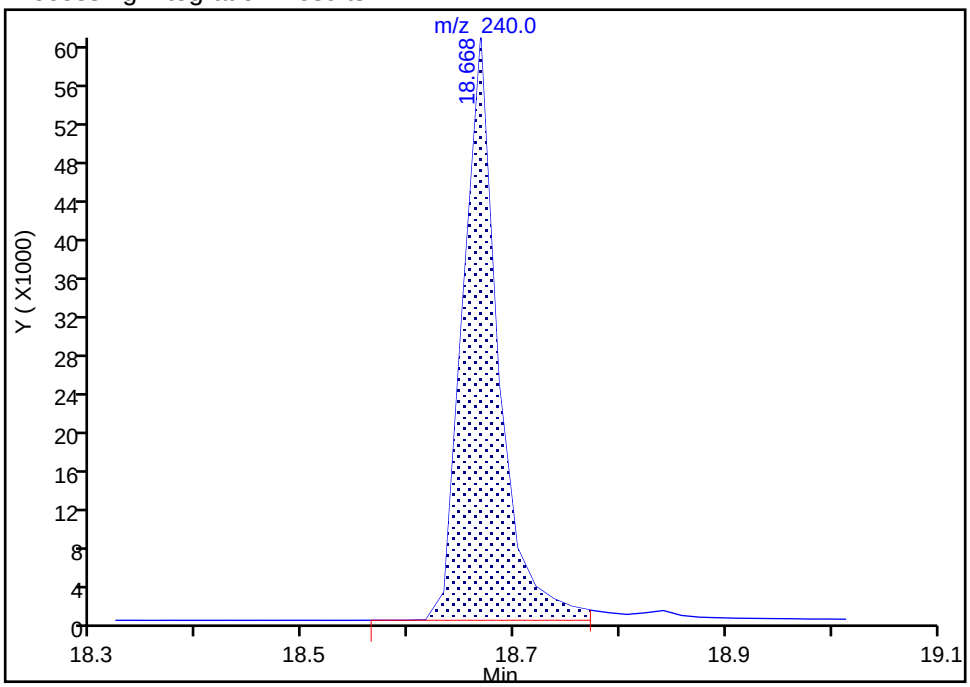
Data File:	\\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1813.D				
Injection Date:	18-Jan-2019 21:10:30	Instrument ID:	CMSX		
Lims ID:	ccv				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

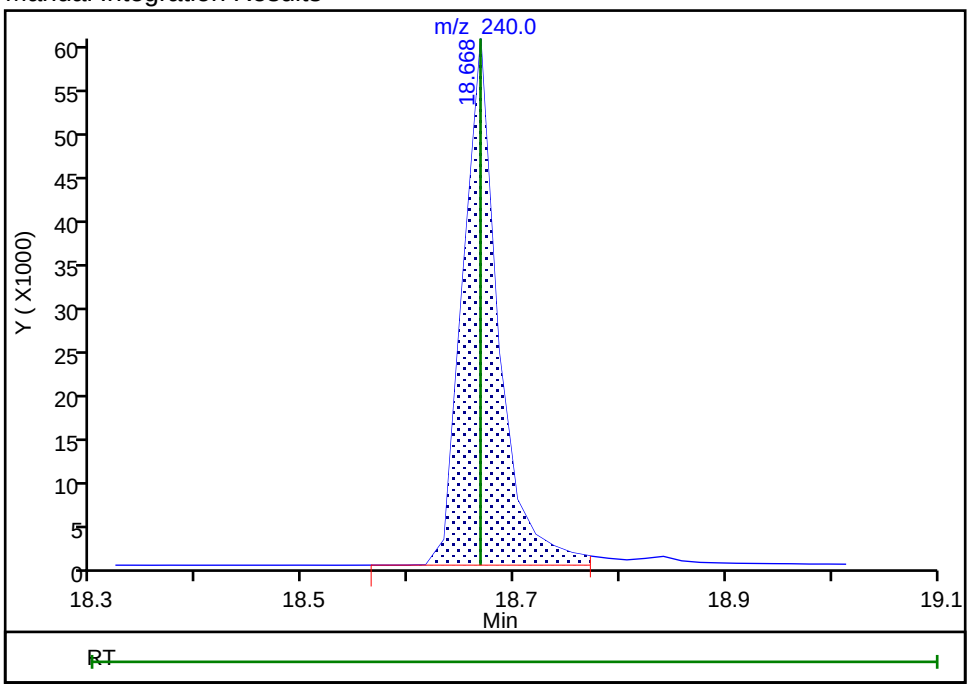
Processing Integration Results

RT: 18.67
Area: 141829
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.67
Area: 141829
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 20-Jan-2019 12:33:11
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Savannah

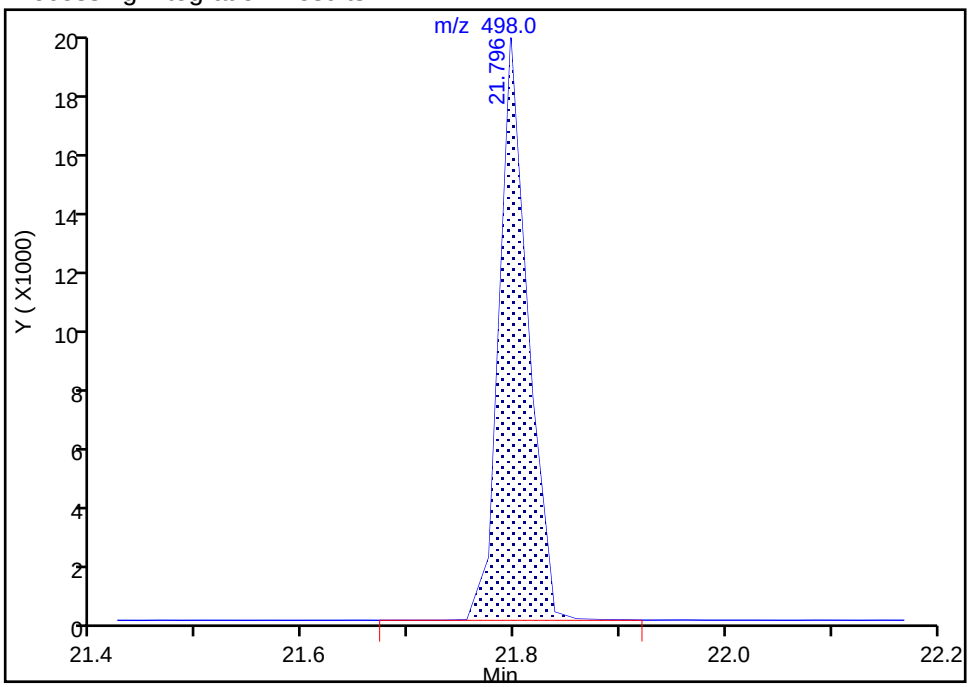
Data File:	\\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1813.D				
Injection Date:	18-Jan-2019 21:10:30	Instrument ID:	CMSX		
Lims ID:	ccv				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

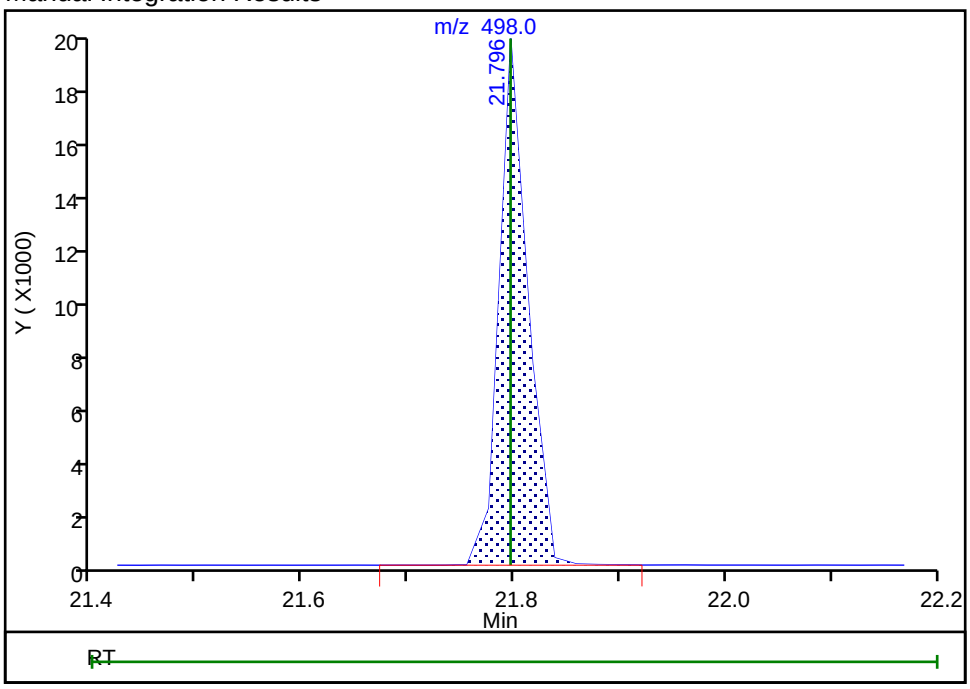
Processing Integration Results

RT: 21.80
Area: 35912
Amount: 4.525387
Amount Units: ug/ml



Manual Integration Results

RT: 21.80
Area: 35912
Amount: 4.525387
Amount Units: ug/ml



Reviewer: davisn, 20-Jan-2019 12:33:38

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Savannah

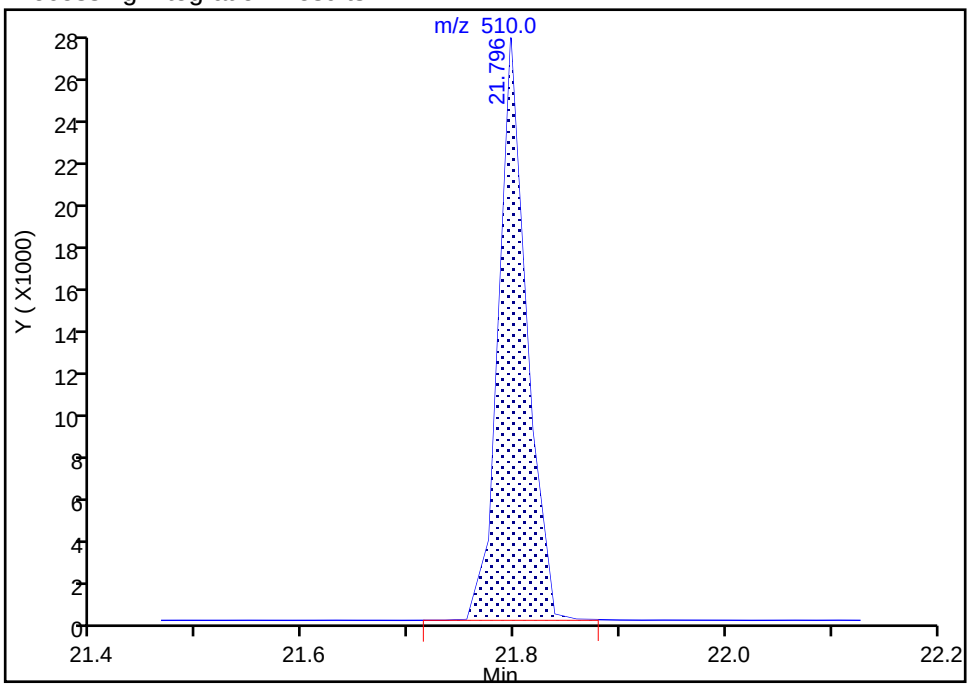
Data File:	\\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1813.D				
Injection Date:	18-Jan-2019 21:10:30	Instrument ID:	CMSX		
Lims ID:	ccv				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

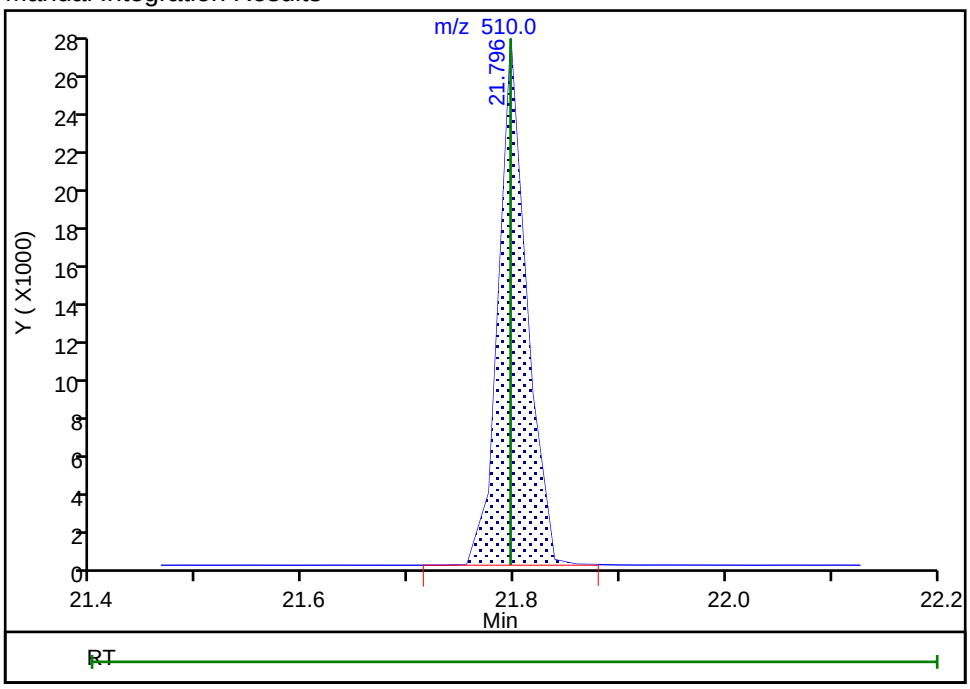
Processing Integration Results

RT: 21.80
Area: 50451
Amount: 4.950411
Amount Units: ug/ml



Manual Integration Results

RT: 21.80
Area: 50451
Amount: 4.950411
Amount Units: ug/ml



Reviewer: davisn, 20-Jan-2019 12:33:36

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

TestAmerica Savannah
Target Compound Quantitation Report

Data File:	\\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0701.D				
Lims ID:	dftpp				
Client ID:					
Sample Type:	DFTPP				
Inject. Date:	07-Nov-2018 12:32:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	DFTPP				
Misc. Info.:	680-0051662-001				
Operator ID:		Instrument ID:	CMSX		
Method:	\\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\680_CMSX.m				
Limit Group:	680				
Last Update:	08-Nov-2018 09:12:14	Calib Date:	07-Nov-2018 17:06:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0710.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0317				

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags

8 DFTPP

Reagents:

SM680dftpp_00038 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
8 DFTPP									
198	13.416	13.416	0.0	0	293058		-1.0- -1.0		

Reagents:

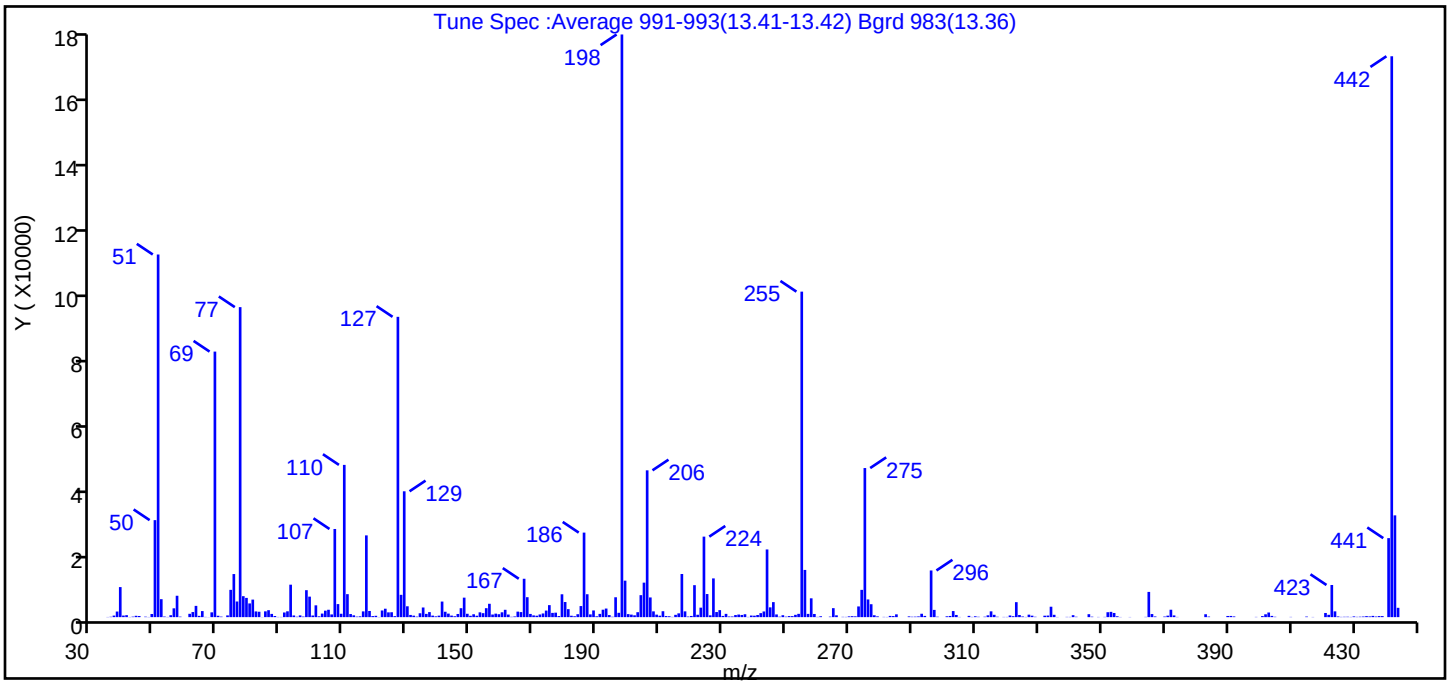
SM680dftpp_00038 Amount Added: 1.00 Units: mL

MS Tune Report

TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0701.D
Injection Date: 07-Nov-2018 12:32:30 Instrument ID: CMSX
Lims ID: dftpp
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Tune Method: DFTPP Method 680

8 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	100% (Base Peak)	100.0
127	40-60% of m/z 198	51.5
197	<1% of m/z 198	0.7
199	5-9% of m/z 198	6.3
275	10-30% of m/z 198	25.6
365	>1% of m/z 198	4.3
441	Present and <m/z 443	13.6 (77.6)
442	>40% of m/z 198	96.3
443	17-23% of m/z 442	17.5 (18.1)

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0701.D\680_CMSX.rslt\spectra.d
Injection Date: 07-Nov-2018 12:32:30
Spectrum: Tune Spec :Average 991-993(13.41-13.42) Bgrd 983(13.36)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 342

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	52	125.00	1440	211.00	1740	309.00	68
36.00	108	126.00	292	212.00	319	310.00	252
37.00	458	127.00	88240	213.00	263	311.00	108
38.00	1648	128.00	6557	214.00	69	313.00	129
39.00	8831	129.00	36976	215.00	678	314.00	534
40.00	464	130.00	3190	216.00	1114	315.00	1704
41.00	579	131.00	648	217.00	12678	316.00	685
42.00	52	132.00	440	218.00	1698	317.00	122
43.00	152	133.00	158	219.00	179	319.00	63
44.00	397	134.00	1137	220.00	348	320.00	64
45.00	338	135.00	2836	221.00	9394	321.00	487
47.00	139	136.00	955	222.00	700	322.00	273
48.00	52	137.00	1481	223.00	2787	323.00	4402
49.00	928	138.00	450	224.00	23656	324.00	635
50.00	28504	139.00	234	225.00	6789	325.00	198
51.00	106552	140.00	439	226.00	528	326.00	58
52.00	5277	141.00	4579	227.00	11383	327.00	729
53.00	172	142.00	1585	228.00	1497	328.00	429
54.00	58	143.00	1035	229.00	2060	329.00	110
55.00	565	144.00	457	230.00	358	332.00	424
56.00	2591	145.00	264	231.00	962	333.00	464
57.00	6284	146.00	931	232.00	194	334.00	3061
58.00	144	147.00	2629	233.00	193	335.00	687
61.00	980	148.00	5728	234.00	614	336.00	52
62.00	1497	149.00	990	235.00	762	339.00	75
63.00	3309	150.00	401	236.00	640	340.00	69
64.00	378	151.00	845	237.00	854	341.00	577
65.00	1780	152.00	417	238.00	64	342.00	114
66.00	69	153.00	1410	239.00	469	346.00	867
67.00	34	154.00	1168	240.00	429	347.00	136
68.00	1409	155.00	2632	241.00	627	349.00	60
69.00	78024	156.00	3926	242.00	1178	351.00	71
70.00	405	157.00	770	243.00	1669	352.00	1444

Report Date: 08-Nov-2018 09:12:15 Chrom Revision: 2.3 12-Oct-2018 08:24:38
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0701.D\680_CMSX.rslt\spectra.d
Injection Date: 07-Nov-2018 12:32:30
Spectrum: Tune Spec :Average 991-993(13.41-13.42) Bgrd 983(13.36)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 342

m/z	Y	m/z	Y	m/z	Y	m/z	Y
71.00	152	158.00	1023	244.00	19888	353.00	1551
73.00	512	159.00	859	245.00	2879	354.00	1223
74.00	8017	160.00	1421	246.00	4413	355.00	249
75.00	12659	161.00	2159	247.00	796	356.00	51
76.00	4596	162.00	760	248.00	129	359.00	51
77.00	91088	163.00	99	249.00	563	364.00	75
78.00	6159	164.00	202	250.00	140	365.00	7414
79.00	5658	165.00	1620	251.00	316	366.00	910
80.00	4031	166.00	1485	252.00	299	367.00	195
81.00	5155	167.00	11277	253.00	680	370.00	172
82.00	1680	168.00	5859	254.00	968	371.00	435
83.00	1587	169.00	943	255.00	95640	372.00	2179
84.00	32	170.00	516	256.00	13872	373.00	501
85.00	1704	171.00	418	257.00	956	374.00	64
86.00	2043	172.00	785	258.00	5534	383.00	853
87.00	950	173.00	1082	259.00	930	384.00	171
88.00	335	174.00	1929	260.00	77	390.00	344
89.00	61	175.00	3529	261.00	257	391.00	355
90.00	63	176.00	1249	264.00	151	392.00	209
91.00	1368	177.00	1316	265.00	2641	399.00	69
92.00	1714	178.00	317	266.00	536	401.00	314
93.00	9538	179.00	6719	268.00	84	402.00	839
94.00	495	180.00	4441	269.00	69	403.00	1362
95.00	125	181.00	2347	270.00	226	404.00	365
96.00	512	182.00	413	271.00	281	405.00	105
97.00	163	183.00	267	272.00	233	410.00	68
98.00	7921	184.00	859	273.00	3147	415.00	171
99.00	6025	185.00	3258	274.00	8015	417.00	55
100.00	476	186.00	24840	275.00	43808	421.00	1220
101.00	3471	187.00	6728	276.00	5201	422.00	684
102.00	236	188.00	809	277.00	3797	423.00	9446
103.00	1048	189.00	1964	278.00	550	424.00	1699
104.00	1900	190.00	244	279.00	229	425.00	206
105.00	2171	191.00	956	281.00	71	426.00	74

Report Date: 08-Nov-2018 09:12:15 Chrom Revision: 2.3 12-Oct-2018 08:24:38
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0701.D\680_CMSX.rslt\spectra.d
Injection Date: 07-Nov-2018 12:32:30
Spectrum: Tune Spec :Average 991-993(13.41-13.42) Bgrd 983(13.36)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 342

m/z	Y	m/z	Y	m/z	Y	m/z	Y
106.00	796	192.00	2184	282.00	54	427.00	104
107.00	25904	193.00	2525	283.00	362	428.00	117
108.00	3835	194.00	611	284.00	316	429.00	63
109.00	995	195.00	108	285.00	825	430.00	213
110.00	44736	196.00	5840	289.00	222	431.00	88
111.00	6754	197.00	1273	290.00	120	432.00	131
112.00	913	198.00	171200	291.00	143	433.00	180
113.00	537	199.00	10717	292.00	213	434.00	300
114.00	154	200.00	889	293.00	995	435.00	209
115.00	234	201.00	744	294.00	364	436.00	368
116.00	1692	202.00	541	296.00	13714	437.00	181
117.00	24024	203.00	1451	297.00	2132	438.00	314
118.00	1816	204.00	6459	298.00	130	439.00	307
119.00	312	205.00	10135	301.00	244	441.00	23216
120.00	395	206.00	43136	302.00	346	442.00	164800
121.00	50	207.00	5788	303.00	1786	443.00	29904
122.00	1956	208.00	1700	304.00	637	444.00	2741
123.00	2478	209.00	735	305.00	58		
124.00	1403	210.00	425	308.00	376		

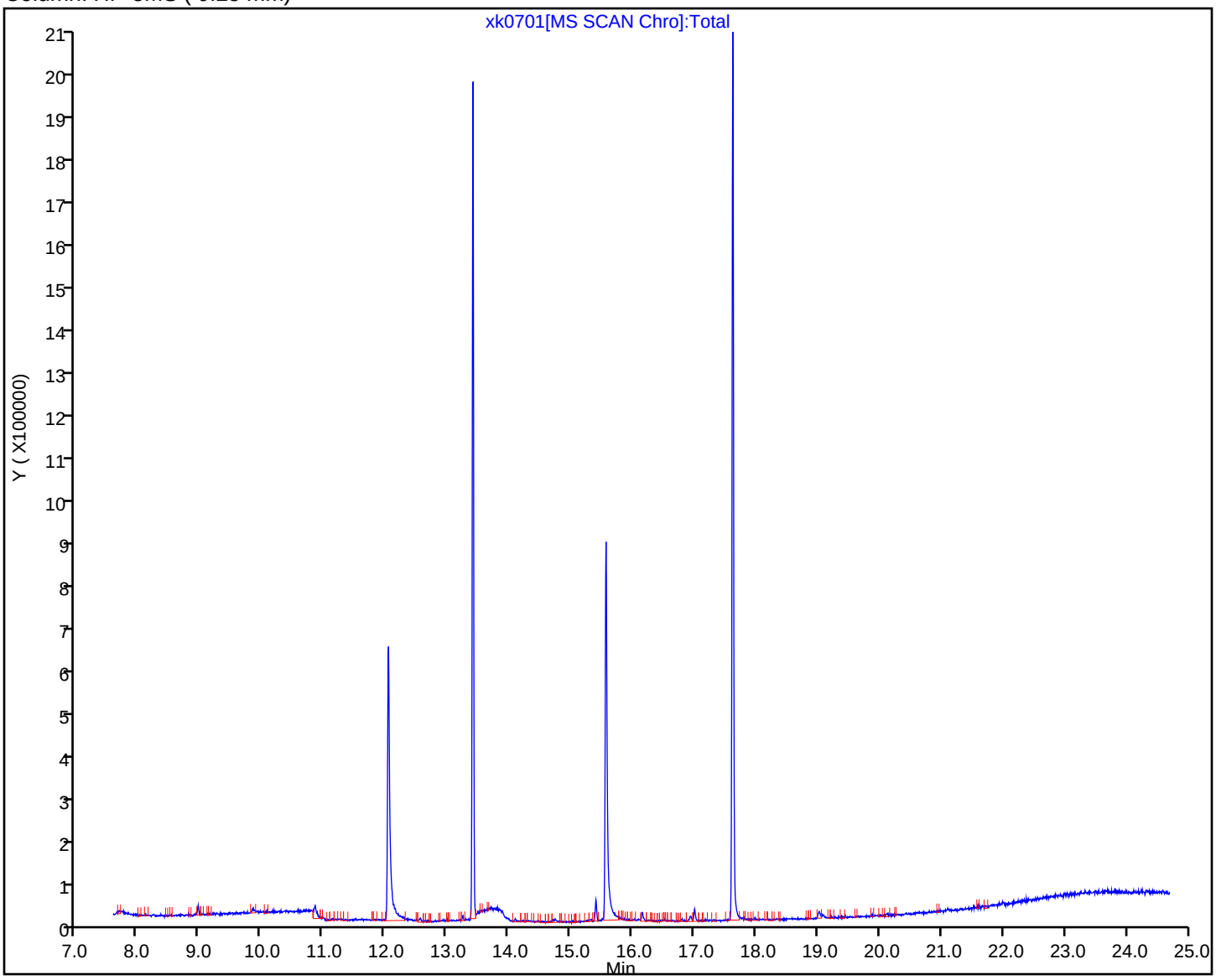
Report Date: 08-Nov-2018 09:12:15 Chrom Revision: 2.3 12-Oct-2018 08:24:38

TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\xk0701.D

Injection Date:	07-Nov-2018 12:32:30	Instrument ID:	CMSX		
Lims ID:	dftpp				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		

Column: HP-5MS (0.25 mm)



TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1802.D
Lims ID: dftpp
Client ID:
Sample Type: DFTPP
Inject. Date: 18-Jan-2019 14:09:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Misc. Info.: 680-0053301-001
Operator ID: Instrument ID: CMSX

Method: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\680_CMSX.m
Limit Group: 680
Last Update: 20-Jan-2019 12:26:20 Calib Date: 08-Jan-2019 18:02:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: davisn Date: 20-Jan-2019 12:26:20

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags

8 DFTPP

Reagents:

SM680dftpp_00038 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
8 DFTPP									
198	13.528	13.528	0.0	0	211506		-1.0- -1.0		

Reagents:

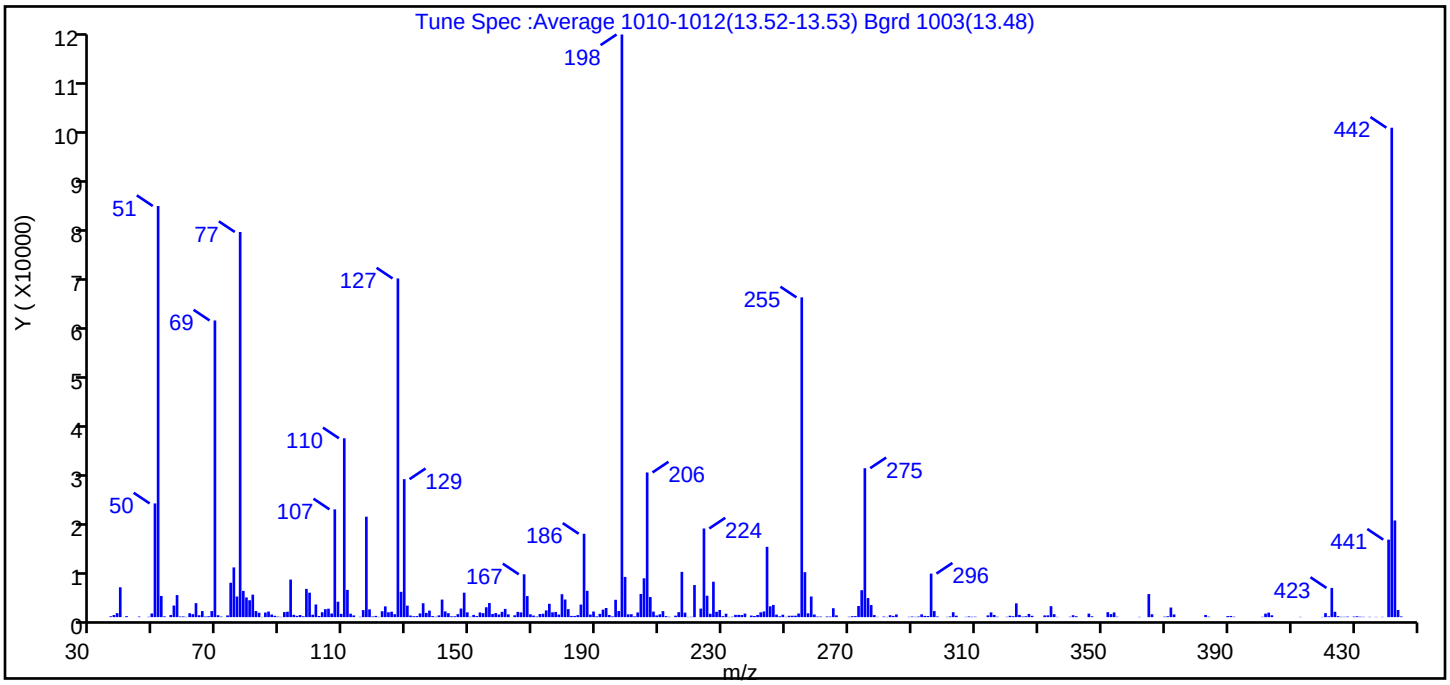
SM680dftpp_00038 Amount Added: 1.00 Units: mL

MS Tune Report

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1802.D
Injection Date: 18-Jan-2019 14:09:30 Instrument ID: CMSX
Lims ID: dftpp
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680_CMSX Limit Group: 680
Tune Method: DFTPP Method 680

8 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	100% (Base Peak)	100.0
127	40-60% of m/z 198	58.1
197	<1% of m/z 198	1.0
199	5-9% of m/z 198	6.9
275	10-30% of m/z 198	25.6
365	>1% of m/z 198	4.0
441	Present and <m/z 443	13.3 (80.2)
442	>40% of m/z 198	84.0
443	17-23% of m/z 442	16.6 (19.8)

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1802.D\680_CMSX.rslt\spectra.d
Injection Date: 18-Jan-2019 14:09:30
Spectrum: Tune Spec :Average 1010-1012(13.52-13.53) Bgrd 1003(13.48)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 316

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	173	123.00	2210	203.00	961	293.00	573
37.00	429	124.00	998	204.00	4756	294.00	263
38.00	823	125.00	1122	205.00	7963	295.00	230
39.00	6123	126.00	595	206.00	29672	296.00	8928
40.00	8	127.00	69456	207.00	4122	297.00	1251
41.00	208	128.00	5193	208.00	1139	298.00	142
45.00	120	129.00	28296	209.00	350	301.00	55
48.00	73	130.00	2362	210.00	575	302.00	147
49.00	753	131.00	335	211.00	1236	303.00	1008
50.00	23320	132.00	188	212.00	206	304.00	289
51.00	84312	133.00	215	213.00	83	307.00	60
52.00	4347	134.00	768	215.00	299	308.00	142
53.00	158	135.00	2850	216.00	1021	309.00	81
55.00	443	136.00	865	217.00	9293	310.00	86
56.00	2378	137.00	1342	218.00	927	314.00	365
57.00	4526	138.00	216	219.00	52	315.00	972
58.00	136	139.00	85	220.00	73	316.00	450
59.00	147	140.00	367	221.00	6584	317.00	83
60.00	51	141.00	3604	223.00	1749	320.00	70
61.00	807	142.00	1173	224.00	18184	321.00	281
62.00	620	143.00	806	225.00	4389	322.00	189
63.00	2872	144.00	173	226.00	687	323.00	2827
64.00	385	145.00	176	227.00	7265	324.00	461
65.00	1242	146.00	612	228.00	1095	325.00	115
66.00	123	147.00	1768	229.00	1467	326.00	186
67.00	182	148.00	5017	230.00	205	327.00	659
68.00	1248	149.00	982	231.00	706	328.00	274
69.00	60840	150.00	76	232.00	54	332.00	355
70.00	394	151.00	458	233.00	94	333.00	365
71.00	111	152.00	217	234.00	468	334.00	2252
73.00	357	153.00	961	235.00	472	335.00	603
74.00	7056	154.00	817	236.00	436	336.00	56
75.00	10201	155.00	2031	237.00	734	340.00	80

Report Date: 20-Jan-2019 12:26:20 Chrom Revision: 2.3 13-Dec-2018 17:23:12
Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1802.D\680_CMSX.rslt\spectra.d
Injection Date: 18-Jan-2019 14:09:30
Spectrum: Tune Spec :Average 1010-1012(13.52-13.53) Bgrd 1003(13.48)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 316

m/z	Y	m/z	Y	m/z	Y	m/z	Y
76.00	4226	156.00	2898	239.00	324	341.00	395
77.00	78984	157.00	651	240.00	239	342.00	189
78.00	5375	158.00	839	241.00	447	346.00	728
79.00	4041	159.00	542	242.00	989	347.00	180
80.00	3467	160.00	1090	243.00	1172	352.00	1021
81.00	4614	161.00	1696	244.00	14417	353.00	626
82.00	1254	162.00	574	245.00	2221	354.00	969
83.00	905	164.00	381	246.00	2506	355.00	81
84.00	42	165.00	1073	247.00	516	362.00	62
85.00	941	166.00	968	248.00	177	365.00	4736
86.00	1147	167.00	8785	249.00	496	366.00	589
87.00	539	168.00	4318	250.00	60	370.00	104
88.00	277	169.00	584	251.00	285	371.00	179
89.00	113	170.00	315	252.00	291	372.00	1970
90.00	56	171.00	122	253.00	299	373.00	551
91.00	1032	172.00	644	254.00	739	383.00	446
92.00	1110	173.00	692	255.00	65576	384.00	98
93.00	7707	174.00	1387	256.00	9223	390.00	224
94.00	476	175.00	2740	257.00	788	391.00	246
95.00	269	176.00	988	258.00	4235	392.00	92
96.00	442	177.00	1070	259.00	538	401.00	67
97.00	177	178.00	525	260.00	117	402.00	719
98.00	5792	179.00	4704	261.00	115	403.00	927
99.00	5017	180.00	3613	263.00	138	404.00	380
100.00	495	181.00	1640	264.00	121	413.00	55
101.00	2596	182.00	258	265.00	1833	420.00	52
102.00	243	183.00	252	266.00	365	421.00	819
103.00	1009	184.00	413	270.00	81	422.00	166
104.00	1638	185.00	2582	271.00	198	423.00	5990
105.00	1733	186.00	17096	272.00	212	424.00	1097
106.00	746	187.00	5396	273.00	2286	425.00	198
107.00	22104	188.00	534	274.00	5527	426.00	70
108.00	3170	189.00	1155	275.00	30544	427.00	66
109.00	677	190.00	157	276.00	3913	428.00	109

Report Date: 20-Jan-2019 12:26:20 Chrom Revision: 2.3 13-Dec-2018 17:23:12
Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1802.D\680_CMSX.rslt\spectra.d
Injection Date: 18-Jan-2019 14:09:30
Spectrum: Tune Spec :Average 1010-1012(13.52-13.53) Bgrd 1003(13.48)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 316

m/z	Y	m/z	Y	m/z	Y	m/z	Y
110.00	36680	191.00	671	277.00	2479	430.00	117
111.00	5591	192.00	1544	278.00	418	431.00	181
112.00	701	193.00	1877	279.00	58	432.00	91
113.00	358	194.00	435	281.00	120	433.00	66
115.00	79	195.00	149	282.00	51	435.00	65
116.00	1443	196.00	3558	283.00	402	437.00	56
117.00	20600	197.00	1253	284.00	256	439.00	61
118.00	1594	198.00	119488	285.00	552	441.00	15894
119.00	136	199.00	8251	289.00	70	442.00	100368
120.00	260	200.00	572	290.00	123	443.00	19824
121.00	55	201.00	602	291.00	61	444.00	1471
122.00	1210	202.00	161	292.00	129	445.00	148

Report Date: 20-Jan-2019 12:26:21 Chrom Revision: 2.3 13-Dec-2018 17:23:12

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1802.D

Injection Date: 18-Jan-2019 14:09:30 Instrument ID: CMSX

Lims ID: dftpp

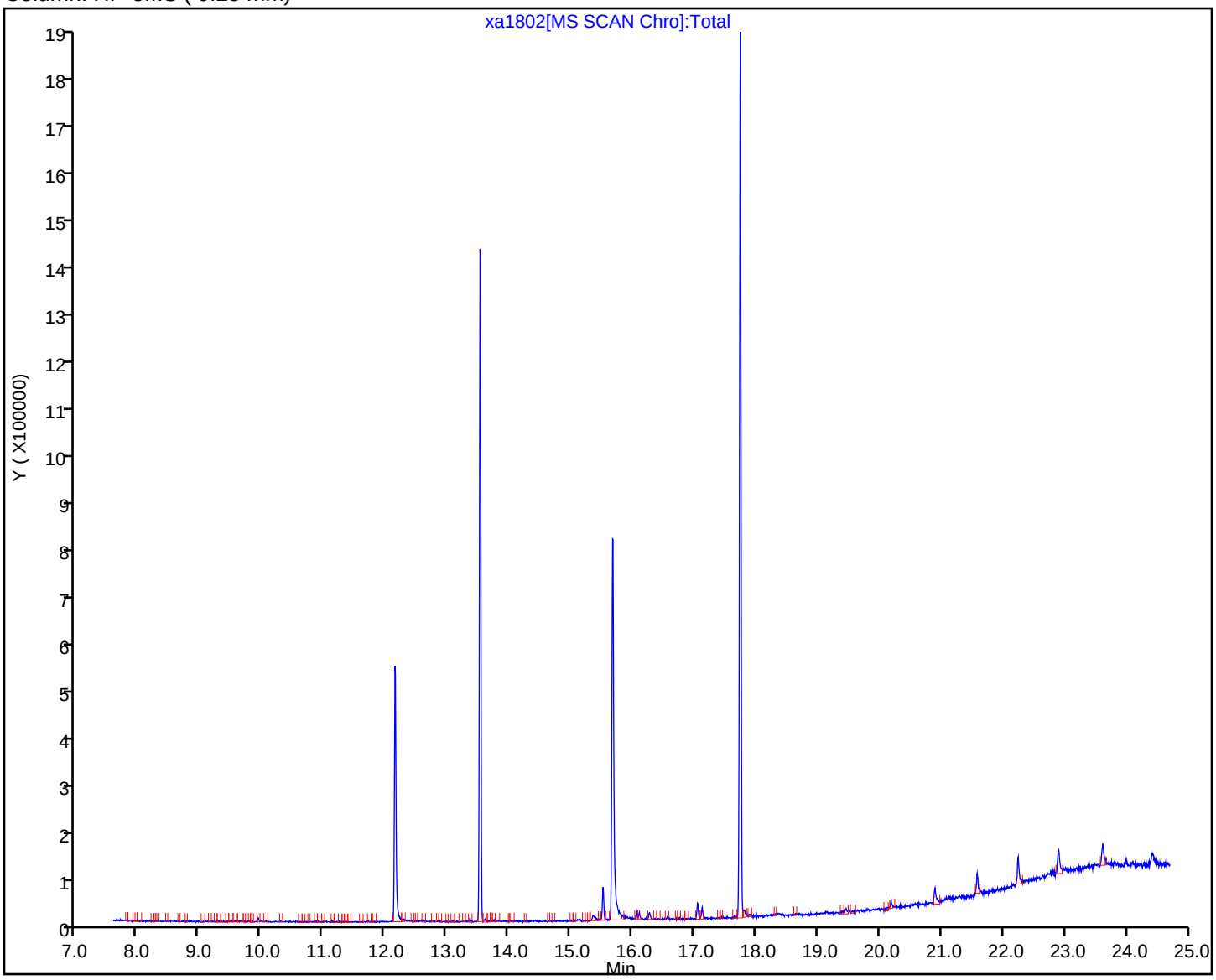
Client ID:

Operator ID: ALS Bottle#: 1 Worklist Smp#: 1

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: 680_CMSX Limit Group: 680

Column: HP-5MS (0.25 mm)



TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1803.D
Lims ID: wdm
Client ID:
Sample Type: WDM
Inject. Date: 18-Jan-2019 14:39:30 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM
Misc. Info.: 680-0053301-002
Operator ID: Instrument ID: CMSX

Method: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\680_CMSX.m
Limit Group: 680
Last Update: 18-Jan-2019 16:18:01 Calib Date: 08-Jan-2019 18:02:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0319

First Level Reviewer: davisn Date: 18-Jan-2019 16:18:01

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
1 PCB-1	188	9.325	9.325	0.0	1	146654	NC	
2 PCB-3	188	10.200	10.200	0.0	1	152228	NC	
3 PCB-10	222	10.663	10.663	0.0	1	100146	NC	
4 PCB-19	256	11.980	11.980	0.0	1	43756	NC	
6 PCB-15	222	12.475	12.475	0.0	1	107769	NC	
7 PCB-54	292	13.118	13.118	0.0	1	57890	NC	
9 PCB-104	326	14.393	14.393	0.0	4	56753	0	
10 PCB-37	256	14.540	14.540	0.0	1	68624	NC	
11 PCB-155	360	15.562	15.562	0.0	1	48524	NC	
12 PCB-77	292	16.437	16.437	0.0	5	59632	0	
13 PCB-188	394	17.206	17.206	0.0	1	4018	NC	a
14 PCB-126	326	17.985	17.985	0.0	0	51188	NC	
16 PCB-202	430	18.712	18.712	0.0	0	23139	NC	
17 PCB-169	360	19.397	19.397	0.0	0	37784	NC	
19 PCB-208	464	20.293	20.293	0.0	15	11131	0	
18 PCB-189	394	20.293	20.293	0.0	0	11261	NC	
20 PCB-205	430	20.746	20.746	0.0	0	20442	NC	
21 PCB-206	464	21.283	21.283	0.0	0	7836	NC	
32 DCB Decachlorobiphenyl	498	21.799	21.799	0.0	1	6042	0	a

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
a - User Assigned ID

Reagents:

SM680WDM_00031 Amount Added: 1.00 Units: mL

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
13 PCB-188									a
394	17.206	17.206	0.0	1	4018	NC			a
396	17.206	17.206	0.0		0		1.0- 1.0		
32 DCB Decachlorobiphenyl									a
498	21.799	21.799	0.0	1	6042	0			a
500	21.796	21.799	-0.003		0		0.9- 1.3		
430	21.799	21.799	0.0		4399		0.0- 0.0	1.0	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
a - User Assigned ID

Reagents:

SM680WDM_00031 Amount Added: 1.00 Units: mL

Report Date: 18-Jan-2019 16:18:01 Chrom Revision: 2.3 13-Dec-2018 17:23:12

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1803.D

Injection Date: 18-Jan-2019 14:39:30 Instrument ID: CMSX

Lims ID: wdm

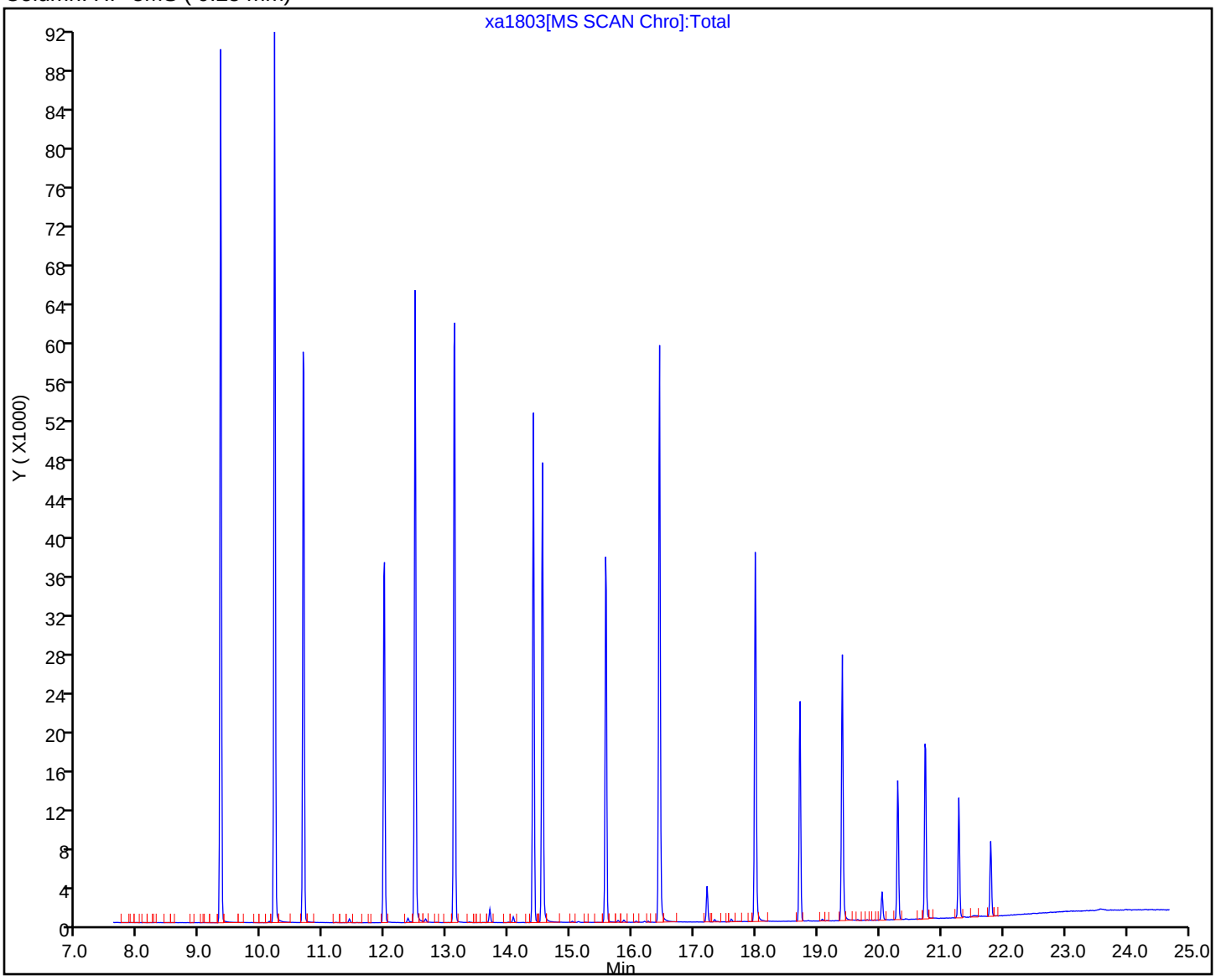
Client ID:

Operator ID: ALS Bottle#: 2 Worklist Smp#: 2

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: 680_CMSX Limit Group: 680

Column: HP-5MS (0.25 mm)



FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-163273-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 680-555398/2-A

Matrix: Water | Lab File ID: xa1809.D

Analysis Method: 680 | Date Collected:

Extract. Method: 680 | Date Extracted: 01/17/2019 13:27

Sample wt/vol: 1000(mL) | Date Analyzed: 01/18/2019 19:16

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 555586 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	ND		0.30	0.030
26601-64-9	Hexachlorobiphenyl	ND		0.20	0.015
53742-07-7	Nonachlorobiphenyl	ND		0.50	0.049
55722-26-4	Octachlorobiphenyl	ND		0.30	0.038
27323-18-8	Monochlorobiphenyl	ND		0.10	0.0056
2051-24-3	DCB Decachlorobiphenyl	ND		0.50	0.070
25512-42-9	Total Dichlorobiphenyls	ND		0.10	0.0054
25429-29-2	Total Pentachlorobiphenyls	ND		0.20	0.014
26914-33-0	Total Tetrachlorobiphenyls	ND		0.20	0.013
25323-68-6	Total Trichlorobiphenyls	ND		0.10	0.0065

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	80		25-113

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1809.D
Lims ID: MB 680-555398/2-A
Client ID:
Sample Type: MB
Inject. Date: 18-Jan-2019 19:16:30 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 680-555398/2-A
Misc. Info.: 680-0053301-005
Operator ID: Instrument ID: CMSX

Method: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\680_CMSX.m
Limit Group: 680
Last Update: 20-Jan-2019 12:28:04 Calib Date: 08-Jan-2019 18:02:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: davisn Date: 20-Jan-2019 12:28:21

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	162028	0.7500	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	153612	0.7500	
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	33	22070	2.00	

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	162028	0.7500			
189	12.409	12.409	0.0		24117		5.9- 7.5	6.7	
* 15 Chrysene-d12									
240	18.668	18.668	0.0	100	153612	0.7500			
241	18.668	18.668	0.0		29284		4.3- 5.9	5.2	
$ 22 Decachlorobiphenyl-13C12									
510	21.796	21.796	0.0	33	22070	2.00			
512	21.796	21.796	0.0		17344		0.9- 1.3	1.3	

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 20-Jan-2019 12:28:22 Chrom Revision: 2.3 13-Dec-2018 17:23:12

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1809.D

Injection Date: 18-Jan-2019 19:16:30 Instrument ID: CMSX

Lims ID: MB 680-555398/2-A

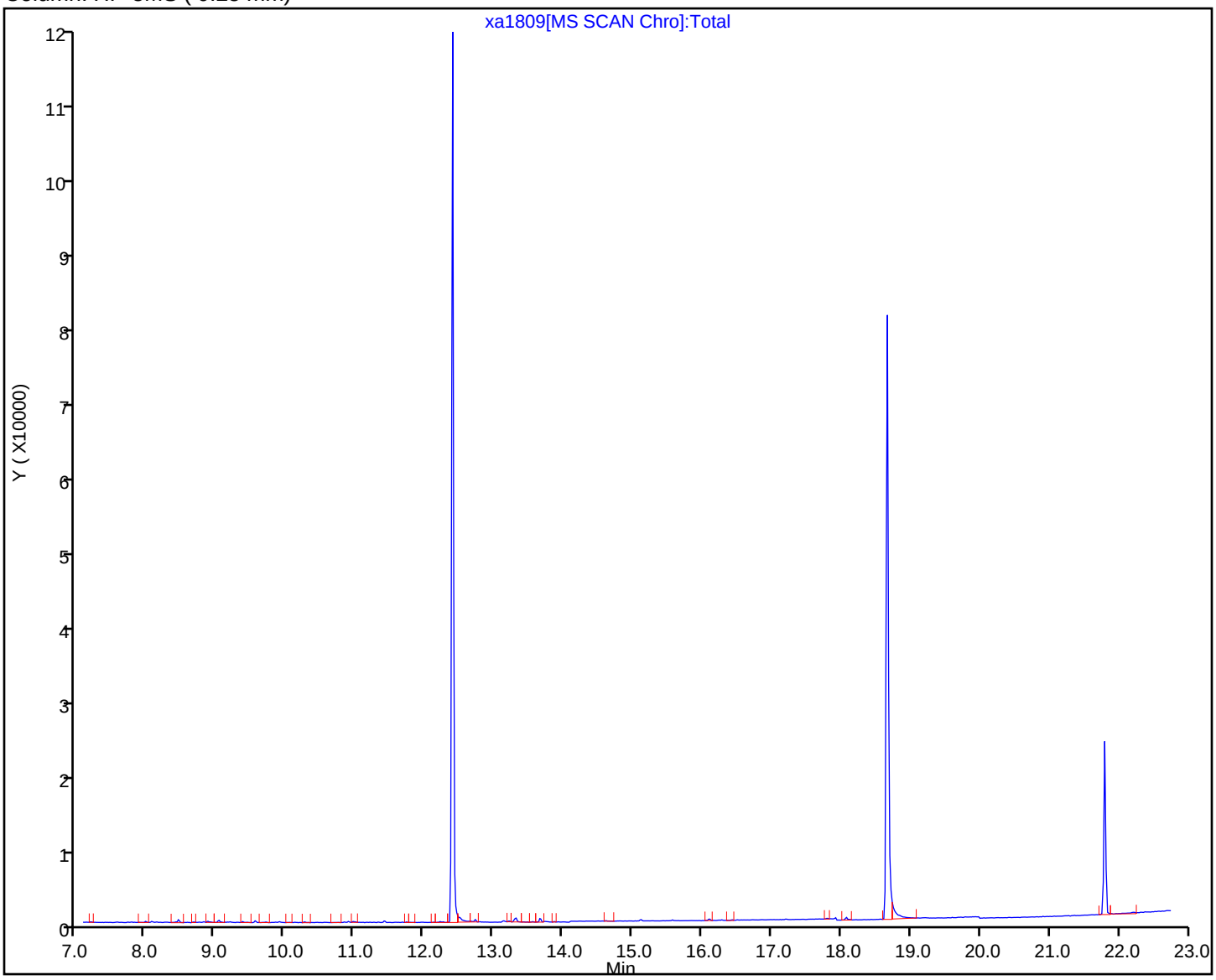
Client ID:

Operator ID: ALS Bottle#: 5 Worklist Smp#: 5

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: 680_CMSX Limit Group: 680

Column: HP-5MS (0.25 mm)



TestAmerica Savannah
Recovery Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1809.D
Lims ID: MB 680-555398/2-A
Client ID:
Sample Type: MB
Inject. Date: 18-Jan-2019 19:16:30 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 680-555398/2-A
Misc. Info.: 680-0053301-005
Operator ID: Instrument ID: CMSX

Method: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\680_CMSX.m
Limit Group: 680
Last Update: 20-Jan-2019 12:28:04 Calib Date: 08-Jan-2019 18:02:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: davisn Date: 20-Jan-2019 12:28:21

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	2.00	79.98

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-163273-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 680-555398/3-A

Matrix: Water | Lab File ID: xa1810.D

Analysis Method: 680 | Date Collected:

Extract. Method: 680 | Date Extracted: 01/17/2019 13:27

Sample wt/vol: 1000(mL) | Date Analyzed: 01/18/2019 19:44

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 555586 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	8.55		0.30	0.030
26601-64-9	Hexachlorobiphenyl	6.26		0.20	0.015
53742-07-7	Nonachlorobiphenyl	22.0		0.50	0.049
55722-26-4	Octachlorobiphenyl	9.33		0.30	0.038
27323-18-8	Monochlorobiphenyl	2.43		0.10	0.0056
2051-24-3	DCB Decachlorobiphenyl	14.2		0.50	0.070
25512-42-9	Total Dichlorobiphenyls	2.72		0.10	0.0054
25429-29-2	Total Pentachlorobiphenyls	6.26		0.20	0.014
26914-33-0	Total Tetrachlorobiphenyls	5.74		0.20	0.013
25323-68-6	Total Trichlorobiphenyls	2.90		0.10	0.0065

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	92		25-113

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1810.D
Lims ID: LCS 680-555398/3-A
Client ID:
Sample Type: LCS
Inject. Date: 18-Jan-2019 19:44:30 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 680-555398/3-A
Misc. Info.: 680-0053301-006
Operator ID: Instrument ID: CMSX

Method: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\680_CMSX.m
Limit Group: 680
Last Update: 20-Jan-2019 12:30:14 Calib Date: 08-Jan-2019 18:02:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: davisn Date: 20-Jan-2019 12:30:14

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.762	9.265 - 10.260		0	402327	2.43	
A 24 Total Dichlorobiphenyls	222	11.569	10.603 - 12.535		0	316382	2.72	
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	164798	0.7500	
A 25 Total Trichlorobiphenyls	256	13.260	11.920 - 14.600		0	242570	2.90	
A 26 Total Tetrachlorobiphenyls	292	14.778	13.058 - 16.499		0	337483	5.74	
A 27 Total Pentachlorobiphenyls	326	16.192	14.339 - 18.045		0	299335	6.26	
A 28 Total Hexachlorobiphenyls	360	17.480	15.502 - 19.457		0	297097	6.26	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	149327	0.7500	a
A 29 Total Heptachlorobiphenyls	394	18.749	17.146 - 20.353		0	404431	8.55	
A 30 Total Octachlorobiphenyls	430	19.729	18.652 - 20.806		0	381601	9.33	
A 31 Total Nonachlorobiphenyls	464	20.250	18.500 - 22.000		0	183786	22.0	
19 PCB-208	464	20.303	20.286	0.017	67	184230	0	
$ 22 Decachlorobiphenyl-13C12	510	21.793	21.796	-0.003	80	24790	2.31	a
32 DCB Decachlorobiphenyl	498	21.814	21.796	0.018	48	118396	14.2	a

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.328	9.265 -	10.260	22	402327	2.43			
190	9.328				130747		2.5- 3.5	3.1	
152	9.328				227806		50.7- 50.7	0.6	
153	9.328				96863		23.2- 23.2	1.3	
A 24 Total Dichlorobiphenyls									
222	11.569	10.603 -	12.535	23	316382	2.72			
224	11.569				202421		1.3- 1.7	1.6	
152	11.554				252455		31.7- 111.7	0.8	
153	11.554				31854		0.0- 49.1	6.4	
186	11.554				30195		0.0- 48.9	6.7	
188	11.569				10879		0.0- 43.3	18.6	
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	164798	0.7500			
189	12.409	12.409	0.0		24775		5.9- 7.5	6.7	
A 25 Total Trichlorobiphenyls									
256	13.087	11.920 -	14.600	98	242570	2.90			
258	13.087				232837		0.8- 1.2	1.0	
186	13.087				165248		26.5- 106.5	1.4	
188	13.087				53461		0.0- 61.5	4.4	
A 26 Total Tetrachlorobiphenyls									
292	13.368	13.058 -	16.499	0	337483	5.74			
290	13.368				264772		1.1- 1.5	1.3	
220	13.353				325654		58.1- 138.1	0.8	
222	13.353				211842		22.9- 102.9	1.2	
A 27 Total Pentachlorobiphenyls									
326	16.249	14.339 -	18.045	86	299335	6.26			
324	16.249				188091		1.4- 1.8	1.6	
254	16.249				218816		41.9- 121.9	0.9	
256	16.249				206777		38.2- 118.2	0.9	
258	16.249				67815		0.0- 65.4	2.8	
A 28 Total Hexachlorobiphenyls									
360	16.439	15.502 -	19.457	59	297097	6.26			
362	16.439				236364		1.0- 1.4	1.3	
288	16.439				170203		61.3- 61.3	1.4	
290	16.439				219260		220.6- 220.6	1.1	
292	16.439				104254		0.0- 0.0	2.3	
* 15 Chrysene-d12									a
240	18.668	18.668	0.0	100	149327	0.7500			a
241	18.668	18.668	0.0		28595		4.3- 5.9	5.2	
A 29 Total Heptachlorobiphenyls									
394	17.216	17.146 -	20.353	93	404431	8.55			
396	17.216				385731		0.8- 1.2	1.0	
322	17.198				171238		48.3- 48.3	2.3	
324	17.198				272052		77.4- 77.4	1.4	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.858	18.652	-20.806	91	381601	9.33			
428	18.858				346673		0.9- 1.3	1.1	
356	18.841				133720		39.6- 39.6	2.6	
358	18.841				258386		75.2- 75.2	1.3	
360	18.841				205101		59.6- 59.6	1.7	
A 31 Total Nonachlorobiphenyls									
464	20.303	18.500	-22.000	92	183786	22.0			
466	20.303				132006		1.1- 1.5	1.4	
390	20.282				90233		0.0- 0.0	1.5	
392	20.282				196888		0.0- 0.0	0.7	
394	20.282				185300		0.0- 0.0	0.7	
$ 22 Decachlorobiphenyl-13C12									a
510	21.793	21.796	-0.003	80	24790	2.31			a
512	21.793	21.796	-0.003		19445		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									a
498	21.814	21.796	0.018	48	118396	14.2			a
500	21.814	21.796	0.018		96200		0.9- 1.3	1.2	
424	21.793	21.796	-0.003		52575		0.0- 0.0	1.0	
426	21.793	21.796	-0.003		127865		0.0- 0.0	1.0	
428	21.793	21.796	-0.003		137618		0.0- 0.0	1.0	
430	21.793	21.796	-0.003		84644		0.0- 0.0	1.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 20-Jan-2019 12:30:16 Chrom Revision: 2.3 13-Dec-2018 17:23:12

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1810.D

Injection Date: 18-Jan-2019 19:44:30 Instrument ID: CMSX

Lims ID: LCS 680-555398/3-A

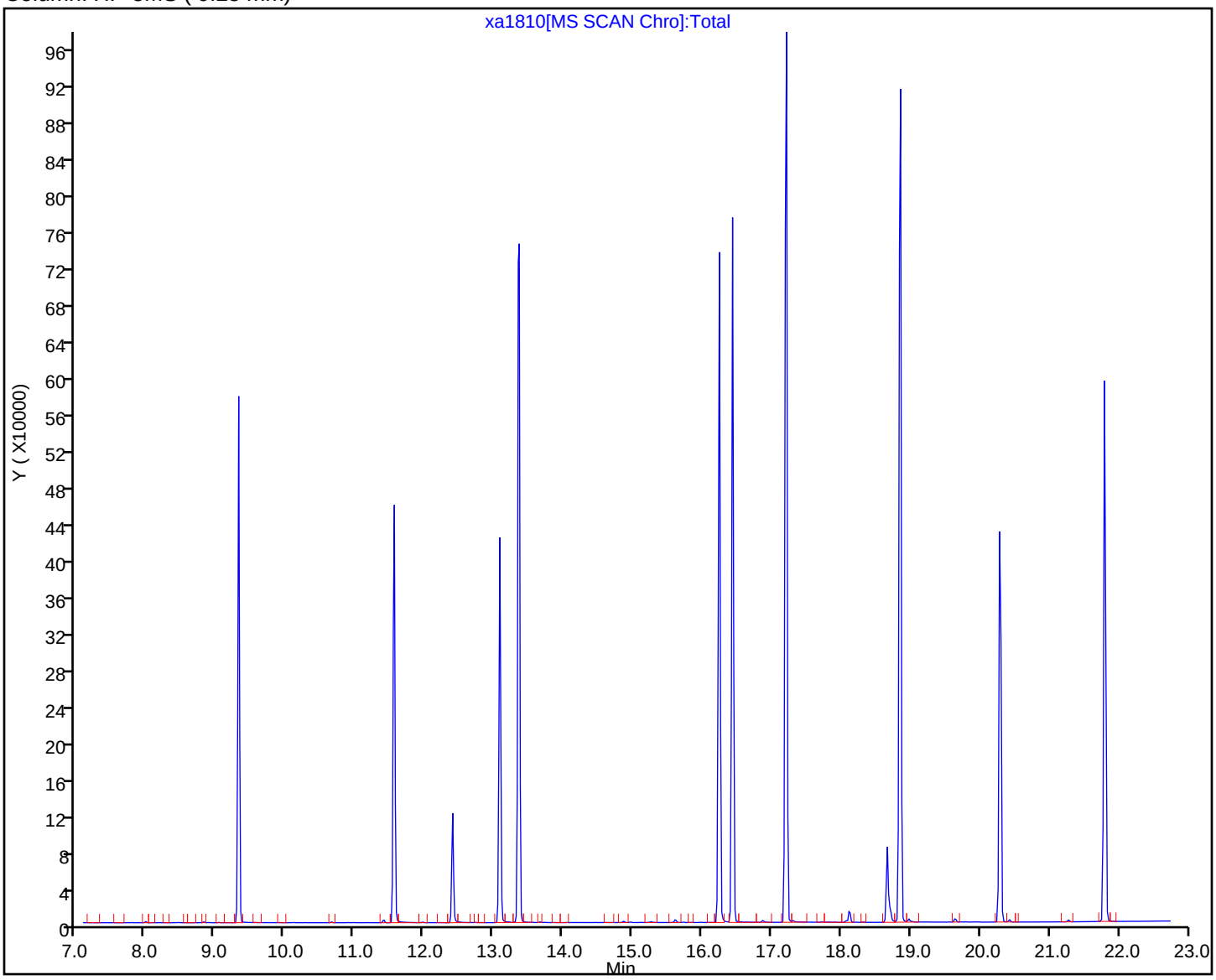
Client ID:

Operator ID: ALS Bottle#: 6 Worklist Smp#: 6

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: 680_CMSX Limit Group: 680

Column: HP-5MS (0.25 mm)



TestAmerica Savannah
Recovery Report

Data File:	\\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1810.D				
Lims ID:	LCS 680-555398/3-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	18-Jan-2019 19:44:30	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	LCS 680-555398/3-A				
Misc. Info.:	680-0053301-006				
Operator ID:		Instrument ID:	CMSX		
Method:	\\chromna\Savannah\ChromData\CMSX\20190118-53301.b\680_CMSX.m				
Limit Group:	680				
Last Update:	20-Jan-2019 12:30:14	Calib Date:	08-Jan-2019 18:02:30		
Integrator:	RTE	ID Type:	RT Order ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D				
Column 1 :	HP-5MS (0.25 mm)		Det: MS SCAN		
Process Host:	CTX0323				

First Level Reviewer: davisn Date: 20-Jan-2019 12:30:14

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	2.31	92.41

Manual Integration/User Assign Peak Report

TestAmerica Savannah

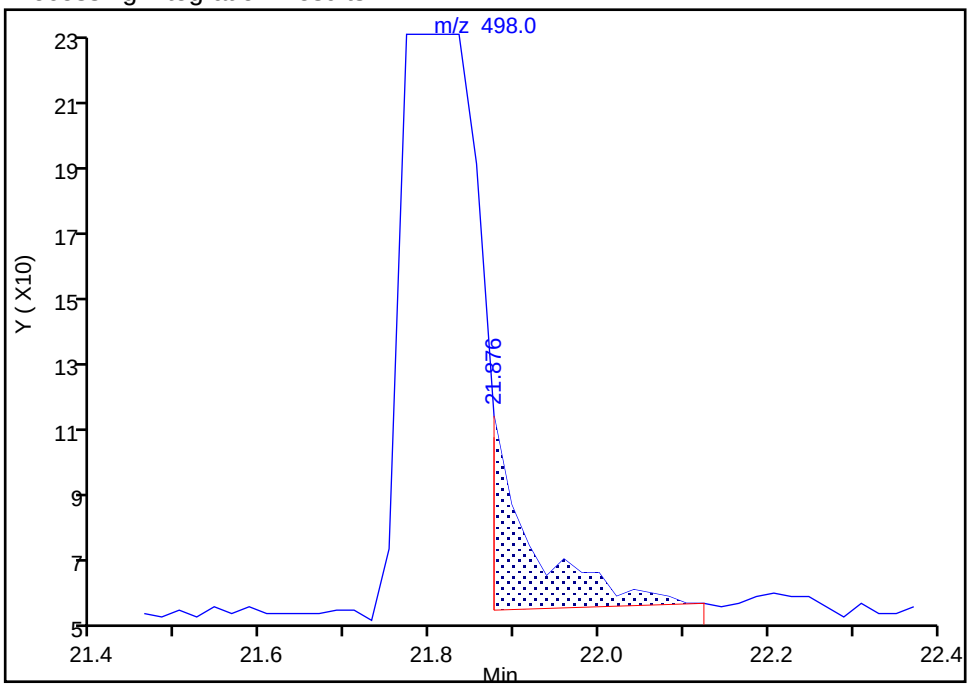
Data File:	\\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1810.D				
Injection Date:	18-Jan-2019 19:44:30	Instrument ID:	CMSX		
Lims ID:	LCS 680-555398/3-A				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

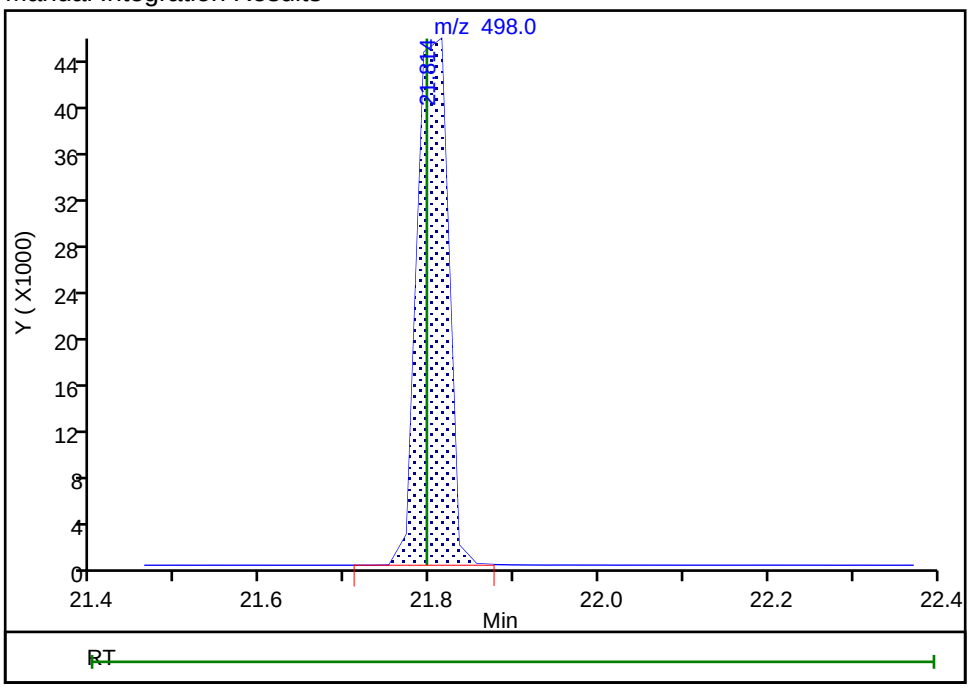
Processing Integration Results

RT: 21.88
Area: 204
Amount: 0.024416
Amount Units: ug/ml



Manual Integration Results

RT: 21.81
Area: 118396
Amount: 14.170326
Amount Units: ug/ml



Reviewer: davisn, 20-Jan-2019 12:30:07

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Savannah

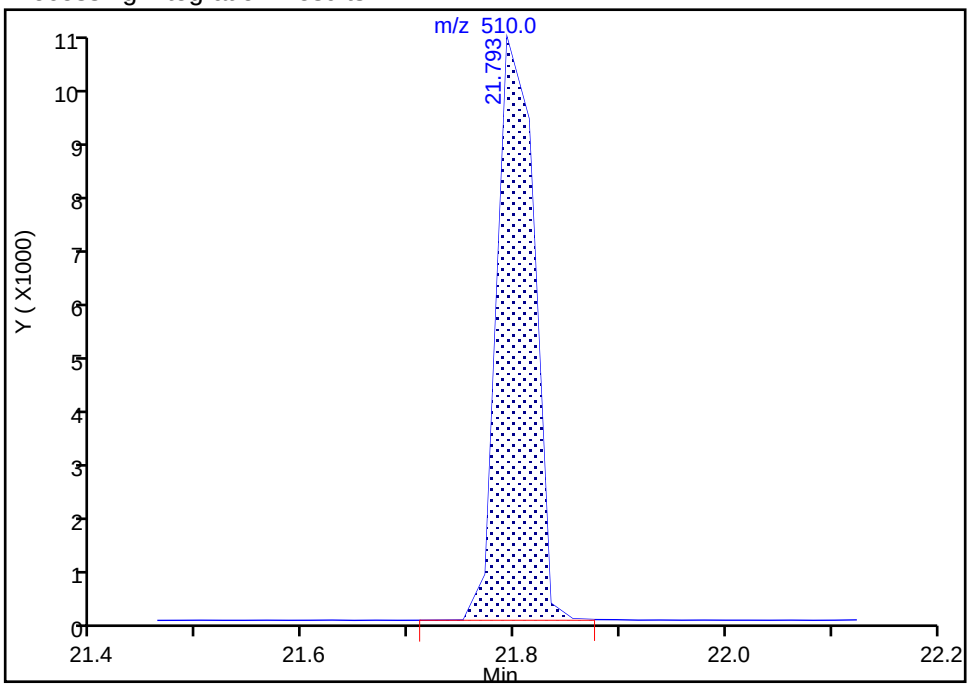
Data File:	\\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1810.D				
Injection Date:	18-Jan-2019 19:44:30	Instrument ID:	CMSX		
Lims ID:	LCS 680-555398/3-A				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

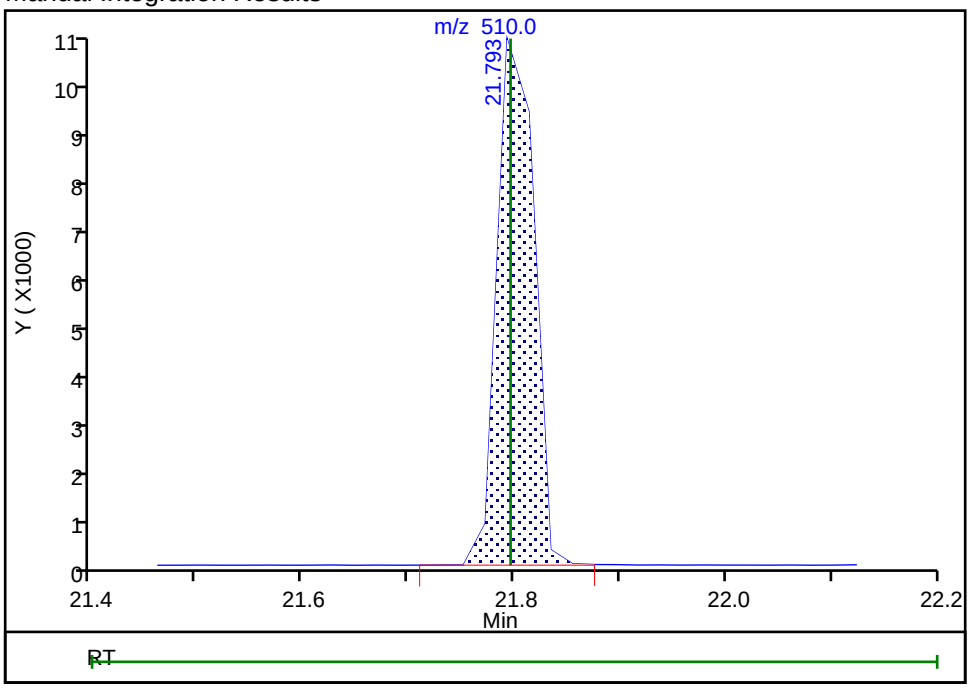
Processing Integration Results

RT: 21.79
Area: 24790
Amount: 2.310334
Amount Units: ug/ml



Manual Integration Results

RT: 21.79
Area: 24790
Amount: 2.310334
Amount Units: ug/ml



Reviewer: davisn, 20-Jan-2019 12:30:05

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Savannah

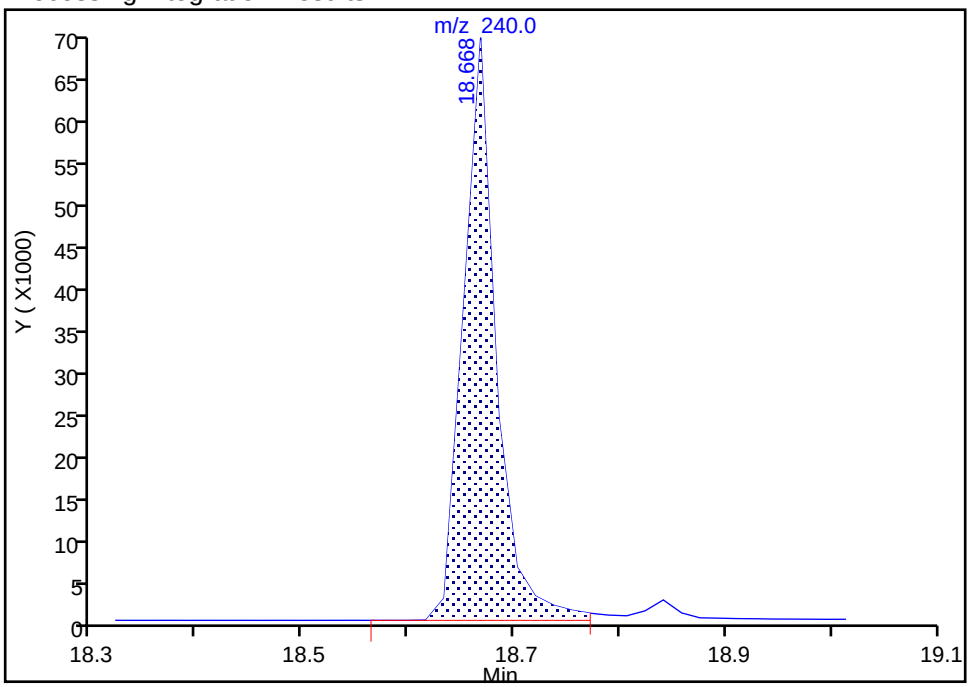
Data File:	\\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1810.D				
Injection Date:	18-Jan-2019 19:44:30	Instrument ID:	CMSX		
Lims ID:	LCS 680-555398/3-A				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

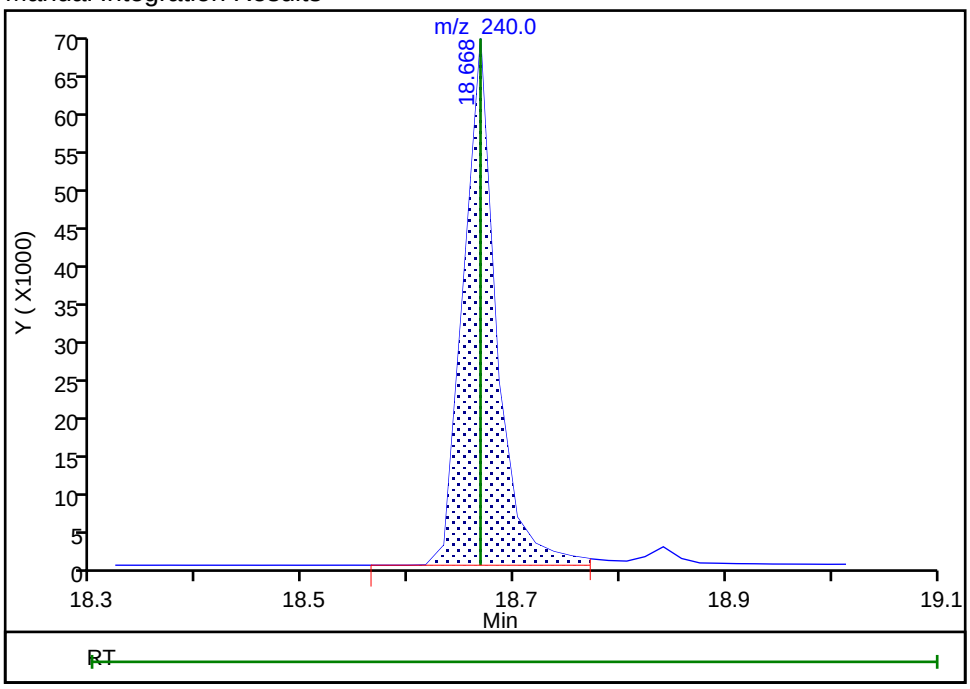
Processing Integration Results

RT: 18.67
Area: 149327
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.67
Area: 149327
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 20-Jan-2019 12:29:31

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-163273-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 680-555398/4-A

Matrix: Water | Lab File ID: xa1811.D

Analysis Method: 680 | Date Collected:

Extract. Method: 680 | Date Extracted: 01/17/2019 13:27

Sample wt/vol: 1000(mL) | Date Analyzed: 01/18/2019 20:13

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 555586 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
28655-71-2	Heptachlorobiphenyl	4.89		0.30	0.030
26601-64-9	Hexachlorobiphenyl	3.54		0.20	0.015
53742-07-7	Nonachlorobiphenyl	14.7		0.50	0.049
55722-26-4	Octachlorobiphenyl	5.25		0.30	0.038
27323-18-8	Monochlorobiphenyl	1.53		0.10	0.0056
2051-24-3	DCB Decachlorobiphenyl	8.39		0.50	0.070
25512-42-9	Total Dichlorobiphenyls	1.60		0.10	0.0054
25429-29-2	Total Pentachlorobiphenyls	3.53		0.20	0.014
26914-33-0	Total Tetrachlorobiphenyls	3.36		0.20	0.013
25323-68-6	Total Trichlorobiphenyls	1.63		0.10	0.0065

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00281	Decachlorobiphenyl-13C12	86		25-113

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1811.D
Lims ID: LCSD 680-555398/4-A
Client ID:
Sample Type: LCSD
Inject. Date: 18-Jan-2019 20:13:30 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 680-555398/4-A
Misc. Info.: 680-0053301-007
Operator ID: Instrument ID: CMSX

Method: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\680_CMSX.m
Limit Group: 680
Last Update: 20-Jan-2019 12:32:04 Calib Date: 08-Jan-2019 18:02:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: davisn Date: 20-Jan-2019 12:32:04

Compound	Sig	RT	EXP RT	DLT RT	Q	Response	On-Col Amt ug/ml	Flags
A 23 Total Monochlorobiphenyls	188	9.762	9.265 - 10.260		0	275287	1.53	
A 24 Total Dichlorobiphenyls	222	11.569	10.603 - 12.535		0	203416	1.60	
* 5 Phenanthrene-d10	188	12.409	12.409	0.0	100	174788	0.7500	
A 25 Total Trichlorobiphenyls	256	13.260	11.920 - 14.600		0	149045	1.63	
A 26 Total Tetrachlorobiphenyls	292	14.778	13.058 - 16.499		0	215354	3.36	
A 27 Total Pentachlorobiphenyls	326	16.192	14.339 - 18.045		0	183843	3.53	
A 28 Total Hexachlorobiphenyls	360	17.480	15.502 - 19.457		0	183224	3.54	
* 15 Chrysene-d12	240	18.668	18.668	0.0	100	162896	0.7500	a
A 29 Total Heptachlorobiphenyls	394	18.749	17.146 - 20.353		0	252180	4.89	
A 30 Total Octachlorobiphenyls	430	19.729	18.652 - 20.806		0	234406	5.25	
A 31 Total Nonachlorobiphenyls	464	20.250	18.500 - 22.000		0	134356	14.7	
19 PCB-208	464	20.286	20.286	0.0	97	134525	0	
$ 22 Decachlorobiphenyl-13C12	510	21.796	21.796	0.0	82	25294	2.16	a
32 DCB Decachlorobiphenyl	498	21.796	21.796	0.0	82	76465	8.39	a

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 23 Total Monochlorobiphenyls									
188	9.328	9.265 -	10.260	22	275287	1.53			
190	9.328				88543		2.5- 3.5	3.1	
152	9.328				155543		50.7- 50.7	0.6	
153	9.328				66238		23.2- 23.2	1.3	
A 24 Total Dichlorobiphenyls									
222	11.569	10.603 -	12.535	23	203416	1.60			
224	11.569				129606		1.3- 1.7	1.6	
152	11.554				157474		31.7- 111.7	0.8	
153	11.554				20004		0.0- 49.1	6.5	
186	11.569				18888		0.0- 48.9	6.9	
188	11.569				6917		0.0- 43.3	18.7	
* 5 Phenanthrene-d10									
188	12.409	12.409	0.0	100	174788	0.7500			
189	12.409	12.409	0.0		25843		5.9- 7.5	6.8	
A 25 Total Trichlorobiphenyls									
256	13.087	11.920 -	14.600	97	149045	1.63			
258	13.087				145403		0.8- 1.2	1.0	
186	13.087				102995		26.5- 106.5	1.4	
188	13.087				33102		0.0- 61.5	4.4	
A 26 Total Tetrachlorobiphenyls									
292	13.367	13.058 -	16.499	0	215354	3.36			
290	13.367				169401		1.1- 1.5	1.3	
220	13.353				208152		58.1- 138.1	0.8	
222	13.353				132759		22.9- 102.9	1.3	
A 27 Total Pentachlorobiphenyls									
326	16.249	14.339 -	18.045	87	183843	3.53			
324	16.249				116170		1.4- 1.8	1.6	
254	16.249				135127		41.9- 121.9	0.9	
256	16.249				129782		38.2- 118.2	0.9	
258	16.249				42725		0.0- 65.4	2.7	
A 28 Total Hexachlorobiphenyls									
360	16.439	15.502 -	19.457	60	183224	3.54			
362	16.439				145561		1.0- 1.4	1.3	
288	16.439				105174		61.3- 61.3	1.4	
290	16.439				135334		220.6- 220.6	1.1	
292	16.439				65157		0.0- 0.0	2.2	
* 15 Chrysene-d12									a
240	18.668	18.668	0.0	100	162896	0.7500			a
241	18.668	18.668	0.0		31031		4.3- 5.9	5.2	
A 29 Total Heptachlorobiphenyls									
394	17.216	17.146 -	20.353	94	252180	4.89			
396	17.216				240005		0.8- 1.2	1.1	
322	17.198				104862		48.3- 48.3	2.3	
324	17.198				166630		77.4- 77.4	1.4	

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
A 30 Total Octachlorobiphenyls									
430	18.858	18.652	-20.806	92	234406	5.25			
428	18.858				215128		0.9- 1.3	1.1	
356	18.841				83997		39.6- 39.6	2.6	
358	18.841				158499		75.2- 75.2	1.4	
360	18.841				126102		59.6- 59.6	1.7	
A 31 Total Nonachlorobiphenyls									
464	20.286	18.500	-22.000	54	134356	14.7			
466	20.286				96096		1.1- 1.5	1.4	
390	20.286				69741		0.0- 0.0	1.4	
392	20.286				150765		0.0- 0.0	0.6	
394	20.286				140769		0.0- 0.0	0.7	
$ 22 Decachlorobiphenyl-13C12									a
510	21.796	21.796	0.0	82	25294	2.16			a
512	21.796	21.796	0.0		19705		0.9- 1.3	1.3	
32 DCB Decachlorobiphenyl									a
498	21.796	21.796	0.0	82	76465	8.39			a
500	21.796	21.796	0.0		61902		0.9- 1.3	1.2	
424	21.796	21.796	0.0		33777		0.0- 0.0	1.0	
426	21.796	21.796	0.0		82736		0.0- 0.0	1.0	
428	21.796	21.796	0.0		87898		0.0- 0.0	1.0	
430	21.796	21.796	0.0		54729		0.0- 0.0	1.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

SM-680istd_00045 Amount Added: 30.00 Units: uL Run Reagent

Report Date: 20-Jan-2019 12:32:05 Chrom Revision: 2.3 13-Dec-2018 17:23:12

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1811.D

Injection Date: 18-Jan-2019 20:13:30 Instrument ID: CMSX

Lims ID: LCSD 680-555398/4-A

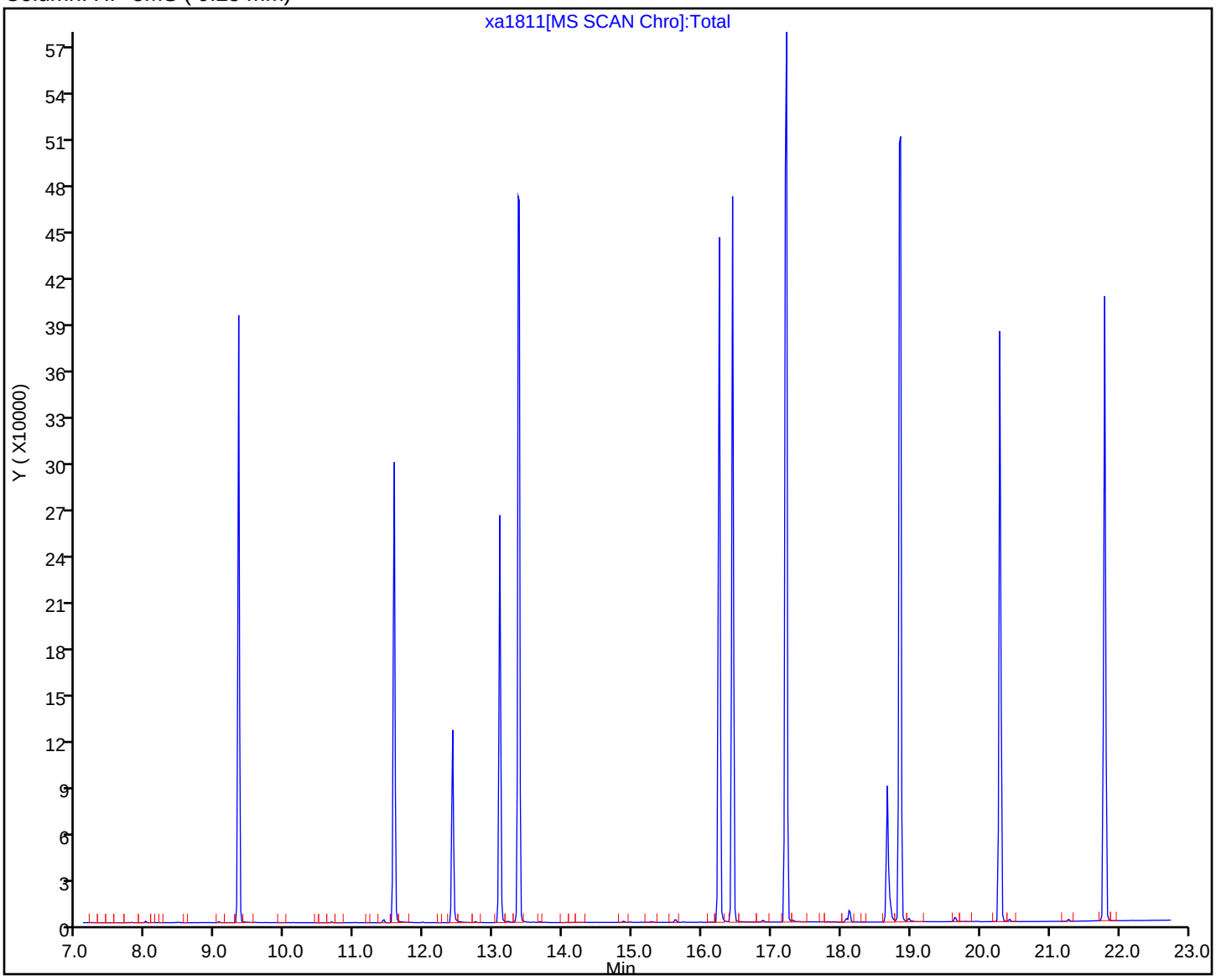
Client ID:

Operator ID: ALS Bottle#: 7 Worklist Smp#: 7

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: 680_CMSX Limit Group: 680

Column: HP-5MS (0.25 mm)



TestAmerica Savannah
Recovery Report

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1811.D
Lims ID: LCSD 680-555398/4-A
Client ID:
Sample Type: LCSD
Inject. Date: 18-Jan-2019 20:13:30 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 680-555398/4-A
Misc. Info.: 680-0053301-007
Operator ID: Instrument ID: CMSX

Method: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\680_CMSX.m
Limit Group: 680
Last Update: 20-Jan-2019 12:32:04 Calib Date: 08-Jan-2019 18:02:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0812.D

Column 1 : HP-5MS (0.25 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: davisn Date: 20-Jan-2019 12:32:04

Compound	Amount Added	Amount Recovered	% Rec.
$ 22 Decachlorobiphenyl-13C12	2.50	2.16	86.44

Manual Integration/User Assign Peak Report

TestAmerica Savannah

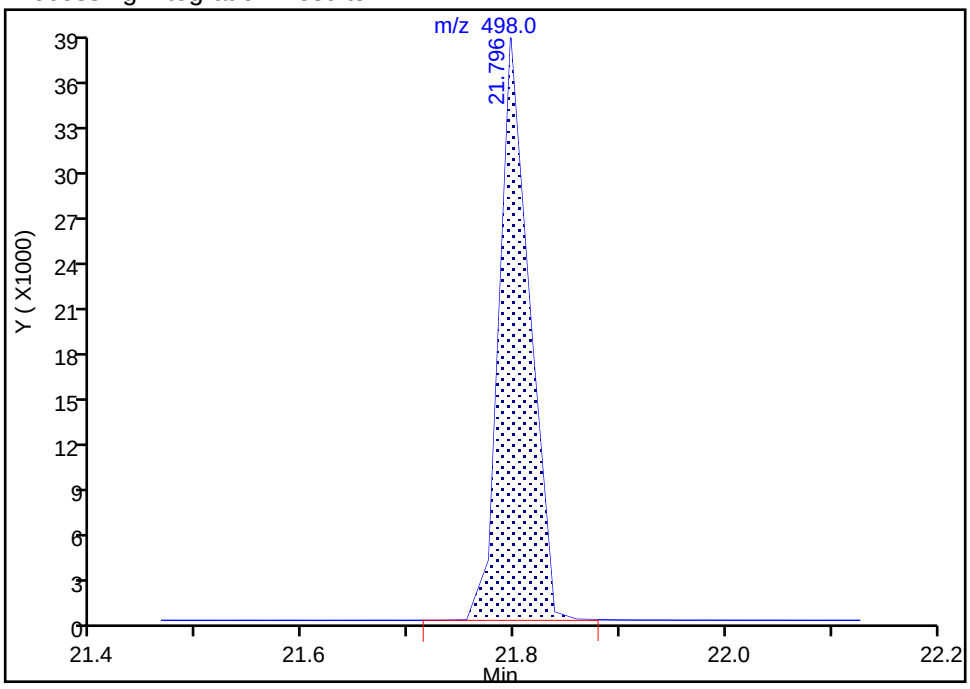
Data File:	\\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1811.D				
Injection Date:	18-Jan-2019 20:13:30	Instrument ID:	CMSX		
Lims ID:	LCSD 680-555398/4-A				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

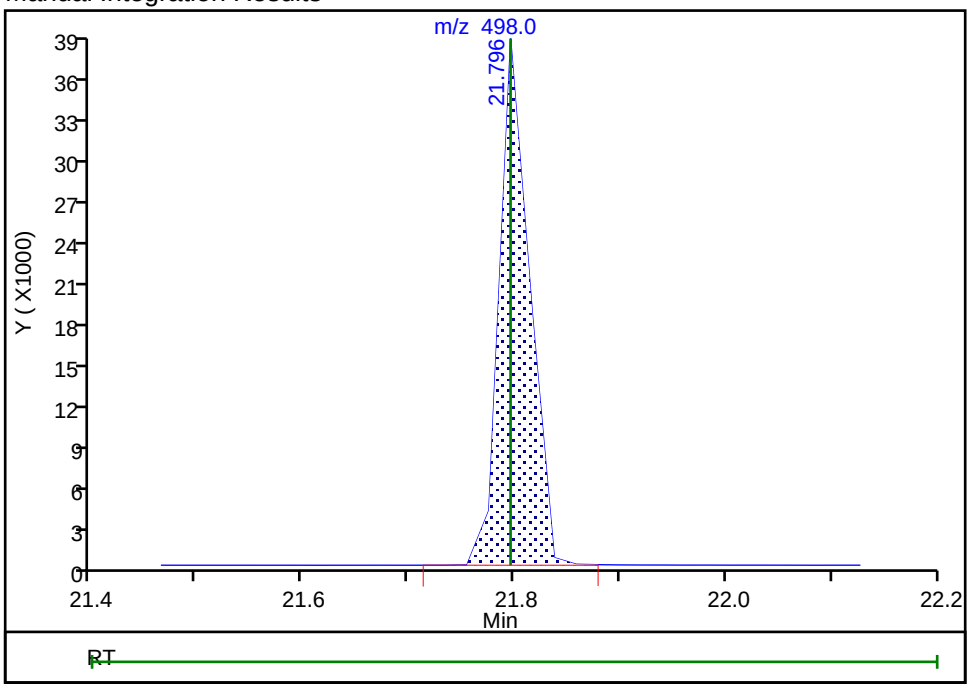
Processing Integration Results

RT: 21.80
Area: 76465
Amount: 8.389449
Amount Units: ug/ml



Manual Integration Results

RT: 21.80
Area: 76465
Amount: 8.389449
Amount Units: ug/ml



Reviewer: davisn, 20-Jan-2019 12:32:00

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Savannah

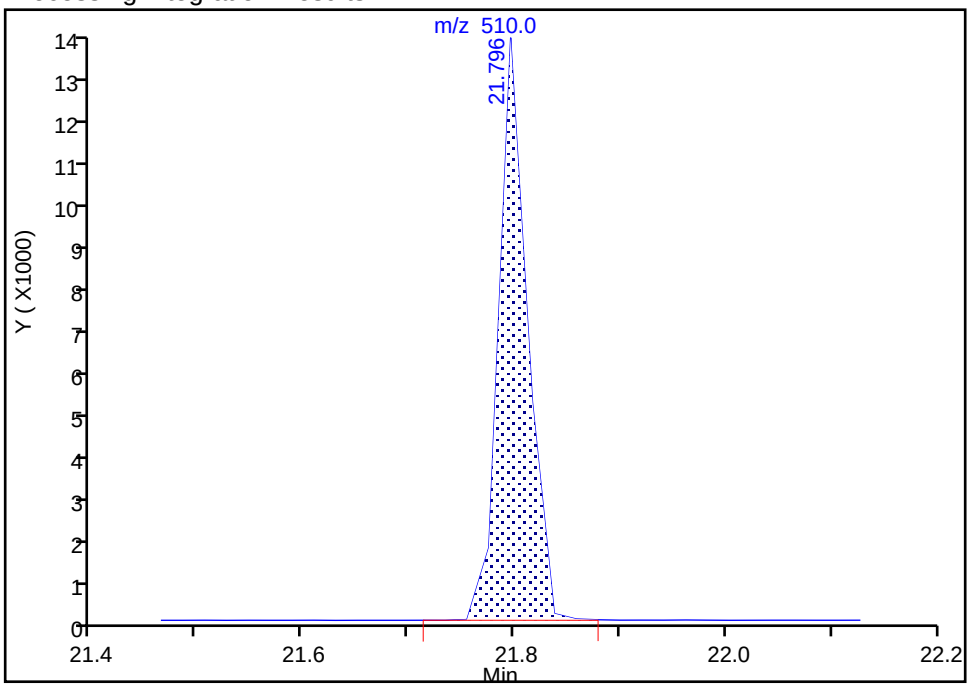
Data File:	\\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1811.D				
Injection Date:	18-Jan-2019 20:13:30	Instrument ID:	CMSX		
Lims ID:	LCSD 680-555398/4-A				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

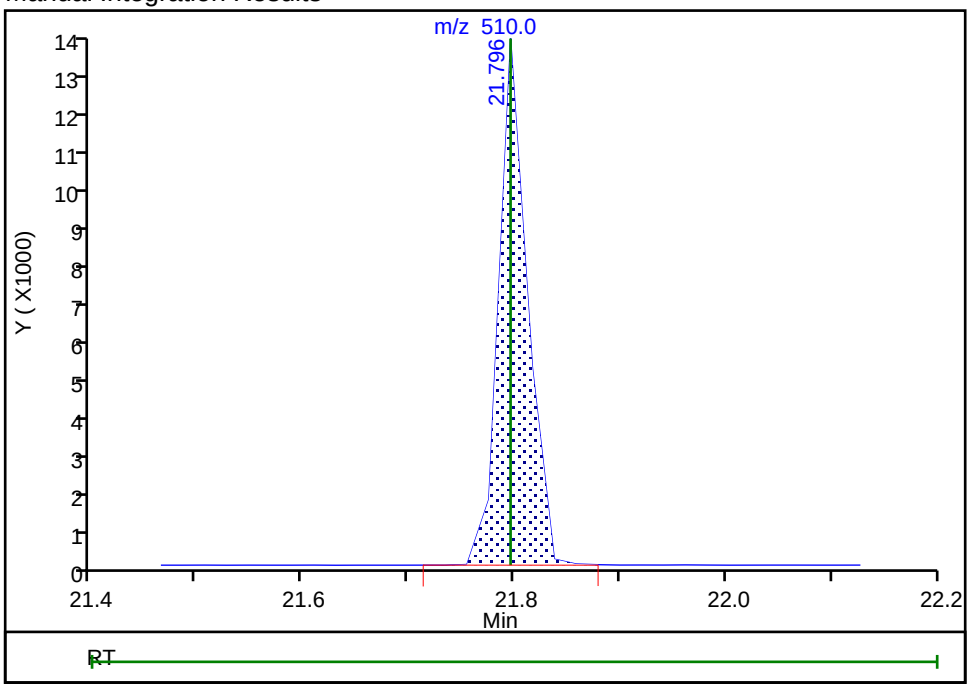
Processing Integration Results

RT: 21.80
Area: 25294
Amount: 2.160945
Amount Units: ug/ml



Manual Integration Results

RT: 21.80
Area: 25294
Amount: 2.160945
Amount Units: ug/ml



Reviewer: davisn, 20-Jan-2019 12:31:58

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Savannah

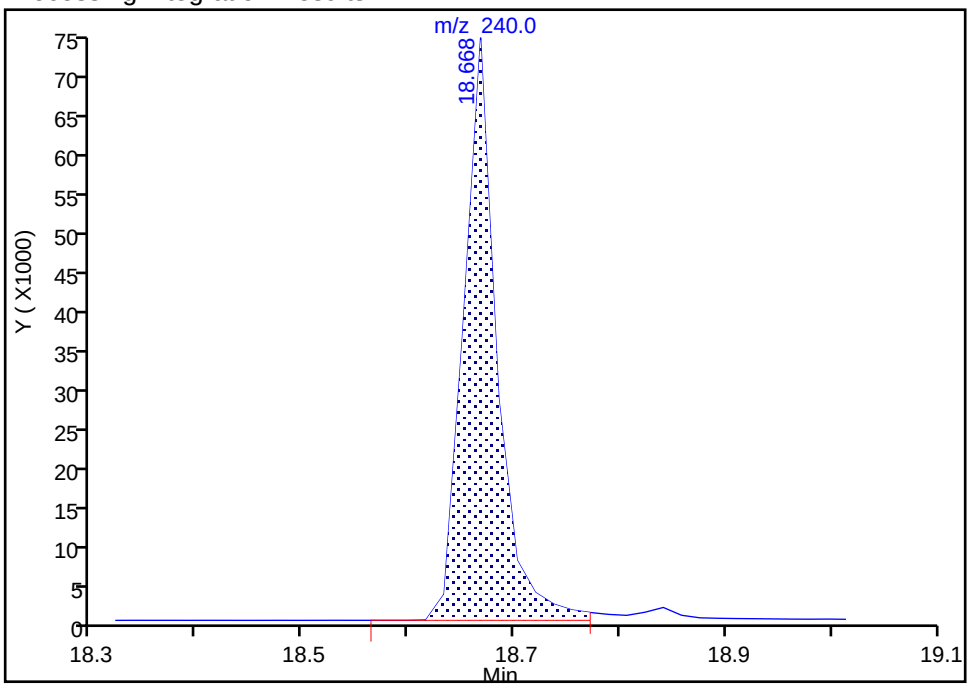
Data File:	\\chromna\Savannah\ChromData\CMSX\20190118-53301.b\xa1811.D				
Injection Date:	18-Jan-2019 20:13:30	Instrument ID:	CMSX		
Lims ID:	LCSD 680-555398/4-A				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	680_CMSX	Limit Group:	680		
Column:	HP-5MS (0.25 mm)	Detector	MS SCAN		

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

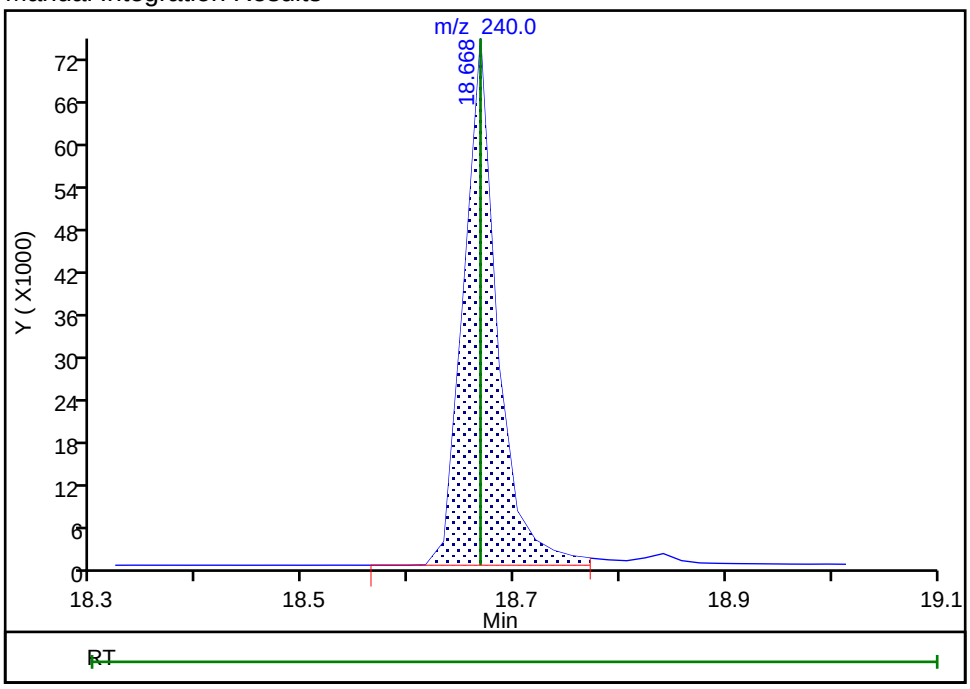
Processing Integration Results

RT: 18.67
Area: 162896
Amount: 0.750000
Amount Units: ug/ml



Manual Integration Results

RT: 18.67
Area: 162896
Amount: 0.750000
Amount Units: ug/ml



Reviewer: davisn, 20-Jan-2019 12:31:22

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Instrument ID: CMSX Start Date: 11/07/2018 12:32

Analysis Batch Number: 546611 End Date: 11/07/2018 20:25

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 680-546611/1		11/07/2018 12:32	1	xk0701.D	HP-5MS 0.25(mm)
WDM 680-546611/2		11/07/2018 13:03	1		HP-5MS 0.25(mm)
ICISAV 680-546611/3		11/07/2018 13:33	1	xk0703.D	HP-5MS 0.25(mm)
IC 680-546611/4		11/07/2018 15:12	1	xk0706.D	HP-5MS 0.25(mm)
IC 680-546611/11		11/07/2018 15:40	1	xk0707.D	HP-5MS 0.25(mm)
IC 680-546611/12		11/07/2018 16:09	1	xk0708.D	HP-5MS 0.25(mm)
IC 680-546611/13		11/07/2018 16:37	1	xk0709.D	HP-5MS 0.25(mm)
IC 680-546611/14		11/07/2018 17:06	1	xk0710.D	HP-5MS 0.25(mm)
ICV 680-546611/15		11/07/2018 17:34	1	xk0711.D	HP-5MS 0.25(mm)
ZZZZZ		11/07/2018 18:03	1		HP-5MS 0.25(mm)
ZZZZZ		11/07/2018 18:31	1		HP-5MS 0.25(mm)
ZZZZZ		11/07/2018 19:00	1		HP-5MS 0.25(mm)
ZZZZZ		11/07/2018 19:28	1		HP-5MS 0.25(mm)
ZZZZZ		11/07/2018 19:57	1		HP-5MS 0.25(mm)
CCV 680-546611/10		11/07/2018 20:25	1		HP-5MS 0.25(mm)

PCBS ANALYSIS RUN LOG

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Instrument ID: CMSX Start Date: 01/18/2019 14:09

Analysis Batch Number: 555586 End Date: 01/18/2019 21:10

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 680-555586/1		01/18/2019 14:09	1	xa1802.D	HP-5MS 0.25(mm)
WDM 680-555586/2		01/18/2019 14:39	1	xa1803.D	HP-5MS 0.25(mm)
CCVIS 680-555586/3		01/18/2019 16:35	1	xa1807.D	HP-5MS 0.25(mm)
MB 680-555398/2-A		01/18/2019 19:16	1	xa1809.D	HP-5MS 0.25(mm)
LCS 680-555398/3-A		01/18/2019 19:44	1	xa1810.D	HP-5MS 0.25(mm)
LCSD 680-555398/4-A		01/18/2019 20:13	1	xa1811.D	HP-5MS 0.25(mm)
680-163273-1		01/18/2019 20:41	1	xa1812.D	HP-5MS 0.25(mm)
CCV 680-555586/9		01/18/2019 21:10	1	xa1813.D	HP-5MS 0.25(mm)

PCBS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Batch Number: 555398 Batch Start Date: 01/17/19 13:27 Batch Analyst: Wilson, Charles E

Batch Method: 680 Batch End Date: 01/18/19 07:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ResidualChloCheck	ReceivedpH
680-163273-A-1	Lot Bottle Blank	680, 680	T	1523.9 g	512.4 g	1011.5 mL	1 mL	N	7 SU
MB 680-555398/2		680, 680				1000 mL	1 mL	N	7 SU
LCS 680-555398/3		680, 680				1000 mL	1 mL	N	7 SU
LCSD 680-555398/4		680, 680				1000 mL	1 mL	N	7 SU

Lab Sample ID	Client Sample ID	Method Chain	Basis	680wkSPIKE 00119	680wkSPIKE 00120	680wkSURR-NEW 00034			
680-163273-A-1	Lot Bottle Blank	680, 680	T			1 mL			
MB 680-555398/2		680, 680				1 mL			
LCS 680-555398/3		680, 680		1 mL		1 mL			
LCSD 680-555398/4		680, 680			1 mL	1 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 680-163273-1

SDG No.:

Batch Number: 555398 Batch Start Date: 01/17/19 13:27 Batch Analyst: Wilson, Charles E

Batch Method: 680 Batch End Date: 01/18/19 07:30

Batch Notes	
Balance ID	23
Batch Comment	680 box 124
Boiling Chips ID	901800
Concentration 1 Thermometer ID	50
Analyst ID - Concentration	CMJ
Exchange Solvent ID	5859923
Analyst ID - Extraction	CEW/CMJ
Extraction 1 End Time	01/18/2019 07:30
Extraction 1 Start Time	01/17/2019 13:27
Method/Fraction	680
pH Indicator ID	5423047
Pipette/Syringe/Dispenser ID	AA06G
Prep Solvent ID	5872604
Residual Chlorine Indicator ID	4991768
Analyst ID - Spike Analyst	CEW
Analyst ID - Spike Witness Analyst	CMJ
Sufficient Volume for Batch QC	Yes

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Phone (912) 354-7858 Fax (912) 352-0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: TA-Savannah	Lab PM: Barnett, Eddie T	Carrier Tracking No(s):	COC No:
Client Contact: Mr. Naoum Tavantzis	Phone: 301-267-8761	E-Mail: eddie.barnett@testamericainc.com		Page: 1

Company: AECOM

Address: 1600 Perimeter Park Drive Suite 400
City: Morrisville
State, Zip: NC, 27560
Phone: 443-737-1299(Tel)
Email: Naoum.Tavantzis@aecom.com
Project Name: MRC Surface Water Sampling
Site:

Due Date Requested:
TAT Requested (days):
PO #: Purchase Order Requested
WO #:
Project #: 60555202.0017
SSOW#:

Job #: 680 - 163273

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	680 - Routine 680 Sublist	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N		
Lot Bottle Blank	1/16/19	~~12:00~~ 1015	G	W	N	N	X		Rush - 5 day TAT

01/16/19 EB

680-163273 Chain of Custody

Possible Hazard Identification
[X] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown [ ] Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
[ ] Return To Client [X] Disposal By Lab [ ] Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify): IV

Special Instructions/QC Requirements: Rush 5 day TAT

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
N.T. via Email on 01/16/19 @ 1020		AECOM		01/16/19 1045	TA-SAV

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 15.4 OCP - Ambient, Lab-Provided

Ver: 08/04/2016

Login Sample Receipt Checklist

Client: AECOM

Job Number: 680-163273-1

Login Number: 163273
List Number: 1
Creator: Laughlin, Paul D

List Source: TestAmerica Savannah

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	Lab Provided - Ice Not Required.
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ALS Environmental

301 Fulling Mill Road - Middletown, PA 17057 - Phone: 717-944-5541 - Fax:717-944-1430 - www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

May 9, 2019

Ms. Victoria Kirkpatrick
AECOM - Germantown
12420 Milestone Center Dr.
Suite 150
Germantown, MD 20876

Certificate of Analysis

Project Name:	**2018-MIDDLE RIVER COMPLEX**	Workorder:	**3029976**
Purchase Order:	**95840ACM**	Workorder ID:	**LMC MRC / 95840ACM**

Dear Ms. Kirkpatrick:

Enclosed are the analytical results for samples received by the laboratory on Thursday, April 25, 2019.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Mrs. Vanessa N Badman (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Mr. Zachary Neigh , Ms. Holly Brown , Mr. Ravi Damera , Mr. Naoum Tavantzis

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ALS Environmental

301 Fulling Mill Road - Middletown, PA 17057 - Phone: 717-944-5541 - Fax: 717-944-1430 - www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

SAMPLE SUMMARY

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3029976001	MRC-SW8A-S-042419	Water	4/24/2019 15:20	4/25/2019 21:00	Collected by Client
3029976002	TB-042519-1	Water	4/25/2019 21:00	4/25/2019 21:00	Collected by Client
3029976003	MRC-SW8A-S-DUP-042419	Water	4/24/2019 15:25	4/25/2019 21:00	Collected by Client
3029976004	MRC-SW8B-S-042419	Water	4/24/2019 16:00	4/25/2019 21:00	Collected by Client
3029976005	TB-042519-2	Water	4/25/2019 21:00	4/25/2019 21:00	Collected by Client
3029976006	MRC-SW20-042519	Water	4/25/2019 10:00	4/25/2019 21:00	Collected by Client
3029976007	FB-052519-ZN	Water	4/25/2019 10:55	4/25/2019 21:00	Collected by Client
3029976008	MRC-SW7A-S-042519-A	Water	4/25/2019 09:45	4/25/2019 21:00	Collected by Client
3029976009	MRC-SW7B-S-042519	Water	4/25/2019 10:15	4/25/2019 21:00	Collected by Client
3029976010	MRC-SW9A-S-042519	Water	4/25/2019 09:05	4/25/2019 21:00	Collected by Client
3029976011	TB-042519-3	Water	4/25/2019 21:00	4/25/2019 21:00	Collected by Client
3029976012	MRC-SW9B-S-042519	Water	4/25/2019 09:25	4/25/2019 21:00	Collected by Client
3029976013	MRC-SW6B-S-042519	Water	4/25/2019 08:50	4/25/2019 21:00	Collected by Client
3029976014	MRC-SW6A-S-042519	Water	4/25/2019 08:20	4/25/2019 21:00	Collected by Client
3029976015	TB-042519-4	Water	4/25/2019 21:00	4/25/2019 21:00	Collected by Client
3029976016	MRC-W17A-042519	Water	4/25/2019 09:25	4/25/2019 21:00	Collected by Client
3029976017	F001-IDW-TUBE	Solid	4/25/2019 13:15	4/25/2019 21:00	Collected by Client
3029976018	F001-IDW-GLOVES	Solid	4/25/2019 13:00	4/25/2019 21:00	Collected by Client
3029976019	F001-IDW-PAPER	Solid	4/25/2019 13:10	4/25/2019 21:00	Collected by Client
3029976020	F001-IDW-STRING	Solid	4/25/2019 13:05	4/25/2019 21:00	Collected by Client
3029976021	TB-042519-5	Water	4/25/2019 21:00	4/25/2019 21:00	Collected by Client

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

SAMPLE SUMMARY

Workorder: 3029976 LMC MRC / 95840ACM

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
-- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

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PROJECT SUMMARY

Workorder: 3029976 LMC MRC / 95840ACM

Workorder Comments

Please see attached subcontracting from ALS Rochester. VNB 4/26/19

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976001** Date Collected: 4/24/2019 15:20 Matrix: Water

Sample ID: **MRC-SW8A-S-042419** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	5.1J	J	ug/L	10.0	3.1	SW846 8260B		5/3/19 03:45	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/3/19 03:45	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 03:45	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 03:45	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 03:45	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 03:45	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/3/19 03:45	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		5/3/19 03:45	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/3/19 03:45	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/3/19 03:45	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 03:45	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/3/19 03:45	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 03:45	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 03:45	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 03:45	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 03:45	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 03:45	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 03:45	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/3/19 03:45	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/3/19 03:45	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 03:45	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 03:45	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 03:45	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 03:45	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/3/19 03:45	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 03:45	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 03:45	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/3/19 03:45	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 03:45	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 03:45	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 03:45	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 03:45	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 03:45	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 03:45	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/3/19 03:45	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 03:45	PDK	A

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976001** Date Collected: 4/24/2019 15:20 Matrix: Water

Sample ID: **MRC-SW8A-S-042419** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 03:45	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 03:45	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 03:45	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 03:45	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 03:45	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 03:45	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/3/19 03:45	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 03:45	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 03:45	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 03:45	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 03:45	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/3/19 03:45	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/3/19 03:45	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 03:45	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 03:45	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/3/19 03:45	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 03:45	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 03:45	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/3/19 03:45	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 03:45	PDK	A
Naphthalene	ND	1,2	ug/L	2.0	0.34	SW846 8260B		5/3/19 03:45	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 03:45	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 03:45	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 03:45	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 03:45	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 03:45	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 03:45	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/3/19 03:45	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/3/19 03:45	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/3/19 03:45	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 03:45	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 03:45	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 03:45	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 03:45	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 03:45	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 03:45	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/3/19 03:45	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 03:45	PDK	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976001** Date Collected: 4/24/2019 15:20 Matrix: Water

Sample ID: **MRC-SW8A-S-042419** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/3/19 03:45	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/3/19 03:45	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	109		%	62 - 133		SW846 8260B			5/3/19 03:45	PDK	A
4-Bromofluorobenzene (S)	109		%	79 - 114		SW846 8260B			5/3/19 03:45	PDK	A
Dibromofluoromethane (S)	103		%	78 - 116		SW846 8260B			5/3/19 03:45	PDK	A
Toluene-d8 (S)	105		%	76 - 127		SW846 8260B			5/3/19 03:45	PDK	A
SEMIVOLATILE SIM											
1,4-Dioxane	0.031J	J	ug/L	0.11	0.022	8270 SIM	5/1/19 09:05	CAC	5/2/19 13:48	GEC	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	85.3		%	29 - 112		8270 SIM	5/1/19 09:05	CAC	5/2/19 13:48	GEC	G
Fluoranthene-d10 (S)	92.2		%	45 - 130		8270 SIM	5/1/19 09:05	CAC	5/2/19 13:48	GEC	G
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See attached.					Subcontract			4/24/19 15:20	SUB	M

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976002** Date Collected: 4/25/2019 21:00 Matrix: Water

Sample ID: **TB-042519-1** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	5.3J	J	ug/L	10.0	3.1	SW846 8260B		5/3/19 00:22	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/3/19 00:22	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 00:22	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:22	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:22	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 00:22	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/3/19 00:22	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		5/3/19 00:22	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/3/19 00:22	PDK	A
tert-Butyl Alcohol	2.3J	J	ug/L	10.0	2.2	SW846 8260B		5/3/19 00:22	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 00:22	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/3/19 00:22	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 00:22	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 00:22	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 00:22	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 00:22	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 00:22	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:22	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/3/19 00:22	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/3/19 00:22	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 00:22	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 00:22	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:22	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 00:22	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/3/19 00:22	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 00:22	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 00:22	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/3/19 00:22	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 00:22	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 00:22	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:22	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 00:22	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:22	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 00:22	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/3/19 00:22	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:22	PDK	A

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976002** Date Collected: 4/25/2019 21:00 Matrix: Water

Sample ID: **TB-042519-1** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 00:22	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 00:22	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:22	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 00:22	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 00:22	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 00:22	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/3/19 00:22	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 00:22	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 00:22	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 00:22	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 00:22	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/3/19 00:22	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/3/19 00:22	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 00:22	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:22	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/3/19 00:22	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 00:22	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:22	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/3/19 00:22	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 00:22	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/3/19 00:22	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:22	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 00:22	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 00:22	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 00:22	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 00:22	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 00:22	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/3/19 00:22	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/3/19 00:22	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/3/19 00:22	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 00:22	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:22	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:22	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 00:22	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 00:22	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 00:22	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/3/19 00:22	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 00:22	PDK	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976002** Date Collected: 4/25/2019 21:00 Matrix: Water

Sample ID: **TB-042519-1** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/3/19 00:22	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/3/19 00:22	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	109		%	62 - 133		SW846 8260B			5/3/19 00:22	PDK	A
4-Bromofluorobenzene (S)	107		%	79 - 114		SW846 8260B			5/3/19 00:22	PDK	A
Dibromofluoromethane (S)	105		%	78 - 116		SW846 8260B			5/3/19 00:22	PDK	A
Toluene-d8 (S)	105		%	76 - 127		SW846 8260B			5/3/19 00:22	PDK	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976003** Date Collected: 4/24/2019 15:25 Matrix: Water

Sample ID: **MRC-SW8A-S-DUP-042419** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND		ug/L	10.0	3.1	SW846 8260B		5/3/19 04:08	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/3/19 04:08	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 04:08	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 04:08	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 04:08	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 04:08	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/3/19 04:08	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		5/3/19 04:08	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/3/19 04:08	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/3/19 04:08	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 04:08	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/3/19 04:08	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 04:08	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 04:08	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 04:08	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 04:08	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 04:08	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 04:08	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/3/19 04:08	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/3/19 04:08	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 04:08	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 04:08	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 04:08	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 04:08	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/3/19 04:08	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 04:08	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 04:08	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/3/19 04:08	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 04:08	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 04:08	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 04:08	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 04:08	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 04:08	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 04:08	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/3/19 04:08	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 04:08	PDK	A

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976003** Date Collected: 4/24/2019 15:25 Matrix: Water

Sample ID: **MRC-SW8A-S-DUP-042419** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 04:08	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 04:08	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 04:08	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 04:08	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 04:08	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 04:08	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/3/19 04:08	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 04:08	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 04:08	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 04:08	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 04:08	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/3/19 04:08	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/3/19 04:08	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 04:08	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 04:08	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/3/19 04:08	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 04:08	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 04:08	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/3/19 04:08	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 04:08	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/3/19 04:08	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 04:08	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 04:08	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 04:08	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 04:08	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 04:08	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 04:08	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/3/19 04:08	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/3/19 04:08	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/3/19 04:08	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 04:08	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 04:08	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 04:08	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 04:08	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 04:08	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 04:08	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/3/19 04:08	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 04:08	PDK	A

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ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976003** Date Collected: 4/24/2019 15:25 Matrix: Water

Sample ID: **MRC-SW8A-S-DUP-042419** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/3/19 04:08	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/3/19 04:08	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	110		%	62 - 133		SW846 8260B			5/3/19 04:08	PDK	A
4-Bromofluorobenzene (S)	110		%	79 - 114		SW846 8260B			5/3/19 04:08	PDK	A
Dibromofluoromethane (S)	105		%	78 - 116		SW846 8260B			5/3/19 04:08	PDK	A
Toluene-d8 (S)	105		%	76 - 127		SW846 8260B			5/3/19 04:08	PDK	A
SEMIVOLATILE SIM											
1,4-Dioxane	0.024J	J	ug/L	0.11	0.020	8270 SIM	5/1/19 09:05	CAC	5/2/19 15:34	GEC	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	80.8		%	29 - 112		8270 SIM	5/1/19 09:05	CAC	5/2/19 15:34	GEC	C
Fluoranthene-d10 (S)	88.7		%	45 - 130		8270 SIM	5/1/19 09:05	CAC	5/2/19 15:34	GEC	C
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See attached.					Subcontract			4/24/19 15:25	SUB	E

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976004** Date Collected: 4/24/2019 16:00 Matrix: Water

Sample ID: **MRC-SW8B-S-042419** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	8.7J	J	ug/L	10.0	3.1	SW846 8260B		5/3/19 01:41	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/3/19 01:41	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 01:41	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 01:41	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 01:41	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 01:41	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/3/19 01:41	PDK	A
Bromomethane	0.72J	J	ug/L	1.0	0.39	SW846 8260B		5/3/19 01:41	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/3/19 01:41	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/3/19 01:41	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 01:41	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/3/19 01:41	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 01:41	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 01:41	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 01:41	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 01:41	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 01:41	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 01:41	PDK	A
2-Chloroethylvinyl ether	ND	1,2	ug/L	2.0	0.38	SW846 8260B		5/3/19 01:41	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/3/19 01:41	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 01:41	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 01:41	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 01:41	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 01:41	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/3/19 01:41	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 01:41	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 01:41	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/3/19 01:41	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 01:41	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 01:41	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 01:41	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 01:41	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 01:41	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 01:41	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/3/19 01:41	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 01:41	PDK	A

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976004** Date Collected: 4/24/2019 16:00 Matrix: Water

Sample ID: **MRC-SW8B-S-042419** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 01:41	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 01:41	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 01:41	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 01:41	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 01:41	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 01:41	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/3/19 01:41	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 01:41	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 01:41	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 01:41	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 01:41	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/3/19 01:41	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/3/19 01:41	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 01:41	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 01:41	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/3/19 01:41	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 01:41	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 01:41	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/3/19 01:41	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 01:41	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/3/19 01:41	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 01:41	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 01:41	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 01:41	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 01:41	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 01:41	PDK	A
Toluene	0.26J	J	ug/L	1.0	0.23	SW846 8260B		5/3/19 01:41	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/3/19 01:41	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/3/19 01:41	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/3/19 01:41	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 01:41	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 01:41	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 01:41	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 01:41	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 01:41	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 01:41	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/3/19 01:41	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 01:41	PDK	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976004** Date Collected: 4/24/2019 16:00 Matrix: Water

Sample ID: **MRC-SW8B-S-042419** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/3/19 01:41	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/3/19 01:41	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	119		%	62 - 133		SW846 8260B			5/3/19 01:41	PDK	A
4-Bromofluorobenzene (S)	105		%	79 - 114		SW846 8260B			5/3/19 01:41	PDK	A
Dibromofluoromethane (S)	105		%	78 - 116		SW846 8260B			5/3/19 01:41	PDK	A
Toluene-d8 (S)	101		%	76 - 127		SW846 8260B			5/3/19 01:41	PDK	A
SEMIVOLATILE SIM											
1,4-Dioxane	0.047J	J	ug/L	0.10	0.020	8270 SIM	5/1/19 09:05	CAC	5/2/19 16:09	GEC	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	81.5		%	29 - 112		8270 SIM	5/1/19 09:05	CAC	5/2/19 16:09	GEC	C
Fluoranthene-d10 (S)	88.5		%	45 - 130		8270 SIM	5/1/19 09:05	CAC	5/2/19 16:09	GEC	C
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See attached.					Subcontract			4/24/19 16:00	SUB	E

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976005** Date Collected: 4/25/2019 21:00 Matrix: Water

Sample ID: **TB-042519-2** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	5.0J	J	ug/L	10.0	3.1	SW846 8260B		5/2/19 23:21	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/2/19 23:21	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 23:21	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 23:21	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 23:21	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 23:21	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/2/19 23:21	PDK	A
Bromomethane	0.55J	J	ug/L	1.0	0.39	SW846 8260B		5/2/19 23:21	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/2/19 23:21	PDK	A
tert-Butyl Alcohol	2.5J	J	ug/L	10.0	2.2	SW846 8260B		5/2/19 23:21	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/2/19 23:21	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/2/19 23:21	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 23:21	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 23:21	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 23:21	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/2/19 23:21	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/2/19 23:21	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 23:21	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/2/19 23:21	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/2/19 23:21	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 23:21	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 23:21	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 23:21	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 23:21	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/2/19 23:21	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/2/19 23:21	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 23:21	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/2/19 23:21	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 23:21	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 23:21	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 23:21	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/2/19 23:21	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 23:21	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 23:21	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/2/19 23:21	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 23:21	PDK	A

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976005** Date Collected: 4/25/2019 21:00 Matrix: Water

Sample ID: **TB-042519-2** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 23:21	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 23:21	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 23:21	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 23:21	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 23:21	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 23:21	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/2/19 23:21	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 23:21	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/2/19 23:21	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/2/19 23:21	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 23:21	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/2/19 23:21	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/2/19 23:21	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/2/19 23:21	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 23:21	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/2/19 23:21	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/2/19 23:21	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 23:21	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/2/19 23:21	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/2/19 23:21	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/2/19 23:21	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 23:21	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 23:21	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/2/19 23:21	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/2/19 23:21	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/2/19 23:21	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 23:21	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/2/19 23:21	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/2/19 23:21	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/2/19 23:21	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/2/19 23:21	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 23:21	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 23:21	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 23:21	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/2/19 23:21	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 23:21	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/2/19 23:21	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/2/19 23:21	PDK	A

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ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976005** Date Collected: 4/25/2019 21:00 Matrix: Water

Sample ID: **TB-042519-2** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/2/19 23:21	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/2/19 23:21	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	116		%	62 - 133		SW846 8260B			5/2/19 23:21	PDK	A
4-Bromofluorobenzene (S)	107		%	79 - 114		SW846 8260B			5/2/19 23:21	PDK	A
Dibromofluoromethane (S)	106		%	78 - 116		SW846 8260B			5/2/19 23:21	PDK	A
Toluene-d8 (S)	100		%	76 - 127		SW846 8260B			5/2/19 23:21	PDK	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976006** Date Collected: 4/25/2019 10:00 Matrix: Water
Sample ID: **MRC-SW20-042519** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	See attached.					Subcontract		4/25/19 10:00	SUB	A

Vanessa N. Badman
Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976007** Date Collected: 4/25/2019 10:55 Matrix: Water

Sample ID: **FB-052519-ZN** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND		ug/L	10.0	3.1	SW846 8260B		5/2/19 23:44	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/2/19 23:44	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 23:44	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 23:44	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 23:44	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 23:44	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/2/19 23:44	PDK	A
Bromomethane	0.42J	J	ug/L	1.0	0.39	SW846 8260B		5/2/19 23:44	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/2/19 23:44	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/2/19 23:44	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/2/19 23:44	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/2/19 23:44	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 23:44	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 23:44	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 23:44	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/2/19 23:44	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/2/19 23:44	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 23:44	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/2/19 23:44	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/2/19 23:44	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 23:44	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 23:44	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 23:44	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 23:44	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/2/19 23:44	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/2/19 23:44	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 23:44	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/2/19 23:44	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 23:44	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 23:44	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 23:44	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/2/19 23:44	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 23:44	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 23:44	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/2/19 23:44	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 23:44	PDK	A

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976007** Date Collected: 4/25/2019 10:55 Matrix: Water

Sample ID: **FB-052519-ZN** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 23:44	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 23:44	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 23:44	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 23:44	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 23:44	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 23:44	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/2/19 23:44	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 23:44	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/2/19 23:44	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/2/19 23:44	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 23:44	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/2/19 23:44	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/2/19 23:44	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/2/19 23:44	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 23:44	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/2/19 23:44	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/2/19 23:44	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 23:44	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/2/19 23:44	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/2/19 23:44	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/2/19 23:44	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 23:44	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 23:44	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/2/19 23:44	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/2/19 23:44	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/2/19 23:44	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 23:44	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/2/19 23:44	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/2/19 23:44	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/2/19 23:44	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/2/19 23:44	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 23:44	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 23:44	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 23:44	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/2/19 23:44	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 23:44	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/2/19 23:44	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/2/19 23:44	PDK	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976007** Date Collected: 4/25/2019 10:55 Matrix: Water

Sample ID: **FB-052519-ZN** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/2/19 23:44	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/2/19 23:44	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	118		%	62 - 133		SW846 8260B			5/2/19 23:44	PDK	A
4-Bromofluorobenzene (S)	104		%	79 - 114		SW846 8260B			5/2/19 23:44	PDK	A
Dibromofluoromethane (S)	104		%	78 - 116		SW846 8260B			5/2/19 23:44	PDK	A
Toluene-d8 (S)	101		%	76 - 127		SW846 8260B			5/2/19 23:44	PDK	A
SEMIVOLATILE SIM											
1,4-Dioxane	ND		ug/L	0.10	0.019	8270 SIM	5/1/19 09:05	CAC	5/2/19 16:43	GEC	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	78.2		%	29 - 112		8270 SIM	5/1/19 09:05	CAC	5/2/19 16:43	GEC	C
Fluoranthene-d10 (S)	88.3		%	45 - 130		8270 SIM	5/1/19 09:05	CAC	5/2/19 16:43	GEC	C
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See attached.					Subcontract			4/25/19 10:55	SUB	E

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976008** Date Collected: 4/25/2019 09:45 Matrix: Water

Sample ID: **MRC-SW7A-S-042519-A** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	12.7		ug/L	10.0	3.1	SW846 8260B		5/3/19 02:04	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/3/19 02:04	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 02:04	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 02:04	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 02:04	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 02:04	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/3/19 02:04	PDK	A
Bromomethane	0.61J	J	ug/L	1.0	0.39	SW846 8260B		5/3/19 02:04	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/3/19 02:04	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/3/19 02:04	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 02:04	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/3/19 02:04	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 02:04	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 02:04	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 02:04	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 02:04	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 02:04	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 02:04	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/3/19 02:04	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/3/19 02:04	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 02:04	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 02:04	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 02:04	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 02:04	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/3/19 02:04	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 02:04	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 02:04	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/3/19 02:04	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 02:04	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 02:04	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 02:04	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 02:04	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 02:04	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 02:04	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/3/19 02:04	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 02:04	PDK	A

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976008** Date Collected: 4/25/2019 09:45 Matrix: Water

Sample ID: **MRC-SW7A-S-042519-A** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 02:04	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 02:04	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 02:04	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 02:04	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 02:04	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 02:04	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/3/19 02:04	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 02:04	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 02:04	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 02:04	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 02:04	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/3/19 02:04	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/3/19 02:04	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 02:04	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 02:04	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/3/19 02:04	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 02:04	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 02:04	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/3/19 02:04	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 02:04	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/3/19 02:04	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 02:04	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 02:04	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 02:04	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 02:04	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 02:04	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 02:04	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/3/19 02:04	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/3/19 02:04	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/3/19 02:04	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 02:04	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 02:04	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 02:04	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 02:04	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 02:04	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 02:04	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/3/19 02:04	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 02:04	PDK	A

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ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976008** Date Collected: 4/25/2019 09:45 Matrix: Water

Sample ID: **MRC-SW7A-S-042519-A** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/3/19 02:04	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/3/19 02:04	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	124		%	62 - 133		SW846 8260B			5/3/19 02:04	PDK	A
4-Bromofluorobenzene (S)	105		%	79 - 114		SW846 8260B			5/3/19 02:04	PDK	A
Dibromofluoromethane (S)	108		%	78 - 116		SW846 8260B			5/3/19 02:04	PDK	A
Toluene-d8 (S)	105		%	76 - 127		SW846 8260B			5/3/19 02:04	PDK	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See attached.					Subcontract			4/25/19 09:45	SUB	C

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976009** Date Collected: 4/25/2019 10:15 Matrix: Water

Sample ID: **MRC-SW7B-S-042519** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	7.1J	J	ug/L	10.0	3.1	SW846 8260B		5/3/19 02:27	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/3/19 02:27	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 02:27	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 02:27	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 02:27	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 02:27	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/3/19 02:27	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		5/3/19 02:27	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/3/19 02:27	PDK	A
tert-Butyl Alcohol	3.1J	J	ug/L	10.0	2.2	SW846 8260B		5/3/19 02:27	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 02:27	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/3/19 02:27	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 02:27	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 02:27	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 02:27	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 02:27	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 02:27	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 02:27	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/3/19 02:27	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/3/19 02:27	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 02:27	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 02:27	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 02:27	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 02:27	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/3/19 02:27	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 02:27	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 02:27	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/3/19 02:27	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 02:27	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 02:27	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 02:27	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 02:27	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 02:27	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 02:27	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/3/19 02:27	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 02:27	PDK	A

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976009** Date Collected: 4/25/2019 10:15 Matrix: Water

Sample ID: **MRC-SW7B-S-042519** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 02:27	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 02:27	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 02:27	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 02:27	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 02:27	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 02:27	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/3/19 02:27	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 02:27	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 02:27	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 02:27	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 02:27	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/3/19 02:27	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/3/19 02:27	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 02:27	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 02:27	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/3/19 02:27	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 02:27	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 02:27	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/3/19 02:27	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 02:27	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/3/19 02:27	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 02:27	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 02:27	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 02:27	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 02:27	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 02:27	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 02:27	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/3/19 02:27	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/3/19 02:27	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/3/19 02:27	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 02:27	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 02:27	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 02:27	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 02:27	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 02:27	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 02:27	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/3/19 02:27	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 02:27	PDK	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976009** Date Collected: 4/25/2019 10:15 Matrix: Water

Sample ID: **MRC-SW7B-S-042519** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/3/19 02:27	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/3/19 02:27	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	121		%	62 - 133		SW846 8260B			5/3/19 02:27	PDK	A
4-Bromofluorobenzene (S)	106		%	79 - 114		SW846 8260B			5/3/19 02:27	PDK	A
Dibromofluoromethane (S)	106		%	78 - 116		SW846 8260B			5/3/19 02:27	PDK	A
Toluene-d8 (S)	105		%	76 - 127		SW846 8260B			5/3/19 02:27	PDK	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See attached.					Subcontract			4/25/19 10:15	SUB	C

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976010** Date Collected: 4/25/2019 09:05 Matrix: Water

Sample ID: **MRC-SW9A-S-042519** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	8.0J	J	ug/L	10.0	3.1	SW846 8260B		5/3/19 02:50	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/3/19 02:50	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 02:50	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 02:50	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 02:50	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 02:50	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/3/19 02:50	PDK	A
Bromomethane	0.49J	J	ug/L	1.0	0.39	SW846 8260B		5/3/19 02:50	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/3/19 02:50	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/3/19 02:50	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 02:50	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/3/19 02:50	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 02:50	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 02:50	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 02:50	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 02:50	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 02:50	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 02:50	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/3/19 02:50	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/3/19 02:50	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 02:50	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 02:50	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 02:50	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 02:50	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/3/19 02:50	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 02:50	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 02:50	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/3/19 02:50	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 02:50	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 02:50	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 02:50	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 02:50	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 02:50	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 02:50	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/3/19 02:50	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 02:50	PDK	A

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976010** Date Collected: 4/25/2019 09:05 Matrix: Water

Sample ID: **MRC-SW9A-S-042519** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 02:50	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 02:50	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 02:50	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 02:50	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 02:50	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 02:50	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/3/19 02:50	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 02:50	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 02:50	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 02:50	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 02:50	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/3/19 02:50	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/3/19 02:50	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 02:50	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 02:50	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/3/19 02:50	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 02:50	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 02:50	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/3/19 02:50	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 02:50	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/3/19 02:50	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 02:50	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 02:50	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 02:50	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 02:50	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 02:50	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 02:50	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/3/19 02:50	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/3/19 02:50	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/3/19 02:50	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 02:50	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 02:50	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 02:50	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 02:50	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 02:50	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 02:50	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/3/19 02:50	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 02:50	PDK	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976010** Date Collected: 4/25/2019 09:05 Matrix: Water

Sample ID: **MRC-SW9A-S-042519** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/3/19 02:50	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/3/19 02:50	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	119		%	62 - 133		SW846 8260B			5/3/19 02:50	PDK	A
4-Bromofluorobenzene (S)	106		%	79 - 114		SW846 8260B			5/3/19 02:50	PDK	A
Dibromofluoromethane (S)	105		%	78 - 116		SW846 8260B			5/3/19 02:50	PDK	A
Toluene-d8 (S)	103		%	76 - 127		SW846 8260B			5/3/19 02:50	PDK	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See attached.					Subcontract			4/25/19 09:05	SUB	C

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976011** Date Collected: 4/25/2019 21:00 Matrix: Water

Sample ID: **TB-042519-3** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	7.7J	J	ug/L	10.0	3.1	SW846 8260B		5/3/19 00:07	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/3/19 00:07	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 00:07	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:07	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:07	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 00:07	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/3/19 00:07	PDK	A
Bromomethane	0.46J	J	ug/L	1.0	0.39	SW846 8260B		5/3/19 00:07	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/3/19 00:07	PDK	A
tert-Butyl Alcohol	2.9J	J	ug/L	10.0	2.2	SW846 8260B		5/3/19 00:07	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 00:07	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/3/19 00:07	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 00:07	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 00:07	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 00:07	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 00:07	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 00:07	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:07	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/3/19 00:07	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/3/19 00:07	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 00:07	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 00:07	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:07	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 00:07	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/3/19 00:07	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 00:07	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 00:07	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/3/19 00:07	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 00:07	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 00:07	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:07	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 00:07	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:07	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 00:07	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/3/19 00:07	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:07	PDK	A

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976011** Date Collected: 4/25/2019 21:00 Matrix: Water

Sample ID: **TB-042519-3** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 00:07	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 00:07	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:07	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 00:07	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 00:07	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 00:07	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/3/19 00:07	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 00:07	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 00:07	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 00:07	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 00:07	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/3/19 00:07	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/3/19 00:07	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 00:07	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:07	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/3/19 00:07	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 00:07	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:07	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/3/19 00:07	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 00:07	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/3/19 00:07	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:07	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 00:07	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 00:07	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 00:07	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 00:07	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 00:07	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/3/19 00:07	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/3/19 00:07	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/3/19 00:07	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 00:07	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:07	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:07	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 00:07	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 00:07	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 00:07	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/3/19 00:07	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 00:07	PDK	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976011** Date Collected: 4/25/2019 21:00 Matrix: Water
Sample ID: **TB-042519-3** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/3/19 00:07	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/3/19 00:07	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	117		%	62 - 133		SW846 8260B			5/3/19 00:07	PDK	A
4-Bromofluorobenzene (S)	106		%	79 - 114		SW846 8260B			5/3/19 00:07	PDK	A
Dibromofluoromethane (S)	105		%	78 - 116		SW846 8260B			5/3/19 00:07	PDK	A
Toluene-d8 (S)	103		%	76 - 127		SW846 8260B			5/3/19 00:07	PDK	A

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ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976012** Date Collected: 4/25/2019 09:25 Matrix: Water

Sample ID: **MRC-SW9B-S-042519** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	21.6		ug/L	10.0	3.1	SW846 8260B		5/3/19 03:14	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/3/19 03:14	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 03:14	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 03:14	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 03:14	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 03:14	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/3/19 03:14	PDK	A
Bromomethane	0.42J	J	ug/L	1.0	0.39	SW846 8260B		5/3/19 03:14	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/3/19 03:14	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/3/19 03:14	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 03:14	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/3/19 03:14	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 03:14	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 03:14	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 03:14	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 03:14	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 03:14	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 03:14	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/3/19 03:14	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/3/19 03:14	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 03:14	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 03:14	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 03:14	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 03:14	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/3/19 03:14	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 03:14	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 03:14	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/3/19 03:14	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 03:14	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 03:14	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 03:14	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 03:14	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 03:14	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 03:14	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/3/19 03:14	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 03:14	PDK	A

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976012** Date Collected: 4/25/2019 09:25 Matrix: Water

Sample ID: **MRC-SW9B-S-042519** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 03:14	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 03:14	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 03:14	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 03:14	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 03:14	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 03:14	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/3/19 03:14	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 03:14	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 03:14	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 03:14	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 03:14	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/3/19 03:14	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/3/19 03:14	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 03:14	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 03:14	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/3/19 03:14	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 03:14	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 03:14	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/3/19 03:14	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 03:14	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/3/19 03:14	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 03:14	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 03:14	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 03:14	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 03:14	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 03:14	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 03:14	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/3/19 03:14	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/3/19 03:14	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/3/19 03:14	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 03:14	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 03:14	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 03:14	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 03:14	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 03:14	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 03:14	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/3/19 03:14	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 03:14	PDK	A

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976012** Date Collected: 4/25/2019 09:25 Matrix: Water

Sample ID: **MRC-SW9B-S-042519** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/3/19 03:14	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/3/19 03:14	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	120		%	62 - 133		SW846 8260B			5/3/19 03:14	PDK	A
4-Bromofluorobenzene (S)	105		%	79 - 114		SW846 8260B			5/3/19 03:14	PDK	A
Dibromofluoromethane (S)	107		%	78 - 116		SW846 8260B			5/3/19 03:14	PDK	A
Toluene-d8 (S)	101		%	76 - 127		SW846 8260B			5/3/19 03:14	PDK	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See attached.					Subcontract			4/25/19 09:25	SUB	C

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976013** Date Collected: 4/25/2019 08:50 Matrix: Water

Sample ID: **MRC-SW6B-S-042519** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
VOLATILE ORGANICS										
Acetone	9.2J	J	ug/L	10.0	3.1	SW846 8260B		5/3/19 03:37	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/3/19 03:37	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 03:37	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 03:37	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 03:37	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 03:37	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/3/19 03:37	PDK	A
Bromomethane	0.67J	J	ug/L	1.0	0.39	SW846 8260B		5/3/19 03:37	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/3/19 03:37	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/3/19 03:37	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 03:37	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/3/19 03:37	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 03:37	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 03:37	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 03:37	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 03:37	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 03:37	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 03:37	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/3/19 03:37	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/3/19 03:37	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 03:37	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 03:37	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 03:37	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 03:37	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/3/19 03:37	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 03:37	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 03:37	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/3/19 03:37	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 03:37	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 03:37	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 03:37	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 03:37	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 03:37	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 03:37	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/3/19 03:37	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 03:37	PDK	A

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976013** Date Collected: 4/25/2019 08:50 Matrix: Water

Sample ID: **MRC-SW6B-S-042519** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 03:37	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 03:37	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 03:37	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 03:37	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 03:37	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 03:37	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/3/19 03:37	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 03:37	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 03:37	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 03:37	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 03:37	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/3/19 03:37	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/3/19 03:37	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 03:37	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 03:37	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/3/19 03:37	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 03:37	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 03:37	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/3/19 03:37	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 03:37	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/3/19 03:37	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 03:37	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 03:37	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 03:37	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 03:37	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 03:37	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 03:37	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/3/19 03:37	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/3/19 03:37	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/3/19 03:37	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 03:37	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 03:37	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 03:37	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 03:37	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 03:37	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 03:37	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/3/19 03:37	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 03:37	PDK	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976013** Date Collected: 4/25/2019 08:50 Matrix: Water

Sample ID: **MRC-SW6B-S-042519** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/3/19 03:37	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/3/19 03:37	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	120		%	62 - 133		SW846 8260B			5/3/19 03:37	PDK	A
4-Bromofluorobenzene (S)	107		%	79 - 114		SW846 8260B			5/3/19 03:37	PDK	A
Dibromofluoromethane (S)	106		%	78 - 116		SW846 8260B			5/3/19 03:37	PDK	A
Toluene-d8 (S)	102		%	76 - 127		SW846 8260B			5/3/19 03:37	PDK	A
SEMIVOLATILE SIM											
1,4-Dioxane	0.042J	J	ug/L	0.11	0.021	8270 SIM	5/1/19 09:05	CAC	5/2/19 17:18	GEC	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	84.3		%	29 - 112		8270 SIM	5/1/19 09:05	CAC	5/2/19 17:18	GEC	C
Fluoranthene-d10 (S)	91.6		%	45 - 130		8270 SIM	5/1/19 09:05	CAC	5/2/19 17:18	GEC	C
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See attached.					Subcontract			4/25/19 08:50	SUB	E

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976014** Date Collected: 4/25/2019 08:20 Matrix: Water

Sample ID: **MRC-SW6A-S-042519** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	5.3J	J	ug/L	10.0	3.1	SW846 8260B		5/3/19 04:01	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/3/19 04:01	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 04:01	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 04:01	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 04:01	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 04:01	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/3/19 04:01	PDK	A
Bromomethane	0.45J	J	ug/L	1.0	0.39	SW846 8260B		5/3/19 04:01	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/3/19 04:01	PDK	A
tert-Butyl Alcohol	3.7J	J	ug/L	10.0	2.2	SW846 8260B		5/3/19 04:01	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 04:01	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/3/19 04:01	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 04:01	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 04:01	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 04:01	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 04:01	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 04:01	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 04:01	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/3/19 04:01	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/3/19 04:01	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 04:01	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 04:01	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 04:01	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 04:01	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/3/19 04:01	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 04:01	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 04:01	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/3/19 04:01	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 04:01	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 04:01	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 04:01	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 04:01	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 04:01	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 04:01	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/3/19 04:01	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 04:01	PDK	A

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976014** Date Collected: 4/25/2019 08:20 Matrix: Water

Sample ID: **MRC-SW6A-S-042519** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 04:01	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 04:01	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 04:01	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 04:01	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 04:01	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 04:01	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/3/19 04:01	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 04:01	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 04:01	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 04:01	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 04:01	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/3/19 04:01	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/3/19 04:01	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 04:01	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 04:01	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/3/19 04:01	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 04:01	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 04:01	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/3/19 04:01	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 04:01	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/3/19 04:01	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 04:01	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 04:01	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 04:01	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 04:01	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 04:01	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 04:01	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/3/19 04:01	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/3/19 04:01	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/3/19 04:01	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 04:01	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 04:01	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 04:01	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 04:01	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 04:01	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 04:01	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/3/19 04:01	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 04:01	PDK	A

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ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976014** Date Collected: 4/25/2019 08:20 Matrix: Water

Sample ID: **MRC-SW6A-S-042519** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/3/19 04:01	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/3/19 04:01	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	122		%	62 - 133		SW846 8260B			5/3/19 04:01	PDK	A
4-Bromofluorobenzene (S)	105		%	79 - 114		SW846 8260B			5/3/19 04:01	PDK	A
Dibromofluoromethane (S)	107		%	78 - 116		SW846 8260B			5/3/19 04:01	PDK	A
Toluene-d8 (S)	102		%	76 - 127		SW846 8260B			5/3/19 04:01	PDK	A
SEMIVOLATILE SIM											
1,4-Dioxane	0.045J	J	ug/L	0.10	0.020	8270 SIM	5/1/19 09:05	CAC	5/2/19 17:51	GEC	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	79.8		%	29 - 112		8270 SIM	5/1/19 09:05	CAC	5/2/19 17:51	GEC	C
Fluoranthene-d10 (S)	88.6		%	45 - 130		8270 SIM	5/1/19 09:05	CAC	5/2/19 17:51	GEC	C
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See attached.					Subcontract			4/25/19 08:20	SUB	E

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976015** Date Collected: 4/25/2019 21:00 Matrix: Water

Sample ID: **TB-042519-4** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	7.9J	J	ug/L	10.0	3.1	SW846 8260B		5/3/19 00:31	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/3/19 00:31	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 00:31	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:31	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:31	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 00:31	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/3/19 00:31	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		5/3/19 00:31	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/3/19 00:31	PDK	A
tert-Butyl Alcohol	2.3J	J	ug/L	10.0	2.2	SW846 8260B		5/3/19 00:31	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 00:31	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/3/19 00:31	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 00:31	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 00:31	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 00:31	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 00:31	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 00:31	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:31	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/3/19 00:31	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/3/19 00:31	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 00:31	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 00:31	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:31	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 00:31	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/3/19 00:31	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 00:31	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 00:31	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/3/19 00:31	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 00:31	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 00:31	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:31	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 00:31	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:31	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 00:31	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/3/19 00:31	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:31	PDK	A

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ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976015** Date Collected: 4/25/2019 21:00 Matrix: Water

Sample ID: **TB-042519-4** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 00:31	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 00:31	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:31	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 00:31	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 00:31	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 00:31	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/3/19 00:31	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 00:31	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 00:31	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 00:31	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 00:31	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/3/19 00:31	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/3/19 00:31	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 00:31	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:31	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/3/19 00:31	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 00:31	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:31	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/3/19 00:31	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 00:31	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/3/19 00:31	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:31	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 00:31	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 00:31	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 00:31	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 00:31	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 00:31	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/3/19 00:31	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/3/19 00:31	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/3/19 00:31	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 00:31	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:31	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:31	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 00:31	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 00:31	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 00:31	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/3/19 00:31	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 00:31	PDK	A

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ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976015** Date Collected: 4/25/2019 21:00 Matrix: Water

Sample ID: **TB-042519-4** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/3/19 00:31	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/3/19 00:31	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	117		%	62 - 133		SW846 8260B			5/3/19 00:31	PDK	A
4-Bromofluorobenzene (S)	105		%	79 - 114		SW846 8260B			5/3/19 00:31	PDK	A
Dibromofluoromethane (S)	105		%	78 - 116		SW846 8260B			5/3/19 00:31	PDK	A
Toluene-d8 (S)	104		%	76 - 127		SW846 8260B			5/3/19 00:31	PDK	A

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ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976016** Date Collected: 4/25/2019 09:25 Matrix: Water

Sample ID: **MRC-W17A-042519** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	14.7		ug/L	10.0	3.1	SW846 8260B		5/3/19 04:24	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/3/19 04:24	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 04:24	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 04:24	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 04:24	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 04:24	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/3/19 04:24	PDK	A
Bromomethane	0.51J	J	ug/L	1.0	0.39	SW846 8260B		5/3/19 04:24	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/3/19 04:24	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/3/19 04:24	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 04:24	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/3/19 04:24	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 04:24	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 04:24	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 04:24	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 04:24	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 04:24	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 04:24	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/3/19 04:24	PDK	A
Chloroform	0.47J	J	ug/L	1.0	0.21	SW846 8260B		5/3/19 04:24	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 04:24	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 04:24	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 04:24	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 04:24	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/3/19 04:24	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 04:24	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 04:24	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/3/19 04:24	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 04:24	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 04:24	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 04:24	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 04:24	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 04:24	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 04:24	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/3/19 04:24	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 04:24	PDK	A

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976016** Date Collected: 4/25/2019 09:25 Matrix: Water

Sample ID: **MRC-W17A-042519** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 04:24	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 04:24	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 04:24	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 04:24	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 04:24	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 04:24	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/3/19 04:24	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 04:24	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 04:24	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 04:24	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 04:24	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/3/19 04:24	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/3/19 04:24	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 04:24	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 04:24	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/3/19 04:24	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 04:24	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 04:24	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/3/19 04:24	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 04:24	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/3/19 04:24	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 04:24	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 04:24	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 04:24	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 04:24	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 04:24	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 04:24	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/3/19 04:24	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/3/19 04:24	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/3/19 04:24	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 04:24	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 04:24	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 04:24	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 04:24	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 04:24	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 04:24	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/3/19 04:24	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 04:24	PDK	A

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ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976016** Date Collected: 4/25/2019 09:25 Matrix: Water

Sample ID: **MRC-W17A-042519** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/3/19 04:24	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/3/19 04:24	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	121		%	62 - 133		SW846 8260B			5/3/19 04:24	PDK	A
4-Bromofluorobenzene (S)	106		%	79 - 114		SW846 8260B			5/3/19 04:24	PDK	A
Dibromofluoromethane (S)	106		%	78 - 116		SW846 8260B			5/3/19 04:24	PDK	A
Toluene-d8 (S)	102		%	76 - 127		SW846 8260B			5/3/19 04:24	PDK	A
SEMIVOLATILE SIM											
1,4-Dioxane	0.064J	J	ug/L	0.10	0.020	8270 SIM	5/1/19 09:05	CAC	5/2/19 18:26	GEC	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	80.4		%	29 - 112		8270 SIM	5/1/19 09:05	CAC	5/2/19 18:26	GEC	C
Fluoranthene-d10 (S)	88		%	45 - 130		8270 SIM	5/1/19 09:05	CAC	5/2/19 18:26	GEC	C

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976017** Date Collected: 4/25/2019 13:15 Matrix: Solid

Sample ID: **F001-IDW-TUBE** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
TCLP VOLATILE ORGANICS											
Benzene	ND		ug/L	20.0	8.0	SW846 8260C			5/8/19 11:47	TMP	A
2-Butanone	ND		ug/L	200	60.0	SW846 8260C			5/8/19 11:47	TMP	A
Carbon Tetrachloride	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 11:47	TMP	A
Chlorobenzene	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 11:47	TMP	A
Chloroform	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 11:47	TMP	A
1,2-Dichloroethane	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 11:47	TMP	A
1,1-Dichloroethene	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 11:47	TMP	A
Tetrachloroethene	48.1		ug/L	20.0	8.0	SW846 8260C			5/8/19 11:47	TMP	A
Trichloroethene	264		ug/L	20.0	4.0	SW846 8260C			5/8/19 11:47	TMP	A
Vinyl Chloride	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 11:47	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	108		%	62 - 133		SW846 8260C			5/8/19 11:47	TMP	A
4-Bromofluorobenzene (S)	104		%	79 - 114		SW846 8260C			5/8/19 11:47	TMP	A
Dibromofluoromethane (S)	111		%	78 - 116		SW846 8260C			5/8/19 11:47	TMP	A
Toluene-d8 (S)	105		%	76 - 127		SW846 8260C			5/8/19 11:47	TMP	A
PCBs											
Total Polychlorinated Biphenyl	ND		mg/kg	3.8	0.73	SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:39	KJH	A
Aroclor-1016	ND		mg/kg	0.42	0.076	SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:39	KJH	A
Aroclor-1221	ND		mg/kg	0.42	0.038	SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:39	KJH	A
Aroclor-1232	ND		mg/kg	0.42	0.076	SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:39	KJH	A
Aroclor-1242	ND		mg/kg	0.42	0.11	SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:39	KJH	A
Aroclor-1248	ND		mg/kg	0.42	0.076	SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:39	KJH	A
Aroclor-1254	ND		mg/kg	0.42	0.076	SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:39	KJH	A
Aroclor-1260	ND		mg/kg	0.42	0.076	SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:39	KJH	A
Aroclor-1262	ND		mg/kg	0.42	0.088	SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:39	KJH	A
Aroclor-1268	ND		mg/kg	0.42	0.11	SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:39	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyl (S)	104		%	49 - 115		SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:39	KJH	A
Tetrachloro-m-xylene (S)	85.8		%	27 - 137		SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:39	KJH	A
WET CHEMISTRY											
Cyanide, Reactive	ND		ppm	10.0	0.011	SW-846 7.3CN	5/1/19 12:45	VXF	5/3/19 10:19	JXB	A
Ignitability	Not ignitable	1				SW846 1030			5/6/19 12:00	DXC	A
Moisture	0.9		%	0.1	0.01	S2540G-11			4/29/19 12:02	AXD	
Sulfide, Reactive	5.2J	J	ppm	6.3	1.4	SW846 7.3	5/1/19 12:45	VXF	5/1/19 19:25	VXF	A

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ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976017** Date Collected: 4/25/2019 13:15 Matrix: Solid
Sample ID: **F001-IDW-TUBE** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Total Solids	99.1		%	0.1	0.01	S2540G-11			4/29/19 12:02	AXD	
TCLP METALS											
Arsenic, Total	ND		mg/L	0.14	0.046	SW846 6010C	5/3/19 16:00	AHI	5/6/19 12:53	SRT	A1
Barium, Total	ND		mg/L	2.8	0.94	SW846 6010C	5/3/19 16:00	AHI	5/6/19 12:53	SRT	A1
Cadmium, Total	ND		mg/L	0.011	0.0037	SW846 6010C	5/3/19 16:00	AHI	5/6/19 12:53	SRT	A1
Chromium, Total	ND		mg/L	0.028	0.010	SW846 6010C	5/3/19 16:00	AHI	5/6/19 12:53	SRT	A1
Lead, Total	0.053		mg/L	0.033	0.011	SW846 6010C	5/3/19 16:00	AHI	5/6/19 12:53	SRT	A1
Mercury, Total	ND		mg/L	0.0020	0.00066	SW846 7470A	5/6/19 08:50	MSA	5/6/19 13:04	MSA	A
Selenium, Total	ND		mg/L	0.11	0.037	SW846 6010C	5/3/19 16:00	AHI	5/6/19 12:53	SRT	A1
Silver, Total	ND		mg/L	0.022	0.0070	SW846 6010C	5/3/19 16:00	AHI	5/6/19 12:53	SRT	A1
TCLP SEMI-VOLATILES											
mp-Cresol	ND		ug/L	60.0	3.2	SW846 8270D	5/3/19 13:40	MXL	5/4/19 03:40	DHF	A
o-Cresol	ND		ug/L	60.0	5.0	SW846 8270D	5/3/19 13:40	MXL	5/4/19 03:40	DHF	A
1,4-Dichlorobenzene	ND		ug/L	60.0	3.6	SW846 8270D	5/3/19 13:40	MXL	5/4/19 03:40	DHF	A
2,4-Dinitrotoluene	ND		ug/L	60.0	2.6	SW846 8270D	5/3/19 13:40	MXL	5/4/19 03:40	DHF	A
Hexachlorobenzene	ND		ug/L	60.0	4.6	SW846 8270D	5/3/19 13:40	MXL	5/4/19 03:40	DHF	A
Hexachlorobutadiene	ND		ug/L	60.0	3.8	SW846 8270D	5/3/19 13:40	MXL	5/4/19 03:40	DHF	A
Hexachloroethane	ND		ug/L	60.0	6.0	SW846 8270D	5/3/19 13:40	MXL	5/4/19 03:40	DHF	A
Nitrobenzene	ND		ug/L	60.0	5.6	SW846 8270D	5/3/19 13:40	MXL	5/4/19 03:40	DHF	A
Pentachlorophenol	ND		ug/L	120	24.0	SW846 8270D	5/3/19 13:40	MXL	5/4/19 03:40	DHF	A
Pyridine	ND		ug/L	60.0	14.0	SW846 8270D	5/3/19 13:40	MXL	5/4/19 03:40	DHF	A
2,4,5-Trichlorophenol	ND		ug/L	60.0	11.0	SW846 8270D	5/3/19 13:40	MXL	5/4/19 03:40	DHF	A
2,4,6-Trichlorophenol	ND		ug/L	60.0	11.4	SW846 8270D	5/3/19 13:40	MXL	5/4/19 03:40	DHF	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	91.9		%	47 - 128	SW846 8270D	5/3/19 13:40	MXL	5/4/19 03:40	DHF	A
2-Fluorobiphenyl (S)	81.6		%	52 - 118	SW846 8270D	5/3/19 13:40	MXL	5/4/19 03:40	DHF	A
2-Fluorophenol (S)	63.1		%	20 - 87	SW846 8270D	5/3/19 13:40	MXL	5/4/19 03:40	DHF	A
Nitrobenzene-d5 (S)	89.3		%	27 - 139	SW846 8270D	5/3/19 13:40	MXL	5/4/19 03:40	DHF	A
Phenol-d5 (S)	39.8		%	10 - 81	SW846 8270D	5/3/19 13:40	MXL	5/4/19 03:40	DHF	A
Terphenyl-d14 (S)	92.8		%	46 - 133	SW846 8270D	5/3/19 13:40	MXL	5/4/19 03:40	DHF	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976018** Date Collected: 4/25/2019 13:00 Matrix: Solid

Sample ID: **F001-IDW-GLOVES** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
TCLP VOLATILE ORGANICS											
Benzene	ND		ug/L	20.0	8.0	SW846 8260C			5/8/19 12:10	TMP	A
2-Butanone	ND		ug/L	200	60.0	SW846 8260C			5/8/19 12:10	TMP	A
Carbon Tetrachloride	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 12:10	TMP	A
Chlorobenzene	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 12:10	TMP	A
Chloroform	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 12:10	TMP	A
1,2-Dichloroethane	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 12:10	TMP	A
1,1-Dichloroethene	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 12:10	TMP	A
Tetrachloroethene	ND		ug/L	20.0	8.0	SW846 8260C			5/8/19 12:10	TMP	A
Trichloroethene	133		ug/L	20.0	4.0	SW846 8260C			5/8/19 12:10	TMP	A
Vinyl Chloride	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 12:10	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	108		%	62 - 133		SW846 8260C			5/8/19 12:10	TMP	A
4-Bromofluorobenzene (S)	108		%	79 - 114		SW846 8260C			5/8/19 12:10	TMP	A
Dibromofluoromethane (S)	108		%	78 - 116		SW846 8260C			5/8/19 12:10	TMP	A
Toluene-d8 (S)	105		%	76 - 127		SW846 8260C			5/8/19 12:10	TMP	A
PCBs											
Total Polychlorinated Biphenyl	ND		mg/kg	3.5	0.68	SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:51	KJH	A
Aroclor-1016	ND		mg/kg	0.38	0.070	SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:51	KJH	A
Aroclor-1221	ND		mg/kg	0.38	0.035	SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:51	KJH	A
Aroclor-1232	ND		mg/kg	0.38	0.070	SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:51	KJH	A
Aroclor-1242	ND		mg/kg	0.38	0.10	SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:51	KJH	A
Aroclor-1248	ND		mg/kg	0.38	0.070	SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:51	KJH	A
Aroclor-1254	ND		mg/kg	0.38	0.070	SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:51	KJH	A
Aroclor-1260	ND		mg/kg	0.38	0.070	SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:51	KJH	A
Aroclor-1262	ND		mg/kg	0.38	0.082	SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:51	KJH	A
Aroclor-1268	ND		mg/kg	0.38	0.10	SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:51	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyl (S)	101		%	49 - 115		SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:51	KJH	A
Tetrachloro-m-xylene (S)	85.6		%	27 - 137		SW846 8082A	4/30/19 03:45	JTH	4/30/19 18:51	KJH	A
WET CHEMISTRY											
Cyanide, Reactive	ND		ppm	23.8	0.026	SW-846 7.3CN	5/1/19 12:45	VXF	5/3/19 10:19	JXB	A
Ignitability	Not Ignitable	1				SW846 1030			5/8/19 09:00	DXC	A
Moisture	0.9		%	0.1	0.01	S2540G-11			4/29/19 12:02	AXD	
Sulfide, Reactive	19.0		ppm	14.9	3.3	SW846 7.3	5/1/19 12:45	VXF	5/1/19 19:25	VXF	A

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ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976018** Date Collected: 4/25/2019 13:00 Matrix: Solid
Sample ID: **F001-IDW-GLOVES** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Total Solids	99.1		%	0.1	0.01	S2540G-11			4/29/19 12:02	AXD	
TCLP METALS											
Arsenic, Total	ND		mg/L	0.14	0.046	SW846 6010C	5/8/19 13:25	AHI	5/9/19 09:54	SRT	A1
Barium, Total	ND		mg/L	2.8	0.94	SW846 6010C	5/8/19 13:25	AHI	5/9/19 09:54	SRT	A1
Cadmium, Total	ND		mg/L	0.011	0.0037	SW846 6010C	5/8/19 13:25	AHI	5/9/19 09:54	SRT	A1
Chromium, Total	ND		mg/L	0.028	0.010	SW846 6010C	5/8/19 13:25	AHI	5/9/19 09:54	SRT	A1
Lead, Total	ND		mg/L	0.033	0.011	SW846 6010C	5/8/19 13:25	AHI	5/9/19 09:54	SRT	A1
Mercury, Total	ND		mg/L	0.0020	0.00066	SW846 7470A	5/8/19 11:11	MSA	5/8/19 14:34	MSA	A
Selenium, Total	ND		mg/L	0.11	0.037	SW846 6010C	5/8/19 13:25	AHI	5/9/19 09:54	SRT	A1
Silver, Total	ND		mg/L	0.022	0.0070	SW846 6010C	5/8/19 13:25	AHI	5/9/19 09:54	SRT	A1
TCLP SEMI-VOLATILES											
mp-Cresol	ND		ug/L	60.0	3.2	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:13	DHF	A
o-Cresol	ND		ug/L	60.0	5.0	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:13	DHF	A
1,4-Dichlorobenzene	ND		ug/L	60.0	3.6	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:13	DHF	A
2,4-Dinitrotoluene	ND		ug/L	60.0	2.6	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:13	DHF	A
Hexachlorobenzene	ND		ug/L	60.0	4.6	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:13	DHF	A
Hexachlorobutadiene	ND		ug/L	60.0	3.8	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:13	DHF	A
Hexachloroethane	ND		ug/L	60.0	6.0	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:13	DHF	A
Nitrobenzene	ND		ug/L	60.0	5.6	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:13	DHF	A
Pentachlorophenol	ND		ug/L	120	24.0	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:13	DHF	A
Pyridine	ND		ug/L	60.0	14.0	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:13	DHF	A
2,4,5-Trichlorophenol	ND		ug/L	60.0	11.0	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:13	DHF	A
2,4,6-Trichlorophenol	ND		ug/L	60.0	11.4	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:13	DHF	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	82.1		%	47 - 128	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:13	DHF	A
2-Fluorobiphenyl (S)	72.6		%	52 - 118	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:13	DHF	A
2-Fluorophenol (S)	45.1		%	20 - 87	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:13	DHF	A
Nitrobenzene-d5 (S)	68.2		%	27 - 139	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:13	DHF	A
Phenol-d5 (S)	27.6		%	10 - 81	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:13	DHF	A
Terphenyl-d14 (S)	79.1		%	46 - 133	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:13	DHF	A

Vanessa N. Badman
Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976019** Date Collected: 4/25/2019 13:10 Matrix: Solid

Sample ID: **F001-IDW-PAPER** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
TCLP VOLATILE ORGANICS											
Benzene	ND		ug/L	20.0	8.0	SW846 8260C			5/8/19 12:33	TMP	A
2-Butanone	ND		ug/L	200	60.0	SW846 8260C			5/8/19 12:33	TMP	A
Carbon Tetrachloride	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 12:33	TMP	A
Chlorobenzene	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 12:33	TMP	A
Chloroform	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 12:33	TMP	A
1,2-Dichloroethane	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 12:33	TMP	A
1,1-Dichloroethene	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 12:33	TMP	A
Tetrachloroethene	ND		ug/L	20.0	8.0	SW846 8260C			5/8/19 12:33	TMP	A
Trichloroethene	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 12:33	TMP	A
Vinyl Chloride	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 12:33	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	109		%	62 - 133		SW846 8260C			5/8/19 12:33	TMP	A
4-Bromofluorobenzene (S)	107		%	79 - 114		SW846 8260C			5/8/19 12:33	TMP	A
Dibromofluoromethane (S)	107		%	78 - 116		SW846 8260C			5/8/19 12:33	TMP	A
Toluene-d8 (S)	106		%	76 - 127		SW846 8260C			5/8/19 12:33	TMP	A
PCBs											
Total Polychlorinated Biphenyl	ND		mg/kg	1.5	0.29	SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:03	KJH	A
Aroclor-1016	ND		mg/kg	0.16	0.030	SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:03	KJH	A
Aroclor-1221	ND		mg/kg	0.16	0.015	SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:03	KJH	A
Aroclor-1232	ND		mg/kg	0.16	0.030	SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:03	KJH	A
Aroclor-1242	ND		mg/kg	0.16	0.045	SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:03	KJH	A
Aroclor-1248	ND		mg/kg	0.16	0.030	SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:03	KJH	A
Aroclor-1254	ND		mg/kg	0.16	0.030	SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:03	KJH	A
Aroclor-1260	ND		mg/kg	0.16	0.030	SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:03	KJH	A
Aroclor-1262	ND		mg/kg	0.16	0.035	SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:03	KJH	A
Aroclor-1268	ND		mg/kg	0.16	0.045	SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:03	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyl (S)	69.1		%	49 - 115		SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:03	KJH	A
Tetrachloro-m-xylene (S)	63.8		%	27 - 137		SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:03	KJH	A
WET CHEMISTRY											
Cyanide, Reactive	ND		ppm	10.6	0.011	SW-846 7.3CN	5/1/19 12:45	VXF	5/3/19 10:19	JXB	A
Ignitability	Not Ignitable	1				SW846 1030			5/8/19 09:00	DXC	A
Moisture	54.8		%	0.1	0.01	S2540G-11			4/29/19 12:02	AXD	
Sulfide, Reactive	9.3		ppm	6.6	1.5	SW846 7.3	5/1/19 12:45	VXF	5/1/19 19:25	VXF	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976019** Date Collected: 4/25/2019 13:10 Matrix: Solid
Sample ID: **F001-IDW-PAPER** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Total Solids	45.2		%	0.1	0.01	S2540G-11			4/29/19 12:02	AXD	
TCLP METALS											
Arsenic, Total	ND		mg/L	0.14	0.046	SW846 6010C	5/8/19 13:25	AHI	5/9/19 09:58	SRT	A1
Barium, Total	ND		mg/L	2.8	0.94	SW846 6010C	5/8/19 13:25	AHI	5/9/19 09:58	SRT	A1
Cadmium, Total	ND		mg/L	0.011	0.0037	SW846 6010C	5/8/19 13:25	AHI	5/9/19 09:58	SRT	A1
Chromium, Total	ND		mg/L	0.028	0.010	SW846 6010C	5/8/19 13:25	AHI	5/9/19 09:58	SRT	A1
Lead, Total	ND		mg/L	0.033	0.011	SW846 6010C	5/8/19 13:25	AHI	5/9/19 09:58	SRT	A1
Mercury, Total	ND		mg/L	0.0020	0.00066	SW846 7470A	5/8/19 11:11	MSA	5/8/19 14:35	MSA	A
Selenium, Total	ND		mg/L	0.11	0.037	SW846 6010C	5/8/19 13:25	AHI	5/9/19 09:58	SRT	A1
Silver, Total	ND		mg/L	0.022	0.0070	SW846 6010C	5/8/19 13:25	AHI	5/9/19 09:58	SRT	A1
TCLP SEMI-VOLATILES											
mp-Cresol	ND		ug/L	60.0	3.2	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:38	DHF	A
o-Cresol	ND		ug/L	60.0	5.0	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:38	DHF	A
1,4-Dichlorobenzene	ND		ug/L	60.0	3.6	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:38	DHF	A
2,4-Dinitrotoluene	ND		ug/L	60.0	2.6	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:38	DHF	A
Hexachlorobenzene	ND		ug/L	60.0	4.6	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:38	DHF	A
Hexachlorobutadiene	ND		ug/L	60.0	3.8	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:38	DHF	A
Hexachloroethane	ND		ug/L	60.0	6.0	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:38	DHF	A
Nitrobenzene	ND		ug/L	60.0	5.6	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:38	DHF	A
Pentachlorophenol	ND		ug/L	120	24.0	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:38	DHF	A
Pyridine	ND		ug/L	60.0	14.0	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:38	DHF	A
2,4,5-Trichlorophenol	ND		ug/L	60.0	11.0	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:38	DHF	A
2,4,6-Trichlorophenol	ND		ug/L	60.0	11.4	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:38	DHF	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	78.2		%	47 - 128	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:38	DHF	A
2-Fluorobiphenyl (S)	74.8		%	52 - 118	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:38	DHF	A
2-Fluorophenol (S)	47.8		%	20 - 87	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:38	DHF	A
Nitrobenzene-d5 (S)	71.3		%	27 - 139	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:38	DHF	A
Phenol-d5 (S)	29.2		%	10 - 81	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:38	DHF	A
Terphenyl-d14 (S)	84.6		%	46 - 133	SW846 8270D	5/8/19 15:00	DXL	5/9/19 01:38	DHF	A

Vanessa N. Badman
Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976020** Date Collected: 4/25/2019 13:05 Matrix: Solid

Sample ID: **F001-IDW-STRING** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
TCLP VOLATILE ORGANICS											
Benzene	ND		ug/L	20.0	8.0	SW846 8260C			5/8/19 12:56	TMP	A
2-Butanone	ND		ug/L	200	60.0	SW846 8260C			5/8/19 12:56	TMP	A
Carbon Tetrachloride	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 12:56	TMP	A
Chlorobenzene	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 12:56	TMP	A
Chloroform	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 12:56	TMP	A
1,2-Dichloroethane	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 12:56	TMP	A
1,1-Dichloroethene	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 12:56	TMP	A
Tetrachloroethene	ND		ug/L	20.0	8.0	SW846 8260C			5/8/19 12:56	TMP	A
Trichloroethene	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 12:56	TMP	A
Vinyl Chloride	ND		ug/L	20.0	4.0	SW846 8260C			5/8/19 12:56	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	110		%	62 - 133		SW846 8260C			5/8/19 12:56	TMP	A
4-Bromofluorobenzene (S)	106		%	79 - 114		SW846 8260C			5/8/19 12:56	TMP	A
Dibromofluoromethane (S)	106		%	78 - 116		SW846 8260C			5/8/19 12:56	TMP	A
Toluene-d8 (S)	104		%	76 - 127		SW846 8260C			5/8/19 12:56	TMP	A
PCBs											
Total Polychlorinated Biphenyl	ND		mg/kg	4.6	0.89	SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:15	KJH	A
Aroclor-1016	ND		mg/kg	0.51	0.092	SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:15	KJH	A
Aroclor-1221	ND		mg/kg	0.51	0.046	SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:15	KJH	A
Aroclor-1232	ND		mg/kg	0.51	0.092	SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:15	KJH	A
Aroclor-1242	ND		mg/kg	0.51	0.14	SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:15	KJH	A
Aroclor-1248	ND		mg/kg	0.51	0.092	SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:15	KJH	A
Aroclor-1254	ND		mg/kg	0.51	0.092	SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:15	KJH	A
Aroclor-1260	ND		mg/kg	0.51	0.092	SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:15	KJH	A
Aroclor-1262	ND		mg/kg	0.51	0.11	SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:15	KJH	A
Aroclor-1268	ND		mg/kg	0.51	0.14	SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:15	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyl (S)	119	2	%	49 - 115		SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:15	KJH	A
Tetrachloro-m-xylene (S)	94.4		%	27 - 137		SW846 8082A	4/30/19 03:45	JTH	4/30/19 19:15	KJH	A
WET CHEMISTRY											
Cyanide, Reactive	ND		ppm	10.9	0.012	SW-846 7.3CN	5/1/19 12:45	VXF	5/3/19 10:19	JXB	A
Ignitability	Not Ignitable	1				SW846 1030			5/8/19 09:00	DXC	A
Moisture	42.7		%	0.1	0.01	S2540G-11			4/29/19 12:02	AXD	
Sulfide, Reactive	8.7		ppm	6.2	1.4	SW846 7.3	5/6/19 13:00	VXF	5/6/19 20:25	VXF	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976020** Date Collected: 4/25/2019 13:05 Matrix: Solid
Sample ID: **F001-IDW-STRING** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Total Solids	57.3		%	0.1	0.01	S2540G-11			4/29/19 12:02	AXD	
TCLP METALS											
Arsenic, Total	ND		mg/L	0.14	0.046	SW846 6010C	5/8/19 13:25	AHI	5/9/19 10:09	SRT	A1
Barium, Total	ND		mg/L	2.8	0.94	SW846 6010C	5/8/19 13:25	AHI	5/9/19 10:09	SRT	A1
Cadmium, Total	ND		mg/L	0.011	0.0037	SW846 6010C	5/8/19 13:25	AHI	5/9/19 10:09	SRT	A1
Chromium, Total	ND		mg/L	0.028	0.010	SW846 6010C	5/8/19 13:25	AHI	5/9/19 10:09	SRT	A1
Lead, Total	0.046		mg/L	0.033	0.011	SW846 6010C	5/8/19 13:25	AHI	5/9/19 10:09	SRT	A1
Mercury, Total	ND		mg/L	0.0020	0.00066	SW846 7470A	5/8/19 11:11	MSA	5/8/19 14:37	MSA	A
Selenium, Total	ND		mg/L	0.11	0.037	SW846 6010C	5/8/19 13:25	AHI	5/9/19 10:09	SRT	A1
Silver, Total	ND		mg/L	0.022	0.0070	SW846 6010C	5/8/19 13:25	AHI	5/9/19 10:09	SRT	A1
TCLP SEMI-VOLATILES											
mp-Cresol	ND		ug/L	60.0	3.2	SW846 8270D	5/8/19 15:00	DXL	5/9/19 02:02	DHF	A
o-Cresol	ND		ug/L	60.0	5.0	SW846 8270D	5/8/19 15:00	DXL	5/9/19 02:02	DHF	A
1,4-Dichlorobenzene	ND		ug/L	60.0	3.6	SW846 8270D	5/8/19 15:00	DXL	5/9/19 02:02	DHF	A
2,4-Dinitrotoluene	ND		ug/L	60.0	2.6	SW846 8270D	5/8/19 15:00	DXL	5/9/19 02:02	DHF	A
Hexachlorobenzene	ND		ug/L	60.0	4.6	SW846 8270D	5/8/19 15:00	DXL	5/9/19 02:02	DHF	A
Hexachlorobutadiene	ND		ug/L	60.0	3.8	SW846 8270D	5/8/19 15:00	DXL	5/9/19 02:02	DHF	A
Hexachloroethane	ND		ug/L	60.0	6.0	SW846 8270D	5/8/19 15:00	DXL	5/9/19 02:02	DHF	A
Nitrobenzene	ND		ug/L	60.0	5.6	SW846 8270D	5/8/19 15:00	DXL	5/9/19 02:02	DHF	A
Pentachlorophenol	ND		ug/L	120	24.0	SW846 8270D	5/8/19 15:00	DXL	5/9/19 02:02	DHF	A
Pyridine	ND		ug/L	60.0	14.0	SW846 8270D	5/8/19 15:00	DXL	5/9/19 02:02	DHF	A
2,4,5-Trichlorophenol	ND		ug/L	60.0	11.0	SW846 8270D	5/8/19 15:00	DXL	5/9/19 02:02	DHF	A
2,4,6-Trichlorophenol	ND		ug/L	60.0	11.4	SW846 8270D	5/8/19 15:00	DXL	5/9/19 02:02	DHF	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	86.3		%	47 - 128	SW846 8270D	5/8/19 15:00	DXL	5/9/19 02:02	DHF	A
2-Fluorobiphenyl (S)	78.3		%	52 - 118	SW846 8270D	5/8/19 15:00	DXL	5/9/19 02:02	DHF	A
2-Fluorophenol (S)	50		%	20 - 87	SW846 8270D	5/8/19 15:00	DXL	5/9/19 02:02	DHF	A
Nitrobenzene-d5 (S)	74		%	27 - 139	SW846 8270D	5/8/19 15:00	DXL	5/9/19 02:02	DHF	A
Phenol-d5 (S)	30.1		%	10 - 81	SW846 8270D	5/8/19 15:00	DXL	5/9/19 02:02	DHF	A
Terphenyl-d14 (S)	90.2		%	46 - 133	SW846 8270D	5/8/19 15:00	DXL	5/9/19 02:02	DHF	A

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ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976021** Date Collected: 4/25/2019 21:00 Matrix: Water

Sample ID: **TB-042519-5** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	6.4J	J	ug/L	10.0	3.1	SW846 8260B		5/3/19 00:54	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/3/19 00:54	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 00:54	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:54	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:54	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 00:54	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/3/19 00:54	PDK	A
Bromomethane	0.51J	J	ug/L	1.0	0.39	SW846 8260B		5/3/19 00:54	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/3/19 00:54	PDK	A
tert-Butyl Alcohol	2.5J	J	ug/L	10.0	2.2	SW846 8260B		5/3/19 00:54	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 00:54	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/3/19 00:54	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 00:54	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 00:54	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 00:54	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 00:54	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 00:54	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:54	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/3/19 00:54	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/3/19 00:54	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 00:54	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 00:54	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:54	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 00:54	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/3/19 00:54	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 00:54	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 00:54	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/3/19 00:54	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 00:54	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 00:54	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:54	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 00:54	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:54	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 00:54	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/3/19 00:54	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:54	PDK	A

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ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976021** Date Collected: 4/25/2019 21:00 Matrix: Water

Sample ID: **TB-042519-5** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 00:54	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 00:54	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:54	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 00:54	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 00:54	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 00:54	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/3/19 00:54	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 00:54	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 00:54	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 00:54	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 00:54	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/3/19 00:54	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/3/19 00:54	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 00:54	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 00:54	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/3/19 00:54	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 00:54	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:54	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/3/19 00:54	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 00:54	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/3/19 00:54	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:54	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 00:54	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 00:54	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 00:54	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 00:54	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 00:54	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/3/19 00:54	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/3/19 00:54	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/3/19 00:54	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 00:54	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:54	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 00:54	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 00:54	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 00:54	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 00:54	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/3/19 00:54	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 00:54	PDK	A

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ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976021** Date Collected: 4/25/2019 21:00 Matrix: Water

Sample ID: **TB-042519-5** Date Received: 4/25/2019 21:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/3/19 00:54	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/3/19 00:54	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	116		%	62 - 133		SW846 8260B			5/3/19 00:54	PDK	A
4-Bromofluorobenzene (S)	107		%	79 - 114		SW846 8260B			5/3/19 00:54	PDK	A
Dibromofluoromethane (S)	105		%	78 - 116		SW846 8260B			5/3/19 00:54	PDK	A
Toluene-d8 (S)	103		%	76 - 127		SW846 8260B			5/3/19 00:54	PDK	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3029976001	1	MRC-SW8A-S-042419	SW846 8260B	Naphthalene
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Naphthalene. The % Recovery was reported as 51 and the control limits were 56 to 134.				
3029976001	2	MRC-SW8A-S-042419	SW846 8260B	Naphthalene
The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Naphthalene. The % Recovery was reported as 51.5 and the control limits were 56 to 134.				
3029976004	1	MRC-SW8B-S-042419	SW846 8260B	2-Chloroethylvinyl ether
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte 2-Chloroethylvinyl ether. The % Recovery was reported as .4 and the control limits were 1 to 150.				
3029976004	2	MRC-SW8B-S-042419	SW846 8260B	2-Chloroethylvinyl ether
The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte 2-Chloroethylvinyl ether. The % Recovery was reported as .38 and the control limits were 1 to 150.				
3029976017	1	F001-IDW-TUBE	SW846 1030	Ignitability
According to Pa/USEPA regulations, this sample is not considered to be ignitable. (Ref 40 CFR 261.21)				
3029976018	1	F001-IDW-GLOVES	SW846 1030	Ignitability
The sample burn rate, performed in triplicate and averaged, was determined to be 7.41 mm/sec. According to SW-846 Method 1030 this sample does burn vigorously enough to create a hazard. In order to be considered ignitable under 40 CFR 261.21, however, a solid must also be capable of causing fire through friction, absorption of moisture, or spontaneous chemical changes. This sample did not exhibit these characteristics so according to 40 CFR 261.21 would not be considered to exhibit the characteristic of ignitability.				
3029976019	1	F001-IDW-PAPER	SW846 1030	Ignitability
According to Pa/USEPA regulations, this sample is not considered to be ignitable. (Ref 40 CFR 261.21)				
3029976020	1	F001-IDW-STRING	SW846 1030	Ignitability
According to Pa/USEPA regulations, this sample is not considered to be ignitable. (Ref 40 CFR 261.21)				
3029976020	2	F001-IDW-STRING	SW846 8082A	Decachlorobiphenyl
The surrogate Decachlorobiphenyl for method SW846 8082A was outside of control limits. The % Recovery was reported as 119 and the control limits were 49 to 115. This result was reported at a dilution of 1.				

ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID	Sample ID	Analysis Method	Prep Method
3029976001	MRC-SW8A-S-042419	8270 SIM	SW846 3510C
3029976001	MRC-SW8A-S-042419	SW846 8260B	
3029976001	MRC-SW8A-S-042419	Subcontract	
3029976002	TB-042519-1	SW846 8260B	
3029976003	MRC-SW8A-S-DUP-042419	8270 SIM	SW846 3510C
3029976003	MRC-SW8A-S-DUP-042419	SW846 8260B	
3029976003	MRC-SW8A-S-DUP-042419	Subcontract	
3029976004	MRC-SW8B-S-042419	8270 SIM	SW846 3510C
3029976004	MRC-SW8B-S-042419	SW846 8260B	
3029976004	MRC-SW8B-S-042419	Subcontract	
3029976005	TB-042519-2	SW846 8260B	
3029976006	MRC-SW20-042519	Subcontract	
3029976007	FB-052519-ZN	8270 SIM	SW846 3510C
3029976007	FB-052519-ZN	SW846 8260B	
3029976007	FB-052519-ZN	Subcontract	
3029976008	MRC-SW7A-S-042519-A	SW846 8260B	
3029976008	MRC-SW7A-S-042519-A	Subcontract	
3029976009	MRC-SW7B-S-042519	SW846 8260B	
3029976009	MRC-SW7B-S-042519	Subcontract	
3029976010	MRC-SW9A-S-042519	SW846 8260B	
3029976010	MRC-SW9A-S-042519	Subcontract	
3029976011	TB-042519-3	SW846 8260B	
3029976012	MRC-SW9B-S-042519	SW846 8260B	
3029976012	MRC-SW9B-S-042519	Subcontract	
3029976013	MRC-SW6B-S-042519	8270 SIM	SW846 3510C
3029976013	MRC-SW6B-S-042519	SW846 8260B	
3029976013	MRC-SW6B-S-042519	Subcontract	
3029976014	MRC-SW6A-S-042519	8270 SIM	SW846 3510C
3029976014	MRC-SW6A-S-042519	SW846 8260B	
3029976014	MRC-SW6A-S-042519	Subcontract	
3029976015	TB-042519-4	SW846 8260B	
3029976016	MRC-W17A-042519	8270 SIM	SW846 3510C
3029976016	MRC-W17A-042519	SW846 8260B	
3029976017	F001-IDW-TUBE	S2540G-11	
3029976017	F001-IDW-TUBE	SW-846 7.3CN	SW-846 7.3CN
3029976017	F001-IDW-TUBE	SW846 1030	
3029976017	F001-IDW-TUBE	SW846 6010C	SW846 3015
3029976017	F001-IDW-TUBE	SW846 7.3	SW846 7.3
3029976017	F001-IDW-TUBE	SW846 7470A	SW846 7470A
3029976017	F001-IDW-TUBE	SW846 8082A	SW846 3546
3029976017	F001-IDW-TUBE	SW846 8260C	
3029976017	F001-IDW-TUBE	SW846 8270D	SW846 3510C
3029976018	F001-IDW-GLOVES	S2540G-11	
3029976018	F001-IDW-GLOVES	SW-846 7.3CN	SW-846 7.3CN
3029976018	F001-IDW-GLOVES	SW846 1030	
3029976018	F001-IDW-GLOVES	SW846 6010C	SW846 3015

ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID	Sample ID	Analysis Method	Prep Method
3029976018	F001-IDW-GLOVES	SW846 7.3	SW846 7.3
3029976018	F001-IDW-GLOVES	SW846 7470A	SW846 7470A
3029976018	F001-IDW-GLOVES	SW846 8082A	SW846 3546
3029976018	F001-IDW-GLOVES	SW846 8260C	
3029976018	F001-IDW-GLOVES	SW846 8270D	SW846 3510C
3029976019	F001-IDW-PAPER	S2540G-11	
3029976019	F001-IDW-PAPER	SW-846 7.3CN	SW-846 7.3CN
3029976019	F001-IDW-PAPER	SW846 1030	
3029976019	F001-IDW-PAPER	SW846 6010C	SW846 3015
3029976019	F001-IDW-PAPER	SW846 7.3	SW846 7.3
3029976019	F001-IDW-PAPER	SW846 7470A	SW846 7470A
3029976019	F001-IDW-PAPER	SW846 8082A	SW846 3546
3029976019	F001-IDW-PAPER	SW846 8260C	
3029976019	F001-IDW-PAPER	SW846 8270D	SW846 3510C
3029976020	F001-IDW-STRING	S2540G-11	
3029976020	F001-IDW-STRING	SW-846 7.3CN	SW-846 7.3CN
3029976020	F001-IDW-STRING	SW846 1030	
3029976020	F001-IDW-STRING	SW846 6010C	SW846 3015
3029976020	F001-IDW-STRING	SW846 7.3	SW846 7.3
3029976020	F001-IDW-STRING	SW846 7470A	SW846 7470A
3029976020	F001-IDW-STRING	SW846 8082A	SW846 3546
3029976020	F001-IDW-STRING	SW846 8260C	
3029976020	F001-IDW-STRING	SW846 8270D	SW846 3510C
3029976021	TB-042519-5	SW846 8260B	

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

QC Batch: EXTR/56256 **Analysis Method:** SW846 8082A

QC Batch Method: SW846 3546

Associated Lab Samples: 3029976017, 3029976018, 3029976019, 3029976020

METHOD BLANK: 2935620

Parameter	Blank Result	Units	Reporting Limit
Aroclor-1016	ND	mg/kg	0.033
Aroclor-1221	ND	mg/kg	0.033
Aroclor-1232	ND	mg/kg	0.033
Aroclor-1242	ND	mg/kg	0.033
Aroclor-1248	ND	mg/kg	0.033
Aroclor-1254	ND	mg/kg	0.033
Aroclor-1260	ND	mg/kg	0.033
Aroclor-1262	ND	mg/kg	0.033
Aroclor-1268	ND	mg/kg	0.033
Decachlorobiphenyl (S)			
Decachlorobiphenyl (S)	108	%	49 - 115
Tetrachloro-m-xylene (S)	94.9	%	27 - 137
Tetrachloro-m-xylene (S)			

LABORATORY CONTROL SAMPLE: 2935621

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Aroclor-1016	86.3	mg/kg	.33	0.29	43 - 132
Aroclor-1221		mg/kg		ND	
Aroclor-1232		mg/kg		ND	
Aroclor-1242		mg/kg		ND	
Aroclor-1248		mg/kg		ND	
Aroclor-1254		mg/kg		ND	
Aroclor-1260	91.8	mg/kg	.33	0.31	53 - 134
Aroclor-1262		mg/kg		ND	
Aroclor-1268		mg/kg		ND	
Decachlorobiphenyl (S)	94	%			49 - 115
Decachlorobiphenyl (S)					
Tetrachloro-m-xylene (S)	90.1	%			27 - 137
Tetrachloro-m-xylene (S)					

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

QC Batch: EXTR/56278 **Analysis Method:** 8270 SIM

QC Batch Method: SW846 3510C

Associated Lab Samples: 3029976001, 3029976003, 3029976004, 3029976007, 3029976013, 3029976014, 3029976016

METHOD BLANK: 2936867

Parameter	Blank Result	Units	Reporting Limit
1,4-Dioxane	ND	ug/L	0.10
2-Methylnapthalene-d10 (S)	79.4	%	29 - 112
Fluoranthene-d10 (S)	93.2	%	45 - 130

LABORATORY CONTROL SAMPLE: 2936868

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
1,4-Dioxane	52.9	ug/L	1	0.53	22 - 75
2-Methylnapthalene-d10 (S)	85.9	%			29 - 112
Fluoranthene-d10 (S)	96	%			45 - 130

MATRIX SPIKE: 2936869 DUPLICATE: 2936870 ORIGINAL: 3029976001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
1,4-Dioxane	.0311	ug/L	1.1	.57132	.55274	51.1	48	22 - 75	3.31	30
2-Methylnapthalene-d10 (S)	83.8	%				83.8	82.2	29 - 112		
Fluoranthene-d10 (S)	93.1	%				93.1	86.7	45 - 130		

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

QC Batch: EXTR/56309 **Analysis Method:** SW846 8270D

QC Batch Method: SW846 3510C

Associated Lab Samples: 3029976017

METHOD BLANK: 2938632

Parameter	Blank Result	Units	Reporting Limit
mp-Cresol	ND	ug/L	3.0
o-Cresol	ND	ug/L	3.0
1,4-Dichlorobenzene	ND	ug/L	3.0
2,4-Dinitrotoluene	ND	ug/L	3.0
Hexachlorobenzene	ND	ug/L	3.0
Hexachlorobutadiene	ND	ug/L	3.0
Hexachloroethane	ND	ug/L	3.0
Nitrobenzene	ND	ug/L	3.0
Pentachlorophenol	ND	ug/L	6.0
Pyridine	ND	ug/L	3.0
2,4,5-Trichlorophenol	ND	ug/L	3.0
2,4,6-Trichlorophenol	ND	ug/L	3.0
2,4,6-Tribromophenol (S)	71.1	%	47 - 128
2-Fluorobiphenyl (S)	77.2	%	52 - 118
2-Fluorophenol (S)	43.8	%	20 - 87
Nitrobenzene-d5 (S)	86	%	27 - 139
Phenol-d5 (S)	33.2	%	10 - 81
Terphenyl-d14 (S)	91	%	46 - 133

LABORATORY CONTROL SAMPLE: 2938633

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
mp-Cresol	74.6	ug/L	100	74.6	28 - 128
o-Cresol	82.1	ug/L	100	82.1	34 - 136
1,4-Dichlorobenzene	58.1	ug/L	50	29.1	5 - 116
2,4-Dinitrotoluene	98.3	ug/L	50	49.1	49 - 138
Hexachlorobenzene	87	ug/L	50	43.5	59 - 109
Hexachlorobutadiene	57.7	ug/L	50	28.8	5 - 126
Hexachloroethane	53	ug/L	50	26.5	5 - 111
Nitrobenzene	93.2	ug/L	50	46.6	41 - 128
Pentachlorophenol	83.5	ug/L	100	83.5	41 - 149
Pyridine	56.8	ug/L	50	28.4	5 - 115
2,4,5-Trichlorophenol	89.2	ug/L	100	89.2	44 - 148
2,4,6-Trichlorophenol	81.7	ug/L	100	81.7	41 - 148
2,4,6-Tribromophenol (S)	88.4	%			47 - 128

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

2-Fluorobiphenyl (S)	78.7	%	52 - 118
2-Fluorophenol (S)	62	%	20 - 87
Nitrobenzene-d5 (S)	88.6	%	27 - 139
Phenol-d5 (S)	40.6	%	10 - 81
Terphenyl-d14 (S)	90.5	%	46 - 133

MATRIX SPIKE: 2938634 DUPLICATE: 2938635 ORIGINAL: 3029915001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
mp-Cresol	0	ug/L	2000	1424.17	1097.74	71.2	54.9	28 - 128	25.9	20
o-Cresol	0	ug/L	2000	1524.92	1194.86	76.2	59.7	34 - 136	24.3	23
1,4-Dichlorobenzene	0	ug/L	1000	537.145	473.987	53.7	47.4	5 - 116	12.5	30
2,4-Dinitrotoluene	0	ug/L	1000	916.083	697.253	91.6	69.7	49 - 138	27.1	22
Hexachlorobenzene	0	ug/L	1000	787.842	633.238	78.8	63.3	59 - 109	21.8	21
Hexachlorobutadiene	0	ug/L	1000	530.142	468.577	53	46.9	5 - 126	12.3	30
Hexachloroethane	0	ug/L	1000	477.402	431.9	47.7	43.2	5 - 111	10	30
Nitrobenzene	0	ug/L	1000	888.186	681.558	88.8	68.2	41 - 128	26.3	19
Pentachlorophenol	0	ug/L	2000	1932.11	1488.27	96.6	74.4	41 - 149	26	28
Pyridine	0	ug/L	1000	580.345	469.395	58	46.9	5 - 115	21.1	30
2,4,5-Trichlorophenol	0	ug/L	2000	1692.98	1301.42	84.6	65.1	44 - 148	26.2	23
2,4,6-Trichlorophenol	0	ug/L	2000	1659.43	1276.15	83	63.8	41 - 148	26.1	23
2,4,6-Tribromophenol (S)	82.4	%				82.4	66.1	47 - 128		
2-Fluorobiphenyl (S)	72.3	%				72.3	58	52 - 118		
2-Fluorophenol (S)	57.7	%				57.7	39.6	20 - 87		
Nitrobenzene-d5 (S)	82	%				82	64.7	27 - 139		
Phenol-d5 (S)	40.4	%				40.4	29.7	10 - 81		
Terphenyl-d14 (S)	78.9	%				78.9	62.9	46 - 133		

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

QC Batch: EXTR/56364 **Analysis Method:** SW846 8270D

QC Batch Method: SW846 3510C

Associated Lab Samples: 3029976018, 3029976019, 3029976020

METHOD BLANK: 2941395

Parameter	Blank Result	Units	Reporting Limit
mp-Cresol	ND	ug/L	3.0
o-Cresol	ND	ug/L	3.0
1,4-Dichlorobenzene	ND	ug/L	3.0
2,4-Dinitrotoluene	ND	ug/L	3.0
Hexachlorobenzene	ND	ug/L	3.0
Hexachlorobutadiene	ND	ug/L	3.0
Hexachloroethane	ND	ug/L	3.0
Nitrobenzene	ND	ug/L	3.0
Pentachlorophenol	ND	ug/L	6.0
Pyridine	ND	ug/L	3.0
2,4,5-Trichlorophenol	ND	ug/L	3.0
2,4,6-Trichlorophenol	ND	ug/L	3.0
2,4,6-Tribromophenol (S)	78.8	%	47 - 128
2-Fluorobiphenyl (S)	79	%	52 - 118
2-Fluorophenol (S)	51.4	%	20 - 87
Nitrobenzene-d5 (S)	78.6	%	27 - 139
Phenol-d5 (S)	30.3	%	10 - 81
Terphenyl-d14 (S)	77.1	%	46 - 133

LABORATORY CONTROL SAMPLE: 2941396

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
mp-Cresol	64.7	ug/L	100	64.7	28 - 128
o-Cresol	69.8	ug/L	100	69.8	34 - 136
1,4-Dichlorobenzene	52.3	ug/L	50	26.2	5 - 116
2,4-Dinitrotoluene	95.4	ug/L	50	47.7	49 - 138
Hexachlorobenzene	88.9	ug/L	50	44.5	59 - 109
Hexachlorobutadiene	57.1	ug/L	50	28.6	5 - 126
Hexachloroethane	49.3	ug/L	50	24.6	5 - 111
Nitrobenzene	79.7	ug/L	50	39.8	41 - 128
Pentachlorophenol	86.4	ug/L	100	86.4	41 - 149
Pyridine	47.1	ug/L	50	23.6	5 - 115
2,4,5-Trichlorophenol	87	ug/L	100	87.0	44 - 148
2,4,6-Trichlorophenol	85.1	ug/L	100	85.1	41 - 148
2,4,6-Tribromophenol (S)	88.2	%			47 - 128

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

2-Fluorobiphenyl (S)	78.6	%	52 - 118
2-Fluorophenol (S)	51.2	%	20 - 87
Nitrobenzene-d5 (S)	75.6	%	27 - 139
Phenol-d5 (S)	31.8	%	10 - 81
Terphenyl-d14 (S)	89.5	%	46 - 133

MATRIX SPIKE: 2941397 DUPLICATE: 2941398 ORIGINAL: 3031175001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
mp-Cresol	0	ug/L	2000	1246.45	1307.96	62.3	65.4	28 - 128	4.82	20
o-Cresol	0	ug/L	2000	1338.68	1434.8	66.9	71.7	34 - 136	6.93	23
1,4-Dichlorobenzene	0	ug/L	1000	558.168	554.131	55.8	55.4	5 - 116	.73	30
2,4-Dinitrotoluene	0	ug/L	1000	928.505	979.463	92.9	97.9	49 - 138	5.34	22
Hexachlorobenzene	0	ug/L	1000	821.024	874.123	82.1	87.4	59 - 109	6.26	21
Hexachlorobutadiene	0	ug/L	1000	621.393	624.65	62.1	62.5	5 - 126	.52	30
Hexachloroethane	0	ug/L	1000	504.246	527.849	50.4	52.8	5 - 111	4.57	30
Nitrobenzene	0	ug/L	1000	824.072	836.533	82.4	83.7	41 - 128	1.5	19
Pentachlorophenol	0	ug/L	2000	1698.2	1673.39	84.9	83.7	41 - 149	1.47	28
Pyridine	0	ug/L	1000	488.156	531.336	48.8	53.1	5 - 115	8.47	30
2,4,5-Trichlorophenol	0	ug/L	2000	1787.71	1823.76	89.4	91.2	44 - 148	2	23
2,4,6-Trichlorophenol	0	ug/L	2000	1732.47	1763.07	86.6	88.2	41 - 148	1.75	23
2,4,6-Tribromophenol (S)	84.5	%				84.5	87.9	47 - 128		
2-Fluorobiphenyl (S)	80.4	%				80.4	83.2	52 - 118		
2-Fluorophenol (S)	50.5	%				50.5	53.4	20 - 87		
Nitrobenzene-d5 (S)	79.6	%				79.6	80	27 - 139		
Phenol-d5 (S)	31.5	%				31.5	33.1	10 - 81		
Terphenyl-d14 (S)	80.4	%				80.4	87.6	46 - 133		

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

QC Batch: MDIG/77598 **Analysis Method:** SW846 6010C

QC Batch Method: SW846 3015

Associated Lab Samples: 3029976017

METHOD BLANK: 2938666

Parameter	Blank Result	Units	Reporting Limit
Arsenic, Total	ND	mg/L	0.028
Barium, Total	ND	mg/L	0.56
Cadmium, Total	ND	mg/L	0.0022
Chromium, Total	ND	mg/L	0.0056
Lead, Total	ND	mg/L	0.0067
Selenium, Total	ND	mg/L	0.022
Silver, Total	ND	mg/L	0.0044

LABORATORY CONTROL SAMPLE: 2938667

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Arsenic, Total	102	mg/L	.11	0.11	80 - 120
Barium, Total	107	mg/L	1.1	1.2	80 - 120
Cadmium, Total	103	mg/L	.11	0.11	80 - 120
Chromium, Total	100	mg/L	.11	0.11	80 - 120
Lead, Total	100	mg/L	.11	0.11	80 - 120
Selenium, Total	102	mg/L	1.1	1.1	80 - 120
Silver, Total	103	mg/L	.11	0.11	80 - 120

MATRIX SPIKE: 2938740 DUPLICATE: 2938741 ORIGINAL: 3030963001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Arsenic, Total	0	mg/L	.11	.125	.11722	112	105	50 - 150	6.42	20
Barium, Total	1.01777	mg/L	1.1	2.19942	2.20664	106	107	50 - 150	.33	20
Cadmium, Total	.01556	mg/L	.11	.13222	.13222	105	105	50 - 150	0	20
Chromium, Total	.00444	mg/L	.11	.12111	.12167	105	105	50 - 150	.46	20
Lead, Total	.09889	mg/L	.11	.20611	.21055	96.5	100	50 - 150	2.13	20
Selenium, Total	.04389	mg/L	1.1	1.2311	1.21388	107	105	50 - 150	1.41	20
Silver, Total	.01444	mg/L	.11	.13111	.12833	105	102	50 - 150	2.14	20

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

QC Batch: MDIG/77605 **Analysis Method:** SW846 7470A

QC Batch Method: SW846 7470A

Associated Lab Samples: 3029976017

METHOD BLANK: 2939198

Parameter	Blank Result	Units	Reporting Limit
Mercury, Total	ND	mg/L	0.0020

LABORATORY CONTROL SAMPLE: 2939199

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Mercury, Total	101	mg/L	.002	0.0020	85 - 115

MATRIX SPIKE: 2939200 DUPLICATE: 2939201 ORIGINAL: 3030963001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Total	.00032	mg/L	.005	.00582	.00594	110	112	70 - 130	2.04	20

MATRIX SPIKE: 2939202 DUPLICATE: 2939203 ORIGINAL: 3030993001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Total	0	mg/L	.005	.00531	.00531	106	106	70 - 130	0	20

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QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

QC Batch: MDIG/77656 **Analysis Method:** SW846 7470A

QC Batch Method: SW846 7470A

Associated Lab Samples: 3029976018, 3029976019, 3029976020

METHOD BLANK: 2940986

Parameter	Blank Result	Units	Reporting Limit
Mercury, Total	ND	mg/L	0.0020

LABORATORY CONTROL SAMPLE: 2940987

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Mercury, Total	103	mg/L	.002	0.0021	85 - 115

MATRIX SPIKE: 2940990 DUPLICATE: 2940991 ORIGINAL: 3031132001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Total	.00003	mg/L	.005	.00499	.00503	99.3	100	70 - 130	.8	20

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

QC Batch: MDIG/77672 **Analysis Method:** SW846 6010C

QC Batch Method: SW846 3015

Associated Lab Samples: 3029976018, 3029976019, 3029976020

METHOD BLANK: 2941376

Parameter	Blank Result	Units	Reporting Limit
Arsenic, Total	ND	mg/L	0.028
Barium, Total	ND	mg/L	0.56
Cadmium, Total	ND	mg/L	0.0022
Chromium, Total	ND	mg/L	0.0056
Lead, Total	ND	mg/L	0.0067
Selenium, Total	ND	mg/L	0.022
Silver, Total	ND	mg/L	0.0044

LABORATORY CONTROL SAMPLE: 2941377

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Arsenic, Total	101	mg/L	.11	0.11	80 - 120
Barium, Total	103	mg/L	1.1	1.1	80 - 120
Cadmium, Total	99.3	mg/L	.11	0.11	80 - 120
Chromium, Total	97.7	mg/L	.11	0.11	80 - 120
Lead, Total	99	mg/L	.11	0.11	80 - 120
Selenium, Total	100	mg/L	1.1	1.1	80 - 120
Silver, Total	98.3	mg/L	.11	0.11	80 - 120

MATRIX SPIKE: 2941378 DUPLICATE: 2941379 ORIGINAL: 3029976019

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Arsenic, Total	0	mg/L	.11	.10833	.11389	97.5	102	50 - 150	5	20
Barium, Total	.19889	mg/L	1.1	1.36443	1.3661	105	105	50 - 150	.12	20
Cadmium, Total	.00222	mg/L	.11	.11889	.11833	105	104	50 - 150	.47	20
Chromium, Total	0	mg/L	.11	.11389	.115	102	103	50 - 150	.97	20
Lead, Total	.00667	mg/L	.11	.12278	.11778	104	100	50 - 150	4.16	20
Selenium, Total	.01389	mg/L	1.1	1.19221	1.18832	106	106	50 - 150	.33	20
Silver, Total	.00056	mg/L	.11	.09778	.09167	87.5	82	50 - 150	6.45	20

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

QC Batch: VOMS/50703 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 8260B

Associated Lab Samples: 3029976001, 3029976002, 3029976003

METHOD BLANK: 2938014

Parameter	Blank Result	Units	Reporting Limit
Acetone	ND	ug/L	10.0
tert-Amyl methyl ether	ND	ug/L	1.0
Benzene	ND	ug/L	1.0
Bromobenzene	ND	ug/L	1.0
Bromochloromethane	ND	ug/L	1.0
Bromodichloromethane	ND	ug/L	1.0
Bromoform	ND	ug/L	1.0
Bromomethane	ND	ug/L	1.0
2-Butanone	ND	ug/L	10.0
tert-Butyl Alcohol	ND	ug/L	10.0
n-Butylbenzene	ND	ug/L	2.0
tert-Butylbenzene	ND	ug/L	2.0
sec-Butylbenzene	ND	ug/L	1.0
Carbon Disulfide	ND	ug/L	1.0
Carbon Tetrachloride	ND	ug/L	1.0
Chlorobenzene	ND	ug/L	1.0
Chlorodibromomethane	ND	ug/L	1.0
Chloroethane	ND	ug/L	1.0
2-Chloroethylvinyl ether	ND	ug/L	2.0
Chloroform	ND	ug/L	1.0
Chloromethane	ND	ug/L	1.0
o-Chlorotoluene	ND	ug/L	1.0
p-Chlorotoluene	ND	ug/L	1.0
Cyclohexane	ND	ug/L	1.0
1,2-Dibromo-3-chloropropane	ND	ug/L	7.0
1,2-Dibromoethane	ND	ug/L	1.0
Dibromomethane	ND	ug/L	1.0
1,2-Dichlorobenzene	ND	ug/L	1.0
1,3-Dichlorobenzene	ND	ug/L	1.0
1,4-Dichlorobenzene	ND	ug/L	1.0
Dichlorodifluoromethane	ND	ug/L	1.0
1,1-Dichloroethane	ND	ug/L	1.0
1,2-Dichloroethane	ND	ug/L	1.0
1,1-Dichloroethene	ND	ug/L	1.0
1,2-Dichloroethene, Total	ND	ug/L	2.0
cis-1,2-Dichloroethene	ND	ug/L	1.0
trans-1,2-Dichloroethene	ND	ug/L	1.0

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

1,3-Dichloropropane	ND	ug/L	1.0
2,2-Dichloropropane	ND	ug/L	1.0
1,2-Dichloropropane	ND	ug/L	1.0
cis-1,3-Dichloropropene	ND	ug/L	1.0
trans-1,3-Dichloropropene	ND	ug/L	1.0
1,3-Dichloropropene, Total	ND	ug/L	2.0
Diisopropyl ether	ND	ug/L	1.0
Ethyl tert-butyl ether	ND	ug/L	1.0
Ethylbenzene	ND	ug/L	1.0
Freon 113	ND	ug/L	1.0
Hexachlorobutadiene	ND	ug/L	5.0
2-Hexanone	ND	ug/L	5.0
Isopropylbenzene	ND	ug/L	1.0
p-Isopropyltoluene	ND	ug/L	1.0
Methyl acetate	ND	ug/L	2.0
Methyl cyclohexane	ND	ug/L	1.0
Methyl t-Butyl Ether	ND	ug/L	1.0
4-Methyl-2-Pentanone(MIBK)	ND	ug/L	5.0
Methylene Chloride	ND	ug/L	1.0
Naphthalene	ND	ug/L	2.0
n-Propylbenzene	ND	ug/L	1.0
Styrene	ND	ug/L	1.0
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0
Tetrachloroethene	ND	ug/L	1.0
Toluene	ND	ug/L	1.0
Total Xylenes	ND	ug/L	3.0
1,2,3-Trichlorobenzene	ND	ug/L	2.0
1,2,4-Trichlorobenzene	ND	ug/L	2.0
1,1,1-Trichloroethane	ND	ug/L	1.0
1,1,2-Trichloroethane	ND	ug/L	1.0
Trichloroethene	ND	ug/L	1.0
Trichlorofluoromethane	ND	ug/L	1.0
1,2,3-Trichloropropane	ND	ug/L	2.0
1,2,4-Trimethylbenzene	ND	ug/L	1.0
Vinyl Acetate	ND	ug/L	5.0
Vinyl Chloride	ND	ug/L	1.0
o-Xylene	ND	ug/L	1.0
mp-Xylene	ND	ug/L	2.0
1,2-Dichloroethane-d4 (S)	110	%	62 - 133
4-Bromofluorobenzene (S)	107	%	79 - 114
Dibromofluoromethane (S)	103	%	78 - 116
Toluene-d8 (S)	104	%	76 - 127

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

LABORATORY CONTROL SAMPLE: 2938015

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acetone	100	ug/L	100	100	40 - 151
tert-Amyl methyl ether	104	ug/L	20	20.8	75 - 121
Benzene	104	ug/L	20	20.8	80 - 124
Bromobenzene	100	ug/L	20	20.1	81 - 119
Bromochloromethane	97.8	ug/L	20	19.6	73 - 117
Bromodichloromethane	102	ug/L	20	20.4	79 - 126
Bromoform	96.5	ug/L	20	19.3	70 - 123
Bromomethane	98.2	ug/L	20	19.6	45 - 148
2-Butanone	102	ug/L	100	102	50 - 152
tert-Butyl Alcohol	135	ug/L	100	135	17 - 168
n-Butylbenzene	112	ug/L	20	22.4	71 - 130
tert-Butylbenzene	105	ug/L	20	20.9	72 - 124
sec-Butylbenzene	116	ug/L	20	23.2	72 - 127
Carbon Disulfide	101	ug/L	20	20.3	57 - 131
Carbon Tetrachloride	105	ug/L	20	21.1	62 - 132
Chlorobenzene	96.1	ug/L	20	19.2	85 - 117
Chlorodibromomethane	97.4	ug/L	20	19.5	77 - 122
Chloroethane	92.1	ug/L	20	18.4	51 - 142
2-Chloroethylvinyl ether	71.3	ug/L	20	14.3	1 - 150
Chloroform	98.4	ug/L	20	19.7	78 - 122
Chloromethane	88	ug/L	20	17.6	38 - 156
o-Chlorotoluene	104	ug/L	20	20.9	78 - 126
p-Chlorotoluene	106	ug/L	20	21.2	78 - 125
Cyclohexane	106	ug/L	20	21.1	66 - 130
1,2-Dibromo-3-chloropropane	89.1	ug/L	20	17.8	59 - 133
1,2-Dibromoethane	101	ug/L	20	20.1	80 - 124
Dibromomethane	98.2	ug/L	20	19.6	81 - 125
1,2-Dichlorobenzene	104	ug/L	20	20.8	82 - 118
1,3-Dichlorobenzene	101	ug/L	20	20.1	81 - 118
1,4-Dichlorobenzene	99	ug/L	20	19.8	81 - 116
Dichlorodifluoromethane	83.2	ug/L	20	16.6	17 - 166
1,1-Dichloroethane	98.8	ug/L	20	19.8	78 - 124
1,2-Dichloroethane	100	ug/L	20	20.1	70 - 133
1,1-Dichloroethene	106	ug/L	20	21.2	63 - 128
1,2-Dichloroethene, Total	103	ug/L	40	41.2	78 - 125
cis-1,2-Dichloroethene	98.9	ug/L	20	19.8	78 - 125
trans-1,2-Dichloroethene	107	ug/L	20	21.4	71 - 122
1,3-Dichloropropane	97.4	ug/L	20	19.5	82 - 126
2,2-Dichloropropane	112	ug/L	20	22.3	64 - 129
1,2-Dichloropropane	99	ug/L	20	19.8	81 - 127
cis-1,3-Dichloropropene	100	ug/L	20	20.0	81 - 121
trans-1,3-Dichloropropene	100	ug/L	20	20.0	78 - 126

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

1,3-Dichloropropene, Total	100	ug/L	40	40.1	80 - 123
Diisopropyl ether	102	ug/L	20	20.4	74 - 131
Ethyl tert-butyl ether	100	ug/L	20	20.1	75 - 123
Ethylbenzene	99.7	ug/L	20	19.9	80 - 124
Freon 113	101	ug/L	20	20.2	50 - 130
Hexachlorobutadiene	114	ug/L	20	22.8	55 - 128
2-Hexanone	104	ug/L	100	104	65 - 154
Isopropylbenzene	112	ug/L	20	22.5	73 - 129
p-Isopropyltoluene	116	ug/L	20	23.2	72 - 123
Methyl acetate	98.1	ug/L	20	19.6	70 - 130
Methyl cyclohexane	104	ug/L	20	20.8	70 - 130
Methyl t-Butyl Ether	100	ug/L	20	20.0	69 - 115
4-Methyl-2-Pentanone(MIBK)	103	ug/L	100	103	71 - 146
Methylene Chloride	103	ug/L	20	20.6	76 - 121
Naphthalene	76.4	ug/L	20	15.3	56 - 134
n-Propylbenzene	109	ug/L	20	21.8	74 - 122
Styrene	108	ug/L	20	21.7	79 - 123
1,1,1,2-Tetrachloroethane	102	ug/L	20	20.4	78 - 121
1,1,2,2-Tetrachloroethane	99.6	ug/L	20	19.9	74 - 135
Tetrachloroethene	100	ug/L	20	20.1	72 - 124
Toluene	101	ug/L	20	20.2	80 - 125
Total Xylenes	103	ug/L	60	61.5	79 - 125
1,2,3-Trichlorobenzene	88.5	ug/L	20	17.7	61 - 126
1,2,4-Trichlorobenzene	93.3	ug/L	20	18.7	67 - 123
1,1,1-Trichloroethane	102	ug/L	20	20.5	66 - 130
1,1,2-Trichloroethane	94.1	ug/L	20	18.8	82 - 126
Trichloroethene	96.3	ug/L	20	19.3	77 - 124
Trichlorofluoromethane	102	ug/L	20	20.3	38 - 123
1,2,3-Trichloropropane	101	ug/L	20	20.3	75 - 132
1,2,4-Trimethylbenzene	110	ug/L	20	21.9	76 - 125
Vinyl Acetate	97.8	ug/L	20	19.6	58 - 136
Vinyl Chloride	96.9	ug/L	20	19.4	27 - 138
o-Xylene	102	ug/L	20	20.4	79 - 124
mp-Xylene	103	ug/L	40	41.1	79 - 125
1,2-Dichloroethane-d4 (S)	103	%			62 - 133
4-Bromofluorobenzene (S)	105	%			79 - 114
Dibromofluoromethane (S)	102	%			78 - 116
Toluene-d8 (S)	99.9	%			76 - 127

MATRIX SPIKE: 2938104 DUPLICATE: 2938105 ORIGINAL: 3029976001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

Acetone	5.0828	ug/L	100	91.4748	82.1447	86.4	77.1	40 - 151	10.7	40
tert-Amyl methyl ether	0	ug/L	20	20.1538	20.767	101	104	75 - 121	3	40
Benzene	0	ug/L	20	23.3418	22.5691	117	113	80 - 124	3.37	26
Bromobenzene	0	ug/L	20	21.609	21.2052	108	106	81 - 119	1.89	17
Bromochloromethane	0	ug/L	20	21.108	20.7692	106	104	73 - 117	1.62	19
Bromodichloromethane	0	ug/L	20	22.2924	21.7566	111	109	79 - 126	2.43	16
Bromoform	0	ug/L	20	18.2241	16.977	91.1	84.9	70 - 123	7.09	16
Bromomethane	0	ug/L	20	23.9259	21.897	120	109	45 - 148	8.86	26
2-Butanone	0	ug/L	100	89.6086	84.0846	89.6	84.1	50 - 152	6.36	16
tert-Butyl Alcohol	0	ug/L	100	84.2732	72.1916	84.3	72.2	17 - 168	15.4	40
n-Butylbenzene	0	ug/L	20	22.4732	23.1235	112	116	71 - 130	2.85	20
tert-Butylbenzene	0	ug/L	20	22.6805	22.523	113	113	72 - 124	.7	17
sec-Butylbenzene	0	ug/L	20	24.3819	24.3023	122	122	72 - 127	.33	17
Carbon Disulfide	0	ug/L	20	23.2295	21.256	116	106	57 - 131	8.87	28
Carbon Tetrachloride	0	ug/L	20	23.4807	22.9014	117	115	62 - 132	2.5	17
Chlorobenzene	0	ug/L	20	20.8247	20.6462	104	103	85 - 117	.86	15
Chlorodibromomethane	0	ug/L	20	19.9631	19.1913	99.8	96	77 - 122	3.94	15
Chloroethane	0	ug/L	20	22.3401	21.4333	112	107	51 - 142	4.14	24
2-Chloroethylvinyl ether	0	ug/L	20	.30687	.37446	1.53	1.87	1 - 150	19.8	40
Chloroform	0	ug/L	20	22.0706	21.8581	110	109	78 - 122	.97	16
Chloromethane	0	ug/L	20	21.0374	20.3035	105	102	38 - 156	3.55	27
o-Chlorotoluene	0	ug/L	20	22.7719	22.1321	114	111	78 - 126	2.85	17
p-Chlorotoluene	0	ug/L	20	22.9684	22.3858	115	112	78 - 125	2.57	16
Cyclohexane	0	ug/L	20	23.5237	23.0976	118	115	66 - 130	1.83	20
1,2-Dibromo-3-chloropropane	0	ug/L	20	15.3248	13.984	76.6	69.9	59 - 133	9.15	26
1,2-Dibromoethane	0	ug/L	20	19.8197	19.2022	99.1	96	80 - 124	3.16	19
Dibromomethane	0	ug/L	20	20.651	20.0147	103	100	81 - 125	3.13	16
1,2-Dichlorobenzene	0	ug/L	20	21.7063	21.3172	109	107	82 - 118	1.81	15
1,3-Dichlorobenzene	0	ug/L	20	21.4646	21.0524	107	105	81 - 118	1.94	16
1,4-Dichlorobenzene	0	ug/L	20	21.1112	20.8058	106	104	81 - 116	1.46	15
Dichlorodifluoromethane	0	ug/L	20	19.8231	19.328	99.1	96.6	17 - 166	2.53	24
1,1-Dichloroethane	0	ug/L	20	22.5354	22.0523	113	110	78 - 124	2.17	15
1,2-Dichloroethane	0	ug/L	20	21.4677	21.0428	107	105	70 - 133	2	19
1,1-Dichloroethene	0	ug/L	20	23.982	23.1469	120	116	63 - 128	3.54	21
1,2-Dichloroethene, Total	0	ug/L	40	45.3265	43.9267	113	110	78 - 125	3.14	40
cis-1,2-Dichloroethene	0	ug/L	20	22.215	21.6555	111	108	78 - 125	2.55	21
trans-1,2-Dichloroethene	0	ug/L	20	23.1115	22.2712	116	111	71 - 122	3.7	22
1,3-Dichloropropane	0	ug/L	20	19.9385	19.5217	99.7	97.6	82 - 126	2.11	15
2,2-Dichloropropane	0	ug/L	20	23.4013	22.6072	117	113	64 - 129	3.45	18
1,2-Dichloropropane	0	ug/L	20	22.2552	21.8824	111	109	81 - 127	1.69	15
cis-1,3-Dichloropropene	0	ug/L	20	20.4726	20.4174	102	102	81 - 121	.27	16
trans-1,3-Dichloropropene	0	ug/L	20	20.1633	19.9509	101	99.8	78 - 126	1.06	18
1,3-Dichloropropene, Total	0	ug/L	40	40.6359	40.3683	102	101	80 - 123	.66	16
Diisopropyl ether	0	ug/L	20	22.5496	22.1191	113	111	74 - 131	1.93	15
Ethyl tert-butyl ether	0	ug/L	20	21.4685	21.1619	107	106	75 - 123	1.44	16
Ethylbenzene	0	ug/L	20	21.5287	21.377	108	107	80 - 124	.71	19

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

Freon 113	0	ug/L	20	22.4471	21.7778	112	109	50 - 130	3.03	26
Hexachlorobutadiene	0	ug/L	20	22.0768	21.0351	110	105	55 - 128	4.83	35
2-Hexanone	0	ug/L	100	92.0164	88.0148	92	88	65 - 154	4.45	17
Isopropylbenzene	0	ug/L	20	24.1359	23.7799	121	119	73 - 129	1.49	18
p-Isopropyltoluene	0	ug/L	20	23.6179	23.9401	118	120	72 - 123	1.35	17
Methyl acetate	0	ug/L	20	15.3432	14.6527	76.7	73.3	70 - 130	4.6	18
Methyl cyclohexane	0	ug/L	20	22.0891	22.0563	110	110	70 - 130	.15	18
Methyl t-Butyl Ether	0	ug/L	20	20.8146	20.2068	104	101	69 - 115	2.96	20
4-Methyl-2-Pentanone(MIBK)	0	ug/L	100	93.0423	90.5492	93	90.5	71 - 146	2.72	16
Methylene Chloride	0	ug/L	20	23.1207	22.5159	116	113	76 - 121	2.65	17
Naphthalene	0	ug/L	20	10.2047	10.3084	51*	51.5*	56 - 134	1.01	40
n-Propylbenzene	0	ug/L	20	23.1383	23.3306	116	117	74 - 122	.83	20
Styrene	0	ug/L	20	23.3288	22.7505	117	114	79 - 123	2.51	16
1,1,1,2-Tetrachloroethane	0	ug/L	20	21.4185	21.2828	107	106	78 - 121	.64	16
1,1,2,2-Tetrachloroethane	0	ug/L	20	19.4116	18.6817	97.1	93.4	74 - 135	3.83	16
Tetrachloroethene	0	ug/L	20	20.7974	20.6021	104	103	72 - 124	.94	38
Toluene	0	ug/L	20	22.0026	21.7139	110	109	80 - 125	1.32	20
Total Xylenes	0	ug/L	60	66.435	65.857	111	110	79 - 125	.87	35
1,2,3-Trichlorobenzene	0	ug/L	20	13.0604	13.7713	65.3	68.9	61 - 126	5.3	36
1,2,4-Trichlorobenzene	0	ug/L	20	15.9388	16.2913	79.7	81.5	67 - 123	2.19	22
1,1,1-Trichloroethane	0	ug/L	20	22.8051	21.5928	114	108	66 - 130	5.46	20
1,1,2-Trichloroethane	0	ug/L	20	19.3846	19.2348	96.9	96.2	82 - 126	.78	15
Trichloroethene	0	ug/L	20	21.9774	21.4053	110	107	77 - 124	2.64	18
Trichlorofluoromethane	0	ug/L	20	24.3764	23.4432	122	117	38 - 123	3.9	23
1,2,3-Trichloropropane	0	ug/L	20	19.4192	18.4638	97.1	92.3	75 - 132	5.04	19
1,2,4-Trimethylbenzene	0	ug/L	20	23.6241	23.4137	118	117	76 - 125	.89	24
Vinyl Acetate	0	ug/L	20	15.9683	15.6045	79.8	78	58 - 136	2.3	17
Vinyl Chloride	0	ug/L	20	22.9242	22.099	115	110	27 - 138	3.67	40
o-Xylene	0	ug/L	20	22.0829	21.6744	110	108	79 - 124	1.87	19
mp-Xylene	0	ug/L	40	44.3521	44.1826	111	110	79 - 125	.38	21
1,2-Dichloroethane-d4 (S)	109	%				109	101	62 - 133		
4-Bromofluorobenzene (S)	102	%				102	100	79 - 114		
Dibromofluoromethane (S)	103	%				103	101	78 - 116		
Toluene-d8 (S)	97.3	%				97.3	97.2	76 - 127		

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

QC Batch: VOMS/50704 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 8260B

Associated Lab Samples: 3029976004, 3029976005, 3029976007, 3029976008, 3029976009, 3029976010, 3029976011, 3029976012, 3029976013, 3029976014, 3029976015, 3029976016, 3029976021

METHOD BLANK: 2938016

Parameter	Blank Result	Units	Reporting Limit
Acetone	ND	ug/L	10.0
tert-Amyl methyl ether	ND	ug/L	1.0
Benzene	ND	ug/L	1.0
Bromobenzene	ND	ug/L	1.0
Bromochloromethane	ND	ug/L	1.0
Bromodichloromethane	ND	ug/L	1.0
Bromoform	ND	ug/L	1.0
Bromomethane	0.44J	ug/L	1.0
2-Butanone	ND	ug/L	10.0
tert-Butyl Alcohol	ND	ug/L	10.0
n-Butylbenzene	ND	ug/L	2.0
tert-Butylbenzene	ND	ug/L	2.0
sec-Butylbenzene	ND	ug/L	1.0
Carbon Disulfide	ND	ug/L	1.0
Carbon Tetrachloride	ND	ug/L	1.0
Chlorobenzene	ND	ug/L	1.0
Chlorodibromomethane	ND	ug/L	1.0
Chloroethane	ND	ug/L	1.0
2-Chloroethylvinyl ether	ND	ug/L	2.0
Chloroform	ND	ug/L	1.0
Chloromethane	ND	ug/L	1.0
o-Chlorotoluene	ND	ug/L	1.0
p-Chlorotoluene	ND	ug/L	1.0
Cyclohexane	ND	ug/L	1.0
1,2-Dibromo-3-chloropropane	ND	ug/L	7.0
1,2-Dibromoethane	ND	ug/L	1.0
Dibromomethane	ND	ug/L	1.0
1,2-Dichlorobenzene	ND	ug/L	1.0
1,3-Dichlorobenzene	ND	ug/L	1.0
1,4-Dichlorobenzene	ND	ug/L	1.0
Dichlorodifluoromethane	ND	ug/L	1.0
1,1-Dichloroethane	ND	ug/L	1.0
1,2-Dichloroethane	ND	ug/L	1.0
1,1-Dichloroethene	ND	ug/L	1.0
1,2-Dichloroethene, Total	ND	ug/L	2.0
cis-1,2-Dichloroethene	ND	ug/L	1.0
trans-1,2-Dichloroethene	ND	ug/L	1.0

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

1,3-Dichloropropane	ND	ug/L	1.0
2,2-Dichloropropane	ND	ug/L	1.0
1,2-Dichloropropane	ND	ug/L	1.0
cis-1,3-Dichloropropene	ND	ug/L	1.0
trans-1,3-Dichloropropene	ND	ug/L	1.0
1,3-Dichloropropene, Total	ND	ug/L	2.0
Diisopropyl ether	ND	ug/L	1.0
Ethyl tert-butyl ether	ND	ug/L	1.0
Ethylbenzene	ND	ug/L	1.0
Freon 113	ND	ug/L	1.0
Hexachlorobutadiene	ND	ug/L	5.0
2-Hexanone	ND	ug/L	5.0
Isopropylbenzene	ND	ug/L	1.0
p-Isopropyltoluene	ND	ug/L	1.0
Methyl acetate	ND	ug/L	2.0
Methyl cyclohexane	ND	ug/L	1.0
Methyl t-Butyl Ether	ND	ug/L	1.0
4-Methyl-2-Pentanone(MIBK)	ND	ug/L	5.0
Methylene Chloride	ND	ug/L	1.0
Naphthalene	ND	ug/L	2.0
n-Propylbenzene	ND	ug/L	1.0
Styrene	ND	ug/L	1.0
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0
Tetrachloroethene	ND	ug/L	1.0
Toluene	ND	ug/L	1.0
Total Xylenes	ND	ug/L	3.0
1,2,3-Trichlorobenzene	ND	ug/L	2.0
1,2,4-Trichlorobenzene	ND	ug/L	2.0
1,1,1-Trichloroethane	ND	ug/L	1.0
1,1,2-Trichloroethane	ND	ug/L	1.0
Trichloroethene	ND	ug/L	1.0
Trichlorofluoromethane	ND	ug/L	1.0
1,2,3-Trichloropropane	ND	ug/L	2.0
1,2,4-Trimethylbenzene	ND	ug/L	1.0
Vinyl Acetate	ND	ug/L	5.0
Vinyl Chloride	ND	ug/L	1.0
o-Xylene	ND	ug/L	1.0
mp-Xylene	ND	ug/L	2.0
1,2-Dichloroethane-d4 (S)	116	%	62 - 133
4-Bromofluorobenzene (S)	105	%	79 - 114
Dibromofluoromethane (S)	104	%	78 - 116
Toluene-d8 (S)	103	%	76 - 127

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

LABORATORY CONTROL SAMPLE: 2938017

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acetone	99.1	ug/L	100	99.1	40 - 151
tert-Amyl methyl ether	105	ug/L	20	21.1	75 - 121
Benzene	103	ug/L	20	20.7	80 - 124
Bromobenzene	98.8	ug/L	20	19.8	81 - 119
Bromochloromethane	97.9	ug/L	20	19.6	73 - 117
Bromodichloromethane	105	ug/L	20	21.0	79 - 126
Bromoform	88.9	ug/L	20	17.8	70 - 123
Bromomethane	106	ug/L	20	21.1	45 - 148
2-Butanone	97.8	ug/L	100	97.8	50 - 152
tert-Butyl Alcohol	127	ug/L	100	127	17 - 168
n-Butylbenzene	103	ug/L	20	20.6	71 - 130
tert-Butylbenzene	101	ug/L	20	20.1	72 - 124
sec-Butylbenzene	105	ug/L	20	21.0	72 - 127
Carbon Disulfide	98.2	ug/L	20	19.6	57 - 131
Carbon Tetrachloride	102	ug/L	20	20.4	62 - 132
Chlorobenzene	96.9	ug/L	20	19.4	85 - 117
Chlorodibromomethane	95.5	ug/L	20	19.1	77 - 122
Chloroethane	90	ug/L	20	18.0	51 - 142
2-Chloroethylvinyl ether	72.5	ug/L	20	14.5	1 - 150
Chloroform	101	ug/L	20	20.2	78 - 122
Chloromethane	91.3	ug/L	20	18.3	38 - 156
o-Chlorotoluene	101	ug/L	20	20.2	78 - 126
p-Chlorotoluene	102	ug/L	20	20.4	78 - 125
Cyclohexane	102	ug/L	20	20.4	66 - 130
1,2-Dibromo-3-chloropropane	97.8	ug/L	20	19.6	59 - 133
1,2-Dibromoethane	97.2	ug/L	20	19.4	80 - 124
Dibromomethane	106	ug/L	20	21.2	81 - 125
1,2-Dichlorobenzene	102	ug/L	20	20.3	82 - 118
1,3-Dichlorobenzene	97.7	ug/L	20	19.5	81 - 118
1,4-Dichlorobenzene	99.6	ug/L	20	19.9	81 - 116
Dichlorodifluoromethane	83.2	ug/L	20	16.6	17 - 166
1,1-Dichloroethane	101	ug/L	20	20.1	78 - 124
1,2-Dichloroethane	110	ug/L	20	22.0	70 - 133
1,1-Dichloroethene	107	ug/L	20	21.4	63 - 128
1,2-Dichloroethene, Total	107	ug/L	40	43.0	78 - 125
cis-1,2-Dichloroethene	106	ug/L	20	21.1	78 - 125
trans-1,2-Dichloroethene	109	ug/L	20	21.8	71 - 122
1,3-Dichloropropane	96	ug/L	20	19.2	82 - 126
2,2-Dichloropropane	103	ug/L	20	20.7	64 - 129
1,2-Dichloropropane	103	ug/L	20	20.7	81 - 127
cis-1,3-Dichloropropene	97.6	ug/L	20	19.5	81 - 121
trans-1,3-Dichloropropene	101	ug/L	20	20.2	78 - 126

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

1,3-Dichloropropene, Total	99.4	ug/L	40	39.7	80 - 123
Diisopropyl ether	106	ug/L	20	21.3	74 - 131
Ethyl tert-butyl ether	106	ug/L	20	21.3	75 - 123
Ethylbenzene	97.8	ug/L	20	19.6	80 - 124
Freon 113	95.1	ug/L	20	19.0	50 - 130
Hexachlorobutadiene	111	ug/L	20	22.2	55 - 128
2-Hexanone	104	ug/L	100	104	65 - 154
Isopropylbenzene	105	ug/L	20	21.1	73 - 129
p-Isopropyltoluene	104	ug/L	20	20.8	72 - 123
Methyl acetate	101	ug/L	20	20.1	70 - 130
Methyl cyclohexane	96.1	ug/L	20	19.2	70 - 130
Methyl t-Butyl Ether	104	ug/L	20	20.8	69 - 115
4-Methyl-2-Pentanone(MIBK)	80.2	ug/L	100	80.2	71 - 146
Methylene Chloride	101	ug/L	20	20.1	76 - 121
Naphthalene	104	ug/L	20	20.8	56 - 134
n-Propylbenzene	99.4	ug/L	20	19.9	74 - 122
Styrene	104	ug/L	20	20.8	79 - 123
1,1,1,2-Tetrachloroethane	101	ug/L	20	20.2	78 - 121
1,1,2,2-Tetrachloroethane	97.2	ug/L	20	19.4	74 - 135
Tetrachloroethene	102	ug/L	20	20.4	72 - 124
Toluene	97.2	ug/L	20	19.4	80 - 125
Total Xylenes	98.9	ug/L	60	59.3	79 - 125
1,2,3-Trichlorobenzene	99.7	ug/L	20	19.9	61 - 126
1,2,4-Trichlorobenzene	106	ug/L	20	21.2	67 - 123
1,1,1-Trichloroethane	107	ug/L	20	21.4	66 - 130
1,1,2-Trichloroethane	95.4	ug/L	20	19.1	82 - 126
Trichloroethene	99.3	ug/L	20	19.9	77 - 124
Trichlorofluoromethane	101	ug/L	20	20.1	38 - 123
1,2,3-Trichloropropane	101	ug/L	20	20.2	75 - 132
1,2,4-Trimethylbenzene	102	ug/L	20	20.4	76 - 125
Vinyl Acetate	99.4	ug/L	20	19.9	58 - 136
Vinyl Chloride	94.9	ug/L	20	19.0	27 - 138
o-Xylene	98.7	ug/L	20	19.7	79 - 124
mp-Xylene	98.9	ug/L	40	39.6	79 - 125
1,2-Dichloroethane-d4 (S)	114	%			62 - 133
4-Bromofluorobenzene (S)	104	%			79 - 114
Dibromofluoromethane (S)	106	%			78 - 116
Toluene-d8 (S)	101	%			76 - 127

MATRIX SPIKE: 2938114 DUPLICATE: 2938115 ORIGINAL: 3029976004

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

Acetone	8.66948	ug/L	100	95.6425	110.482	87	102	40 - 151	14.4	40
tert-Amyl methyl ether	0	ug/L	20	21.9742	22.3612	110	112	75 - 121	1.75	40
Benzene	0	ug/L	20	21.5598	20.9401	108	105	80 - 124	2.92	26
Bromobenzene	0	ug/L	20	20.9645	20.3328	105	102	81 - 119	3.06	17
Bromochloromethane	0	ug/L	20	21.4809	19.7469	107	98.7	73 - 117	8.41	19
Bromodichloromethane	0	ug/L	20	22.5878	21.7913	113	109	79 - 126	3.59	16
Bromoform	0	ug/L	20	17.2017	17.7945	86	89	70 - 123	3.39	16
Bromomethane	.72384	ug/L	20	17.96	20.3658	86.2	98.2	45 - 148	12.6	26
2-Butanone	0	ug/L	100	90.0202	100.546	90	101	50 - 152	11	16
tert-Butyl Alcohol	0	ug/L	100	121.114	139.402	121	139	17 - 168	14	40
n-Butylbenzene	0	ug/L	20	21.9987	22.1688	110	111	71 - 130	.77	20
tert-Butylbenzene	0	ug/L	20	21.4549	21.229	107	106	72 - 124	1.06	17
sec-Butylbenzene	0	ug/L	20	22.3738	22.5414	112	113	72 - 127	.75	17
Carbon Disulfide	0	ug/L	20	20.2399	18.6872	101	93.4	57 - 131	7.98	28
Carbon Tetrachloride	0	ug/L	20	22.4989	21.8721	112	109	62 - 132	2.83	17
Chlorobenzene	0	ug/L	20	20.4785	19.634	102	98.2	85 - 117	4.21	15
Chlorodibromomethane	0	ug/L	20	20.3333	19.9289	102	99.6	77 - 122	2.01	15
Chloroethane	0	ug/L	20	19.9793	19.0357	99.9	95.2	51 - 142	4.84	24
2-Chloroethylvinyl ether	0	ug/L	20	.0795	.07607	.4*	.38*	1 - 150	4.42	40
Chloroform	0	ug/L	20	21.6908	20.6716	108	103	78 - 122	4.81	16
Chloromethane	0	ug/L	20	18.2151	20.0243	91.1	100	38 - 156	9.46	27
o-Chlorotoluene	0	ug/L	20	21.474	21.0793	107	105	78 - 126	1.86	17
p-Chlorotoluene	0	ug/L	20	21.3945	20.9094	107	105	78 - 125	2.29	16
Cyclohexane	0	ug/L	20	22.3342	21.8363	112	109	66 - 130	2.25	20
1,2-Dibromo-3-chloropropane	0	ug/L	20	19.0289	22.0485	95.1	110	59 - 133	14.7	26
1,2-Dibromoethane	0	ug/L	20	20.2635	20.2198	101	101	80 - 124	.22	19
Dibromomethane	0	ug/L	20	22.1779	21.2724	111	106	81 - 125	4.17	16
1,2-Dichlorobenzene	0	ug/L	20	21.222	20.8293	106	104	82 - 118	1.87	15
1,3-Dichlorobenzene	0	ug/L	20	20.5654	20.1046	103	101	81 - 118	2.27	16
1,4-Dichlorobenzene	0	ug/L	20	20.8987	20.2515	104	101	81 - 116	3.15	15
Dichlorodifluoromethane	0	ug/L	20	19.5686	18.6556	97.8	93.3	17 - 166	4.78	24
1,1-Dichloroethane	0	ug/L	20	21.5814	20.7897	108	104	78 - 124	3.74	15
1,2-Dichloroethane	0	ug/L	20	24.1527	23.1099	121	116	70 - 133	4.41	19
1,1-Dichloroethene	0	ug/L	20	23.2005	22.4219	116	112	63 - 128	3.41	21
1,2-Dichloroethene, Total	0	ug/L	40	45.8156	44.039	115	110	78 - 125	3.95	40
cis-1,2-Dichloroethene	0	ug/L	20	22.3441	21.6801	112	108	78 - 125	3.02	21
trans-1,2-Dichloroethene	0	ug/L	20	23.4715	22.3589	117	112	71 - 122	4.86	22
1,3-Dichloropropane	0	ug/L	20	20.0414	19.6238	100	98.1	82 - 126	2.11	15
2,2-Dichloropropane	0	ug/L	20	20.7257	19.7027	104	98.5	64 - 129	5.06	18
1,2-Dichloropropane	0	ug/L	20	21.6141	21.0819	108	105	81 - 127	2.49	15
cis-1,3-Dichloropropene	0	ug/L	20	19.7998	18.8377	99	94.2	81 - 121	4.98	16
trans-1,3-Dichloropropene	0	ug/L	20	20.6622	19.9569	103	99.8	78 - 126	3.47	18
1,3-Dichloropropene, Total	0	ug/L	40	40.462	38.7946	101	97	80 - 123	4.21	16
Diisopropyl ether	0	ug/L	20	22.4947	21.6743	112	108	74 - 131	3.71	15
Ethyl tert-butyl ether	0	ug/L	20	22.6842	21.8632	113	109	75 - 123	3.69	16
Ethylbenzene	0	ug/L	20	20.8314	20.4435	104	102	80 - 124	1.88	19

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

Freon 113	0	ug/L	20	20.9512	20.2925	105	101	50 - 130	3.19	26
Hexachlorobutadiene	0	ug/L	20	22.8576	22.0098	114	110	55 - 128	3.78	35
2-Hexanone	0	ug/L	100	101.706	111.793	102	112	65 - 154	9.45	17
Isopropylbenzene	0	ug/L	20	22.4364	21.7224	112	109	73 - 129	3.23	18
p-Isopropyltoluene	0	ug/L	20	22.1205	22.4532	111	112	72 - 123	1.49	17
Methyl acetate	0	ug/L	20	15.3794	16.453	76.9	82.3	70 - 130	6.75	18
Methyl cyclohexane	0	ug/L	20	21.0903	20.7113	105	104	70 - 130	1.81	18
Methyl t-Butyl Ether	0	ug/L	20	21.3677	20.8095	107	104	69 - 115	2.65	20
4-Methyl-2-Pentanone(MIBK)	0	ug/L	100	79.5463	85.5928	79.5	85.6	71 - 146	7.32	16
Methylene Chloride	0	ug/L	20	20.7918	20.0472	104	100	76 - 121	3.65	17
Naphthalene	0	ug/L	20	19.6319	21.8742	98.2	109	56 - 134	10.8	40
n-Propylbenzene	0	ug/L	20	21.3543	20.7662	107	104	74 - 122	2.79	20
Styrene	0	ug/L	20	21.5177	20.3988	108	102	79 - 123	5.34	16
1,1,1,2-Tetrachloroethane	0	ug/L	20	21.6478	20.8277	108	104	78 - 121	3.86	16
1,1,2,2-Tetrachloroethane	0	ug/L	20	19.6644	19.8466	98.3	99.2	74 - 135	.92	16
Tetrachloroethene	0	ug/L	20	21.2157	20.8358	106	104	72 - 124	1.81	38
Toluene	.25584	ug/L	20	20.8664	20.0381	103	98.9	80 - 125	4.05	20
Total Xylenes	0	ug/L	60	63.3954	61.5749	106	103	79 - 125	2.91	35
1,2,3-Trichlorobenzene	0	ug/L	20	20.2757	21.0523	101	105	61 - 126	3.76	36
1,2,4-Trichlorobenzene	0	ug/L	20	21.7523	22.1283	109	111	67 - 123	1.71	22
1,1,1-Trichloroethane	0	ug/L	20	23.8717	23.1493	119	116	66 - 130	3.07	20
1,1,2-Trichloroethane	0	ug/L	20	19.9664	19.4541	99.8	97.3	82 - 126	2.6	15
Trichloroethene	0	ug/L	20	21.2705	20.466	106	102	77 - 124	3.86	18
Trichlorofluoromethane	0	ug/L	20	24.1421	23.8429	121	119	38 - 123	1.25	23
1,2,3-Trichloropropane	0	ug/L	20	20.3045	20.8854	102	104	75 - 132	2.82	19
1,2,4-Trimethylbenzene	0	ug/L	20	21.4474	20.8234	107	104	76 - 125	2.95	24
Vinyl Acetate	0	ug/L	20	16.2866	16.1281	81.4	80.6	58 - 136	.98	17
Vinyl Chloride	0	ug/L	20	21.0862	20.094	105	100	27 - 138	4.82	40
o-Xylene	0	ug/L	20	20.9008	20.5215	105	103	79 - 124	1.83	19
mp-Xylene	0	ug/L	40	42.4946	41.0534	106	103	79 - 125	3.45	21
1,2-Dichloroethane-d4 (S)	119	%				119	117	62 - 133		
4-Bromofluorobenzene (S)	104	%				104	102	79 - 114		
Dibromofluoromethane (S)	108	%				108	106	78 - 116		
Toluene-d8 (S)	99.8	%				99.8	99	76 - 127		

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

QC Batch: VOMS/50756 **Analysis Method:** SW846 8260C

QC Batch Method: SW846 8260C

Associated Lab Samples: 3029976017, 3029976018, 3029976019, 3029976020

METHOD BLANK: 2941000

Parameter	Blank Result	Units	Reporting Limit
Benzene	ND	ug/L	1.0
2-Butanone	ND	ug/L	10.0
Carbon Tetrachloride	ND	ug/L	1.0
Chlorobenzene	ND	ug/L	1.0
Chloroform	ND	ug/L	1.0
1,2-Dichloroethane	ND	ug/L	1.0
1,1-Dichloroethene	ND	ug/L	1.0
Tetrachloroethene	ND	ug/L	1.0
Trichloroethene	ND	ug/L	1.0
Vinyl Chloride	ND	ug/L	1.0
1,2-Dichloroethane-d4 (S)	108	%	62 - 133
4-Bromofluorobenzene (S)	107	%	79 - 114
Dibromofluoromethane (S)	106	%	78 - 116
Toluene-d8 (S)	105	%	76 - 127

LABORATORY CONTROL SAMPLE: 2941001

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Benzene	109	ug/L	20	21.7	80 - 124
2-Butanone	117	ug/L	100	117	50 - 152
Carbon Tetrachloride	112	ug/L	20	22.5	62 - 132
Chlorobenzene	100	ug/L	20	20.0	85 - 117
Chloroform	102	ug/L	20	20.5	78 - 122
1,2-Dichloroethane	102	ug/L	20	20.5	70 - 133
1,1-Dichloroethene	108	ug/L	20	21.5	63 - 128
Tetrachloroethene	116	ug/L	20	23.2	72 - 124
Trichloroethene	112	ug/L	20	22.4	77 - 124
Vinyl Chloride	85.9	ug/L	20	17.2	27 - 138
1,2-Dichloroethane-d4 (S)	110	%			62 - 133
4-Bromofluorobenzene (S)	105	%			79 - 114
Dibromofluoromethane (S)	108	%			78 - 116
Toluene-d8 (S)	102	%			76 - 127

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

QC Batch: WCPR/47128 **Analysis Method:** SW-846 7.3CN

QC Batch Method: SW-846 7.3CN

Associated Lab Samples: 3029976017, 3029976018, 3029976019, 3029976020

METHOD BLANK: 2937021

Parameter	Blank Result	Units	Reporting Limit
Cyanide, Reactive	ND	ppm	10

LABORATORY CONTROL SAMPLE: 2937022

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Cyanide, Reactive	8	ppm	10	0.80J	0 - 92

SAMPLE DUPLICATE: 2937023 ORIGINAL: 3030513001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Cyanide, Reactive	-.01	ppm	-.00996	NC	20

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

QC Batch: WCPR/47129 **Analysis Method:** SW846 7.3

QC Batch Method: SW846 7.3

Associated Lab Samples: 3029976017, 3029976018, 3029976019, 3029976020

METHOD BLANK: 2937024

Parameter	Blank Result	Units	Reporting Limit
Sulfide, Reactive	3.2J	ppm	6.2

LABORATORY CONTROL SAMPLE: 2937025

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Sulfide, Reactive	72.1	ppm	567	409	49 - 148

SAMPLE DUPLICATE: 2937026 ORIGINAL: 3030513001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Sulfide, Reactive	3.1984	ppm	6.3745	66.4*	20

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

QC Batch: WCPR/47186 **Analysis Method:** SW846 7.3

QC Batch Method: SW846 7.3

Associated Lab Samples: 3029976020

METHOD BLANK: 2939575

Parameter	Blank Result	Units	Reporting Limit
Sulfide, Reactive	6.0J	ppm	6.2

LABORATORY CONTROL SAMPLE: 2939576

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Sulfide, Reactive	68.6	ppm	568	390	49 - 148

SAMPLE DUPLICATE: 2939577 ORIGINAL: 3030918002

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Sulfide, Reactive	11.14983	ppm	1.59601	150*	20

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

QC Batch: WETC/220931 **Analysis Method:** S2540G-11

QC Batch Method: S2540G-11

Associated Lab Samples: 3029976017, 3029976018, 3029976019, 3029976020

SAMPLE DUPLICATE: 2935273 ORIGINAL: 3030139001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	22.8739	%	23.747	3.75	10
Total Solids	77.126	%	76.2529	1.14	5

SAMPLE DUPLICATE: 2935274 ORIGINAL: 3030175001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	8.9401	%	9.0186	.87	10
Total Solids	91.0598	%	90.9813	.09	5

SAMPLE DUPLICATE: 2935275 ORIGINAL: 3030176005

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	10.7843	%	10.7021	.77	10
Total Solids	89.2156	%	89.2978	.09	5

SAMPLE DUPLICATE: 2935276 ORIGINAL: 3030178003

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	16.1111	%	13.7931	15.5*	10
Total Solids	83.8888	%	86.2068	2.73	5

SAMPLE DUPLICATE: 2935277 ORIGINAL: 3030120004

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	7.6923	%	6.8334	11.8*	10
Total Solids	92.3076	%	93.1665	.93	5

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

SAMPLE DUPLICATE: 2935278 ORIGINAL: 3029976019

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	54.8076	%	54.5751	.43	10
Total Solids	45.1923	%	45.4248	.51	5

SAMPLE DUPLICATE: 2935279 ORIGINAL: 3030179006

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	14.834	%	14.6327	1.37	10
Total Solids	85.1659	%	85.3672	.24	5

SAMPLE DUPLICATE: 2935280 ORIGINAL: 3030306003

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	10.2402	%	9.6862	5.56	10
Total Solids	89.7597	%	90.3137	.62	5

SAMPLE DUPLICATE: 2935281 ORIGINAL: 3030121004

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	8.6874	%	9.5398	9.35	10
Total Solids	91.3125	%	90.4601	.94	5

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

QC Batch: WETC/221082 **Analysis Method:** SW846 7.3

QC Batch Method: SW846 7.3

Associated Lab Samples:

METHOD BLANK: 2937174

Parameter	Blank Result	Units	Reporting Limit
Sulfide, Reactive	ND	ppm	6.3

METHOD BLANK: 2937176

Parameter	Blank Result	Units	Reporting Limit
Sulfide, Reactive	ND	ppm	6.3

METHOD BLANK: 2937178

Parameter	Blank Result	Units	Reporting Limit
Sulfide, Reactive	ND	ppm	6.3

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

QC Batch: WETC/221138 **Analysis Method:** SW-846 7.3CN

QC Batch Method: SW-846 7.3CN

Associated Lab Samples:

METHOD BLANK: 2937922

Parameter	Blank Result	Units	Reporting Limit
Cyanide, Reactive	ND	mg/L	0.00010

METHOD BLANK: 2937924

Parameter	Blank Result	Units	Reporting Limit
Cyanide, Reactive	ND	mg/L	0.00010

METHOD BLANK: 2937926

Parameter	Blank Result	Units	Reporting Limit
Cyanide, Reactive	ND	mg/L	0.00010

METHOD BLANK: 2937928

Parameter	Blank Result	Units	Reporting Limit
Cyanide, Reactive	ND	mg/L	0.00010

METHOD BLANK: 2937930

Parameter	Blank Result	Units	Reporting Limit
Cyanide, Reactive	ND	mg/L	0.00010

METHOD BLANK: 2937932

Parameter	Blank Result	Units	Reporting Limit

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

Cyanide, Reactive	ND	mg/L	0.00010

QUALITY CONTROL DATA

Workorder: 3029976 LMC MRC / 95840ACM

QC Batch: WETC/221267 **Analysis Method:** SW846 7.3

QC Batch Method: SW846 7.3

Associated Lab Samples:

METHOD BLANK: 2939717

Parameter	Blank Result	Units	Reporting Limit
Sulfide, Reactive	ND	ppm	6.3

METHOD BLANK: 2939719

Parameter	Blank Result	Units	Reporting Limit
Sulfide, Reactive	ND	ppm	6.3

METHOD BLANK: 2939721

Parameter	Blank Result	Units	Reporting Limit
Sulfide, Reactive	ND	ppm	6.3

METHOD BLANK: 2939723

Parameter	Blank Result	Units	Reporting Limit
Sulfide, Reactive	ND	ppm	6.3

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
3029976017	F001-IDW-TUBE			S2540G-11	WETC/220931
3029976018	F001-IDW-GLOVES			S2540G-11	WETC/220931
3029976019	F001-IDW-PAPER			S2540G-11	WETC/220931
3029976020	F001-IDW-STRING			S2540G-11	WETC/220931
3029976017	F001-IDW-TUBE	SW846 3546	EXTR/56256	SW846 8082A	SVGC/52922
3029976018	F001-IDW-GLOVES	SW846 3546	EXTR/56256	SW846 8082A	SVGC/52922
3029976019	F001-IDW-PAPER	SW846 3546	EXTR/56256	SW846 8082A	SVGC/52922
3029976020	F001-IDW-STRING	SW846 3546	EXTR/56256	SW846 8082A	SVGC/52922
3029976001	MRC-SW8A-S-042419	SW846 3510C	EXTR/56278	8270 SIM	SVMS/32998
3029976003	MRC-SW8A-S-DUP-042419	SW846 3510C	EXTR/56278	8270 SIM	SVMS/32998
3029976004	MRC-SW8B-S-042419	SW846 3510C	EXTR/56278	8270 SIM	SVMS/32998
3029976007	FB-052519-ZN	SW846 3510C	EXTR/56278	8270 SIM	SVMS/32998
3029976013	MRC-SW6B-S-042519	SW846 3510C	EXTR/56278	8270 SIM	SVMS/32998
3029976014	MRC-SW6A-S-042519	SW846 3510C	EXTR/56278	8270 SIM	SVMS/32998
3029976016	MRC-W17A-042519	SW846 3510C	EXTR/56278	8270 SIM	SVMS/32998
3029976017	F001-IDW-TUBE	SW-846 7.3CN	WCPR/47128	SW-846 7.3CN	WETC/221138
3029976018	F001-IDW-GLOVES	SW-846 7.3CN	WCPR/47128	SW-846 7.3CN	WETC/221138
3029976019	F001-IDW-PAPER	SW-846 7.3CN	WCPR/47128	SW-846 7.3CN	WETC/221138
3029976020	F001-IDW-STRING	SW-846 7.3CN	WCPR/47128	SW-846 7.3CN	WETC/221138
3029976017	F001-IDW-TUBE	SW846 7.3	WCPR/47129	SW846 7.3	WETC/221082
3029976018	F001-IDW-GLOVES	SW846 7.3	WCPR/47129	SW846 7.3	WETC/221082
3029976019	F001-IDW-PAPER	SW846 7.3	WCPR/47129	SW846 7.3	WETC/221082
3029976001	MRC-SW8A-S-042419			SW846 8260B	VOMS/50703
3029976002	TB-042519-1			SW846 8260B	VOMS/50703
3029976003	MRC-SW8A-S-DUP-042419			SW846 8260B	VOMS/50703

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
3029976004	MRC-SW8B-S-042419			SW846 8260B	VOMS/50704
3029976005	TB-042519-2			SW846 8260B	VOMS/50704
3029976007	FB-052519-ZN			SW846 8260B	VOMS/50704
3029976008	MRC-SW7A-S-042519-A			SW846 8260B	VOMS/50704
3029976009	MRC-SW7B-S-042519			SW846 8260B	VOMS/50704
3029976010	MRC-SW9A-S-042519			SW846 8260B	VOMS/50704
3029976011	TB-042519-3			SW846 8260B	VOMS/50704
3029976012	MRC-SW9B-S-042519			SW846 8260B	VOMS/50704
3029976013	MRC-SW6B-S-042519			SW846 8260B	VOMS/50704
3029976014	MRC-SW6A-S-042519			SW846 8260B	VOMS/50704
3029976015	TB-042519-4			SW846 8260B	VOMS/50704
3029976016	MRC-W17A-042519			SW846 8260B	VOMS/50704
3029976021	TB-042519-5			SW846 8260B	VOMS/50704
3029976017	F001-IDW-TUBE	SW846 3510C	EXTR/56309	SW846 8270D	SVMS/33022
3029976017	F001-IDW-TUBE	SW846 3015	MDIG/77598	SW846 6010C	META/67425
3029976017	F001-IDW-TUBE	SW846 7470A	MDIG/77605	SW846 7470A	META/67442
3029976020	F001-IDW-STRING	SW846 7.3	WCPR/47186	SW846 7.3	WETC/221267
3029976018	F001-IDW-GLOVES	SW846 7470A	MDIG/77656	SW846 7470A	META/67507
3029976019	F001-IDW-PAPER	SW846 7470A	MDIG/77656	SW846 7470A	META/67507
3029976020	F001-IDW-STRING	SW846 7470A	MDIG/77656	SW846 7470A	META/67507
3029976017	F001-IDW-TUBE			SW846 8260C	VOMS/50756
3029976018	F001-IDW-GLOVES			SW846 8260C	VOMS/50756
3029976019	F001-IDW-PAPER			SW846 8260C	VOMS/50756
3029976020	F001-IDW-STRING			SW846 8260C	VOMS/50756

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
3029976018	F001-IDW-GLOVES	SW846 3015	MDIG/77672	SW846 6010C	META/67518
3029976019	F001-IDW-PAPER	SW846 3015	MDIG/77672	SW846 6010C	META/67518
3029976020	F001-IDW-STRING	SW846 3015	MDIG/77672	SW846 6010C	META/67518
3029976018	F001-IDW-GLOVES	SW846 3510C	EXTR/56364	SW846 8270D	SVMS/33057
3029976019	F001-IDW-PAPER	SW846 3510C	EXTR/56364	SW846 8270D	SVMS/33057
3029976020	F001-IDW-STRING	SW846 3510C	EXTR/56364	SW846 8270D	SVMS/33057

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

3029976

Client Name: AECOM

Address: 12420 Milestone Center Drive, Suite 150
Germantown, MD 20876

Contact: Ravi Damera & Holly Brown

Phone#: 301-674-3199

Project Name/#: LMC MRC / 95840ACM

Bill To: Ravi Damera

TAT [X] Normal-Standard TAT is 10-12 business days.
[ ] Rush-Subject to ALS approval and surcharges.

Date Required: Approved?

Email? [X] -Y ravi.damara@aecom.com

Fax? [ ] -Y No.:

Container Type	CG	AG	P	P	AG	CG	P	P	P	AG
Container Size	40mL	1L	250mL	250mL	1L	40mL	500mL	250mL	250mL	40mL
Preservative	HCl	-	HNO3	NH4OH	-	HCl	-	-	H2SO4	HCl

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	VOCs (8260C)	1,4-Dioxane (8270D SIM)	TAL Metals (6010C/6020A/7470A)	Hexavalent Chromium (218.6)	PCB Homologs (680/8260C)	MEE (RSK 175)	MNA (Cl, NO2, NO3, SO4, TDS, Ortho)	Alkalinity (S2320B)	Ammonia-N (D6919)	TOC (55310B)	Sample/COC Comments
					Enter Number of Containers Per Sample or Field Results Below.										
MRC-SW8A-S-042419	4/24/2019	1520	G	SW	6	6			6						Extra Volume for MS/MSD
TB-042519-1	NA	NA	G	WQ	2										Trip Blank

*Receipt Information (completed by Receiving Lab)

Cooler Temp: 2 °C Therm ID: 401

No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(If present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. in Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

ALS Field Services: _Pickup _Labor _Composite Sampling _Rental Equipment _Other:

Project Comments: Please also email data to holly.brown@aecom.com and naoum.tavantzis@aecom.com

LOGGED BY(signature): DATE: TIME:

REVIEWED BY(signature): DATE: TIME:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature] /AECOM	4/25/19	1610	2 [signature]	4/25	1610
3 [signature]	4/25		4 COMMON COURIER / ALS COURIER		
5 COMMON COURIER / ALS COURIER			6 [signature]	4/25/19	2100
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE [ ]

Special Processing: USACE [ ] Navy [ ] [ ]

State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] NC [ ]

Reportable to PADEP? Yes [ ]

PWSID #

Sample Disposal: Lab [X] Special [ ]

EDDS: Format Type- EQuIS and .csv

* G=Grab; C=Composite

**Matrix - Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057

Rev 10/14

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 382976 — 2 of 5

ALS Quote #:

Client Name: AECOM

Address: 12420 Milestone Center Drive, Suite 150
Germantown, MD 20876

Contact: Ravi Damera & Holly Brown

Phone#: 301-674-3199

Project Name/#: LMC MRC / 95840ACM

Bill To: Ravi Damera

TAT [X] Normal-Standard TAT is 10-12 business days.
[ ] Rush-Subject to ALS approval and surcharges.

Date Required: Approved?

Email? [X] -Y ravi.damara@aecom.com

Fax? [ ] -Y No.:

Container Type	CG	AG	P	P	AG	CG	P	P	P	AG
Container Size	40mL	1L	250mL	250mL	1L	40mL	500mL	250mL	250mL	40mL
Preservative	HCl	-	HNO3	NH4OH	-	HCl	-	-	H2SO4	HCl

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	VOCs (8260C)	1,4-Dioxane (8270D SIM)	TAL Metals (6010C/6020A/7470A)	Hexavalent Chromium (218.6)	PCB Homologs (680/8260C)	MEE (RSK 175)	MNA (Cl, NO2, NO3, SO4, TDS, Ortho)	Alkalinity (S2320B)	Ammonia-N (D6919)	TOC (5310B)	Sample/COC Comments
					Enter Number of Containers Per Sample or Field Results Below.										
MRC-SW8A-S-DUP-042419	4/24/2019	1525	G	SW	2	2			2						Field Duplicate
MRC-SW8B-S-042419	4/24/2019	1600	G	SW	2	2			2						
TB-042519-2	NA	NA	G	WQ	2										Trip Blank
MRC-SW20-042519	4/25/2019	1000	G	SW					1						Only 1L Amber Obtained from Location

Receipt Information (completed by Receiving Lab)

Cooler Temp: 1 °C Therm ID: 401

No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(if present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. in Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

ALS Field Services: _Pickup _Labor _Composite Sampling _Rental Equipment _Other:

Project Comments: Please also email data to holly.brown@aecom.com and naoum.tavantzis@aecom.com

LOGGED BY(signature): DATE TIME

REVIEWED BY(signature): DATE TIME

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 AECOM	4/25 PM	1610	2	4/25	1610
3	4/25		4 COMMON COURIER / ALS COURIER		
5 COMMON COURIER / ALS COURIER			6	4/25/19	2100
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE [ ]

Special Processing: USACE [ ] Navy [ ] [ ]

State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] NC [ ]

Reportable to PADEP? Yes [ ]

PWSID #

Sample Disposal: Lab [X] Special [ ]

EDDS: Format Type- EQuIS and .csv

* G=Grab; C=Composite

**Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057

Rev 10/14

ALS Environmental
34 Dogwood Lane
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P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 3029976 | 3 of 5
ALS Quote #:

Client Name: AECOM
Address: 12420 Milestone Center Drive, Suite 150
Germantown, MD 20876
Contact: Ravi Damera & Holly Brown
Phone#: 301-674-3199
Project Name/#: LMC MRC / 95840ACM
Bill To: Ravi Damera
TAT [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required: Approved?
Email? [X] -Y ravi.damara@aecom.com
Fax? [ ] -Y No.:

Container Type	CG	AG	P	P	AG	CG	P	P	P	AG
Container Size	40mL	1L	250mL	250mL	1L	40mL	500mL	250mL	250mL	40mL
Preservative	HCl	-	HNO3	NH4OH	-	HCl	-	-	H2SO4	HCl

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	VOCs (8260C)	1,4-Dioxane (8270D SIM)	TAL Metals (6010C/6020A/7470A)	Hexavalent Chromium (218.6)	PCB Homologs (680/8260C)	MEE (RSK 175)	MNA (Cl, NO2, NO3, SO4, TDS, Ortho)	Alkalinity (S2320B)	Ammonia-N (D6919)	TOC (55310B)	Sample/COC Comments
					Enter Number of Containers Per Sample or Field Results Below.										
FB-042519-ZN	4/25/2019	1055	G	SW	2	2			2						Field Blank
MRC-SW7A-S-042519-A	4/25/2019	945	G	SW	2				2						
MRC-SW7B-S-042519-A	4/25/2019	1015	G	SW	2				2						
MRC-SW9A-S-042519-A	4/25/2019	905	G	SW	2				2						
TB-042519-3	NA	NA	G	WQ	2										Trip Blank

Receipt Information (completed by Receiving Lab)
Cooler Temp: 1 °C Therm ID: 401
No. of Coolers: ____

	Y	N	Initial
Custody Seals Present?			
(if present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. In Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

ALS Field Services: _Pickup _Labor _Composite Sampling _Rental Equipment _Other:

Project Comments: Please also email data to holly.brown@aecom.com and naoum.tavantzis@aecom.com

LOGGED BY(signature): Date: Time:
REVIEWED BY(signature): Date: Time:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 AECOM	4-25-19	1610	2	4/25	1610
3	4/25		4 COMMON COURIER / ALS COURIER		
5 COMMON COURIER / ALS COURIER			6	4/25/19	2100
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE [ ]
Special Processing: USACE [ ] Navy [ ] [ ]
State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] NC [ ]
Reportable to PADEP? Yes [ ] PWSID #
Sample Disposal: Lab [X] Special [ ]
EDDS: Format Type- EQuIS and .csv

* G=Grab; C=Composite **Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 3029976 | 4 of 5
ALS Quote #:

Client Name: AECOM
Address: 12420 Milestone Center Drive, Suite 150
Germantown, MD 20876
Contact: Ravi Damera & Holly Brown
Phone#: 301-674-3199
Project Name/#: LMC MRC / 95840ACM
Bill To: Ravi Damera
TAT [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required: Approved?
Email? [X] -Y ravi.damara@aecom.com
Fax? [ ] -Y No.:

Container Type	CG	AG	P	P	AG	CG	P	P	P	AG
Container Size	40mL	1L	250mL	250mL	1L	40mL	500mL	250mL	250mL	40mL
Preservative	HCl	-	HNO3	NH4OH	-	HCl	-	-	H2SO4	HCl

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	VOCs (8260C)	1,4-Dioxane (8270D SIM)	TAL Metals (6010C/6020A/7470A)	Hexavalent Chromium (218.6)	PCB Homologs (680/8260C)	MEE (RSK 175)	MNA (Cl, NO2, NO3, SO4, TDS, Ortho)	Alkalinity (S2320B)	Ammonia-N (D6919)	TOC (5310B)	Sample/COC Comments
					Enter Number of Containers Per Sample or Field Results Below.										
MRC-SW9B-S-042519	4/25/2019	925	G	SW	2				2						
MRC-SW6B-S-042519	4/25/2019	850	G	SW	2	2			2						
MRC-SW6A-S-042519	4/25/2019	820	G	SW	2	2			2						
TB-042519-4	NA	NA	G	WQ	2										Trip Blank

Receipt Information (completed by Receiving Lab)
Cooler Temp: 2°C Therm ID: 401
No. of Coolers: ____

	Y	N	Initial
Custody Seals Present?			
(If present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. in Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

ALS Field Services: _Pickup _Labor _Composite Sampling _Rental Equipment _Other:

Project Comments: Please also email data to holly.brown@aecom.com and naoum.tavantzis@aecom.com

LOGGED BY(signature): Date: Time:
REVIEWED BY(signature): Date: Time:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 AECOM	4-25-19	1610	2	4/25	1610
3	4/25		4 COMMON COURIER / ALS COURIER		
5 COMMON COURIER / ALS COURIER			6	4/25/19	2100
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE [ ]
Special Processing: USACE [ ] Navy [ ] [ ]
State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] NC [ ]
Reportable to PADEP? Yes [ ] PWSID #
Sample Disposal: Lab [X] Special [ ]
EDDS: Format Type- EQuIS and .csv

* G=Grab; C=Composite
**Matrix - Ai=Air; DW=Drinking Water; GW=Groundwater; Oi=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057

Rev 10/14

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 302976 | 5 of 5
ALS Quote #:

Client Name: AECOM
Address: 12420 Milestone Center Drive, Suite 150
Germantown, MD 20876
Contact: Ravi Damera & Holly Brown
Phone#: 301-674-3199
Project Name/#: LMC MRC / 95840ACM
Bill To: Ravi Damera
TAT [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required: Approved?
Email? [X] -Y ravi.damera@aecom.com
Fax? [ ] -Y No.:

Container Type	CG	AG	CG							
Container Size	40mL	1L	500mL							
Preservative	HCl	-	-							

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	VOCs (8260C)	1,4-Dioxane (8270D SIM)	TCLP Full Suite (VOCs, SVOCs), metals, PCBs, RIC							
					Enter Number of Containers Per Sample or Field Results Below.									
MRC-SW17A-042519	4/25/2019	925	G	SW	2	2								
F001-IDW-TUBE	4/25/2019	1315	G	WS			2							
F001-IDW-GLOVES	4/25/2019	1300	G	WS			2							
F001-IDW-PAPER	4/25/2019	1310	G	WS			1							
F001-IDW-STRING	4/25/2019	1305	G	WS			1							
TB-042519-5	NA	NA	G	WQ	2									

Receipt Information (completed by Receiving Lab)
Cooler Temp: 2° Therm ID: 401
No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(if present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. In Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

Sample/COC Comments
SW = Surface Water
WS = Solid Waste
WS = Solid Waste
WS = Solid Waste
WS = Solid Waste
Trip Blank

ALS Field Services: _Pickup _Labor _Composite Sampling _Rental Equipment _Other:

Project Comments: Please also email data to holly.brown@aecom.com and nasum.tavantzis@aecom.com

LOGGED BY(signature): Date: Time:
REVIEWED BY(signature): Date: Time:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature] / AECOM	4-25-19	1610	2 [signature]	4/25	1610
3 [signature]	4/25		4 COMMON COURIER / ALS COURIER		
5 COMMON COURIER / ALS COURIER			6 [signature]	4/25/19	2100
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE [ ]
Special Processing: USACE [ ] Navy [ ] [ ]
State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] NC [ ]
Reportable to PADEP? Yes [ ] PWSID #
Sample Disposal: Lab [X] Special [ ]
EDDS: Format Type- EQuIS and .csv

* G=Grab; C=Composite
**Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057

Rev 10/14

301 Fulling Mill Road
Middletown, PA 17057
P: (717) 944-5541
F: (717) 944-1430

Condition of Sample Receipt Form

Client: AECOM | Work Order #: 3029976 | Initials: CW | Date: 4-26-19

1. Were airbills / tracking numbers present and recorded?	(NONE)	YES	NO
Tracking number: _____			
2. Are Custody Seals on shipping containers intact?	NONE	(YES)	NO
3. Are Custody Seals on sample containers intact?	(NONE)	YES	NO
4. Is there a COC (Chain-of-Custody) present?		(YES)	NO
5. Are the COC and bottle labels complete, legible and in agreement?		(YES)	NO
5a. Does the COC contain sample locations?		(YES)	NO
5b. Does the COC contain date and time of sample collection for all samples?		(YES)	NO
5c. Does the COC contain sample collectors name?		(YES)	NO
5d. Does the COC note the type(s) of preservation for all bottles?		(YES)	NO
5e. Does the COC note the number of bottles submitted for each sample?		(YES)	NO
5f. Does the COC note the type of sample, composite or grab?		(YES)	NO
5g. Does the COC note the matrix of the sample(s)?		(YES)	NO
6. Are all aqueous samples requiring preservation preserved correctly?	N/A	(YES)	NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?		(YES)	NO
8. Are all samples within holding times for the requested analyses?		(YES)	NO
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.)		(YES)	NO
10. Did we receive trip blanks (applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg))?	N/A	(YES)	NO
11. Were the samples received on ice?		(YES)	NO
12. Were sample temperatures measured at 0.0-6.0°C		(YES)	NO
13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below		YES	(NO)
13a. Are the samples required for SDWA compliance reporting?	(N/A)	YES	NO
13b. Did the client provide a SDWA PWS ID#?	(N/A)	YES	NO
13c. Are all aqueous unpreserved SDWA samples pH 5-9?	(N/A)	YES	NO
13d. Did the client provide the SDWA sample location ID/Description?	(N/A)	YES	NO
13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?	(N/A)	YES	NO

Cooler #:	1							
Temperature (°C):	2							
Thermometer ID:	4C1							

COMMENTS (Required for all NO responses above and any sample non-conformance):
GBW matrix. LW4-26-19

Rev. 4/24/2019

May 02, 2019 Service Request No:R1903709

Vanessa Badman
ALS Environmental
34 Dogwood Lane
Middletown, PA 17057

Laboratory Results for: UR115: 3029976

Dear Vanessa,

Enclosed are the results of the sample(s) submitted to our laboratory April 27, 2019
For your reference, these analyses have been assigned our service request number **R1903709.**

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janice Jaeger
Project Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp
dba ALS Environmental

Narrative Documents

ALS Environmental Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

ALS Environmental

Client: ALS Environmental - US
Project: UR115: 3029976
Sample Matrix: Water

Service Request: R1903709
Date Received: 04/27/2019

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Eleven water samples were received for analysis at ALS Environmental on 04/27/2019. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivolatiles by GC/MS:

Method 680, 05/01/2019: The control limit was exceeded for one or more surrogates in the closing Continuing Calibration Verification (CCV). The surrogates were within acceptance limits for the associated field samples. The data quality was not significantly affected and no further corrective action was taken.

Method 680, 05/01/2019: The control limits were exceeded for analytes in the closing Continuing Calibration Verification (CCV). The QC failure was most likely due to the composition of the sample(s) immediately preceding the failing CCV. In order to protect the integrity of the instrument, no further corrective action was taken. Results should be considered estimated.

Method 680, 05/01/2019, R1903709-011: The recovery of one or more internal standards was outside control limits because of suspected matrix interference. This internal is not used to quantitate any target compounds, therefore, data is not significantly affected and no further corrective action was appropriate.
Method 680, 04/30/2019: The control limit was exceeded for one or more surrogates in the closing Continuing Calibration Verification (CCV). The surrogates were within acceptance limits for the associated field samples. The data quality was not significantly affected and no further corrective action was taken.

Method 680, 04/30/2019: The control limits were exceeded for analytes in the closing Continuing Calibration Verification (CCV). The QC failure was most likely due to the composition of the sample(s) immediately preceding the failing CCV. In order to protect the integrity of the instrument, no further corrective action was taken. Results should be considered estimated.

Method 680, 04/30/2019, R1903709-002: The recovery of one or more internal standards was outside control limits because of suspected matrix interference. This internal is not used to quantitate any target compounds, therefore, data is not significantly affected and no further corrective action was appropriate.

Approved by _____ Date 05/02/2019

SAMPLE DETECTION SUMMARY

CLIENT ID: 3029976 001			Lab ID: R1903709-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0042	J	0.0024	0.0052	ug/L	680

CLIENT ID: 3029976 003			Lab ID: R1903709-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0048	J	0.0025	0.0054	ug/L	680

CLIENT ID: 3029976 004			Lab ID: R1903709-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0068		0.0025	0.0053	ug/L	680

CLIENT ID: 3029976 006			Lab ID: R1903709-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.021		0.0023	0.0047	ug/L	680
Monochlorobiphenyls, Total	0.024		0.0027	0.0047	ug/L	680
Tetrachlorobiphenyls, Total	0.039		0.0030	0.0094	ug/L	680
Trichlorobiphenyls, Total	0.015		0.0011	0.0047	ug/L	680

CLIENT ID: 3029976 008			Lab ID: R1903709-006			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0054	J	0.0025	0.0054	ug/L	680

CLIENT ID: 3029976 009			Lab ID: R1903709-007			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0065		0.0025	0.0054	ug/L	680

CLIENT ID: 3029976 010			Lab ID: R1903709-008			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0032	J	0.0025	0.0053	ug/L	680

CLIENT ID: 3029976 012			Lab ID: R1903709-009			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0042	J	0.0025	0.0053	ug/L	680

CLIENT ID: 3029976 013			Lab ID: R1903709-010			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0048	J	0.0025	0.0054	ug/L	680

CLIENT ID: 3029976 014			Lab ID: R1903709-011			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0047	J	0.0025	0.0053	ug/L	680

Sample Receipt Information

ALS Environmental Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ALS Environmental - US
Project: UR115: 3029976

Service Request: R1903709

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1903709-001	3029976 001	4/24/2019	1520
R1903709-002	3029976 003	4/24/2019	1525
R1903709-003	3029976 004	4/24/2019	1600
R1903709-004	3029976 006	4/25/2019	1000
R1903709-005	3029976 007	4/25/2019	1055
R1903709-006	3029976 008	4/25/2019	0945
R1903709-007	3029976 009	4/25/2019	1015
R1903709-008	3029976 010	4/25/2019	0905
R1903709-009	3029976 012	4/25/2019	0925
R1903709-010	3029976 013	4/25/2019	0850
R1903709-011	3029976 014	4/25/2019	0820

ALS Environmental

34 Dogwood Lane • Middletown, PA 17057 • 717.944.5541 • Fax: 717.944.1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #:	1 of 2
ALS Quote #:	

Client Name: ALS Environmental

Address: 34 Dogwood Lane
Middletown, PA 17057

Contact: Vanessa Badman

Phone#: (717) 944-5541

Project Name/#: UR115: 3029976

Bill To: ALS Environmental

TAT [ ] Normal-Standard TAT is 10-12 business days.
[X] Rush-Subject to ALS approval and surcharges.

Date Required: 5/6/2019 Approved By:

Email? [ ] -Y

Fax? [ ] -Y No.:

Container Type: AN
Container Size: 1 L
Preservative: None

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	680 (PCB Homologs)	*Report to the MDL, QC lab report needed, EQUIS EDD and BASIC EDD.	Enter Number of Containers Per Sample or Field Results Below.	Sample/COC Comments
1 3029976 001 (MS/MSD)	4/24/19	1520	G	WT	6	*		
2 3029976 003	4/24/19	1525	G	WT	2	*		Sub to ALS Rochester
3 3029976 004	4/24/19	1600	G	WT	2	*		
4 3029976 006	4/25/19	1000	G	WT	1	*		
5 3029976 007	4/25/19	1055	G	WT	2	*		
6 3029976 008	4/25/19	0945	G	WT	2	*		
7 3029976 009	4/25/19	1015	G	WT	2	*		
8 3029976 010	4/25/19	0905	G	WT	2	*		
9 3029976 012	4/25/19	0925	G	WT	2	*		
10 3029976 013	4/25/19	0850	G	WT	2	*		

Receipt Information (completed by Receiving Lab)

Cooler Temp: ____ Therm ID: ____

No. of Coolers: ____

	Y	N	Initial
Custody Seals Present?			
(if present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. in Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

R1903709 5
ALS Environmental
UR116: 3029976

ALS Field Services: [ ] Pickup [ ] Labor
[ ] Composite Sampling [ ] Rental Equipment
[ ] Other:

Project Comments:

LOGGED BY(signature): DATE TIME

REVIEWED BY(signature): DATE TIME

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1	4-26-19	1500	2 ALS	4/30/19	09:00
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [ ] Standard [X] CLP-like [ ] USACE

Special Processing: USACE [ ] Navy [ ]

State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] NC [X] MD

Reportable to PADEP? Yes [ ]
PWSID #

Sample Disposal: Lab [X] Special [ ]

EDDS: Format Type- EQUIS EDD/BASIC EDD

* G=Grab; C=Composite **Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057

Rev 8/04

ALS Environmental

34 Dogwood Lane • Middletown, PA 17057 • 717.944.5541 • Fax: 717.944.1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS

COC #:	2 of 2
ALS Quote #:	

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Client Name: ALS Environmental

Address: 34 Dogwood Lane
Middletown, PA 17057

Contact: Vanessa Badman

Phone#: (717) 944-5541

Project Name/#: UR115: 3029976

Bill To: ALS Environmental

TAT [ ] Normal-Standard TAT is 10-12 business days.
[X] Rush-Subject to ALS approval and surcharges.

Date Required: 5/6/2019 Approved By:

Email? [ ] Y

Fax? [ ] Y No.:

	Container Type	AN
	Container Size	1 L
	Preservative	None

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	680 (PCB Homologs)	*Report to the MDL, QC lab report needed. EQUIS EDD and BASIC EDD.
					Enter Number of Containers Per Sample or Field Results Below.	
11 3029976 014	4/25/19	0820	G	WT	2	
12						
13						
14						
15						
16						
17						
18						
19						
20						

Receipt Information (completed by Receiving Lab)

Cooler Temp: ____ Therm ID: ____

No. of Coolers: ____

	Y	N	Initial
Custody Seals Present?			
(if present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. in Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

Sample/COC Comments

Sub to ALS Rochester

R1903709 5
ALS Environmental
UR115: 3029976

ALS Field Services: [ ] Pickup [ ] Labor
[ ] Composite Sampling [ ] Rental Equipment
[ ] Other:

Project Comments:

LOGGED BY(signature): DATE: TIME:

REVIEWED BY(signature): DATE: TIME:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1	4-26-19	1500	2 ALS	4/27/19	09:00
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [ ] Standard [X] CLP-like [ ] USACE [ ]

Special Processing: USACE [ ] Navy [ ] [ ]

Reportable to PADEP? Yes [ ] PWSID #

Sample Disposal: Lab [X] Special [ ]

State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] NC [X] MD

EDDS: Format Type- EQUIS EDD/BASIC EDD

* G=Grab; C=Composite **Matrix - Al=Air; DW=Drinking Water; GW=Groundwater; Of=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057

Rev 8/04

R1903709 5

ALS Environmental
UR116: 3029976

Cooler Receipt and Preservation Check Form

Project/Client ALS- Middletown Folder Number R1903709

Cooler received on 4-27-19 by: KE

COURIER: ALS UPS (FEDEX) VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	Y (N)	
2	**Custody papers** properly completed (ink, signed)?	(Y) N	
3	Did all bottles arrive in good **condition** (unbroken)?	Y N	
4	Circle: **Wet Ice Dry Ice Gel packs** present?	(Y) N	
5a	**Perchlorate** samples have required headspace?	Y N (NA)	
5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y N (NA)	
6	Where did the bottles originate?	ALS/ROC (CLIENT)	
7	Soil VOA received as:	Bulk Encore 5035set (NA)	

8. Temperature Readings Date: 4-27-19 Time: 09:25 ID: IR#7 (IR#10) From: Temp Blank (Sample Bottle)

Observed Temp (°C)	3.6	4.3	2.6	3.2	3.5	2.1	
Correction Factor (°C)	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	
Corrected Temp (°C)	3.4	4.1	2.4	3.6	3.3	1.9	
Temp from: Type of bottle	1/4AmberA						
Within 0-6°C?	(Y) N	(Y) N	(Y) N	(Y) N	(Y) N	(Y) N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-002 by KE on 4-27-19 at _____
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown/Preservation Check**: Date: 4-27-19 Time: 10:20 by: KE

9.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(YES)	NO
10.	Did all bottle labels and tags agree with custody papers?	(YES)	NO
11.	Were correct containers used for the tests indicated?	(YES)	NO
12.	Were 5035 vials acceptable (no extra labels, not leaking)?	YES	NO (N/A)
13.	Air Samples: Cassettes / Tubes Intact with MS? Canisters Pressurized	Tedlar® Bags Inflated	(N/A)

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-						
		HCl	**	**						

**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives)

Bottle lot numbers: Client Bottles

Explain all Discrepancies/ Other Comments:

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

Labels secondary reviewed by: KE

PC Secondary Review: [signature] 4/29/19

*significant air bubbles: VOA > 5-6 mm ; WC > 1 in. diameter

Miscellaneous Forms

ALS Environmental Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

ACCREDITED IN ACCORDANCE WITH nelac

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	Pennsylvania ID# 68-786
Delaware Approved	New Hampshire ID # 2941	Rhode Island ID # 158
DoD ELAP #65817	New York ID # 10145	Virginia #460167
Florida ID # E87674	North Carolina #676	

[1] Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL

Client: ALS Environmental - US
Project: UR115: 3029976/
Service Request: R1903709

Sample Name: 3029976 001
Lab Code: R1903709-001
Sample Matrix: Water
Date Collected: 04/24/19
Date Received: 04/27/19

Analysis Method	Extracted/Digested By	Analyzed By
680	BALLGEIER	JMISIUREWICZ

Sample Name: 3029976 003
Lab Code: R1903709-002
Sample Matrix: Water
Date Collected: 04/24/19
Date Received: 04/27/19

Analysis Method	Extracted/Digested By	Analyzed By
680	BALLGEIER	JMISIUREWICZ

Sample Name: 3029976 004
Lab Code: R1903709-003
Sample Matrix: Water
Date Collected: 04/24/19
Date Received: 04/27/19

Analysis Method	Extracted/Digested By	Analyzed By
680	BALLGEIER	JMISIUREWICZ

Sample Name: 3029976 006
Lab Code: R1903709-004
Sample Matrix: Water
Date Collected: 04/25/19
Date Received: 04/27/19

Analysis Method	Extracted/Digested By	Analyzed By
680	BALLGEIER	JMISIUREWICZ

Sample Name: 3029976 007
Lab Code: R1903709-005
Sample Matrix: Water
Date Collected: 04/25/19
Date Received: 04/27/19

Analysis Method	Extracted/Digested By	Analyzed By
680	BALLGEIER	JMISIUREWICZ

Client: ALS Environmental - US
Project: UR115: 3029976/
Service Request: R1903709

Sample Name: 3029976 008
Lab Code: R1903709-006
Sample Matrix: Water
Date Collected: 04/25/19
Date Received: 04/27/19

Analysis Method	Extracted/Digested By	Analyzed By
680	BALLGEIER	JMISIUREWICZ

Sample Name: 3029976 009
Lab Code: R1903709-007
Sample Matrix: Water
Date Collected: 04/25/19
Date Received: 04/27/19

Analysis Method	Extracted/Digested By	Analyzed By
680	BALLGEIER	JMISIUREWICZ

Sample Name: 3029976 010
Lab Code: R1903709-008
Sample Matrix: Water
Date Collected: 04/25/19
Date Received: 04/27/19

Analysis Method	Extracted/Digested By	Analyzed By
680	BALLGEIER	JMISIUREWICZ

Sample Name: 3029976 012
Lab Code: R1903709-009
Sample Matrix: Water
Date Collected: 04/25/19
Date Received: 04/27/19

Analysis Method	Extracted/Digested By	Analyzed By
680	BALLGEIER	JMISIUREWICZ

Sample Name: 3029976 013
Lab Code: R1903709-010
Sample Matrix: Water
Date Collected: 04/25/19
Date Received: 04/27/19

Analysis Method	Extracted/Digested By	Analyzed By
680	BALLGEIER	JMISIUREWICZ

Analyst Summary report

Client:	ALS Environmental - US	**Service Request:**	R1903709
Project:	UR115: 3029976/		

Sample Name:	3029976 014	**Date Collected:**	04/25/19
Lab Code:	R1903709-011	**Date Received:**	04/27/19
Sample Matrix:	Water		

Analysis Method	**Extracted/Digested By**	**Analyzed By**
680	BALLGEIER	JMISIUREWICZ

INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-C
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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Semivolatile Organic Compounds by GC/MS

ALS Environmental Rochester Laboratory
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Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client:	ALS Environmental - US	**Service Request:**	R1903709
Project:	UR115: 3029976	**Date Collected:**	04/24/19 15:20
Sample Matrix:	Water	**Date Received:**	04/27/19 10:00
Sample Name:	3029976 001	**Units:**	ug/L
Lab Code:	R1903709-001	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.026	0.012	1	04/30/19 10:35	4/28/19	
Dichlorobiphenyls, Total	**0.0042 J**	0.0052	0.0024	1	04/30/19 10:35	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.016	0.0043	1	04/30/19 10:35	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.010	0.0029	1	04/30/19 10:35	4/28/19	
Monochlorobiphenyls, Total	ND U	0.0052	0.0029	1	04/30/19 10:35	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.021	0.0078	1	04/30/19 10:35	4/28/19	
Octachlorobiphenyls, Total	ND U	0.016	0.0050	1	04/30/19 10:35	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.010	0.0017	1	04/30/19 10:35	4/28/19	
Tetrachlorobiphenyls, Total	ND U	0.010	0.0032	1	04/30/19 10:35	4/28/19	
Trichlorobiphenyls, Total	ND U	0.0052	0.0012	1	04/30/19 10:35	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	32	46 - 130	04/30/19 10:35	
4,4'-DDT	57	30 - 194	04/30/19 10:35	

Client:	ALS Environmental - US	**Service Request:**	R1903709
Project:	UR115: 3029976	**Date Collected:**	04/24/19 15:25
Sample Matrix:	Water	**Date Received:**	04/27/19 10:00
Sample Name:	3029976 003	**Units:**	ug/L
Lab Code:	R1903709-002	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.027	0.012	1	04/30/19 11:04	4/28/19	
Dichlorobiphenyls, Total	**0.0048 J**	0.0054	0.0025	1	04/30/19 11:04	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.016	0.0045	1	04/30/19 11:04	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.011	0.0030	1	04/30/19 11:04	4/28/19	
Monochlorobiphenyls, Total	ND U	0.0054	0.0030	1	04/30/19 11:04	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.022	0.0080	1	04/30/19 11:04	4/28/19	
Octachlorobiphenyls, Total	ND U	0.016	0.0052	1	04/30/19 11:04	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.011	0.0018	1	04/30/19 11:04	4/28/19	
Tetrachlorobiphenyls, Total	ND U	0.011	0.0033	1	04/30/19 11:04	4/28/19	
Trichlorobiphenyls, Total	ND U	0.0054	0.0012	1	04/30/19 11:04	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	74	46 - 130	04/30/19 11:04	
4,4'-DDT	58	30 - 194	04/30/19 11:04	

Client:	ALS Environmental - US	**Service Request:**	R1903709
Project:	UR115: 3029976	**Date Collected:**	04/24/19 16:00
Sample Matrix:	Water	**Date Received:**	04/27/19 10:00
Sample Name:	3029976 004	**Units:**	ug/L
Lab Code:	R1903709-003	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.026	0.012	1	04/30/19 13:00	4/28/19	
Dichlorobiphenyls, Total	**0.0068**	0.0053	J 0.0025	1	04/30/19 13:00	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.016	J 0.0044	1	04/30/19 13:00	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.011	J 0.0029	1	04/30/19 13:00	4/28/19	
Monochlorobiphenyls, Total	ND U	0.0053	J 0.0029	1	04/30/19 13:00	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.021	J 0.0078	1	04/30/19 13:00	4/28/19	
Octachlorobiphenyls, Total	ND U	0.016	J 0.0051	1	04/30/19 13:00	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.011	J 0.0017	1	04/30/19 13:00	4/28/19	
Tetrachlorobiphenyls, Total	ND U	0.011	J 0.0032	1	04/30/19 13:00	4/28/19	
Trichlorobiphenyls, Total	ND U	0.0053	J 0.0012	1	04/30/19 13:00	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	77	46 - 130	04/30/19 13:00	
4,4'-DDT	37	30 - 194	04/30/19 13:00	

Client:	ALS Environmental - US	**Service Request:**	R1903709
Project:	UR115: 3029976	**Date Collected:**	04/25/19 10:00
Sample Matrix:	Water	**Date Received:**	04/27/19 10:00
Sample Name:	3029976 006	**Units:**	ug/L
Lab Code:	R1903709-004	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.024	0.011	1	04/29/19 13:48	4/28/19	
Dichlorobiphenyls, Total	**0.021**	0.0047	0.0023	1	04/29/19 13:48	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.014	0.0041	1	04/29/19 13:48	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.0094	0.0027	1	04/29/19 13:48	4/28/19	
Monochlorobiphenyls, Total	**0.024**	0.0047	0.0027	1	04/29/19 13:48	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.019	0.0074	1	04/29/19 13:48	4/28/19	
Octachlorobiphenyls, Total	ND U	0.014	0.0048	1	04/29/19 13:48	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.0094	0.0016	1	04/29/19 13:48	4/28/19	
Tetrachlorobiphenyls, Total	**0.039**	0.0094	0.0030	1	04/29/19 13:48	4/28/19	
Trichlorobiphenyls, Total	**0.015**	0.0047	0.0011	1	04/29/19 13:48	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	33	46 - 130	04/29/19 13:48	
4,4'-DDT	93	30 - 194	04/29/19 13:48	

Client:	ALS Environmental - US	**Service Request:**	R1903709
Project:	UR115: 3029976	**Date Collected:**	04/25/19 10:55
Sample Matrix:	Water	**Date Received:**	04/27/19 10:00
Sample Name:	3029976 007	**Units:**	ug/L
Lab Code:	R1903709-005	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.024	0.011	1	04/29/19 14:17	4/28/19	
Dichlorobiphenyls, Total	ND U	0.0047	0.0023	1	04/29/19 14:17	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.014	0.0041	1	04/29/19 14:17	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.0094	0.0027	1	04/29/19 14:17	4/28/19	
Monochlorobiphenyls, Total	ND U	0.0047	0.0027	1	04/29/19 14:17	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.019	0.0074	1	04/29/19 14:17	4/28/19	
Octachlorobiphenyls, Total	ND U	0.014	0.0048	1	04/29/19 14:17	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.0094	0.0016	1	04/29/19 14:17	4/28/19	
Tetrachlorobiphenyls, Total	ND U	0.0094	0.0030	1	04/29/19 14:17	4/28/19	
Trichlorobiphenyls, Total	ND U	0.0047	0.0011	1	04/29/19 14:17	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	74	46 - 130	04/29/19 14:17	
4,4'-DDT	37	30 - 194	04/29/19 14:17	

Client:	ALS Environmental - US	**Service Request:**	R1903709
Project:	UR115: 3029976	**Date Collected:**	04/25/19 09:45
Sample Matrix:	Water	**Date Received:**	04/27/19 10:00
Sample Name:	3029976 008	**Units:**	ug/L
Lab Code:	R1903709-006	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.027	0.012	1	04/30/19 13:59	4/28/19	
Dichlorobiphenyls, Total	**0.0054 J**	0.0054	0.0025	1	04/30/19 13:59	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.016	0.0045	1	04/30/19 13:59	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.011	0.0030	1	04/30/19 13:59	4/28/19	
Monochlorobiphenyls, Total	ND U	0.0054	0.0030	1	04/30/19 13:59	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.022	0.0080	1	04/30/19 13:59	4/28/19	
Octachlorobiphenyls, Total	ND U	0.016	0.0052	1	04/30/19 13:59	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.011	0.0018	1	04/30/19 13:59	4/28/19	
Tetrachlorobiphenyls, Total	ND U	0.011	0.0033	1	04/30/19 13:59	4/28/19	
Trichlorobiphenyls, Total	ND U	0.0054	0.0012	1	04/30/19 13:59	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	80	46 - 130	04/30/19 13:59	
4,4'-DDT	34	30 - 194	04/30/19 13:59	

Client:	ALS Environmental - US	**Service Request:**	R1903709
Project:	UR115: 3029976	**Date Collected:**	04/25/19 10:15
Sample Matrix:	Water	**Date Received:**	04/27/19 10:00
Sample Name:	3029976 009	**Units:**	ug/L
Lab Code:	R1903709-007	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.027	0.012	1	05/01/19 10:54	4/28/19	
Dichlorobiphenyls, Total	**0.0065**	0.0054	0.0025	1	05/01/19 10:54	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.016	0.0045	1	05/01/19 10:54	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.011	0.0030	1	05/01/19 10:54	4/28/19	
Monochlorobiphenyls, Total	ND U	0.0054	0.0030	1	05/01/19 10:54	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.022	0.0080	1	05/01/19 10:54	4/28/19	
Octachlorobiphenyls, Total	ND U	0.016	0.0052	1	05/01/19 10:54	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.011	0.0018	1	05/01/19 10:54	4/28/19	
Tetrachlorobiphenyls, Total	ND U	0.011	0.0033	1	05/01/19 10:54	4/28/19	
Trichlorobiphenyls, Total	ND U	0.0054	0.0012	1	05/01/19 10:54	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	80	46 - 130	05/01/19 10:54	
4,4'-DDT	40	30 - 194	05/01/19 10:54	

Client:	ALS Environmental - US	**Service Request:**	R1903709
Project:	UR115: 3029976	**Date Collected:**	04/25/19 09:05
Sample Matrix:	Water	**Date Received:**	04/27/19 10:00
Sample Name:	3029976 010	**Units:**	ug/L
Lab Code:	R1903709-008	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.026	0.012	1	04/30/19 15:25	4/28/19	
Dichlorobiphenyls, Total	**0.0032 J**	0.0053	0.0025	1	04/30/19 15:25	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.016	0.0044	1	04/30/19 15:25	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.011	0.0029	1	04/30/19 15:25	4/28/19	
Monochlorobiphenyls, Total	ND U	0.0053	0.0029	1	04/30/19 15:25	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.021	0.0078	1	04/30/19 15:25	4/28/19	
Octachlorobiphenyls, Total	ND U	0.016	0.0051	1	04/30/19 15:25	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.011	0.0017	1	04/30/19 15:25	4/28/19	
Tetrachlorobiphenyls, Total	ND U	0.011	0.0032	1	04/30/19 15:25	4/28/19	
Trichlorobiphenyls, Total	ND U	0.0053	0.0012	1	04/30/19 15:25	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	75	46 - 130	04/30/19 15:25	
4,4'-DDT	37	30 - 194	04/30/19 15:25	

Client:	ALS Environmental - US	**Service Request:**	R1903709
Project:	UR115: 3029976	**Date Collected:**	04/25/19 09:25
Sample Matrix:	Water	**Date Received:**	04/27/19 10:00
Sample Name:	3029976 012	**Units:**	ug/L
Lab Code:	R1903709-009	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.026	0.012	1	05/01/19 12:50	4/28/19	
Dichlorobiphenyls, Total	**0.0042 J**	0.0053	0.0025	1	05/01/19 12:50	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.016	0.0044	1	05/01/19 12:50	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.011	0.0029	1	05/01/19 12:50	4/28/19	
Monochlorobiphenyls, Total	ND U	0.0053	0.0029	1	05/01/19 12:50	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.021	0.0078	1	05/01/19 12:50	4/28/19	
Octachlorobiphenyls, Total	ND U	0.016	0.0051	1	05/01/19 12:50	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.011	0.0017	1	05/01/19 12:50	4/28/19	
Tetrachlorobiphenyls, Total	ND U	0.011	0.0032	1	05/01/19 12:50	4/28/19	
Trichlorobiphenyls, Total	ND U	0.0053	0.0012	1	05/01/19 12:50	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	33	46 - 130	05/01/19 12:50	
4,4'-DDT	35	30 - 194	05/01/19 12:50	

Client:	ALS Environmental - US	**Service Request:**	R1903709
Project:	UR115: 3029976	**Date Collected:**	04/25/19 08:50
Sample Matrix:	Water	**Date Received:**	04/27/19 10:00
Sample Name:	3029976 013	**Units:**	ug/L
Lab Code:	R1903709-010	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.027	0.012	1	05/01/19 13:49	4/28/19	
Dichlorobiphenyls, Total	**0.0048 J**	0.0054	0.0025	1	05/01/19 13:49	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.016	0.0045	1	05/01/19 13:49	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.011	0.0030	1	05/01/19 13:49	4/28/19	
Monochlorobiphenyls, Total	ND U	0.0054	0.0030	1	05/01/19 13:49	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.022	0.0080	1	05/01/19 13:49	4/28/19	
Octachlorobiphenyls, Total	ND U	0.016	0.0052	1	05/01/19 13:49	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.011	0.0018	1	05/01/19 13:49	4/28/19	
Tetrachlorobiphenyls, Total	ND U	0.011	0.0033	1	05/01/19 13:49	4/28/19	
Trichlorobiphenyls, Total	ND U	0.0054	0.0012	1	05/01/19 13:49	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	71	46 - 130	05/01/19 13:49	
4,4'-DDT	35	30 - 194	05/01/19 13:49	

Client:	ALS Environmental - US	**Service Request:**	R1903709
Project:	UR115: 3029976	**Date Collected:**	04/25/19 08:20
Sample Matrix:	Water	**Date Received:**	04/27/19 10:00
Sample Name:	3029976 014	**Units:**	ug/L
Lab Code:	R1903709-011	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.026	0.012	1	05/01/19 14:47	4/28/19	
Dichlorobiphenyls, Total	**0.0047 J**	0.0053	0.0025	1	05/01/19 14:47	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.016	0.0044	1	05/01/19 14:47	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.011	0.0029	1	05/01/19 14:47	4/28/19	
Monochlorobiphenyls, Total	ND U	0.0053	0.0029	1	05/01/19 14:47	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.021	0.0078	1	05/01/19 14:47	4/28/19	
Octachlorobiphenyls, Total	ND U	0.016	0.0051	1	05/01/19 14:47	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.011	0.0017	1	05/01/19 14:47	4/28/19	
Tetrachlorobiphenyls, Total	ND U	0.011	0.0032	1	05/01/19 14:47	4/28/19	
Trichlorobiphenyls, Total	ND U	0.0053	0.0012	1	05/01/19 14:47	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	73	46 - 130	05/01/19 14:47	
4,4'-DDT	30	30 - 194	05/01/19 14:47	

QC Summary Forms

ALS Environmental Rochester Laboratory
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Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ALS Environmental - US **Service Request:** R1903709

Project: UR115: 3029976

Sample Matrix: Water

SURROGATE RECOVERY SUMMARY

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680

Extraction Method: EPA 3510C

Sample Name	Lab Code	gamma-BHC (Lindane) 46-130	4,4'-DDT 30-194
3029976 001	R1903709-001	82	67
3029976 003	R1903709-002	74	58
3029976 004	R1903709-003	77	37
3029976 006	R1903709-004	83	93
3029976 007	R1903709-005	74	87
3029976 008	R1903709-006	80	34
3029976 009	R1903709-007	80	40
3029976 010	R1903709-008	75	37
3029976 012	R1903709-009	83	35
3029976 013	R1903709-010	71	35
3029976 014	R1903709-011	73	30
Method Blank	RQ1903856-01	80	92
Lab Control Sample	RQ1903856-02	77	93
Duplicate Lab Control Sample	RQ1903856-03	77	86
3029976 001 MS	RQ1903856-04	87	77
3029976 001 DMS	RQ1903856-05	82	52

Client:	ALS Environmental - US	**Service Request:**	R1903709
Project:	UR115: 3029976	**Date Collected:**	04/24/19
Sample Matrix:	Water	**Date Received:**	04/27/19
		Date Analyzed:	05/1/19
		Date Extracted:	04/28/19

Duplicate Matrix Spike Summary
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Sample Name:	3029976 001	**Units:**	ug/L
Lab Code:	R1903709-001	**Basis:**	NA
Analysis Method:	680		
Prep Method:	EPA 3510C		

		Matrix Spike RQ1903856-04			Duplicate Matrix Spike RQ1903856-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Decachlorobiphenyl	ND U	1.13	1.36	83	1.22	1.36	90	10-112	8	30
Dichlorobiphenyls, Total	0.0042 J	0.213	0.272	77	0.202	0.272	73	31-119	5	30
Heptachlorobiphenyls, Total	ND U	0.574	0.815	70	0.567	0.815	70	17-118	1	30
Hexachlorobiphenyls, Total	ND U	0.394	0.543	73	0.415	0.543	76	11-160	5	30
Monochlorobiphenyls, Total	ND U	0.215	0.272	79	0.180	0.272	66	28-111	18	30
Octachlorobiphenyls, Total	ND U	0.620	0.815	76	0.602	0.815	74	11-115	3	30
Pentachlorobiphenyls, Total	ND U	0.393	0.543	72	0.422	0.543	78	10-180	7	30
Tetrachlorobiphenyls, Total	ND U	0.379	0.543	70	0.391	0.543	72	14-153	3	30
Trichlorobiphenyls, Total	ND U	0.204	0.272	75	0.207	0.272	76	10-173	2	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	ALS Environmental - US	**Service Request:**	R1903709
Project:	UR115: 3029976	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1903856-01	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.025	0.011	1	04/29/19 13:19	4/28/19	
Dichlorobiphenyls, Total	ND U	0.0050	0.0023	1	04/29/19 13:19	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.015	0.0041	1	04/29/19 13:19	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.010	0.0027	1	04/29/19 13:19	4/28/19	
Monochlorobiphenyls, Total	ND U	0.0050	0.0027	1	04/29/19 13:19	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.020	0.0074	1	04/29/19 13:19	4/28/19	
Octachlorobiphenyls, Total	ND U	0.015	0.0048	1	04/29/19 13:19	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.010	0.0016	1	04/29/19 13:19	4/28/19	
Tetrachlorobiphenyls, Total	ND U	0.010	0.0030	1	04/29/19 13:19	4/28/19	
Trichlorobiphenyls, Total	ND U	0.0050	0.0011	1	04/29/19 13:19	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	80	46 - 130	04/29/19 13:19	
4,4'-DDT	92	30 - 194	04/29/19 13:19	

Client: ALS Environmental - US
Project: UR115: 3029976
Sample Matrix: Water

Service Request: R1903709
Date Analyzed: 04/29/19

Duplicate Lab Control Sample Summary
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Units: ug/L
Basis: NA

		Lab Control Sample RQ1903856-02			Duplicate Lab Control Sample RQ1903856-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Decachlorobiphenyl	680	1.03	1.25	82	0.989	1.25	79	10-112	4	30
Dichlorobiphenyls, Total	680	0.170	0.250	68	0.170	0.250	68	31-119	<1	30
Heptachlorobiphenyls, Total	680	0.524	0.750	70	0.496	0.750	66	17-118	5	30
Hexachlorobiphenyls, Total	680	0.349	0.500	70	0.342	0.500	68	34-119	2	30
Monochlorobiphenyls, Total	680	0.156	0.250	62	0.157	0.250	63	28-111	<1	30
Octachlorobiphenyls, Total	680	0.566	0.750	75	0.547	0.750	73	11-115	4	30
Pentachlorobiphenyls, Total	680	0.357	0.500	71	0.348	0.500	70	33-120	3	30
Tetrachlorobiphenyls, Total	680	0.332	0.500	66	0.314	0.500	63	26-122	6	30
Trichlorobiphenyls, Total	680	0.173	0.250	69	0.174	0.250	70	30-121	<1	30

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May 6, 2019

Mr. Naoum Tavantzis
AECOM
7 St.Paul Street
16th Floor
Baltimore, MD 21202

Certificate of Analysis

Project Name:	**2018-MIDDLE RIVER COMPLEX**	Workorder:	**3029818**
Purchase Order:	**95840ACM**	Workorder ID:	**LMC MRC / 95840ACM**

Dear Mr. Tavantzis:

Enclosed are the analytical results for samples received by the laboratory on Wednesday, April 24, 2019.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Mrs. Vanessa N Badman (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Mr. Zachary Neigh , Ms. Holly Brown , Mr. Ravi Damera , Ms. Victoria Kirkpatrick

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

SAMPLE SUMMARY

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3029818001	MRC-SW2A-042419	Water	4/24/2019 10:40	4/24/2019 21:30	Collected by Client
3029818002	MRC-SW1A-042419	Water	4/24/2019 10:15	4/24/2019 21:30	Collected by Client
3029818003	MRC-SW5B-S-042419	Water	4/24/2019 11:20	4/24/2019 21:30	Collected by Client
3029818004	MRC-SW5A1-S-042419	Water	4/24/2019 11:45	4/24/2019 21:30	Collected by Client
3029818005	MRC-SW5A2-S-042419	Water	4/24/2019 12:00	4/24/2019 21:30	Collected by Client
3029818006	TB-042419-1	Water	4/24/2019 21:30	4/24/2019 21:30	Collected by Client
3029818007	MRC-SW11B-S-042419	Water	4/24/2019 14:00	4/24/2019 21:30	Collected by Client
3029818008	MRC-SW13A-S-042419	Water	4/24/2019 13:00	4/24/2019 21:30	Collected by Client
3029818009	MRC-SW12A-S-042419	Water	4/24/2019 13:20	4/24/2019 21:30	Collected by Client
3029818010	MRC-SW11A-S-0424219	Water	4/24/2019 13:35	4/24/2019 21:30	Collected by Client
3029818011	TB-042419-2	Water	4/24/2019 21:30	4/24/2019 21:30	Collected by Client
3029818012	MRC-SW18A-S-042419	Water	4/24/2019 12:45	4/24/2019 21:30	Collected by Client
3029818013	MRC-SW16A-S-042419	Water	4/24/2019 14:35	4/24/2019 21:30	Collected by Client
3029818014	MRC-SW15A-S-042419	Water	4/24/2019 14:20	4/24/2019 21:30	Collected by Client
3029818015	TB-042419-3	Water	4/24/2019 21:30	4/24/2019 21:30	Collected by Client

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SAMPLE SUMMARY

Workorder: 3029818 LMC MRC / 95840ACM

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
-- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

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PROJECT SUMMARY

Workorder: 3029818 LMC MRC / 95840ACM

Workorder Comments

Please see attached subcontracting from ALS ROC. VNB 4/26/19

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818001** Date Collected: 4/24/2019 10:40 Matrix: Water

Sample ID: **MRC-SW2A-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	5.6J	J	ug/L	10.0	3.1	SW846 8260B		5/2/19 13:55	DD	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/2/19 13:55	DD	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 13:55	DD	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 13:55	DD	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 13:55	DD	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 13:55	DD	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/2/19 13:55	DD	A
Bromomethane	0.40J	J	ug/L	1.0	0.39	SW846 8260B		5/2/19 13:55	DD	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/2/19 13:55	DD	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/2/19 13:55	DD	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/2/19 13:55	DD	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/2/19 13:55	DD	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 13:55	DD	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 13:55	DD	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 13:55	DD	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/2/19 13:55	DD	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/2/19 13:55	DD	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 13:55	DD	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/2/19 13:55	DD	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/2/19 13:55	DD	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 13:55	DD	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 13:55	DD	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 13:55	DD	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 13:55	DD	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/2/19 13:55	DD	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/2/19 13:55	DD	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 13:55	DD	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/2/19 13:55	DD	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 13:55	DD	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 13:55	DD	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 13:55	DD	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/2/19 13:55	DD	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 13:55	DD	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 13:55	DD	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/2/19 13:55	DD	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 13:55	DD	A

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818001** Date Collected: 4/24/2019 10:40 Matrix: Water

Sample ID: **MRC-SW2A-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 13:55	DD	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 13:55	DD	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 13:55	DD	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 13:55	DD	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 13:55	DD	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 13:55	DD	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/2/19 13:55	DD	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 13:55	DD	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/2/19 13:55	DD	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/2/19 13:55	DD	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 13:55	DD	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/2/19 13:55	DD	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/2/19 13:55	DD	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/2/19 13:55	DD	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 13:55	DD	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/2/19 13:55	DD	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/2/19 13:55	DD	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 13:55	DD	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/2/19 13:55	DD	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/2/19 13:55	DD	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/2/19 13:55	DD	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 13:55	DD	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 13:55	DD	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/2/19 13:55	DD	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/2/19 13:55	DD	A
Tetrachloroethene	0.42J	J	ug/L	1.0	0.35	SW846 8260B		5/2/19 13:55	DD	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 13:55	DD	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/2/19 13:55	DD	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/2/19 13:55	DD	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/2/19 13:55	DD	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/2/19 13:55	DD	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 13:55	DD	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 13:55	DD	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 13:55	DD	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/2/19 13:55	DD	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 13:55	DD	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/2/19 13:55	DD	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/2/19 13:55	DD	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818001** Date Collected: 4/24/2019 10:40 Matrix: Water

Sample ID: **MRC-SW2A-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/2/19 13:55	DD	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/2/19 13:55	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	116		%	62 - 133		SW846 8260B			5/2/19 13:55	DD	A
4-Bromofluorobenzene (S)	103		%	79 - 114		SW846 8260B			5/2/19 13:55	DD	A
Dibromofluoromethane (S)	106		%	78 - 116		SW846 8260B			5/2/19 13:55	DD	A
Toluene-d8 (S)	102		%	76 - 127		SW846 8260B			5/2/19 13:55	DD	A
SEMIVOLATILE SIM											
1,4-Dioxane	0.039J	J	ug/L	0.11	0.020	8270 SIM	5/1/19 09:05	CAC	5/2/19 12:38	GEC	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	76.2		%	29 - 112		8270 SIM	5/1/19 09:05	CAC	5/2/19 12:38	GEC	C
Fluoranthene-d10 (S)	88.7		%	45 - 130		8270 SIM	5/1/19 09:05	CAC	5/2/19 12:38	GEC	C

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818002** Date Collected: 4/24/2019 10:15 Matrix: Water

Sample ID: **MRC-SW1A-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
VOLATILE ORGANICS										
Acetone	7.7J	J	ug/L	10.0	3.1	SW846 8260B		5/2/19 14:18	DD	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/2/19 14:18	DD	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 14:18	DD	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 14:18	DD	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 14:18	DD	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 14:18	DD	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/2/19 14:18	DD	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		5/2/19 14:18	DD	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/2/19 14:18	DD	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/2/19 14:18	DD	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/2/19 14:18	DD	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/2/19 14:18	DD	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 14:18	DD	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 14:18	DD	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 14:18	DD	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/2/19 14:18	DD	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/2/19 14:18	DD	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 14:18	DD	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/2/19 14:18	DD	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/2/19 14:18	DD	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 14:18	DD	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 14:18	DD	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 14:18	DD	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 14:18	DD	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/2/19 14:18	DD	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/2/19 14:18	DD	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 14:18	DD	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/2/19 14:18	DD	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 14:18	DD	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 14:18	DD	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 14:18	DD	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/2/19 14:18	DD	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 14:18	DD	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 14:18	DD	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/2/19 14:18	DD	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 14:18	DD	A

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818002** Date Collected: 4/24/2019 10:15 Matrix: Water

Sample ID: **MRC-SW1A-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 14:18	DD	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 14:18	DD	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 14:18	DD	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 14:18	DD	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 14:18	DD	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 14:18	DD	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/2/19 14:18	DD	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 14:18	DD	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/2/19 14:18	DD	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/2/19 14:18	DD	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 14:18	DD	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/2/19 14:18	DD	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/2/19 14:18	DD	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/2/19 14:18	DD	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 14:18	DD	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/2/19 14:18	DD	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/2/19 14:18	DD	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 14:18	DD	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/2/19 14:18	DD	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/2/19 14:18	DD	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/2/19 14:18	DD	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 14:18	DD	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 14:18	DD	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/2/19 14:18	DD	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/2/19 14:18	DD	A
Tetrachloroethene	0.40J	J	ug/L	1.0	0.35	SW846 8260B		5/2/19 14:18	DD	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 14:18	DD	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/2/19 14:18	DD	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/2/19 14:18	DD	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/2/19 14:18	DD	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/2/19 14:18	DD	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 14:18	DD	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 14:18	DD	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 14:18	DD	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/2/19 14:18	DD	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 14:18	DD	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/2/19 14:18	DD	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/2/19 14:18	DD	A

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818002** Date Collected: 4/24/2019 10:15 Matrix: Water

Sample ID: **MRC-SW1A-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/2/19 14:18	DD	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/2/19 14:18	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	114		%	62 - 133		SW846 8260B			5/2/19 14:18	DD	A
4-Bromofluorobenzene (S)	106		%	79 - 114		SW846 8260B			5/2/19 14:18	DD	A
Dibromofluoromethane (S)	103		%	78 - 116		SW846 8260B			5/2/19 14:18	DD	A
Toluene-d8 (S)	102		%	76 - 127		SW846 8260B			5/2/19 14:18	DD	A
SEMIVOLATILE SIM											
1,4-Dioxane	0.045J	J	ug/L	0.11	0.021	8270 SIM	5/1/19 09:05	CAC	5/2/19 13:13	GEC	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	82.2		%	29 - 112		8270 SIM	5/1/19 09:05	CAC	5/2/19 13:13	GEC	C
Fluoranthene-d10 (S)	91.4		%	45 - 130		8270 SIM	5/1/19 09:05	CAC	5/2/19 13:13	GEC	C

Vanessa N. Badman

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Project Coordinator

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818003** Date Collected: 4/24/2019 11:20 Matrix: Water

Sample ID: **MRC-SW5B-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	5.4J	J	ug/L	10.0	3.1	SW846 8260B		5/2/19 14:41	DD	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/2/19 14:41	DD	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 14:41	DD	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 14:41	DD	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 14:41	DD	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 14:41	DD	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/2/19 14:41	DD	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		5/2/19 14:41	DD	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/2/19 14:41	DD	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/2/19 14:41	DD	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/2/19 14:41	DD	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/2/19 14:41	DD	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 14:41	DD	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 14:41	DD	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 14:41	DD	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/2/19 14:41	DD	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/2/19 14:41	DD	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 14:41	DD	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/2/19 14:41	DD	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/2/19 14:41	DD	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 14:41	DD	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 14:41	DD	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 14:41	DD	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 14:41	DD	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/2/19 14:41	DD	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/2/19 14:41	DD	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 14:41	DD	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/2/19 14:41	DD	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 14:41	DD	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 14:41	DD	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 14:41	DD	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/2/19 14:41	DD	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 14:41	DD	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 14:41	DD	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/2/19 14:41	DD	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 14:41	DD	A

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818003** Date Collected: 4/24/2019 11:20 Matrix: Water

Sample ID: **MRC-SW5B-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 14:41	DD	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 14:41	DD	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 14:41	DD	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 14:41	DD	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 14:41	DD	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 14:41	DD	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/2/19 14:41	DD	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 14:41	DD	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/2/19 14:41	DD	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/2/19 14:41	DD	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 14:41	DD	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/2/19 14:41	DD	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/2/19 14:41	DD	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/2/19 14:41	DD	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 14:41	DD	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/2/19 14:41	DD	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/2/19 14:41	DD	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 14:41	DD	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/2/19 14:41	DD	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/2/19 14:41	DD	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/2/19 14:41	DD	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 14:41	DD	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 14:41	DD	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/2/19 14:41	DD	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/2/19 14:41	DD	A
Tetrachloroethene	0.39J	J	ug/L	1.0	0.35	SW846 8260B		5/2/19 14:41	DD	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 14:41	DD	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/2/19 14:41	DD	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/2/19 14:41	DD	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/2/19 14:41	DD	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/2/19 14:41	DD	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 14:41	DD	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 14:41	DD	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 14:41	DD	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/2/19 14:41	DD	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 14:41	DD	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/2/19 14:41	DD	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/2/19 14:41	DD	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818003** Date Collected: 4/24/2019 11:20 Matrix: Water

Sample ID: **MRC-SW5B-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/2/19 14:41	DD	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/2/19 14:41	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	115		%	62 - 133		SW846 8260B			5/2/19 14:41	DD	A
4-Bromofluorobenzene (S)	107		%	79 - 114		SW846 8260B			5/2/19 14:41	DD	A
Dibromofluoromethane (S)	106		%	78 - 116		SW846 8260B			5/2/19 14:41	DD	A
Toluene-d8 (S)	103		%	76 - 127		SW846 8260B			5/2/19 14:41	DD	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See attached.					Subcontract			4/24/19 11:20	SUB	B

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818004** Date Collected: 4/24/2019 11:45 Matrix: Water

Sample ID: **MRC-SW5A1-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
VOLATILE ORGANICS										
Acetone	5.8J	J	ug/L	10.0	3.1	SW846 8260B		5/2/19 15:04	DD	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/2/19 15:04	DD	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 15:04	DD	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 15:04	DD	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 15:04	DD	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 15:04	DD	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/2/19 15:04	DD	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		5/2/19 15:04	DD	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/2/19 15:04	DD	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/2/19 15:04	DD	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/2/19 15:04	DD	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/2/19 15:04	DD	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 15:04	DD	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 15:04	DD	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 15:04	DD	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/2/19 15:04	DD	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/2/19 15:04	DD	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 15:04	DD	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/2/19 15:04	DD	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/2/19 15:04	DD	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 15:04	DD	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 15:04	DD	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 15:04	DD	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 15:04	DD	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/2/19 15:04	DD	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/2/19 15:04	DD	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 15:04	DD	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/2/19 15:04	DD	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 15:04	DD	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 15:04	DD	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 15:04	DD	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/2/19 15:04	DD	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 15:04	DD	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 15:04	DD	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/2/19 15:04	DD	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 15:04	DD	A

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818004** Date Collected: 4/24/2019 11:45 Matrix: Water

Sample ID: **MRC-SW5A1-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 15:04	DD	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 15:04	DD	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 15:04	DD	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 15:04	DD	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 15:04	DD	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 15:04	DD	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/2/19 15:04	DD	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 15:04	DD	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/2/19 15:04	DD	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/2/19 15:04	DD	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 15:04	DD	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/2/19 15:04	DD	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/2/19 15:04	DD	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/2/19 15:04	DD	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 15:04	DD	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/2/19 15:04	DD	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/2/19 15:04	DD	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 15:04	DD	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/2/19 15:04	DD	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/2/19 15:04	DD	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/2/19 15:04	DD	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 15:04	DD	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 15:04	DD	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/2/19 15:04	DD	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/2/19 15:04	DD	A
Tetrachloroethene	0.40J	J	ug/L	1.0	0.35	SW846 8260B		5/2/19 15:04	DD	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 15:04	DD	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/2/19 15:04	DD	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/2/19 15:04	DD	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/2/19 15:04	DD	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/2/19 15:04	DD	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 15:04	DD	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 15:04	DD	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 15:04	DD	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/2/19 15:04	DD	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 15:04	DD	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/2/19 15:04	DD	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/2/19 15:04	DD	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818004** Date Collected: 4/24/2019 11:45 Matrix: Water

Sample ID: **MRC-SW5A1-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/2/19 15:04	DD	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/2/19 15:04	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	115		%	62 - 133		SW846 8260B			5/2/19 15:04	DD	A
4-Bromofluorobenzene (S)	105		%	79 - 114		SW846 8260B			5/2/19 15:04	DD	A
Dibromofluoromethane (S)	105		%	78 - 116		SW846 8260B			5/2/19 15:04	DD	A
Toluene-d8 (S)	105		%	76 - 127		SW846 8260B			5/2/19 15:04	DD	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See attached.					Subcontract			4/24/19 11:45	SUB	B

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818005** Date Collected: 4/24/2019 12:00 Matrix: Water

Sample ID: **MRC-SW5A2-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	5.5J	J	ug/L	10.0	3.1	SW846 8260B		5/2/19 15:28	DD	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/2/19 15:28	DD	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 15:28	DD	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 15:28	DD	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 15:28	DD	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 15:28	DD	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/2/19 15:28	DD	A
Bromomethane	0.55J	J	ug/L	1.0	0.39	SW846 8260B		5/2/19 15:28	DD	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/2/19 15:28	DD	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/2/19 15:28	DD	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/2/19 15:28	DD	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/2/19 15:28	DD	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 15:28	DD	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 15:28	DD	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 15:28	DD	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/2/19 15:28	DD	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/2/19 15:28	DD	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 15:28	DD	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/2/19 15:28	DD	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/2/19 15:28	DD	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 15:28	DD	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 15:28	DD	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 15:28	DD	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 15:28	DD	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/2/19 15:28	DD	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/2/19 15:28	DD	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 15:28	DD	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/2/19 15:28	DD	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 15:28	DD	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 15:28	DD	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 15:28	DD	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/2/19 15:28	DD	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 15:28	DD	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 15:28	DD	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/2/19 15:28	DD	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 15:28	DD	A

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818005** Date Collected: 4/24/2019 12:00 Matrix: Water

Sample ID: **MRC-SW5A2-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 15:28	DD	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 15:28	DD	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 15:28	DD	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 15:28	DD	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 15:28	DD	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 15:28	DD	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/2/19 15:28	DD	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 15:28	DD	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/2/19 15:28	DD	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/2/19 15:28	DD	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 15:28	DD	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/2/19 15:28	DD	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/2/19 15:28	DD	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/2/19 15:28	DD	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 15:28	DD	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/2/19 15:28	DD	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/2/19 15:28	DD	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 15:28	DD	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/2/19 15:28	DD	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/2/19 15:28	DD	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/2/19 15:28	DD	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 15:28	DD	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 15:28	DD	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/2/19 15:28	DD	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/2/19 15:28	DD	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/2/19 15:28	DD	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 15:28	DD	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/2/19 15:28	DD	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/2/19 15:28	DD	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/2/19 15:28	DD	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/2/19 15:28	DD	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 15:28	DD	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 15:28	DD	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 15:28	DD	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/2/19 15:28	DD	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 15:28	DD	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/2/19 15:28	DD	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/2/19 15:28	DD	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818005** Date Collected: 4/24/2019 12:00 Matrix: Water

Sample ID: **MRC-SW5A2-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/2/19 15:28	DD	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/2/19 15:28	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	114		%	62 - 133		SW846 8260B			5/2/19 15:28	DD	A
4-Bromofluorobenzene (S)	104		%	79 - 114		SW846 8260B			5/2/19 15:28	DD	A
Dibromofluoromethane (S)	105		%	78 - 116		SW846 8260B			5/2/19 15:28	DD	A
Toluene-d8 (S)	102		%	76 - 127		SW846 8260B			5/2/19 15:28	DD	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See attached.					Subcontract			4/24/19 12:00	SUB	B

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818006** Date Collected: 4/24/2019 21:30 Matrix: Water

Sample ID: **TB-042419-1** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND		ug/L	10.0	3.1	SW846 8260B		5/2/19 15:51	DD	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/2/19 15:51	DD	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 15:51	DD	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 15:51	DD	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 15:51	DD	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 15:51	DD	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/2/19 15:51	DD	A
Bromomethane	0.42J	J	ug/L	1.0	0.39	SW846 8260B		5/2/19 15:51	DD	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/2/19 15:51	DD	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/2/19 15:51	DD	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/2/19 15:51	DD	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/2/19 15:51	DD	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 15:51	DD	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 15:51	DD	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 15:51	DD	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/2/19 15:51	DD	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/2/19 15:51	DD	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 15:51	DD	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/2/19 15:51	DD	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/2/19 15:51	DD	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 15:51	DD	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 15:51	DD	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 15:51	DD	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 15:51	DD	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/2/19 15:51	DD	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/2/19 15:51	DD	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 15:51	DD	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/2/19 15:51	DD	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 15:51	DD	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 15:51	DD	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 15:51	DD	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/2/19 15:51	DD	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 15:51	DD	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 15:51	DD	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/2/19 15:51	DD	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 15:51	DD	A

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818006** Date Collected: 4/24/2019 21:30 Matrix: Water

Sample ID: **TB-042419-1** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 15:51	DD	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 15:51	DD	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 15:51	DD	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 15:51	DD	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 15:51	DD	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 15:51	DD	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/2/19 15:51	DD	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 15:51	DD	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/2/19 15:51	DD	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/2/19 15:51	DD	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 15:51	DD	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/2/19 15:51	DD	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/2/19 15:51	DD	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/2/19 15:51	DD	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 15:51	DD	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/2/19 15:51	DD	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/2/19 15:51	DD	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 15:51	DD	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/2/19 15:51	DD	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/2/19 15:51	DD	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/2/19 15:51	DD	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 15:51	DD	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 15:51	DD	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/2/19 15:51	DD	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/2/19 15:51	DD	A
Tetrachloroethene	0.35J	J	ug/L	1.0	0.35	SW846 8260B		5/2/19 15:51	DD	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 15:51	DD	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/2/19 15:51	DD	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/2/19 15:51	DD	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/2/19 15:51	DD	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/2/19 15:51	DD	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 15:51	DD	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 15:51	DD	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 15:51	DD	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/2/19 15:51	DD	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 15:51	DD	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/2/19 15:51	DD	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/2/19 15:51	DD	A

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ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818006** Date Collected: 4/24/2019 21:30 Matrix: Water

Sample ID: **TB-042419-1** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/2/19 15:51	DD	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/2/19 15:51	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	119		%	62 - 133		SW846 8260B			5/2/19 15:51	DD	A
4-Bromofluorobenzene (S)	109		%	79 - 114		SW846 8260B			5/2/19 15:51	DD	A
Dibromofluoromethane (S)	107		%	78 - 116		SW846 8260B			5/2/19 15:51	DD	A
Toluene-d8 (S)	105		%	76 - 127		SW846 8260B			5/2/19 15:51	DD	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818007** Date Collected: 4/24/2019 14:00 Matrix: Water

Sample ID: **MRC-SW11B-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	8.2J	J	ug/L	10.0	3.1	SW846 8260B		5/2/19 16:14	DD	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/2/19 16:14	DD	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 16:14	DD	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 16:14	DD	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 16:14	DD	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 16:14	DD	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/2/19 16:14	DD	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		5/2/19 16:14	DD	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/2/19 16:14	DD	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/2/19 16:14	DD	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/2/19 16:14	DD	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/2/19 16:14	DD	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 16:14	DD	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 16:14	DD	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 16:14	DD	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/2/19 16:14	DD	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/2/19 16:14	DD	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 16:14	DD	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/2/19 16:14	DD	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/2/19 16:14	DD	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 16:14	DD	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 16:14	DD	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 16:14	DD	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 16:14	DD	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/2/19 16:14	DD	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/2/19 16:14	DD	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 16:14	DD	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/2/19 16:14	DD	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 16:14	DD	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 16:14	DD	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 16:14	DD	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/2/19 16:14	DD	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 16:14	DD	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 16:14	DD	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/2/19 16:14	DD	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 16:14	DD	A

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818007** Date Collected: 4/24/2019 14:00 Matrix: Water

Sample ID: **MRC-SW11B-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 16:14	DD	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 16:14	DD	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 16:14	DD	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 16:14	DD	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 16:14	DD	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 16:14	DD	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/2/19 16:14	DD	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 16:14	DD	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/2/19 16:14	DD	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/2/19 16:14	DD	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 16:14	DD	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/2/19 16:14	DD	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/2/19 16:14	DD	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/2/19 16:14	DD	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 16:14	DD	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/2/19 16:14	DD	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/2/19 16:14	DD	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 16:14	DD	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/2/19 16:14	DD	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/2/19 16:14	DD	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/2/19 16:14	DD	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 16:14	DD	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 16:14	DD	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/2/19 16:14	DD	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/2/19 16:14	DD	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/2/19 16:14	DD	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 16:14	DD	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/2/19 16:14	DD	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/2/19 16:14	DD	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/2/19 16:14	DD	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/2/19 16:14	DD	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 16:14	DD	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 16:14	DD	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 16:14	DD	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/2/19 16:14	DD	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 16:14	DD	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/2/19 16:14	DD	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/2/19 16:14	DD	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818007** Date Collected: 4/24/2019 14:00 Matrix: Water
Sample ID: **MRC-SW11B-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/2/19 16:14	DD	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/2/19 16:14	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	118		%	62 - 133		SW846 8260B			5/2/19 16:14	DD	A
4-Bromofluorobenzene (S)	106		%	79 - 114		SW846 8260B			5/2/19 16:14	DD	A
Dibromofluoromethane (S)	106		%	78 - 116		SW846 8260B			5/2/19 16:14	DD	A
Toluene-d8 (S)	103		%	76 - 127		SW846 8260B			5/2/19 16:14	DD	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See attached.					Subcontract			4/24/19 14:00	SUB	C

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818008** Date Collected: 4/24/2019 13:00 Matrix: Water

Sample ID: **MRC-SW13A-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	9.3J	J	ug/L	10.0	3.1	SW846 8260B		5/2/19 16:38	DD	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/2/19 16:38	DD	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 16:38	DD	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 16:38	DD	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 16:38	DD	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 16:38	DD	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/2/19 16:38	DD	A
Bromomethane	0.60J	J	ug/L	1.0	0.39	SW846 8260B		5/2/19 16:38	DD	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/2/19 16:38	DD	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/2/19 16:38	DD	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/2/19 16:38	DD	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/2/19 16:38	DD	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 16:38	DD	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 16:38	DD	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 16:38	DD	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/2/19 16:38	DD	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/2/19 16:38	DD	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 16:38	DD	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/2/19 16:38	DD	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/2/19 16:38	DD	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 16:38	DD	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 16:38	DD	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 16:38	DD	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 16:38	DD	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/2/19 16:38	DD	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/2/19 16:38	DD	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 16:38	DD	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/2/19 16:38	DD	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 16:38	DD	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 16:38	DD	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 16:38	DD	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/2/19 16:38	DD	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 16:38	DD	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 16:38	DD	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/2/19 16:38	DD	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 16:38	DD	A

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818008** Date Collected: 4/24/2019 13:00 Matrix: Water

Sample ID: **MRC-SW13A-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 16:38	DD	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/2/19 16:38	DD	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 16:38	DD	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 16:38	DD	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/2/19 16:38	DD	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/2/19 16:38	DD	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/2/19 16:38	DD	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 16:38	DD	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/2/19 16:38	DD	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/2/19 16:38	DD	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/2/19 16:38	DD	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/2/19 16:38	DD	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/2/19 16:38	DD	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/2/19 16:38	DD	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/2/19 16:38	DD	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/2/19 16:38	DD	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/2/19 16:38	DD	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 16:38	DD	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/2/19 16:38	DD	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/2/19 16:38	DD	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/2/19 16:38	DD	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 16:38	DD	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 16:38	DD	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/2/19 16:38	DD	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/2/19 16:38	DD	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/2/19 16:38	DD	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/2/19 16:38	DD	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/2/19 16:38	DD	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/2/19 16:38	DD	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/2/19 16:38	DD	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/2/19 16:38	DD	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 16:38	DD	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/2/19 16:38	DD	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/2/19 16:38	DD	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/2/19 16:38	DD	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/2/19 16:38	DD	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/2/19 16:38	DD	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/2/19 16:38	DD	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818008** Date Collected: 4/24/2019 13:00 Matrix: Water

Sample ID: **MRC-SW13A-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/2/19 16:38	DD	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/2/19 16:38	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	117		%	62 - 133		SW846 8260B			5/2/19 16:38	DD	A
4-Bromofluorobenzene (S)	106		%	79 - 114		SW846 8260B			5/2/19 16:38	DD	A
Dibromofluoromethane (S)	107		%	78 - 116		SW846 8260B			5/2/19 16:38	DD	A
Toluene-d8 (S)	104		%	76 - 127		SW846 8260B			5/2/19 16:38	DD	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See attached.					Subcontract			4/24/19 13:00	SUB	C

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818009** Date Collected: 4/24/2019 13:20 Matrix: Water

Sample ID: **MRC-SW12A-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	5.3J	J	ug/L	10.0	3.1	SW846 8260B		5/3/19 23:22	PDK	B
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/3/19 23:22	PDK	B
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 23:22	PDK	B
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 23:22	PDK	B
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 23:22	PDK	B
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 23:22	PDK	B
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/3/19 23:22	PDK	B
Bromomethane	0.64J	J	ug/L	1.0	0.39	SW846 8260B		5/3/19 23:22	PDK	B
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/3/19 23:22	PDK	B
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/3/19 23:22	PDK	B
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 23:22	PDK	B
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/3/19 23:22	PDK	B
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 23:22	PDK	B
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 23:22	PDK	B
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 23:22	PDK	B
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 23:22	PDK	B
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 23:22	PDK	B
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 23:22	PDK	B
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/3/19 23:22	PDK	B
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/3/19 23:22	PDK	B
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 23:22	PDK	B
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 23:22	PDK	B
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 23:22	PDK	B
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 23:22	PDK	B
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/3/19 23:22	PDK	B
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 23:22	PDK	B
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 23:22	PDK	B
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/3/19 23:22	PDK	B
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 23:22	PDK	B
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 23:22	PDK	B
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 23:22	PDK	B
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 23:22	PDK	B
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 23:22	PDK	B
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 23:22	PDK	B
1,2-Dichloroethene, Total	1.1J	J	ug/L	2.0	0.45	SW846 8260B		5/3/19 23:22	PDK	B
cis-1,2-Dichloroethene	1.1		ug/L	1.0	0.32	SW846 8260B		5/3/19 23:22	PDK	B

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818009** Date Collected: 4/24/2019 13:20 Matrix: Water

Sample ID: **MRC-SW12A-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 23:22	PDK	B
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 23:22	PDK	B
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 23:22	PDK	B
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 23:22	PDK	B
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 23:22	PDK	B
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 23:22	PDK	B
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/3/19 23:22	PDK	B
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 23:22	PDK	B
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 23:22	PDK	B
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 23:22	PDK	B
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 23:22	PDK	B
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/3/19 23:22	PDK	B
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/3/19 23:22	PDK	B
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 23:22	PDK	B
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 23:22	PDK	B
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/3/19 23:22	PDK	B
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 23:22	PDK	B
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 23:22	PDK	B
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/3/19 23:22	PDK	B
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 23:22	PDK	B
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/3/19 23:22	PDK	B
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 23:22	PDK	B
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 23:22	PDK	B
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 23:22	PDK	B
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 23:22	PDK	B
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 23:22	PDK	B
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 23:22	PDK	B
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/3/19 23:22	PDK	B
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/3/19 23:22	PDK	B
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/3/19 23:22	PDK	B
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 23:22	PDK	B
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 23:22	PDK	B
Trichloroethene	4.2		ug/L	1.0	0.33	SW846 8260B		5/3/19 23:22	PDK	B
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 23:22	PDK	B
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 23:22	PDK	B
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 23:22	PDK	B
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/3/19 23:22	PDK	B
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 23:22	PDK	B

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818009** Date Collected: 4/24/2019 13:20 Matrix: Water

Sample ID: **MRC-SW12A-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/3/19 23:22	PDK	B
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/3/19 23:22	PDK	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	130		%	62 - 133		SW846 8260B			5/3/19 23:22	PDK	B
4-Bromofluorobenzene (S)	105		%	79 - 114		SW846 8260B			5/3/19 23:22	PDK	B
Dibromofluoromethane (S)	109		%	78 - 116		SW846 8260B			5/3/19 23:22	PDK	B
Toluene-d8 (S)	100		%	76 - 127		SW846 8260B			5/3/19 23:22	PDK	B
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See attached.					Subcontract			4/24/19 13:20	SUB	C

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818010** Date Collected: 4/24/2019 13:35 Matrix: Water

Sample ID: **MRC-SW11A-S-0424219** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	8.4J	J	ug/L	10.0	3.1	SW846 8260B		5/3/19 05:57	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/3/19 05:57	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 05:57	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 05:57	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 05:57	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 05:57	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/3/19 05:57	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		5/3/19 05:57	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/3/19 05:57	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/3/19 05:57	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 05:57	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/3/19 05:57	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 05:57	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 05:57	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 05:57	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 05:57	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 05:57	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 05:57	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/3/19 05:57	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/3/19 05:57	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 05:57	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 05:57	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 05:57	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 05:57	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/3/19 05:57	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 05:57	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 05:57	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/3/19 05:57	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 05:57	PDK	A
1,4-Dichlorobenzene	0.52J	J	ug/L	1.0	0.27	SW846 8260B		5/3/19 05:57	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 05:57	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 05:57	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 05:57	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 05:57	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/3/19 05:57	PDK	A
cis-1,2-Dichloroethene	0.33J	J	ug/L	1.0	0.32	SW846 8260B		5/3/19 05:57	PDK	A

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818010** Date Collected: 4/24/2019 13:35 Matrix: Water

Sample ID: **MRC-SW11A-S-0424219** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 05:57	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 05:57	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 05:57	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 05:57	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 05:57	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 05:57	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/3/19 05:57	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 05:57	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 05:57	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 05:57	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 05:57	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/3/19 05:57	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/3/19 05:57	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 05:57	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 05:57	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/3/19 05:57	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 05:57	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 05:57	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/3/19 05:57	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 05:57	PDK	A
Naphthalene	ND	1	ug/L	2.0	0.34	SW846 8260B		5/3/19 05:57	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 05:57	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 05:57	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 05:57	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 05:57	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 05:57	PDK	A
Toluene	0.27J	J	ug/L	1.0	0.23	SW846 8260B		5/3/19 05:57	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/3/19 05:57	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/3/19 05:57	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/3/19 05:57	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 05:57	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 05:57	PDK	A
Trichloroethene	1.4		ug/L	1.0	0.33	SW846 8260B		5/3/19 05:57	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 05:57	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 05:57	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 05:57	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/3/19 05:57	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 05:57	PDK	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818010** Date Collected: 4/24/2019 13:35 Matrix: Water

Sample ID: **MRC-SW11A-S-0424219** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/3/19 05:57	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/3/19 05:57	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	77.9		%	62 - 133		SW846 8260B			5/3/19 05:57	PDK	A
4-Bromofluorobenzene (S)	108		%	79 - 114		SW846 8260B			5/3/19 05:57	PDK	A
Dibromofluoromethane (S)	89.6		%	78 - 116		SW846 8260B			5/3/19 05:57	PDK	A
Toluene-d8 (S)	89.3		%	76 - 127		SW846 8260B			5/3/19 05:57	PDK	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See attached.					Subcontract			4/24/19 13:35	SUB	C

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818011** Date Collected: 4/24/2019 21:30 Matrix: Water

Sample ID: **TB-042419-2** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	6.8J	J	ug/L	10.0	3.1	SW846 8260B		5/3/19 06:44	PDK	B
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/3/19 06:44	PDK	B
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 06:44	PDK	B
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:44	PDK	B
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:44	PDK	B
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 06:44	PDK	B
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/3/19 06:44	PDK	B
Bromomethane	0.43J	J	ug/L	1.0	0.39	SW846 8260B		5/3/19 06:44	PDK	B
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/3/19 06:44	PDK	B
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/3/19 06:44	PDK	B
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 06:44	PDK	B
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/3/19 06:44	PDK	B
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 06:44	PDK	B
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 06:44	PDK	B
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 06:44	PDK	B
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 06:44	PDK	B
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 06:44	PDK	B
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:44	PDK	B
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/3/19 06:44	PDK	B
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/3/19 06:44	PDK	B
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 06:44	PDK	B
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 06:44	PDK	B
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:44	PDK	B
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 06:44	PDK	B
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/3/19 06:44	PDK	B
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 06:44	PDK	B
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 06:44	PDK	B
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/3/19 06:44	PDK	B
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 06:44	PDK	B
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 06:44	PDK	B
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:44	PDK	B
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 06:44	PDK	B
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:44	PDK	B
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 06:44	PDK	B
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/3/19 06:44	PDK	B
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:44	PDK	B

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818011** Date Collected: 4/24/2019 21:30 Matrix: Water

Sample ID: **TB-042419-2** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 06:44	PDK	B
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 06:44	PDK	B
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:44	PDK	B
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 06:44	PDK	B
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 06:44	PDK	B
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 06:44	PDK	B
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/3/19 06:44	PDK	B
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 06:44	PDK	B
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 06:44	PDK	B
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 06:44	PDK	B
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 06:44	PDK	B
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/3/19 06:44	PDK	B
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/3/19 06:44	PDK	B
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 06:44	PDK	B
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:44	PDK	B
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/3/19 06:44	PDK	B
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 06:44	PDK	B
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:44	PDK	B
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/3/19 06:44	PDK	B
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 06:44	PDK	B
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/3/19 06:44	PDK	B
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:44	PDK	B
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 06:44	PDK	B
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 06:44	PDK	B
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 06:44	PDK	B
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 06:44	PDK	B
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 06:44	PDK	B
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/3/19 06:44	PDK	B
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/3/19 06:44	PDK	B
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/3/19 06:44	PDK	B
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 06:44	PDK	B
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:44	PDK	B
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:44	PDK	B
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 06:44	PDK	B
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 06:44	PDK	B
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 06:44	PDK	B
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/3/19 06:44	PDK	B
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 06:44	PDK	B

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818011** Date Collected: 4/24/2019 21:30 Matrix: Water

Sample ID: **TB-042419-2** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/3/19 06:44	PDK	B
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/3/19 06:44	PDK	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	119		%	62 - 133		SW846 8260B			5/3/19 06:44	PDK	B
4-Bromofluorobenzene (S)	105		%	79 - 114		SW846 8260B			5/3/19 06:44	PDK	B
Dibromofluoromethane (S)	104		%	78 - 116		SW846 8260B			5/3/19 06:44	PDK	B
Toluene-d8 (S)	102		%	76 - 127		SW846 8260B			5/3/19 06:44	PDK	B

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818012** Date Collected: 4/24/2019 12:45 Matrix: Water

Sample ID: **MRC-SW18A-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND		ug/L	10.0	3.1	SW846 8260B		5/3/19 06:18	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/3/19 06:18	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 06:18	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:18	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:18	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 06:18	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/3/19 06:18	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		5/3/19 06:18	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/3/19 06:18	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/3/19 06:18	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 06:18	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/3/19 06:18	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 06:18	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 06:18	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 06:18	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 06:18	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 06:18	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:18	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/3/19 06:18	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/3/19 06:18	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 06:18	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 06:18	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:18	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 06:18	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/3/19 06:18	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 06:18	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 06:18	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/3/19 06:18	PDK	A
1,3-Dichlorobenzene	0.35J	J	ug/L	1.0	0.25	SW846 8260B		5/3/19 06:18	PDK	A
1,4-Dichlorobenzene	0.32J	J	ug/L	1.0	0.27	SW846 8260B		5/3/19 06:18	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:18	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 06:18	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:18	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 06:18	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/3/19 06:18	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:18	PDK	A

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818012** Date Collected: 4/24/2019 12:45 Matrix: Water

Sample ID: **MRC-SW18A-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 06:18	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 06:18	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:18	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 06:18	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 06:18	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 06:18	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/3/19 06:18	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 06:18	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 06:18	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 06:18	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 06:18	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/3/19 06:18	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/3/19 06:18	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 06:18	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:18	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/3/19 06:18	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 06:18	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:18	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/3/19 06:18	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 06:18	PDK	A
Naphthalene	ND	1	ug/L	2.0	0.34	SW846 8260B		5/3/19 06:18	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:18	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 06:18	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 06:18	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 06:18	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 06:18	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 06:18	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/3/19 06:18	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/3/19 06:18	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/3/19 06:18	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 06:18	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:18	PDK	A
Trichloroethene	0.86J	J	ug/L	1.0	0.33	SW846 8260B		5/3/19 06:18	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 06:18	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 06:18	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 06:18	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/3/19 06:18	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 06:18	PDK	A

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ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818012** Date Collected: 4/24/2019 12:45 Matrix: Water

Sample ID: **MRC-SW18A-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/3/19 06:18	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/3/19 06:18	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	80.2		%	62 - 133		SW846 8260B			5/3/19 06:18	PDK	A
4-Bromofluorobenzene (S)	116	2	%	79 - 114		SW846 8260B			5/3/19 06:18	PDK	A
Dibromofluoromethane (S)	95.7		%	78 - 116		SW846 8260B			5/3/19 06:18	PDK	A
Toluene-d8 (S)	97.4		%	76 - 127		SW846 8260B			5/3/19 06:18	PDK	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See attached.					Subcontract			4/24/19 12:45	SUB	C

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ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818013** Date Collected: 4/24/2019 14:35 Matrix: Water

Sample ID: **MRC-SW16A-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	6.5J	J	ug/L	10.0	3.1	SW846 8260B		5/3/19 06:38	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/3/19 06:38	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 06:38	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:38	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:38	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 06:38	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/3/19 06:38	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		5/3/19 06:38	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/3/19 06:38	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/3/19 06:38	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 06:38	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/3/19 06:38	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 06:38	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 06:38	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 06:38	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 06:38	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 06:38	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:38	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/3/19 06:38	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/3/19 06:38	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 06:38	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 06:38	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:38	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 06:38	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/3/19 06:38	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 06:38	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 06:38	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/3/19 06:38	PDK	A
1,3-Dichlorobenzene	0.27J	J	ug/L	1.0	0.25	SW846 8260B		5/3/19 06:38	PDK	A
1,4-Dichlorobenzene	0.30J	J	ug/L	1.0	0.27	SW846 8260B		5/3/19 06:38	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:38	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 06:38	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:38	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 06:38	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/3/19 06:38	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:38	PDK	A

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818013** Date Collected: 4/24/2019 14:35 Matrix: Water

Sample ID: **MRC-SW16A-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 06:38	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 06:38	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:38	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 06:38	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 06:38	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 06:38	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/3/19 06:38	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 06:38	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 06:38	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 06:38	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 06:38	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/3/19 06:38	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/3/19 06:38	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 06:38	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:38	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/3/19 06:38	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 06:38	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:38	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/3/19 06:38	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 06:38	PDK	A
Naphthalene	ND	1	ug/L	2.0	0.34	SW846 8260B		5/3/19 06:38	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:38	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 06:38	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 06:38	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 06:38	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 06:38	PDK	A
Toluene	0.25J	J	ug/L	1.0	0.23	SW846 8260B		5/3/19 06:38	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/3/19 06:38	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/3/19 06:38	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/3/19 06:38	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 06:38	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:38	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:38	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 06:38	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 06:38	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 06:38	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/3/19 06:38	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 06:38	PDK	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818013** Date Collected: 4/24/2019 14:35 Matrix: Water

Sample ID: **MRC-SW16A-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/3/19 06:38	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/3/19 06:38	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	82.5		%	62 - 133		SW846 8260B			5/3/19 06:38	PDK	A
4-Bromofluorobenzene (S)	112		%	79 - 114		SW846 8260B			5/3/19 06:38	PDK	A
Dibromofluoromethane (S)	95.7		%	78 - 116		SW846 8260B			5/3/19 06:38	PDK	A
Toluene-d8 (S)	94.4		%	76 - 127		SW846 8260B			5/3/19 06:38	PDK	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See attached.					Subcontract			4/24/19 14:35	SUB	C

Vanessa N. Badman

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Project Coordinator

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818014** Date Collected: 4/24/2019 14:20 Matrix: Water

Sample ID: **MRC-SW15A-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	10.6		ug/L	10.0	3.1	SW846 8260B		5/3/19 06:58	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/3/19 06:58	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 06:58	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:58	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:58	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 06:58	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/3/19 06:58	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		5/3/19 06:58	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/3/19 06:58	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		5/3/19 06:58	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 06:58	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/3/19 06:58	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 06:58	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 06:58	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 06:58	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 06:58	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 06:58	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:58	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/3/19 06:58	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/3/19 06:58	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 06:58	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 06:58	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:58	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 06:58	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/3/19 06:58	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 06:58	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 06:58	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/3/19 06:58	PDK	A
1,3-Dichlorobenzene	0.26J	J	ug/L	1.0	0.25	SW846 8260B		5/3/19 06:58	PDK	A
1,4-Dichlorobenzene	0.45J	J	ug/L	1.0	0.27	SW846 8260B		5/3/19 06:58	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:58	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 06:58	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:58	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 06:58	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/3/19 06:58	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:58	PDK	A

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818014** Date Collected: 4/24/2019 14:20 Matrix: Water

Sample ID: **MRC-SW15A-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 06:58	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 06:58	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:58	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 06:58	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 06:58	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 06:58	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/3/19 06:58	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 06:58	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 06:58	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 06:58	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 06:58	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/3/19 06:58	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/3/19 06:58	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 06:58	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 06:58	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/3/19 06:58	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 06:58	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:58	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/3/19 06:58	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 06:58	PDK	A
Naphthalene	ND	1	ug/L	2.0	0.34	SW846 8260B		5/3/19 06:58	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:58	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 06:58	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 06:58	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 06:58	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 06:58	PDK	A
Toluene	0.26J	J	ug/L	1.0	0.23	SW846 8260B		5/3/19 06:58	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/3/19 06:58	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/3/19 06:58	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/3/19 06:58	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 06:58	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:58	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 06:58	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 06:58	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 06:58	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 06:58	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/3/19 06:58	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 06:58	PDK	A

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ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818014** Date Collected: 4/24/2019 14:20 Matrix: Water

Sample ID: **MRC-SW15A-S-042419** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/3/19 06:58	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/3/19 06:58	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	78.6		%	62 - 133		SW846 8260B			5/3/19 06:58	PDK	A
4-Bromofluorobenzene (S)	106		%	79 - 114		SW846 8260B			5/3/19 06:58	PDK	A
Dibromofluoromethane (S)	89.2		%	78 - 116		SW846 8260B			5/3/19 06:58	PDK	A
Toluene-d8 (S)	90.9		%	76 - 127		SW846 8260B			5/3/19 06:58	PDK	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See attached.					Subcontract			4/24/19 14:20	SUB	C

Vanessa N. Badman

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ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818015** Date Collected: 4/24/2019 21:30 Matrix: Water

Sample ID: **TB-042419-3** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	5.0J	J	ug/L	10.0	3.1	SW846 8260B		5/3/19 22:11	PDK	B
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		5/3/19 22:11	PDK	B
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 22:11	PDK	B
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 22:11	PDK	B
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 22:11	PDK	B
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 22:11	PDK	B
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		5/3/19 22:11	PDK	B
Bromomethane	0.40J	J	ug/L	1.0	0.39	SW846 8260B		5/3/19 22:11	PDK	B
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		5/3/19 22:11	PDK	B
tert-Butyl Alcohol	3.0J	J	ug/L	10.0	2.2	SW846 8260B		5/3/19 22:11	PDK	B
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 22:11	PDK	B
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		5/3/19 22:11	PDK	B
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 22:11	PDK	B
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 22:11	PDK	B
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 22:11	PDK	B
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 22:11	PDK	B
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 22:11	PDK	B
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 22:11	PDK	B
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		5/3/19 22:11	PDK	B
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		5/3/19 22:11	PDK	B
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 22:11	PDK	B
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 22:11	PDK	B
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 22:11	PDK	B
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 22:11	PDK	B
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		5/3/19 22:11	PDK	B
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 22:11	PDK	B
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 22:11	PDK	B
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		5/3/19 22:11	PDK	B
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 22:11	PDK	B
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 22:11	PDK	B
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 22:11	PDK	B
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		5/3/19 22:11	PDK	B
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 22:11	PDK	B
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 22:11	PDK	B
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		5/3/19 22:11	PDK	B
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 22:11	PDK	B

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818015** Date Collected: 4/24/2019 21:30 Matrix: Water

Sample ID: **TB-042419-3** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 22:11	PDK	B
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		5/3/19 22:11	PDK	B
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 22:11	PDK	B
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 22:11	PDK	B
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		5/3/19 22:11	PDK	B
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		5/3/19 22:11	PDK	B
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		5/3/19 22:11	PDK	B
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 22:11	PDK	B
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		5/3/19 22:11	PDK	B
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 22:11	PDK	B
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		5/3/19 22:11	PDK	B
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		5/3/19 22:11	PDK	B
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		5/3/19 22:11	PDK	B
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 22:11	PDK	B
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		5/3/19 22:11	PDK	B
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		5/3/19 22:11	PDK	B
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 22:11	PDK	B
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 22:11	PDK	B
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		5/3/19 22:11	PDK	B
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		5/3/19 22:11	PDK	B
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		5/3/19 22:11	PDK	B
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 22:11	PDK	B
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 22:11	PDK	B
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 22:11	PDK	B
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		5/3/19 22:11	PDK	B
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		5/3/19 22:11	PDK	B
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		5/3/19 22:11	PDK	B
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		5/3/19 22:11	PDK	B
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		5/3/19 22:11	PDK	B
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		5/3/19 22:11	PDK	B
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		5/3/19 22:11	PDK	B
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 22:11	PDK	B
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		5/3/19 22:11	PDK	B
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		5/3/19 22:11	PDK	B
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		5/3/19 22:11	PDK	B
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		5/3/19 22:11	PDK	B
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		5/3/19 22:11	PDK	B
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		5/3/19 22:11	PDK	B

ALS Environmental

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818015** Date Collected: 4/24/2019 21:30 Matrix: Water

Sample ID: **TB-042419-3** Date Received: 4/24/2019 21:30

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			5/3/19 22:11	PDK	B
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			5/3/19 22:11	PDK	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	127		%	62 - 133		SW846 8260B			5/3/19 22:11	PDK	B
4-Bromofluorobenzene (S)	104		%	79 - 114		SW846 8260B			5/3/19 22:11	PDK	B
Dibromofluoromethane (S)	109		%	78 - 116		SW846 8260B			5/3/19 22:11	PDK	B
Toluene-d8 (S)	100		%	76 - 127		SW846 8260B			5/3/19 22:11	PDK	B

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3029818010	1	MRC-SW11A-S-0424219	SW846 8260B	Naphthalene
The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Naphthalene.				
3029818012	1	MRC-SW18A-S-042419	SW846 8260B	Naphthalene
The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Naphthalene.				
3029818012	2	MRC-SW18A-S-042419	SW846 8260B	4-Bromofluorobenzene
The surrogate 4-Bromofluorobenzene for method SW846 8260B was outside of control limits. The % Recovery was reported as 116 and the control limits were 79 to 114. This result was reported at a dilution of 1.				
3029818013	1	MRC-SW16A-S-042419	SW846 8260B	Naphthalene
The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Naphthalene.				
3029818014	1	MRC-SW15A-S-042419	SW846 8260B	Naphthalene
The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Naphthalene.				

ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID	Sample ID	Analysis Method	Prep Method
3029818001	MRC-SW2A-042419	8270 SIM	SW846 3510C
3029818001	MRC-SW2A-042419	SW846 8260B	
3029818002	MRC-SW1A-042419	8270 SIM	SW846 3510C
3029818002	MRC-SW1A-042419	SW846 8260B	
3029818003	MRC-SW5B-S-042419	SW846 8260B	
3029818003	MRC-SW5B-S-042419	Subcontract	
3029818004	MRC-SW5A1-S-042419	SW846 8260B	
3029818004	MRC-SW5A1-S-042419	Subcontract	
3029818005	MRC-SW5A2-S-042419	SW846 8260B	
3029818005	MRC-SW5A2-S-042419	Subcontract	
3029818006	TB-042419-1	SW846 8260B	
3029818007	MRC-SW11B-S-042419	SW846 8260B	
3029818007	MRC-SW11B-S-042419	Subcontract	
3029818008	MRC-SW13A-S-042419	SW846 8260B	
3029818008	MRC-SW13A-S-042419	Subcontract	
3029818009	MRC-SW12A-S-042419	SW846 8260B	
3029818009	MRC-SW12A-S-042419	Subcontract	
3029818010	MRC-SW11A-S-0424219	SW846 8260B	
3029818010	MRC-SW11A-S-0424219	Subcontract	
3029818011	TB-042419-2	SW846 8260B	
3029818012	MRC-SW18A-S-042419	SW846 8260B	
3029818012	MRC-SW18A-S-042419	Subcontract	
3029818013	MRC-SW16A-S-042419	SW846 8260B	
3029818013	MRC-SW16A-S-042419	Subcontract	
3029818014	MRC-SW15A-S-042419	SW846 8260B	
3029818014	MRC-SW15A-S-042419	Subcontract	
3029818015	TB-042419-3	SW846 8260B	

QUALITY CONTROL DATA

Workorder: 3029818 LMC MRC / 95840ACM

QC Batch: EXTR/56278 **Analysis Method:** 8270 SIM

QC Batch Method: SW846 3510C

Associated Lab Samples: 3029818001, 3029818002

METHOD BLANK: 2936867

Parameter	Blank Result	Units	Reporting Limit
1,4-Dioxane	ND	ug/L	0.10
2-Methylnapthalene-d10 (S)	79.4	%	29 - 112
Fluoranthene-d10 (S)	93.2	%	45 - 130

LABORATORY CONTROL SAMPLE: 2936868

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
1,4-Dioxane	52.9	ug/L	1	0.53	22 - 75
2-Methylnapthalene-d10 (S)	85.9	%			29 - 112
Fluoranthene-d10 (S)	96	%			45 - 130

MATRIX SPIKE: 2936869 DUPLICATE: 2936870 ORIGINAL: 3029976001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
1,4-Dioxane	.0311	ug/L	1.1	.57132	.55274	51.1	48	22 - 75	3.31	30
2-Methylnapthalene-d10 (S)	83.8	%				83.8	82.2	29 - 112		
Fluoranthene-d10 (S)	93.1	%				93.1	86.7	45 - 130		

QUALITY CONTROL DATA

Workorder: 3029818 LMC MRC / 95840ACM

QC Batch: VOMS/50700 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 8260B

Associated Lab Samples: 3029818001, 3029818002, 3029818003, 3029818004, 3029818005, 3029818006, 3029818007, 3029818008

LABORATORY CONTROL SAMPLE: 2937790

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acetone	93.8	ug/L	100	93.8	40 - 151
tert-Amyl methyl ether	106	ug/L	20	21.1	75 - 121
Benzene	101	ug/L	20	20.3	80 - 124
Bromobenzene	101	ug/L	20	20.2	81 - 119
Bromochloromethane	96.4	ug/L	20	19.3	73 - 117
Bromodichloromethane	103	ug/L	20	20.7	79 - 126
Bromoform	99.8	ug/L	20	20.0	70 - 123
Bromomethane	81.3	ug/L	20	16.3	45 - 148
2-Butanone	97.3	ug/L	100	97.3	50 - 152
tert-Butyl Alcohol	116	ug/L	100	116	17 - 168
n-Butylbenzene	104	ug/L	20	20.8	71 - 130
tert-Butylbenzene	102	ug/L	20	20.4	72 - 124
sec-Butylbenzene	105	ug/L	20	21.1	72 - 127
Carbon Disulfide	98.9	ug/L	20	19.8	57 - 131
Carbon Tetrachloride	96.9	ug/L	20	19.4	62 - 132
Chlorobenzene	96.8	ug/L	20	19.4	85 - 117
Chlorodibromomethane	100	ug/L	20	20.1	77 - 122
Chloroethane	91.7	ug/L	20	18.3	51 - 142
2-Chloroethylvinyl ether	90.2	ug/L	20	18.0	1 - 150
Chloroform	97.8	ug/L	20	19.6	78 - 122
Chloromethane	91.3	ug/L	20	18.3	38 - 156
o-Chlorotoluene	103	ug/L	20	20.5	78 - 126
p-Chlorotoluene	103	ug/L	20	20.7	78 - 125
Cyclohexane	102	ug/L	20	20.4	66 - 130
1,2-Dibromo-3-chloropropane	102	ug/L	20	20.4	59 - 133
1,2-Dibromoethane	99.8	ug/L	20	20.0	80 - 124
Dibromomethane	104	ug/L	20	20.8	81 - 125
1,2-Dichlorobenzene	101	ug/L	20	20.2	82 - 118
1,3-Dichlorobenzene	99.6	ug/L	20	19.9	81 - 118
1,4-Dichlorobenzene	101	ug/L	20	20.2	81 - 116
Dichlorodifluoromethane	86.4	ug/L	20	17.3	17 - 166
1,1-Dichloroethane	99	ug/L	20	19.8	78 - 124
1,2-Dichloroethane	106	ug/L	20	21.3	70 - 133
1,1-Dichloroethene	103	ug/L	20	20.6	63 - 128
1,2-Dichloroethene, Total	104	ug/L	40	41.4	78 - 125
cis-1,2-Dichloroethene	102	ug/L	20	20.3	78 - 125
trans-1,2-Dichloroethene	105	ug/L	20	21.1	71 - 122

QUALITY CONTROL DATA

Workorder: 3029818 LMC MRC / 95840ACM

1,3-Dichloropropane	97	ug/L	20	19.4	82 - 126
2,2-Dichloropropane	104	ug/L	20	20.8	64 - 129
1,2-Dichloropropane	102	ug/L	20	20.3	81 - 127
cis-1,3-Dichloropropene	99.2	ug/L	20	19.8	81 - 121
trans-1,3-Dichloropropene	104	ug/L	20	20.7	78 - 126
1,3-Dichloropropene, Total	101	ug/L	40	40.6	80 - 123
Diisopropyl ether	105	ug/L	20	21.0	74 - 131
Ethyl tert-butyl ether	106	ug/L	20	21.1	75 - 123
Ethylbenzene	100	ug/L	20	20.0	80 - 124
Freon 113	97.3	ug/L	20	19.5	50 - 130
Hexachlorobutadiene	110	ug/L	20	22.0	55 - 128
2-Hexanone	105	ug/L	100	105	65 - 154
Isopropylbenzene	106	ug/L	20	21.1	73 - 129
p-Isopropyltoluene	104	ug/L	20	20.7	72 - 123
Methyl acetate	102	ug/L	20	20.4	70 - 130
Methyl cyclohexane	97	ug/L	20	19.4	70 - 130
Methyl t-Butyl Ether	102	ug/L	20	20.4	69 - 115
4-Methyl-2-Pentanone(MIBK)	81	ug/L	100	81.0	71 - 146
Methylene Chloride	99.7	ug/L	20	19.9	76 - 121
Naphthalene	105	ug/L	20	21.1	56 - 134
n-Propylbenzene	99.9	ug/L	20	20.0	74 - 122
Styrene	103	ug/L	20	20.5	79 - 123
1,1,1,2-Tetrachloroethane	101	ug/L	20	20.2	78 - 121
1,1,2,2-Tetrachloroethane	103	ug/L	20	20.6	74 - 135
Tetrachloroethene	105	ug/L	20	21.0	72 - 124
Toluene	97.7	ug/L	20	19.5	80 - 125
Total Xylenes	99.5	ug/L	60	59.7	79 - 125
1,2,3-Trichlorobenzene	99.5	ug/L	20	19.9	61 - 126
1,2,4-Trichlorobenzene	108	ug/L	20	21.5	67 - 123
1,1,1-Trichloroethane	105	ug/L	20	21.1	66 - 130
1,1,2-Trichloroethane	97.5	ug/L	20	19.5	82 - 126
Trichloroethene	95	ug/L	20	19.0	77 - 124
Trichlorofluoromethane	104	ug/L	20	20.8	38 - 123
1,2,3-Trichloropropane	103	ug/L	20	20.7	75 - 132
1,2,4-Trimethylbenzene	102	ug/L	20	20.4	76 - 125
Vinyl Acetate	105	ug/L	20	21.0	58 - 136
Vinyl Chloride	94.2	ug/L	20	18.8	27 - 138
o-Xylene	98.3	ug/L	20	19.7	79 - 124
mp-Xylene	100	ug/L	40	40.1	79 - 125
1,2-Dichloroethane-d4 (S)	112	%			62 - 133
4-Bromofluorobenzene (S)	106	%			79 - 114
Dibromofluoromethane (S)	105	%			78 - 116
Toluene-d8 (S)	102	%			76 - 127

QUALITY CONTROL DATA

Workorder: 3029818 LMC MRC / 95840ACM

METHOD BLANK: 2937789

Parameter	Blank Result	Units	Reporting Limit
Acetone	ND	ug/L	10.0
tert-Amyl methyl ether	ND	ug/L	1.0
Benzene	ND	ug/L	1.0
Bromobenzene	ND	ug/L	1.0
Bromochloromethane	ND	ug/L	1.0
Bromodichloromethane	ND	ug/L	1.0
Bromoform	ND	ug/L	1.0
Bromomethane	0.43J	ug/L	1.0
2-Butanone	ND	ug/L	10.0
tert-Butyl Alcohol	ND	ug/L	10.0
n-Butylbenzene	ND	ug/L	2.0
tert-Butylbenzene	ND	ug/L	2.0
sec-Butylbenzene	ND	ug/L	1.0
Carbon Disulfide	ND	ug/L	1.0
Carbon Tetrachloride	ND	ug/L	1.0
Chlorobenzene	ND	ug/L	1.0
Chlorodibromomethane	ND	ug/L	1.0
Chloroethane	ND	ug/L	1.0
2-Chloroethylvinyl ether	ND	ug/L	2.0
Chloroform	ND	ug/L	1.0
Chloromethane	ND	ug/L	1.0
o-Chlorotoluene	ND	ug/L	1.0
p-Chlorotoluene	ND	ug/L	1.0
Cyclohexane	ND	ug/L	1.0
1,2-Dibromo-3-chloropropane	ND	ug/L	7.0
1,2-Dibromoethane	ND	ug/L	1.0
Dibromomethane	ND	ug/L	1.0
1,2-Dichlorobenzene	ND	ug/L	1.0
1,3-Dichlorobenzene	ND	ug/L	1.0
1,4-Dichlorobenzene	ND	ug/L	1.0
Dichlorodifluoromethane	ND	ug/L	1.0
1,1-Dichloroethane	ND	ug/L	1.0
1,2-Dichloroethane	ND	ug/L	1.0
1,1-Dichloroethene	ND	ug/L	1.0
1,2-Dichloroethene, Total	ND	ug/L	2.0
cis-1,2-Dichloroethene	ND	ug/L	1.0
trans-1,2-Dichloroethene	ND	ug/L	1.0
1,3-Dichloropropane	ND	ug/L	1.0
2,2-Dichloropropane	ND	ug/L	1.0
1,2-Dichloropropane	ND	ug/L	1.0
cis-1,3-Dichloropropene	ND	ug/L	1.0
trans-1,3-Dichloropropene	ND	ug/L	1.0

QUALITY CONTROL DATA

Workorder: 3029818 LMC MRC / 95840ACM

1,3-Dichloropropene, Total	ND	ug/L	2.0
Diisopropyl ether	ND	ug/L	1.0
Ethyl tert-butyl ether	ND	ug/L	1.0
Ethylbenzene	ND	ug/L	1.0
Freon 113	ND	ug/L	1.0
Hexachlorobutadiene	ND	ug/L	5.0
2-Hexanone	ND	ug/L	5.0
Isopropylbenzene	ND	ug/L	1.0
p-Isopropyltoluene	ND	ug/L	1.0
Methyl acetate	ND	ug/L	2.0
Methyl cyclohexane	ND	ug/L	1.0
Methyl t-Butyl Ether	ND	ug/L	1.0
4-Methyl-2-Pentanone(MIBK)	ND	ug/L	5.0
Methylene Chloride	ND	ug/L	1.0
Naphthalene	ND	ug/L	2.0
n-Propylbenzene	ND	ug/L	1.0
Styrene	ND	ug/L	1.0
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0
Tetrachloroethene	0.69J	ug/L	1.0
Toluene	ND	ug/L	1.0
Total Xylenes	ND	ug/L	3.0
1,2,3-Trichlorobenzene	ND	ug/L	2.0
1,2,4-Trichlorobenzene	ND	ug/L	2.0
1,1,1-Trichloroethane	ND	ug/L	1.0
1,1,2-Trichloroethane	ND	ug/L	1.0
Trichloroethene	ND	ug/L	1.0
Trichlorofluoromethane	ND	ug/L	1.0
1,2,3-Trichloropropane	ND	ug/L	2.0
1,2,4-Trimethylbenzene	ND	ug/L	1.0
Vinyl Acetate	ND	ug/L	5.0
Vinyl Chloride	ND	ug/L	1.0
o-Xylene	ND	ug/L	1.0
mp-Xylene	ND	ug/L	2.0
1,2-Dichloroethane-d4 (S)	114	%	62 - 133
4-Bromofluorobenzene (S)	107	%	79 - 114
Dibromofluoromethane (S)	105	%	78 - 116
Toluene-d8 (S)	104	%	76 - 127

MATRIX SPIKE: 2937793 DUPLICATE: 2937794 ORIGINAL: 3029861001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD

QUALITY CONTROL DATA

Workorder: 3029818 LMC MRC / 95840ACM

Acetone	4.34126	ug/L	100	100.683	91.4206	96.3	87.1	40 - 151	9.64	40
Benzene	0	ug/L	20	21.4518	20.1192	107	101	80 - 124	6.41	26
Bromochloromethane	0	ug/L	20	21.125	19.7736	106	98.9	73 - 117	6.61	19
Bromodichloromethane	0	ug/L	20	22.1144	20.9216	111	105	79 - 126	5.54	16
Bromoform	0	ug/L	20	18.3607	16.8398	91.8	84.2	70 - 123	8.64	16
Bromomethane	.50283	ug/L	20	19.0249	22.8473	92.6	112	45 - 148	18.3	26
2-Butanone	0	ug/L	100	97.8838	90.1878	97.9	90.2	50 - 152	8.18	16
Carbon Disulfide	0	ug/L	20	21.109	18.404	106	92	57 - 131	13.7	28
Carbon Tetrachloride	0	ug/L	20	22.4481	20.4834	112	102	62 - 132	9.15	17
Chlorobenzene	0	ug/L	20	20.2821	19.1967	101	96	85 - 117	5.5	15
Chlorodibromomethane	0	ug/L	20	20.7252	19.2646	104	96.3	77 - 122	7.3	15
Chloroethane	0	ug/L	20	19.6652	17.9611	98.3	89.8	51 - 142	9.06	24
Chloroform	0	ug/L	20	21.1754	19.8176	106	99.1	78 - 122	6.62	16
Chloromethane	0	ug/L	20	20.0648	17.4418	100	87.2	38 - 156	14	27
1,2-Dibromo-3-chloropropane	0	ug/L	20	20.0992	18.5391	100	92.7	59 - 133	8.08	26
1,2-Dibromoethane	0	ug/L	20	20.0108	19.1183	100	95.6	80 - 124	4.56	19
Dibromomethane	0	ug/L	20	21.3906	20.5275	107	103	81 - 125	4.12	16
1,2-Dichlorobenzene	0	ug/L	20	20.8994	19.5687	104	97.8	82 - 118	6.58	15
1,4-Dichlorobenzene	0	ug/L	20	20.5205	19.2492	103	96.2	81 - 116	6.39	15
1,1-Dichloroethane	0	ug/L	20	21.2437	19.8819	106	99.4	78 - 124	6.62	15
1,2-Dichloroethane	0	ug/L	20	22.647	21.8873	113	109	70 - 133	3.41	19
1,1-Dichloroethene	0	ug/L	20	22.569	20.9751	113	105	63 - 128	7.32	21
cis-1,2-Dichloroethene	0	ug/L	20	21.8761	20.7757	109	104	78 - 125	5.16	21
trans-1,2-Dichloroethene	0	ug/L	20	22.9597	20.891	115	104	71 - 122	9.44	22
1,2-Dichloropropane	0	ug/L	20	21.3874	20.1314	107	101	81 - 127	6.05	15
cis-1,3-Dichloropropene	0	ug/L	20	20.0884	18.8928	100	94.5	81 - 121	6.13	16
trans-1,3-Dichloropropene	0	ug/L	20	20.6822	19.7972	103	99	78 - 126	4.37	18
Ethylbenzene	0	ug/L	20	21.195	19.5932	106	98	80 - 124	7.85	19
2-Hexanone	0	ug/L	100	104.804	97.2776	105	97.3	65 - 154	7.45	17
Methyl t-Butyl Ether	0	ug/L	20	20.9005	20.0504	105	100	69 - 115	4.15	20
4-Methyl-2-Pentanone(MIBK)	0	ug/L	100	81.4951	75.9267	81.5	75.9	71 - 146	7.07	16
Methylene Chloride	0	ug/L	20	20.4628	19.5657	102	97.8	76 - 121	4.48	17
Styrene	0	ug/L	20	21.0893	19.5062	105	97.5	79 - 123	7.8	16
1,1,1,2-Tetrachloroethane	0	ug/L	20	21.3623	20.4171	107	102	78 - 121	4.52	16
1,1,2,2-Tetrachloroethane	0	ug/L	20	19.9616	18.7415	99.8	93.7	74 - 135	6.3	16
Tetrachloroethene	0	ug/L	20	21.3284	19.9315	107	99.7	72 - 124	6.77	38
Toluene	0	ug/L	20	20.718	19.268	104	96.3	80 - 125	7.25	20
1,1,1-Trichloroethane	0	ug/L	20	23.4523	21.5279	117	108	66 - 130	8.56	20
1,1,2-Trichloroethane	0	ug/L	20	20.2101	19.2212	101	96.1	82 - 126	5.02	15
Trichloroethene	0	ug/L	20	20.8146	19.0204	104	95.1	77 - 124	9.01	18
Trichlorofluoromethane	0	ug/L	20	22.587	21.1969	113	106	38 - 123	6.35	23
1,2,3-Trichloropropane	0	ug/L	20	20.4053	19.4123	102	97.1	75 - 132	4.99	19
Vinyl Acetate	0	ug/L	20	16.2174	15.7182	81.1	78.6	58 - 136	3.13	17
Vinyl Chloride	0	ug/L	20	21.0494	19.1211	105	95.6	27 - 138	9.6	40
o-Xylene	0	ug/L	20	20.9269	19.6171	105	98.1	79 - 124	6.46	19
mp-Xylene	0	ug/L	40	41.8807	39.648	105	99.1	79 - 125	5.48	21

QUALITY CONTROL DATA

Workorder: 3029818 LMC MRC / 95840ACM

1,2-Dichloroethane-d4 (S)	114	%	114	112	62 - 133
4-Bromofluorobenzene (S)	103	%	103	102	79 - 114
Dibromofluoromethane (S)	106	%	106	104	78 - 116
Toluene-d8 (S)	100	%	100	100	76 - 127

QUALITY CONTROL DATA

Workorder: 3029818 LMC MRC / 95840ACM

QC Batch: VOMS/50702 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 8260B

Associated Lab Samples: 3029818009, 3029818010, 3029818012, 3029818013, 3029818014, 3029818015

METHOD BLANK: 2938012

Parameter	Blank Result	Units	Reporting Limit
Acetone	ND	ug/L	10.0
tert-Amyl methyl ether	ND	ug/L	1.0
Benzene	ND	ug/L	1.0
Bromobenzene	0.39J	ug/L	1.0
Bromochloromethane	ND	ug/L	1.0
Bromodichloromethane	ND	ug/L	1.0
Bromoform	ND	ug/L	1.0
Bromomethane	ND	ug/L	1.0
2-Butanone	ND	ug/L	10.0
tert-Butyl Alcohol	ND	ug/L	10.0
n-Butylbenzene	0.69J	ug/L	2.0
tert-Butylbenzene	ND	ug/L	2.0
sec-Butylbenzene	ND	ug/L	1.0
Carbon Disulfide	ND	ug/L	1.0
Carbon Tetrachloride	ND	ug/L	1.0
Chlorobenzene	0.35J	ug/L	1.0
Chlorodibromomethane	ND	ug/L	1.0
Chloroethane	ND	ug/L	1.0
2-Chloroethylvinyl ether	ND	ug/L	2.0
Chloroform	ND	ug/L	1.0
Chloromethane	ND	ug/L	1.0
o-Chlorotoluene	ND	ug/L	1.0
p-Chlorotoluene	0.50J	ug/L	1.0
Cyclohexane	ND	ug/L	1.0
1,2-Dibromo-3-chloropropane	ND	ug/L	7.0
1,2-Dibromoethane	ND	ug/L	1.0
Dibromomethane	ND	ug/L	1.0
1,2-Dichlorobenzene	0.52J	ug/L	1.0
1,3-Dichlorobenzene	0.64J	ug/L	1.0
1,4-Dichlorobenzene	0.74J	ug/L	1.0
Dichlorodifluoromethane	ND	ug/L	1.0
1,1-Dichloroethane	ND	ug/L	1.0
1,2-Dichloroethane	ND	ug/L	1.0
1,1-Dichloroethene	ND	ug/L	1.0
1,2-Dichloroethene, Total	ND	ug/L	2.0
cis-1,2-Dichloroethene	ND	ug/L	1.0
trans-1,2-Dichloroethene	ND	ug/L	1.0

QUALITY CONTROL DATA

Workorder: 3029818 LMC MRC / 95840ACM

1,3-Dichloropropane	ND	ug/L	1.0
2,2-Dichloropropane	ND	ug/L	1.0
1,2-Dichloropropane	ND	ug/L	1.0
cis-1,3-Dichloropropene	ND	ug/L	1.0
trans-1,3-Dichloropropene	ND	ug/L	1.0
1,3-Dichloropropene, Total	ND	ug/L	2.0
Diisopropyl ether	ND	ug/L	1.0
Ethyl tert-butyl ether	ND	ug/L	1.0
Ethylbenzene	ND	ug/L	1.0
Freon 113	ND	ug/L	1.0
Hexachlorobutadiene	ND	ug/L	5.0
2-Hexanone	ND	ug/L	5.0
Isopropylbenzene	ND	ug/L	1.0
p-Isopropyltoluene	0.41J	ug/L	1.0
Methyl acetate	ND	ug/L	2.0
Methyl cyclohexane	ND	ug/L	1.0
Methyl t-Butyl Ether	ND	ug/L	1.0
4-Methyl-2-Pentanone(MIBK)	ND	ug/L	5.0
Methylene Chloride	ND	ug/L	1.0
Naphthalene	5.0	ug/L	2.0
n-Propylbenzene	0.37J	ug/L	1.0
Styrene	ND	ug/L	1.0
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0
Tetrachloroethene	ND	ug/L	1.0
Toluene	ND	ug/L	1.0
Total Xylenes	ND	ug/L	3.0
1,2,3-Trichlorobenzene	ND	ug/L	2.0
1,2,4-Trichlorobenzene	0.88J	ug/L	2.0
1,1,1-Trichloroethane	ND	ug/L	1.0
1,1,2-Trichloroethane	ND	ug/L	1.0
Trichloroethene	ND	ug/L	1.0
Trichlorofluoromethane	ND	ug/L	1.0
1,2,3-Trichloropropane	ND	ug/L	2.0
1,2,4-Trimethylbenzene	0.32J	ug/L	1.0
Vinyl Acetate	ND	ug/L	5.0
Vinyl Chloride	ND	ug/L	1.0
o-Xylene	ND	ug/L	1.0
mp-Xylene	ND	ug/L	2.0
1,2-Dichloroethane-d4 (S)	84.3	%	62 - 133
4-Bromofluorobenzene (S)	117	%	79 - 114
Dibromofluoromethane (S)	93.9	%	78 - 116
Toluene-d8 (S)	97.1	%	76 - 127

QUALITY CONTROL DATA

Workorder: 3029818 LMC MRC / 95840ACM

LABORATORY CONTROL SAMPLE: 2938013

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acetone	109	ug/L	100	109	40 - 151
tert-Amyl methyl ether	125*	ug/L	20	25.0	75 - 121
Benzene	108	ug/L	20	21.6	80 - 124
Bromobenzene	106	ug/L	20	21.3	81 - 119
Bromochloromethane	96	ug/L	20	19.2	73 - 117
Bromodichloromethane	101	ug/L	20	20.1	79 - 126
Bromoform	106	ug/L	20	21.3	70 - 123
Bromomethane	113	ug/L	20	22.6	45 - 148
2-Butanone	105	ug/L	100	105	50 - 152
tert-Butyl Alcohol	114	ug/L	100	114	17 - 168
n-Butylbenzene	117	ug/L	20	23.5	71 - 130
tert-Butylbenzene	104	ug/L	20	20.8	72 - 124
sec-Butylbenzene	114	ug/L	20	22.9	72 - 127
Carbon Disulfide	104	ug/L	20	20.7	57 - 131
Carbon Tetrachloride	108	ug/L	20	21.6	62 - 132
Chlorobenzene	113	ug/L	20	22.5	85 - 117
Chlorodibromomethane	99.9	ug/L	20	20.0	77 - 122
Chloroethane	95.6	ug/L	20	19.1	51 - 142
2-Chloroethylvinyl ether	153*	ug/L	20	30.5	1 - 150
Chloroform	98.2	ug/L	20	19.6	78 - 122
Chloromethane	96.8	ug/L	20	19.4	38 - 156
o-Chlorotoluene	95.6	ug/L	20	19.1	78 - 126
p-Chlorotoluene	109	ug/L	20	21.8	78 - 125
Cyclohexane	98.3	ug/L	20	19.7	66 - 130
1,2-Dibromo-3-chloropropane	112	ug/L	20	22.4	59 - 133
1,2-Dibromoethane	104	ug/L	20	20.7	80 - 124
Dibromomethane	95.4	ug/L	20	19.1	81 - 125
1,2-Dichlorobenzene	113	ug/L	20	22.6	82 - 118
1,3-Dichlorobenzene	108	ug/L	20	21.6	81 - 118
1,4-Dichlorobenzene	109	ug/L	20	21.8	81 - 116
Dichlorodifluoromethane	70.3	ug/L	20	14.1	17 - 166
1,1-Dichloroethane	95.8	ug/L	20	19.2	78 - 124
1,2-Dichloroethane	109	ug/L	20	21.9	70 - 133
1,1-Dichloroethene	99.7	ug/L	20	19.9	63 - 128
1,2-Dichloroethene, Total	113	ug/L	40	45.1	78 - 125
cis-1,2-Dichloroethene	110	ug/L	20	22.0	78 - 125
trans-1,2-Dichloroethene	116	ug/L	20	23.1	71 - 122
1,3-Dichloropropane	96.5	ug/L	20	19.3	82 - 126
2,2-Dichloropropane	89	ug/L	20	17.8	64 - 129
1,2-Dichloropropane	101	ug/L	20	20.2	81 - 127
cis-1,3-Dichloropropene	98.1	ug/L	20	19.6	81 - 121
trans-1,3-Dichloropropene	98.5	ug/L	20	19.7	78 - 126

QUALITY CONTROL DATA

Workorder: 3029818 LMC MRC / 95840ACM

1,3-Dichloropropene, Total	98.3	ug/L	40	39.3	80 - 123
Diisopropyl ether	101	ug/L	20	20.1	74 - 131
Ethyl tert-butyl ether	120	ug/L	20	24.0	75 - 123
Ethylbenzene	112	ug/L	20	22.5	80 - 124
Freon 113	102	ug/L	20	20.5	50 - 130
Hexachlorobutadiene	125	ug/L	20	25.1	55 - 128
2-Hexanone	104	ug/L	100	104	65 - 154
Isopropylbenzene	109	ug/L	20	21.8	73 - 129
p-Isopropyltoluene	119	ug/L	20	23.8	72 - 123
Methyl acetate	120	ug/L	20	24.1	70 - 130
Methyl cyclohexane	106	ug/L	20	21.2	70 - 130
Methyl t-Butyl Ether	98.6	ug/L	20	19.7	69 - 115
4-Methyl-2-Pentanone(MIBK)	107	ug/L	100	107	71 - 146
Methylene Chloride	109	ug/L	20	21.7	76 - 121
Naphthalene	92.8	ug/L	20	18.6	56 - 134
n-Propylbenzene	114	ug/L	20	22.8	74 - 122
Styrene	108	ug/L	20	21.6	79 - 123
1,1,1,2-Tetrachloroethane	95.3	ug/L	20	19.1	78 - 121
1,1,2,2-Tetrachloroethane	105	ug/L	20	21.0	74 - 135
Tetrachloroethene	115	ug/L	20	23.0	72 - 124
Toluene	102	ug/L	20	20.3	80 - 125
Total Xylenes	100	ug/L	60	60.2	79 - 125
1,2,3-Trichlorobenzene	106	ug/L	20	21.3	61 - 126
1,2,4-Trichlorobenzene	116	ug/L	20	23.1	67 - 123
1,1,1-Trichloroethane	94.6	ug/L	20	18.9	66 - 130
1,1,2-Trichloroethane	94	ug/L	20	18.8	82 - 126
Trichloroethene	113	ug/L	20	22.6	77 - 124
Trichlorofluoromethane	92.7	ug/L	20	18.5	38 - 123
1,2,3-Trichloropropane	107	ug/L	20	21.5	75 - 132
1,2,4-Trimethylbenzene	111	ug/L	20	22.3	76 - 125
Vinyl Acetate	107	ug/L	20	21.4	58 - 136
Vinyl Chloride	97.7	ug/L	20	19.5	27 - 138
o-Xylene	100	ug/L	20	20.0	79 - 124
mp-Xylene	100	ug/L	40	40.2	79 - 125
1,2-Dichloroethane-d4 (S)	73.2	%			62 - 133
4-Bromofluorobenzene (S)	98.8	%			79 - 114
Dibromofluoromethane (S)	84.4	%			78 - 116
Toluene-d8 (S)	86.7	%			76 - 127

QUALITY CONTROL DATA

Workorder: 3029818 LMC MRC / 95840ACM

QC Batch: VOMS/50704 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 8260B

Associated Lab Samples: 3029818011

METHOD BLANK: 2938016

Parameter	Blank Result	Units	Reporting Limit
Acetone	ND	ug/L	10.0
tert-Amyl methyl ether	ND	ug/L	1.0
Benzene	ND	ug/L	1.0
Bromobenzene	ND	ug/L	1.0
Bromochloromethane	ND	ug/L	1.0
Bromodichloromethane	ND	ug/L	1.0
Bromoform	ND	ug/L	1.0
Bromomethane	0.44J	ug/L	1.0
2-Butanone	ND	ug/L	10.0
tert-Butyl Alcohol	ND	ug/L	10.0
n-Butylbenzene	ND	ug/L	2.0
tert-Butylbenzene	ND	ug/L	2.0
sec-Butylbenzene	ND	ug/L	1.0
Carbon Disulfide	ND	ug/L	1.0
Carbon Tetrachloride	ND	ug/L	1.0
Chlorobenzene	ND	ug/L	1.0
Chlorodibromomethane	ND	ug/L	1.0
Chloroethane	ND	ug/L	1.0
2-Chloroethylvinyl ether	ND	ug/L	2.0
Chloroform	ND	ug/L	1.0
Chloromethane	ND	ug/L	1.0
o-Chlorotoluene	ND	ug/L	1.0
p-Chlorotoluene	ND	ug/L	1.0
Cyclohexane	ND	ug/L	1.0
1,2-Dibromo-3-chloropropane	ND	ug/L	7.0
1,2-Dibromoethane	ND	ug/L	1.0
Dibromomethane	ND	ug/L	1.0
1,2-Dichlorobenzene	ND	ug/L	1.0
1,3-Dichlorobenzene	ND	ug/L	1.0
1,4-Dichlorobenzene	ND	ug/L	1.0
Dichlorodifluoromethane	ND	ug/L	1.0
1,1-Dichloroethane	ND	ug/L	1.0
1,2-Dichloroethane	ND	ug/L	1.0
1,1-Dichloroethene	ND	ug/L	1.0
1,2-Dichloroethene, Total	ND	ug/L	2.0
cis-1,2-Dichloroethene	ND	ug/L	1.0
trans-1,2-Dichloroethene	ND	ug/L	1.0

QUALITY CONTROL DATA

Workorder: 3029818 LMC MRC / 95840ACM

1,3-Dichloropropane	ND	ug/L	1.0
2,2-Dichloropropane	ND	ug/L	1.0
1,2-Dichloropropane	ND	ug/L	1.0
cis-1,3-Dichloropropene	ND	ug/L	1.0
trans-1,3-Dichloropropene	ND	ug/L	1.0
1,3-Dichloropropene, Total	ND	ug/L	2.0
Diisopropyl ether	ND	ug/L	1.0
Ethyl tert-butyl ether	ND	ug/L	1.0
Ethylbenzene	ND	ug/L	1.0
Freon 113	ND	ug/L	1.0
Hexachlorobutadiene	ND	ug/L	5.0
2-Hexanone	ND	ug/L	5.0
Isopropylbenzene	ND	ug/L	1.0
p-Isopropyltoluene	ND	ug/L	1.0
Methyl acetate	ND	ug/L	2.0
Methyl cyclohexane	ND	ug/L	1.0
Methyl t-Butyl Ether	ND	ug/L	1.0
4-Methyl-2-Pentanone(MIBK)	ND	ug/L	5.0
Methylene Chloride	ND	ug/L	1.0
Naphthalene	ND	ug/L	2.0
n-Propylbenzene	ND	ug/L	1.0
Styrene	ND	ug/L	1.0
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0
Tetrachloroethene	ND	ug/L	1.0
Toluene	ND	ug/L	1.0
Total Xylenes	ND	ug/L	3.0
1,2,3-Trichlorobenzene	ND	ug/L	2.0
1,2,4-Trichlorobenzene	ND	ug/L	2.0
1,1,1-Trichloroethane	ND	ug/L	1.0
1,1,2-Trichloroethane	ND	ug/L	1.0
Trichloroethene	ND	ug/L	1.0
Trichlorofluoromethane	ND	ug/L	1.0
1,2,3-Trichloropropane	ND	ug/L	2.0
1,2,4-Trimethylbenzene	ND	ug/L	1.0
Vinyl Acetate	ND	ug/L	5.0
Vinyl Chloride	ND	ug/L	1.0
o-Xylene	ND	ug/L	1.0
mp-Xylene	ND	ug/L	2.0
1,2-Dichloroethane-d4 (S)	116	%	62 - 133
4-Bromofluorobenzene (S)	105	%	79 - 114
Dibromofluoromethane (S)	104	%	78 - 116
Toluene-d8 (S)	103	%	76 - 127

QUALITY CONTROL DATA

Workorder: 3029818 LMC MRC / 95840ACM

LABORATORY CONTROL SAMPLE: 2938017

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acetone	99.1	ug/L	100	99.1	40 - 151
tert-Amyl methyl ether	105	ug/L	20	21.1	75 - 121
Benzene	103	ug/L	20	20.7	80 - 124
Bromobenzene	98.8	ug/L	20	19.8	81 - 119
Bromochloromethane	97.9	ug/L	20	19.6	73 - 117
Bromodichloromethane	105	ug/L	20	21.0	79 - 126
Bromoform	88.9	ug/L	20	17.8	70 - 123
Bromomethane	106	ug/L	20	21.1	45 - 148
2-Butanone	97.8	ug/L	100	97.8	50 - 152
tert-Butyl Alcohol	127	ug/L	100	127	17 - 168
n-Butylbenzene	103	ug/L	20	20.6	71 - 130
tert-Butylbenzene	101	ug/L	20	20.1	72 - 124
sec-Butylbenzene	105	ug/L	20	21.0	72 - 127
Carbon Disulfide	98.2	ug/L	20	19.6	57 - 131
Carbon Tetrachloride	102	ug/L	20	20.4	62 - 132
Chlorobenzene	96.9	ug/L	20	19.4	85 - 117
Chlorodibromomethane	95.5	ug/L	20	19.1	77 - 122
Chloroethane	90	ug/L	20	18.0	51 - 142
2-Chloroethylvinyl ether	72.5	ug/L	20	14.5	1 - 150
Chloroform	101	ug/L	20	20.2	78 - 122
Chloromethane	91.3	ug/L	20	18.3	38 - 156
o-Chlorotoluene	101	ug/L	20	20.2	78 - 126
p-Chlorotoluene	102	ug/L	20	20.4	78 - 125
Cyclohexane	102	ug/L	20	20.4	66 - 130
1,2-Dibromo-3-chloropropane	97.8	ug/L	20	19.6	59 - 133
1,2-Dibromoethane	97.2	ug/L	20	19.4	80 - 124
Dibromomethane	106	ug/L	20	21.2	81 - 125
1,2-Dichlorobenzene	102	ug/L	20	20.3	82 - 118
1,3-Dichlorobenzene	97.7	ug/L	20	19.5	81 - 118
1,4-Dichlorobenzene	99.6	ug/L	20	19.9	81 - 116
Dichlorodifluoromethane	83.2	ug/L	20	16.6	17 - 166
1,1-Dichloroethane	101	ug/L	20	20.1	78 - 124
1,2-Dichloroethane	110	ug/L	20	22.0	70 - 133
1,1-Dichloroethene	107	ug/L	20	21.4	63 - 128
1,2-Dichloroethene, Total	107	ug/L	40	43.0	78 - 125
cis-1,2-Dichloroethene	106	ug/L	20	21.1	78 - 125
trans-1,2-Dichloroethene	109	ug/L	20	21.8	71 - 122
1,3-Dichloropropane	96	ug/L	20	19.2	82 - 126
2,2-Dichloropropane	103	ug/L	20	20.7	64 - 129
1,2-Dichloropropane	103	ug/L	20	20.7	81 - 127
cis-1,3-Dichloropropene	97.6	ug/L	20	19.5	81 - 121
trans-1,3-Dichloropropene	101	ug/L	20	20.2	78 - 126

QUALITY CONTROL DATA

Workorder: 3029818 LMC MRC / 95840ACM

1,3-Dichloropropene, Total	99.4	ug/L	40	39.7	80 - 123
Diisopropyl ether	106	ug/L	20	21.3	74 - 131
Ethyl tert-butyl ether	106	ug/L	20	21.3	75 - 123
Ethylbenzene	97.8	ug/L	20	19.6	80 - 124
Freon 113	95.1	ug/L	20	19.0	50 - 130
Hexachlorobutadiene	111	ug/L	20	22.2	55 - 128
2-Hexanone	104	ug/L	100	104	65 - 154
Isopropylbenzene	105	ug/L	20	21.1	73 - 129
p-Isopropyltoluene	104	ug/L	20	20.8	72 - 123
Methyl acetate	101	ug/L	20	20.1	70 - 130
Methyl cyclohexane	96.1	ug/L	20	19.2	70 - 130
Methyl t-Butyl Ether	104	ug/L	20	20.8	69 - 115
4-Methyl-2-Pentanone(MIBK)	80.2	ug/L	100	80.2	71 - 146
Methylene Chloride	101	ug/L	20	20.1	76 - 121
Naphthalene	104	ug/L	20	20.8	56 - 134
n-Propylbenzene	99.4	ug/L	20	19.9	74 - 122
Styrene	104	ug/L	20	20.8	79 - 123
1,1,1,2-Tetrachloroethane	101	ug/L	20	20.2	78 - 121
1,1,2,2-Tetrachloroethane	97.2	ug/L	20	19.4	74 - 135
Tetrachloroethene	102	ug/L	20	20.4	72 - 124
Toluene	97.2	ug/L	20	19.4	80 - 125
Total Xylenes	98.9	ug/L	60	59.3	79 - 125
1,2,3-Trichlorobenzene	99.7	ug/L	20	19.9	61 - 126
1,2,4-Trichlorobenzene	106	ug/L	20	21.2	67 - 123
1,1,1-Trichloroethane	107	ug/L	20	21.4	66 - 130
1,1,2-Trichloroethane	95.4	ug/L	20	19.1	82 - 126
Trichloroethene	99.3	ug/L	20	19.9	77 - 124
Trichlorofluoromethane	101	ug/L	20	20.1	38 - 123
1,2,3-Trichloropropane	101	ug/L	20	20.2	75 - 132
1,2,4-Trimethylbenzene	102	ug/L	20	20.4	76 - 125
Vinyl Acetate	99.4	ug/L	20	19.9	58 - 136
Vinyl Chloride	94.9	ug/L	20	19.0	27 - 138
o-Xylene	98.7	ug/L	20	19.7	79 - 124
mp-Xylene	98.9	ug/L	40	39.6	79 - 125
1,2-Dichloroethane-d4 (S)	114	%			62 - 133
4-Bromofluorobenzene (S)	104	%			79 - 114
Dibromofluoromethane (S)	106	%			78 - 116
Toluene-d8 (S)	101	%			76 - 127

MATRIX SPIKE: 2938114 DUPLICATE: 2938115 ORIGINAL: 3029976004

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD

QUALITY CONTROL DATA

Workorder: 3029818 LMC MRC / 95840ACM

Acetone	8.66948	ug/L	100	95.6425	110.482	87	102	40 - 151	14.4	40
tert-Amyl methyl ether	0	ug/L	20	21.9742	22.3612	110	112	75 - 121	1.75	40
Benzene	0	ug/L	20	21.5598	20.9401	108	105	80 - 124	2.92	26
Bromobenzene	0	ug/L	20	20.9645	20.3328	105	102	81 - 119	3.06	17
Bromochloromethane	0	ug/L	20	21.4809	19.7469	107	98.7	73 - 117	8.41	19
Bromodichloromethane	0	ug/L	20	22.5878	21.7913	113	109	79 - 126	3.59	16
Bromoform	0	ug/L	20	17.2017	17.7945	86	89	70 - 123	3.39	16
Bromomethane	.72384	ug/L	20	17.96	20.3658	86.2	98.2	45 - 148	12.6	26
2-Butanone	0	ug/L	100	90.0202	100.546	90	101	50 - 152	11	16
tert-Butyl Alcohol	0	ug/L	100	121.114	139.402	121	139	17 - 168	14	40
n-Butylbenzene	0	ug/L	20	21.9987	22.1688	110	111	71 - 130	.77	20
tert-Butylbenzene	0	ug/L	20	21.4549	21.229	107	106	72 - 124	1.06	17
sec-Butylbenzene	0	ug/L	20	22.3738	22.5414	112	113	72 - 127	.75	17
Carbon Disulfide	0	ug/L	20	20.2399	18.6872	101	93.4	57 - 131	7.98	28
Carbon Tetrachloride	0	ug/L	20	22.4989	21.8721	112	109	62 - 132	2.83	17
Chlorobenzene	0	ug/L	20	20.4785	19.634	102	98.2	85 - 117	4.21	15
Chlorodibromomethane	0	ug/L	20	20.3333	19.9289	102	99.6	77 - 122	2.01	15
Chloroethane	0	ug/L	20	19.9793	19.0357	99.9	95.2	51 - 142	4.84	24
2-Chloroethylvinyl ether	0	ug/L	20	.0795	.07607	.4*	.38*	1 - 150	4.42	40
Chloroform	0	ug/L	20	21.6908	20.6716	108	103	78 - 122	4.81	16
Chloromethane	0	ug/L	20	18.2151	20.0243	91.1	100	38 - 156	9.46	27
o-Chlorotoluene	0	ug/L	20	21.474	21.0793	107	105	78 - 126	1.86	17
p-Chlorotoluene	0	ug/L	20	21.3945	20.9094	107	105	78 - 125	2.29	16
Cyclohexane	0	ug/L	20	22.3342	21.8363	112	109	66 - 130	2.25	20
1,2-Dibromo-3-chloropropane	0	ug/L	20	19.0289	22.0485	95.1	110	59 - 133	14.7	26
1,2-Dibromoethane	0	ug/L	20	20.2635	20.2198	101	101	80 - 124	.22	19
Dibromomethane	0	ug/L	20	22.1779	21.2724	111	106	81 - 125	4.17	16
1,2-Dichlorobenzene	0	ug/L	20	21.222	20.8293	106	104	82 - 118	1.87	15
1,3-Dichlorobenzene	0	ug/L	20	20.5654	20.1046	103	101	81 - 118	2.27	16
1,4-Dichlorobenzene	0	ug/L	20	20.8987	20.2515	104	101	81 - 116	3.15	15
Dichlorodifluoromethane	0	ug/L	20	19.5686	18.6556	97.8	93.3	17 - 166	4.78	24
1,1-Dichloroethane	0	ug/L	20	21.5814	20.7897	108	104	78 - 124	3.74	15
1,2-Dichloroethane	0	ug/L	20	24.1527	23.1099	121	116	70 - 133	4.41	19
1,1-Dichloroethene	0	ug/L	20	23.2005	22.4219	116	112	63 - 128	3.41	21
1,2-Dichloroethene, Total	0	ug/L	40	45.8156	44.039	115	110	78 - 125	3.95	40
cis-1,2-Dichloroethene	0	ug/L	20	22.3441	21.6801	112	108	78 - 125	3.02	21
trans-1,2-Dichloroethene	0	ug/L	20	23.4715	22.3589	117	112	71 - 122	4.86	22
1,3-Dichloropropane	0	ug/L	20	20.0414	19.6238	100	98.1	82 - 126	2.11	15
2,2-Dichloropropane	0	ug/L	20	20.7257	19.7027	104	98.5	64 - 129	5.06	18
1,2-Dichloropropane	0	ug/L	20	21.6141	21.0819	108	105	81 - 127	2.49	15
cis-1,3-Dichloropropene	0	ug/L	20	19.7998	18.8377	99	94.2	81 - 121	4.98	16
trans-1,3-Dichloropropene	0	ug/L	20	20.6622	19.9569	103	99.8	78 - 126	3.47	18
1,3-Dichloropropene, Total	0	ug/L	40	40.462	38.7946	101	97	80 - 123	4.21	16
Diisopropyl ether	0	ug/L	20	22.4947	21.6743	112	108	74 - 131	3.71	15
Ethyl tert-butyl ether	0	ug/L	20	22.6842	21.8632	113	109	75 - 123	3.69	16
Ethylbenzene	0	ug/L	20	20.8314	20.4435	104	102	80 - 124	1.88	19

QUALITY CONTROL DATA

Workorder: 3029818 LMC MRC / 95840ACM

Freon 113	0	ug/L	20	20.9512	20.2925	105	101	50 - 130	3.19	26
Hexachlorobutadiene	0	ug/L	20	22.8576	22.0098	114	110	55 - 128	3.78	35
2-Hexanone	0	ug/L	100	101.706	111.793	102	112	65 - 154	9.45	17
Isopropylbenzene	0	ug/L	20	22.4364	21.7224	112	109	73 - 129	3.23	18
p-Isopropyltoluene	0	ug/L	20	22.1205	22.4532	111	112	72 - 123	1.49	17
Methyl acetate	0	ug/L	20	15.3794	16.453	76.9	82.3	70 - 130	6.75	18
Methyl cyclohexane	0	ug/L	20	21.0903	20.7113	105	104	70 - 130	1.81	18
Methyl t-Butyl Ether	0	ug/L	20	21.3677	20.8095	107	104	69 - 115	2.65	20
4-Methyl-2-Pentanone(MIBK)	0	ug/L	100	79.5463	85.5928	79.5	85.6	71 - 146	7.32	16
Methylene Chloride	0	ug/L	20	20.7918	20.0472	104	100	76 - 121	3.65	17
Naphthalene	0	ug/L	20	19.6319	21.8742	98.2	109	56 - 134	10.8	40
n-Propylbenzene	0	ug/L	20	21.3543	20.7662	107	104	74 - 122	2.79	20
Styrene	0	ug/L	20	21.5177	20.3988	108	102	79 - 123	5.34	16
1,1,1,2-Tetrachloroethane	0	ug/L	20	21.6478	20.8277	108	104	78 - 121	3.86	16
1,1,2,2-Tetrachloroethane	0	ug/L	20	19.6644	19.8466	98.3	99.2	74 - 135	.92	16
Tetrachloroethene	0	ug/L	20	21.2157	20.8358	106	104	72 - 124	1.81	38
Toluene	.25584	ug/L	20	20.8664	20.0381	103	98.9	80 - 125	4.05	20
Total Xylenes	0	ug/L	60	63.3954	61.5749	106	103	79 - 125	2.91	35
1,2,3-Trichlorobenzene	0	ug/L	20	20.2757	21.0523	101	105	61 - 126	3.76	36
1,2,4-Trichlorobenzene	0	ug/L	20	21.7523	22.1283	109	111	67 - 123	1.71	22
1,1,1-Trichloroethane	0	ug/L	20	23.8717	23.1493	119	116	66 - 130	3.07	20
1,1,2-Trichloroethane	0	ug/L	20	19.9664	19.4541	99.8	97.3	82 - 126	2.6	15
Trichloroethene	0	ug/L	20	21.2705	20.466	106	102	77 - 124	3.86	18
Trichlorofluoromethane	0	ug/L	20	24.1421	23.8429	121	119	38 - 123	1.25	23
1,2,3-Trichloropropane	0	ug/L	20	20.3045	20.8854	102	104	75 - 132	2.82	19
1,2,4-Trimethylbenzene	0	ug/L	20	21.4474	20.8234	107	104	76 - 125	2.95	24
Vinyl Acetate	0	ug/L	20	16.2866	16.1281	81.4	80.6	58 - 136	.98	17
Vinyl Chloride	0	ug/L	20	21.0862	20.094	105	100	27 - 138	4.82	40
o-Xylene	0	ug/L	20	20.9008	20.5215	105	103	79 - 124	1.83	19
mp-Xylene	0	ug/L	40	42.4946	41.0534	106	103	79 - 125	3.45	21
1,2-Dichloroethane-d4 (S)	119	%				119	117	62 - 133		
4-Bromofluorobenzene (S)	104	%				104	102	79 - 114		
Dibromofluoromethane (S)	108	%				108	106	78 - 116		
Toluene-d8 (S)	99.8	%				99.8	99	76 - 127		

QUALITY CONTROL DATA

Workorder: 3029818 LMC MRC / 95840ACM

QC Batch: VOMS/50718 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 8260B

Associated Lab Samples: 3029818009, 3029818015

METHOD BLANK: 2938830

Parameter	Blank Result	Units	Reporting Limit
Acetone	ND	ug/L	10.0
tert-Amyl methyl ether	ND	ug/L	1.0
Benzene	ND	ug/L	1.0
Bromobenzene	ND	ug/L	1.0
Bromochloromethane	ND	ug/L	1.0
Bromodichloromethane	ND	ug/L	1.0
Bromoform	ND	ug/L	1.0
Bromomethane	0.81J	ug/L	1.0
2-Butanone	ND	ug/L	10.0
tert-Butyl Alcohol	ND	ug/L	10.0
n-Butylbenzene	ND	ug/L	2.0
tert-Butylbenzene	ND	ug/L	2.0
sec-Butylbenzene	ND	ug/L	1.0
Carbon Disulfide	ND	ug/L	1.0
Carbon Tetrachloride	ND	ug/L	1.0
Chlorobenzene	ND	ug/L	1.0
Chlorodibromomethane	ND	ug/L	1.0
Chloroethane	ND	ug/L	1.0
2-Chloroethylvinyl ether	ND	ug/L	2.0
Chloroform	ND	ug/L	1.0
Chloromethane	ND	ug/L	1.0
o-Chlorotoluene	ND	ug/L	1.0
p-Chlorotoluene	ND	ug/L	1.0
Cyclohexane	ND	ug/L	1.0
1,2-Dibromo-3-chloropropane	ND	ug/L	7.0
1,2-Dibromoethane	ND	ug/L	1.0
Dibromomethane	ND	ug/L	1.0
1,2-Dichlorobenzene	ND	ug/L	1.0
1,3-Dichlorobenzene	ND	ug/L	1.0
1,4-Dichlorobenzene	ND	ug/L	1.0
Dichlorodifluoromethane	ND	ug/L	1.0
1,1-Dichloroethane	ND	ug/L	1.0
1,2-Dichloroethane	ND	ug/L	1.0
1,1-Dichloroethene	ND	ug/L	1.0
1,2-Dichloroethene, Total	ND	ug/L	2.0
cis-1,2-Dichloroethene	ND	ug/L	1.0
trans-1,2-Dichloroethene	ND	ug/L	1.0

QUALITY CONTROL DATA

Workorder: 3029818 LMC MRC / 95840ACM

1,3-Dichloropropane	ND	ug/L	1.0
2,2-Dichloropropane	ND	ug/L	1.0
1,2-Dichloropropane	ND	ug/L	1.0
cis-1,3-Dichloropropene	ND	ug/L	1.0
trans-1,3-Dichloropropene	ND	ug/L	1.0
1,3-Dichloropropene, Total	ND	ug/L	2.0
Diisopropyl ether	ND	ug/L	1.0
Ethyl tert-butyl ether	ND	ug/L	1.0
Ethylbenzene	ND	ug/L	1.0
Freon 113	ND	ug/L	1.0
Hexachlorobutadiene	ND	ug/L	5.0
2-Hexanone	ND	ug/L	5.0
Isopropylbenzene	ND	ug/L	1.0
p-Isopropyltoluene	ND	ug/L	1.0
Methyl acetate	ND	ug/L	2.0
Methyl cyclohexane	ND	ug/L	1.0
Methyl t-Butyl Ether	ND	ug/L	1.0
4-Methyl-2-Pentanone(MIBK)	ND	ug/L	5.0
Methylene Chloride	ND	ug/L	1.0
Naphthalene	ND	ug/L	2.0
n-Propylbenzene	ND	ug/L	1.0
Styrene	ND	ug/L	1.0
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0
Tetrachloroethene	ND	ug/L	1.0
Toluene	ND	ug/L	1.0
Total Xylenes	ND	ug/L	3.0
1,2,3-Trichlorobenzene	ND	ug/L	2.0
1,2,4-Trichlorobenzene	ND	ug/L	2.0
1,1,1-Trichloroethane	ND	ug/L	1.0
1,1,2-Trichloroethane	ND	ug/L	1.0
Trichloroethene	ND	ug/L	1.0
Trichlorofluoromethane	ND	ug/L	1.0
1,2,3-Trichloropropane	ND	ug/L	2.0
1,2,4-Trimethylbenzene	ND	ug/L	1.0
Vinyl Acetate	ND	ug/L	5.0
Vinyl Chloride	ND	ug/L	1.0
o-Xylene	ND	ug/L	1.0
mp-Xylene	ND	ug/L	2.0
1,2-Dichloroethane-d4 (S)	126	%	62 - 133
4-Bromofluorobenzene (S)	105	%	79 - 114
Dibromofluoromethane (S)	108	%	78 - 116
Toluene-d8 (S)	102	%	76 - 127

QUALITY CONTROL DATA

Workorder: 3029818 LMC MRC / 95840ACM

LABORATORY CONTROL SAMPLE: 2938831

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acetone	106	ug/L	100	106	40 - 151
tert-Amyl methyl ether	110	ug/L	20	22.0	75 - 121
Benzene	104	ug/L	20	20.7	80 - 124
Bromobenzene	101	ug/L	20	20.3	81 - 119
Bromochloromethane	100	ug/L	20	20.1	73 - 117
Bromodichloromethane	111	ug/L	20	22.2	79 - 126
Bromoform	108	ug/L	20	21.6	70 - 123
Bromomethane	127	ug/L	20	25.4	45 - 148
2-Butanone	106	ug/L	100	106	50 - 152
tert-Butyl Alcohol	143	ug/L	100	143	17 - 168
n-Butylbenzene	106	ug/L	20	21.3	71 - 130
tert-Butylbenzene	106	ug/L	20	21.1	72 - 124
sec-Butylbenzene	108	ug/L	20	21.6	72 - 127
Carbon Disulfide	102	ug/L	20	20.4	57 - 131
Carbon Tetrachloride	116	ug/L	20	23.3	62 - 132
Chlorobenzene	98.7	ug/L	20	19.7	85 - 117
Chlorodibromomethane	107	ug/L	20	21.4	77 - 122
Chloroethane	95.1	ug/L	20	19.0	51 - 142
2-Chloroethylvinyl ether	103	ug/L	20	20.5	1 - 150
Chloroform	106	ug/L	20	21.3	78 - 122
Chloromethane	85.9	ug/L	20	17.2	38 - 156
o-Chlorotoluene	106	ug/L	20	21.2	78 - 126
p-Chlorotoluene	106	ug/L	20	21.2	78 - 125
Cyclohexane	108	ug/L	20	21.6	66 - 130
1,2-Dibromo-3-chloropropane	119	ug/L	20	23.9	59 - 133
1,2-Dibromoethane	101	ug/L	20	20.3	80 - 124
Dibromomethane	110	ug/L	20	22.0	81 - 125
1,2-Dichlorobenzene	104	ug/L	20	20.8	82 - 118
1,3-Dichlorobenzene	101	ug/L	20	20.2	81 - 118
1,4-Dichlorobenzene	103	ug/L	20	20.5	81 - 116
Dichlorodifluoromethane	77.4	ug/L	20	15.5	17 - 166
1,1-Dichloroethane	107	ug/L	20	21.4	78 - 124
1,2-Dichloroethane	121	ug/L	20	24.2	70 - 133
1,1-Dichloroethene	115	ug/L	20	22.9	63 - 128
1,2-Dichloroethene, Total	113	ug/L	40	45.1	78 - 125
cis-1,2-Dichloroethene	110	ug/L	20	22.1	78 - 125
trans-1,2-Dichloroethene	115	ug/L	20	23.0	71 - 122
1,3-Dichloropropane	97.9	ug/L	20	19.6	82 - 126
2,2-Dichloropropane	118	ug/L	20	23.6	64 - 129
1,2-Dichloropropane	103	ug/L	20	20.7	81 - 127
cis-1,3-Dichloropropene	102	ug/L	20	20.3	81 - 121
trans-1,3-Dichloropropene	106	ug/L	20	21.2	78 - 126

QUALITY CONTROL DATA

Workorder: 3029818 LMC MRC / 95840ACM

1,3-Dichloropropene, Total	104	ug/L	40	41.5	80 - 123
Diisopropyl ether	109	ug/L	20	21.8	74 - 131
Ethyl tert-butyl ether	111	ug/L	20	22.3	75 - 123
Ethylbenzene	103	ug/L	20	20.5	80 - 124
Freon 113	104	ug/L	20	20.7	50 - 130
Hexachlorobutadiene	114	ug/L	20	22.8	55 - 128
2-Hexanone	117	ug/L	100	117	65 - 154
Isopropylbenzene	109	ug/L	20	21.8	73 - 129
p-Isopropyltoluene	106	ug/L	20	21.2	72 - 123
Methyl acetate	108	ug/L	20	21.6	70 - 130
Methyl cyclohexane	100	ug/L	20	20.1	70 - 130
Methyl t-Butyl Ether	106	ug/L	20	21.2	69 - 115
4-Methyl-2-Pentanone(MIBK)	89.2	ug/L	100	89.2	71 - 146
Methylene Chloride	100	ug/L	20	20.0	76 - 121
Naphthalene	112	ug/L	20	22.3	56 - 134
n-Propylbenzene	102	ug/L	20	20.5	74 - 122
Styrene	102	ug/L	20	20.5	79 - 123
1,1,1,2-Tetrachloroethane	106	ug/L	20	21.1	78 - 121
1,1,2,2-Tetrachloroethane	103	ug/L	20	20.6	74 - 135
Tetrachloroethene	106	ug/L	20	21.3	72 - 124
Toluene	99	ug/L	20	19.8	80 - 125
Total Xylenes	103	ug/L	60	61.6	79 - 125
1,2,3-Trichlorobenzene	106	ug/L	20	21.3	61 - 126
1,2,4-Trichlorobenzene	112	ug/L	20	22.3	67 - 123
1,1,1-Trichloroethane	120	ug/L	20	23.9	66 - 130
1,1,2-Trichloroethane	98	ug/L	20	19.6	82 - 126
Trichloroethene	103	ug/L	20	20.6	77 - 124
Trichlorofluoromethane	118	ug/L	20	23.6	38 - 123
1,2,3-Trichloropropane	110	ug/L	20	22.0	75 - 132
1,2,4-Trimethylbenzene	105	ug/L	20	21.0	76 - 125
Vinyl Acetate	108	ug/L	20	21.6	58 - 136
Vinyl Chloride	88.8	ug/L	20	17.8	27 - 138
o-Xylene	102	ug/L	20	20.4	79 - 124
mp-Xylene	103	ug/L	40	41.2	79 - 125
1,2-Dichloroethane-d4 (S)	123	%			62 - 133
4-Bromofluorobenzene (S)	104	%			79 - 114
Dibromofluoromethane (S)	109	%			78 - 116
Toluene-d8 (S)	100	%			76 - 127

MATRIX SPIKE: 2938847 DUPLICATE: 2938848 ORIGINAL: 3030432008

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD

QUALITY CONTROL DATA

Workorder: 3029818 LMC MRC / 95840ACM

Benzene	6.98378	ug/L	20	29.3634	27.9152	112	105	80 - 124	5.06	26
Ethylbenzene	0	ug/L	20	21.1023	21.4746	106	107	80 - 124	1.75	19
Isopropylbenzene	.66437	ug/L	20	23.9372	22.8402	116	111	73 - 129	4.69	18
Methyl t-Butyl Ether	0	ug/L	20	22.7857	22.4215	114	112	69 - 115	1.61	20
Naphthalene	0	ug/L	20	19.9367	22.1897	99.7	111	56 - 134	10.7	40
Toluene	.47813	ug/L	20	21.1593	21.6048	103	106	80 - 125	2.08	20
Total Xylenes	.7592	ug/L	60	64.0288	65.7789	105	108	79 - 125	2.7	35
1,2,4-Trimethylbenzene	0	ug/L	20	22.2097	21.5314	111	108	76 - 125	3.1	24
o-Xylene	0	ug/L	20	20.7339	21.9211	104	110	79 - 124	5.57	19
mp-Xylene	.7592	ug/L	40	43.2949	43.8579	106	108	79 - 125	1.29	21
1,2-Dichloroethane-d4 (S)	122	%				122	118	62 - 133		
4-Bromofluorobenzene (S)	105	%				105	103	79 - 114		
Dibromofluoromethane (S)	107	%				107	106	78 - 116		
Toluene-d8 (S)	98	%				98	104	76 - 127		

QUALITY CONTROL DATA QUALIFIERS

Workorder: 3029818 LMC MRC / 95840ACM

QUALITY CONTROL PARAMETER QUALIFIERS

Lab ID	#	Sample Type	Analytical Method	Analyte
2938012	1	Method Blank	SW846 8260B	Naphthalene
The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Naphthalene.				
2938013	2	Lab Control Standard	SW846 8260B	2-Chloroethylvinyl ether
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte 2-Chloroethylvinyl ether. The % Recovery was reported as 153 and the control limits were 1 to 150.				
2938013	3	Lab Control Standard	SW846 8260B	tert-Amyl methyl ether
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte tert-Amyl methyl ether. The % Recovery was reported as 125 and the control limits were 75 to 121.				

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
3029818001	MRC-SW2A-042419	SW846 3510C	EXTR/56278	8270 SIM	SVMS/32998
3029818002	MRC-SW1A-042419	SW846 3510C	EXTR/56278	8270 SIM	SVMS/32998
3029818001	MRC-SW2A-042419			SW846 8260B	VOMS/50700
3029818002	MRC-SW1A-042419			SW846 8260B	VOMS/50700
3029818003	MRC-SW5B-S-042419			SW846 8260B	VOMS/50700
3029818004	MRC-SW5A1-S-042419			SW846 8260B	VOMS/50700
3029818005	MRC-SW5A2-S-042419			SW846 8260B	VOMS/50700
3029818006	TB-042419-1			SW846 8260B	VOMS/50700
3029818007	MRC-SW11B-S-042419			SW846 8260B	VOMS/50700
3029818008	MRC-SW13A-S-042419			SW846 8260B	VOMS/50700
3029818010	MRC-SW11A-S-0424219			SW846 8260B	VOMS/50702
3029818012	MRC-SW18A-S-042419			SW846 8260B	VOMS/50702
3029818013	MRC-SW16A-S-042419			SW846 8260B	VOMS/50702
3029818014	MRC-SW15A-S-042419			SW846 8260B	VOMS/50702
3029818011	TB-042419-2			SW846 8260B	VOMS/50704
3029818009	MRC-SW12A-S-042419			SW846 8260B	VOMS/50718
3029818015	TB-042419-3			SW846 8260B	VOMS/50718

ALS Environmental
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Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC ALS

30298188

Client Name: AECOM

Address: 12420 Milestone Center Drive, Suite 150
Germantown, MD 20876

Contact: Ravi Damera & Holly Brown

Phone#: 301-674-3199

Project Name/#: LMC MRC / 95840ACM

Bill To: Ravi Damera

TAT [X] Normal-Standard TAT is 10-12 business days.
[ ] Rush-Subject to ALS approval and surcharges.

Date Required: Approved?

Email? [X] -Y ravi.damera@aecom.com

Fax? [ ] -Y No.:

Container Type	CG	AG	P	P	AG	CG	P	P	P	AG
Container Size	40mL	1L	250mL	250mL	1L	40mL	500mL	250mL	250mL	40mL
Preservative	HCl	-	HNO3	NH4OH	-	HCl	-	-	H2SO4	HCl

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	VOCs (8260C)	1,4-Dioxane (8270D SIM)	TAL Metals (6010C/6020A/7470A)	Hexavalent Chromium (218.6)	PCB Homologs (680/8260C)	MEE (RSK 175)	MNA (Cl, NO2, NO3, SO4, TDS, Ortho)	Alkalinity (S2320B)	Ammonia-N (D6919)	TOC (5310B)	Sample/COC Comments
					Enter Number of Containers Per Sample or Field Results Below.										
MRC-SW2A-042419	4/24/2019	1040	G	SW	2	2									
MRC-SW1A-042419	4/24/2019	1015	G	SW	2	2									
MRC-SW5B-S-042419	4/24/2019	1120	G	SW	2				2						
MRC-SW5A1-S-042419	4/24/2019	1145	G	SW	2				2						
MRC-SW5A2-S-042419	4/24/2019	1200	G	SW	2				2						
TB-042419-1	NA	NA	G	WQ	2										Trip Blank

Receipt Information (completed by receiving Lab)

Cooler Temp: 3 Therm ID: 4C1

No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(If present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. In Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

ALS Field Services: _Pickup _Labor _Composite Sampling _Rental Equipment _Other:

Project Comments: Please also email data to holly.brown@aecom.com and naoum.tavantzis@aecom.com

LOGGED BY(signature): DATE TIME

REVIEWED BY(signature): DATE TIME

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature] / AECOM	4-24-19	1636	2 [signature] / ALS Courier	4/22	1636
3 [signature]	4/24		4		
5 ALS Courier			6	4/24/19	2330
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE [ ]

Special Processing: USACE [ ] Navy [ ]

State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] NC [ ]

Reportable to PADEP? Yes [ ]

PWSID # _____

Sample Disposal: Lab [X] Special [ ]

EDDS: Format Type- EQuIS and .csv

* G=Grab; C=Composite

**Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS Environmental
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Middletown, PA 17057
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F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 3029818 — 2 of 3
ALS Quote #:

Client Name: AECOM
Address: 12420 Milestone Center Drive, Suite 150
Germantown, MD 20876
Contact: Ravi Damera & Holly Brown
Phone#: 301-674-3199
Project Name/#: LMC MRC / 95840ACM
Bill To: Ravi Damera
TAT [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required: Approved?
Email? [X] -Y ravi.damera@aecom.com
Fax? [ ] -Y No.:

Container Type	CG	AG	P	P	AG	CG	P	P	P	AG
Container Size	40mL	1L	250mL	250mL	1L	40mL	500mL	250mL	250mL	40mL
Preservative	HCl	-	HNO3	NH4OH	-	HCl	-	-	H2SO4	HCl

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	VOCs (8260C)	1,4-Dioxane (8270D SIM)	TAL Metals (6010C/6020A/7470A)	Hexavalent Chromium (218.6)	PCB Homologs (680/8260C)	MEE (RSK 175)	MNA (Cl, NO2, NO3, SO4, TDS, Ortho)	Alkalinity (S2320B)	Ammonia-N (D6919)	TOC (5310B)	Sample/COC Comments
					Enter Number of Containers Per Sample or Field Results Below.										
MRC-SW11B-S-042419	4/24/2019	1400	G	SW	2				2						
MRC-SW13A-S-042419	4/24/2019	1300	G	SW	2				2						
MRC-SW12A-S-042419	4/24/2019	1320	G	SW	2				2						
MRC-SW11A-S-042419	4/24/2019	1335	G	SW	2				2						
TB-042419-2	NA	NA	G	WQ	2										Trip Blank

Receipt Information (completed by Receiving Lab)
Cooler Temp: 3 Therm ID: 4C1
No. of Coolers: ____

	Y	N	Initial
Custody Seals Present?			
(If present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. in Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

ALS Field Services: _Pickup _Labor _Composite Sampling _Rental Equipment _Other:

Project Comments: Please also email data to holly.brown@aecom.com and naoum.tavantzis@aecom.com

LOGGED BY(signature): DATE TIME
REVIEWED BY(signature): DATE TIME

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 AECOM	4/24/19	1620	2	4/24	1636
3	4/24		4		
5			6	4/24/19	1730
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE [ ]
Special Processing: USACE [ ] Navy [ ]
State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] NC [ ]
Reportable to PADEP? Yes [ ] PWSID #
Sample Disposal: Lab [X] Special [ ]
EDDS: Format Type- EQuIS and .csv

*G=Grab; C=Composite **Matrix - Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057

Rev 10/14

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
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F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 508988 | 3 of 3
ALS Quote #:

Client Name: AECOM
Address: 12420 Milestone Center Drive, Suite 150
Germantown, MD 20876
Contact: Ravi Damera & Holly Brown
Phone#: 301-674-3199
Project Name/#: LMC MRC / 95840ACM
Bill To: Ravi Damera

TAT [x] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required: Approved?
Email? [x] -Y ravi.damara@aecom.com
Fax? [ ] -Y No.:

Container Type	CG	AG	P	P	AG	CG	P	P	P	AG
Container Size	40mL	1L	250mL	250mL	1L	40mL	500mL	250mL	250mL	40mL
Preservative	HCl	-	HNO3	NH4OH	-	HCl	-	-	H2SO4	HCl

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	VOCs (8260C)	1,4-Dioxane (8270D SIM)	TAL Metals (6010C/6020A/7470A)	Hexavalent Chromium (218.6)	PCB Homologs (680/8260C)	MEE (RSK 175)	MNA (Cl, NO2, NO3, SO4, TDS, Ortho)	Alkalinity (S2320B)	Ammonia-N (D6919)	TOC (5310B)	Sample/COC Comments
					Enter Number of Containers Per Sample or Field Results Below.										
MRC-SW18A-S-042419	4/24/2019	1245	G	SW	2				2						
MRC-SW16A-S-042419	4/24/2019	1435	G	SW	2				2						
MRC-SW15A-S-042419	4/24/2019	1420	G	SW	2				2						
TB-042419-3	NA	NA	G	WQ	2										Trip Blank

Receipt Information (completed by Receiving Lab)
Cooler Temp: 3 Therm ID: 4C1
No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(If present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. In Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

ALS Field Services: _Pickup _Labor _Composite Sampling _Rental Equipment _Other:

Project Comments: Please also email data to holly.brown@aecom.com and naoum.tavantzis@aecom.com

LOGGED BY(signature): DATE TIME
REVIEWED BY(signature): DATE TIME

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 AECOM	4-24-19	1636	2	4/24	1636
3	4/24		4		
5			6		
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE [ ]
Special Processing: USACE [ ] Navy [ ]
State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] NC [ ]
Reportable to PADEP? Yes [ ]
PWSID #
Sample Disposal: Lab [X] Special [ ]
EDDS: Format Type- EQuIS and .csv

* G=Grab; C=Composite
**Matrix - Al=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057

Rev 10/14

301 Fulling Mill Road
Middletown, PA 17057
P: (717) 944-5541
F: (717) 944-1430

Condition of Sample Receipt Form

Client:	Work Order #:	Initials:	Date:
AECOM	302988	CW	4.25.19

1. Were airbills / tracking numbers present and recorded?	NONE	YES	NO
Tracking number:			
2. Are Custody Seals on shipping containers intact?	NONE	YES	NO
3. Are Custody Seals on sample containers intact?	NONE	YES	NO
4. Is there a COC (Chain-of-Custody) present?		YES	NO
5. Are the COC and bottle labels complete, legible and in agreement?		YES	NO
5a. Does the COC contain sample locations?		YES	NO
5b. Does the COC contain date and time of sample collection for all samples?		YES	NO
5c. Does the COC contain sample collectors name?		YES	NO
5d. Does the COC note the type(s) of preservation for all bottles?		YES	NO
5e. Does the COC note the number of bottles submitted for each sample?		YES	NO
5f. Does the COC note the type of sample, composite or grab?		YES	NO
5g. Does the COC note the matrix of the sample(s)?		YES	NO
6. Are all aqueous samples requiring preservation preserved correctly?	N/A	YES	NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?		YES	NO
8. Are all samples within holding times for the requested analyses?		YES	NO
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.)		YES	NO
10. Did we receive trip blanks (applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)?	N/A	YES	NO
11. Were the samples received on ice?		YES	NO
12. Were sample temperatures measured at 0.0-6.0°C		YES	NO
13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below		YES	NO
13a. Are the samples required for SDWA compliance reporting?	N/A	YES	NO
13b. Did the client provide a SDWA PWS ID#?	N/A	YES	NO
13c. Are all aqueous unpreserved SDWA samples pH 5-9?	N/A	YES	NO
13d. Did the client provide the SDWA sample location ID/Description?	N/A	YES	NO
13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?	N/A	YES	NO

Cooler #: 1

Temperature (°C): 3

Thermometer ID: 401

COMMENTS (Required for all NO responses above and any sample non-conformance):

Not DW. lw4-2579

Rev. 1/10/2019

May 01, 2019 Service Request No:R1903686

Vanessa Badman
ALS Environmental
34 Dogwood Lane
Middletown, PA 17057

Laboratory Results for: UR115: 3029818

Dear Vanessa,

Enclosed are the results of the sample(s) submitted to our laboratory April 27, 2019
For your reference, these analyses have been assigned our service request number **R1903686.**

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janice Jaeger
Project Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp
dba ALS Environmental

Narrative Documents

ALS Environmental Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

ALS Environmental

Client: ALS Environmental - US
Project: UR115: 3029818
Sample Matrix: Water

Service Request: R1903686
Date Received: 04/27/2019

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Ten water samples were received for analysis at ALS Environmental on 04/27/2019. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivolatiles by GC/MS:

Method 680, 04/28/19: Samples were associated with a closing CCV which failed due to a failed internal standard response. Since none of the reported samples had failed internal standard responses, the failure in the CCV is not representative of the samples. The CCV analyzed after the failure passed criteria and was used to accept the sample results. This CCV was run 7 minutes out of tune time.

Method 680, 04/28/2019: The control limit was exceeded for one or more surrogates in the closing Continuing Calibration Verification (CCV). The surrogates were within acceptance limits for the associated field samples. The data quality was not significantly affected and no further corrective action was taken.

Method 680, 04/28/2019: The upper control limit was exceeded for one or more analytes in the closing Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 680, 04/30/2019: The control limits were exceeded for analytes in the Continuing Calibration Verification (CCV). The QC failure was most likely due to the composition of the sample(s) immediately preceding the failing CCV. In order to protect the integrity of the instrument, no further corrective action was taken. Results should be considered estimated.

Method 680, R1903686-006, -007, -008, -009, -010: The control limits were exceeded for one or more surrogates due to suspected matrix interferences. Blanks were run between samples to help eliminate the matrix interference. Although it helped, some of the surrogates still failed. There is a steady decline in response with each sample that ran.

Approved by _____ Date 05/01/2019

SAMPLE DETECTION SUMMARY

CLIENT ID: 3029818 003			Lab ID: R1903686-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0043	J	0.0025	0.0054	ug/L	680

CLIENT ID: 3029818 004			Lab ID: R1903686-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0035	J	0.0023	0.0050	ug/L	680

CLIENT ID: 3029818 005			Lab ID: R1903686-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0070		0.0025	0.0054	ug/L	680

CLIENT ID: 3029818 007			Lab ID: R1903686-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0054	J	0.0025	0.0054	ug/L	680

CLIENT ID: 3029818 008			Lab ID: R1903686-005			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0082		0.0025	0.0054	ug/L	680

CLIENT ID: 3029818 009			Lab ID: R1903686-006			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0052		0.0024	0.0052	ug/L	680

CLIENT ID: 3029818 010			Lab ID: R1903686-007			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0054	J	0.0025	0.0054	ug/L	680

CLIENT ID: 3029818 012			Lab ID: R1903686-008			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0030	J	0.0023	0.0050	ug/L	680

CLIENT ID: 3029818 013			Lab ID: R1903686-009			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0076		0.0025	0.0054	ug/L	680

CLIENT ID: 3029818 014			Lab ID: R1903686-010			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Dichlorobiphenyls, Total	0.0059		0.0025	0.0054	ug/L	680

Sample Receipt Information

ALS Environmental Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ALS Environmental - US
Project: UR115: 3029818

Service Request: R1903686

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1903686-001	3029818 003	4/24/2019	1120
R1903686-002	3029818 004	4/24/2019	1145
R1903686-003	3029818 005	4/24/2019	1200
R1903686-004	3029818 007	4/24/2019	1400
R1903686-005	3029818 008	4/24/2019	1300
R1903686-006	3029818 009	4/24/2019	1320
R1903686-007	3029818 010	4/24/2019	1335
R1903686-008	3029818 012	4/24/2019	1245
R1903686-009	3029818 013	4/24/2019	1435
R1903686-010	3029818 014	4/24/2019	1420

ALS Environmental

34 Dogwood Lane • Middletown, PA 17057 • 717.944.5541 • Fax: 717.944.1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Generated by ALS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #:	1 of
ALS Quote #:	1

Client Name: ALS Environmental

Address: 34 Dogwood Lane
Middletown, PA 17057

Contact: Vanessa Badman

Phone#: (717) 944-5541

Project Name/#: UR115: 3029818

Bill To: ALS Environmental

TAT [ ] Normal-Standard TAT is 10-12 business days.
[X] Rush-Subject to ALS approval and surcharges.

Date Required: 5/3/2019 Approved By:

Email? [ ] -Y

Fax? [ ] -Y No.:

Container Type: AN
Container Size: 1 L
Preservative: None

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	680 (PCB Homologs)	*Report to the MDL, QC lab report needed, EQUIS EDD and BASIC EDD.	Sample/COC Comments
					Enter Number of Containers Per Sample or Field Results Below.		
1 3029818 003	4/24/19	1120	G	WT	2	*	
2 3029818 004	4/24/19	1145	G	WT	2	*	Sub to ALS Rochester
3 3029818 005	4/24/19	1200	G	WT	2	*	
4 3029818 007	4/24/19	1400	G	WT	2	*	
5 3029818 008	4/24/19	1300	G	WT	2	*	
6 3029818 009	4/24/19	1320	G	WT	2	*	
7 3029818 010	4/24/19	1335	G	WT	2	*	
8 3029818 012	4/24/19	1245	G	WT	2	*	
9 3029818 013	4/24/19	1435	G	WT	2	*	
10 3029818 014	4/24/19	1420	G	WT	2	*	

Receipt Information (completed by Receiving Lab)

Cooler Temp: ____ Therm ID: ____

No. of Coolers: ____

	Y	N	Initial
Custody Seals Present?			
(if present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. in Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

R1903686 5
ALS Environmental
UR115: 3029818

ALS Field Services: ☐Pickup ☐Labor ☐Composite Sampling ☐Rental Equipment ☐Other:

Project Comments:

LOGGED BY(signature): Date: Time:

REVIEWED BY(signature): Date: Time:

Data Deliverables: [ ] Standard [X] CLP-like [ ] USACE

Special Processing: USACE [ ] Navy [ ]

State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] NC [X] MD

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1	4-26-19	1500	2 ALS	4/27/19	09:00
3			4		
5			6		
7			8		
9			10		

Reportable to PADEP? Yes [ ]
PWSID #

Sample Disposal: Lab [X] Special [ ]

EDDS: Format Type- EQUIS EDD/BASIC EDD

* G=Grab; C=Composite **Matrix - Ar=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057

Rev 8/04

R1903686 5
ALS Environmental
UR116: 3029615

Cooler Receipt and Preservation Check Form

Project/Client ALS- Middletown Folder Number R1903686

Cooler received on 4-27-19 by: ME

COURIER: ALS UPS (FEDEX) VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	Y (N)	
2	**Custody papers** properly completed (ink, signed)?	(Y) N	
3	Did all bottles arrive in good **condition** (unbroken)?	Y N	
4	Circle: **Wet Ice** **Dry Ice** **Gel packs** present?	(Y) N	
5a	**Perchlorate** samples have required headspace?	Y N (NA)	
5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y N (NA)	
6	Where did the bottles originate?	ALS/ROC (CLIENT)	
7	Soil VOA received as:	Bulk Encore 5035set (NA)	

8. Temperature Readings Date: 4-27-19 Time: 09:25 ID: IR#7 (IR#10) From: Temp Blank (Sample Bottle)

Observed Temp (°C)	3.6	4.3	2.6	3.2	3.5	2.1	
Correction Factor (°C)	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	
Corrected Temp (°C)	3.4	4.1	2.4	3.6	3.3	1.9	
Temp from:Type of bottle	1 liter Amber						
Within 0-6°C?	(Y) N	(Y) N	(Y) N	(Y) N	(Y) N	(Y) N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-002 by ME on 4-27-19 at ____
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown/Preservation Check**: Date: 4-27-19 Time: 10:05 by: ME

9.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(YES)	NO
10.	Did all bottle labels and tags agree with custody papers?	(YES)	NO
11.	Were correct containers used for the tests indicated?	(YES)	NO
12.	Were 5035 vials acceptable (no extra labels, not leaking)?	YES	NO (N/A)
13.	Air Samples: Cassettes / Tubes Intact with MS? Canisters Pressurized	Tedlar® Bags Inflated	(N/A)

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-						
		HCl	**	**						

**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: Client bottles

Explain all Discrepancies/ Other Comments:

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

Labels secondary reviewed by: ME

PC Secondary Review: [signature] 4/29/19

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

Miscellaneous Forms

ALS Environmental Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
#	Spike was diluted out
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

ACCREDITED IN ACCORDANCE WITH nelac

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	Pennsylvania ID# 68-786
Delaware Approved	New Hampshire ID # 2941	Rhode Island ID # 158
DoD ELAP #65817	New York ID # 10145	Virginia #460167
Florida ID # E87674	North Carolina #676	

[1] Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL

Client: ALS Environmental - US
Project: UR115: 3029818/

Service Request: R1903686

Sample Name: 3029818 003
Lab Code: R1903686-001
Sample Matrix: Water

Date Collected: 04/24/19
Date Received: 04/27/19

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Sample Name: 3029818 004
Lab Code: R1903686-002
Sample Matrix: Water

Date Collected: 04/24/19
Date Received: 04/27/19

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Sample Name: 3029818 005
Lab Code: R1903686-003
Sample Matrix: Water

Date Collected: 04/24/19
Date Received: 04/27/19

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Sample Name: 3029818 007
Lab Code: R1903686-004
Sample Matrix: Water

Date Collected: 04/24/19
Date Received: 04/27/19

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Sample Name: 3029818 008
Lab Code: R1903686-005
Sample Matrix: Water

Date Collected: 04/24/19
Date Received: 04/27/19

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Client: ALS Environmental - US
Project: UR115: 3029818/

Service Request: R1903686

Sample Name: 3029818 009
Lab Code: R1903686-006
Sample Matrix: Water

Date Collected: 04/24/19
Date Received: 04/27/19

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Sample Name: 3029818 010
Lab Code: R1903686-007
Sample Matrix: Water

Date Collected: 04/24/19
Date Received: 04/27/19

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Sample Name: 3029818 012
Lab Code: R1903686-008
Sample Matrix: Water

Date Collected: 04/24/19
Date Received: 04/27/19

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Sample Name: 3029818 013
Lab Code: R1903686-009
Sample Matrix: Water

Date Collected: 04/24/19
Date Received: 04/27/19

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

Sample Name: 3029818 014
Lab Code: R1903686-010
Sample Matrix: Water

Date Collected: 04/24/19
Date Received: 04/27/19

Analysis Method	Extracted/Digested By	Analyzed By
680	JMISIUREWICZ	JMISIUREWICZ

INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Semivolatile Organic Compounds by GC/MS

ALS Environmental Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R1903686
Project:	UR115: 3029818	**Date Collected:**	04/24/19 11:20
Sample Matrix:	Water	**Date Received:**	04/27/19 10:00
Sample Name:	3029818 003	**Units:**	ug/L
Lab Code:	R1903686-001	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.027	0.012	1	04/29/19 20:26	4/28/19	
Dichlorobiphenyls, Total	**0.0043 J**	0.0054	0.0025	1	04/29/19 20:26	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.016	0.0045	1	04/29/19 20:26	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.011	0.0030	1	04/29/19 20:26	4/28/19	
Monochlorobiphenyls, Total	ND U	0.0054	0.0030	1	04/29/19 20:26	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.022	0.0081	1	04/29/19 20:26	4/28/19	
Octachlorobiphenyls, Total	ND U	0.016	0.0053	1	04/29/19 20:26	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.011	0.0018	1	04/29/19 20:26	4/28/19	
Tetrachlorobiphenyls, Total	ND U	0.011	0.0033	1	04/29/19 20:26	4/28/19	
Trichlorobiphenyls, Total	ND U	0.0054	0.0012	1	04/29/19 20:26	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	70	46 - 130	04/29/19 20:26	
4,4'-DDT	56	30 - 194	04/29/19 20:26	

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R1903686
Project:	UR115: 3029818	**Date Collected:**	04/24/19 11:45
Sample Matrix:	Water	**Date Received:**	04/27/19 10:00
Sample Name:	3029818 004	**Units:**	ug/L
Lab Code:	R1903686-002	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.025	0.011	1	04/29/19 21:24	4/28/19	
Dichlorobiphenyls, Total	**0.0035 J**	0.0050	0.0023	1	04/29/19 21:24	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.015	0.0041	1	04/29/19 21:24	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.010	0.0027	1	04/29/19 21:24	4/28/19	
Monochlorobiphenyls, Total	ND U	0.0050	0.0027	1	04/29/19 21:24	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.020	0.0074	1	04/29/19 21:24	4/28/19	
Octachlorobiphenyls, Total	ND U	0.015	0.0048	1	04/29/19 21:24	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.010	0.0016	1	04/29/19 21:24	4/28/19	
Tetrachlorobiphenyls, Total	ND U	0.010	0.0030	1	04/29/19 21:24	4/28/19	
Trichlorobiphenyls, Total	ND U	0.0050	0.0011	1	04/29/19 21:24	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	50	46 - 130	04/29/19 21:24	
4,4'-DDT	46	30 - 194	04/29/19 21:24	

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R1903686
Project:	UR115: 3029818	**Date Collected:**	04/24/19 12:00
Sample Matrix:	Water	**Date Received:**	04/27/19 10:00
Sample Name:	3029818 005	**Units:**	ug/L
Lab Code:	R1903686-003	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.027	0.012	1	04/29/19 22:22	4/28/19	
Dichlorobiphenyls, Total	**0.0070**	0.0054	J 0.0025	1	04/29/19 22:22	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.016	J 0.0045	1	04/29/19 22:22	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.011	J 0.0030	1	04/29/19 22:22	4/28/19	
Monochlorobiphenyls, Total	ND U	0.0054	J 0.0030	1	04/29/19 22:22	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.022	J 0.0080	1	04/29/19 22:22	4/28/19	
Octachlorobiphenyls, Total	ND U	0.016	J 0.0052	1	04/29/19 22:22	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.011	J 0.0018	1	04/29/19 22:22	4/28/19	
Tetrachlorobiphenyls, Total	ND U	0.011	J 0.0033	1	04/29/19 22:22	4/28/19	
Trichlorobiphenyls, Total	ND U	0.0054	J 0.0012	1	04/29/19 22:22	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	71	46 - 130	04/29/19 22:22	
4,4'-DDT	39	30 - 194	04/29/19 22:22	

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R1903686
Project:	UR115: 3029818	**Date Collected:**	04/24/19 14:00
Sample Matrix:	Water	**Date Received:**	04/27/19 10:00
Sample Name:	3029818 007	**Units:**	ug/L
Lab Code:	R1903686-004	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.027	0.012	1	04/29/19 23:19	4/28/19	
Dichlorobiphenyls, Total	**0.0054 J**	0.0054	0.0025	1	04/29/19 23:19	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.016	0.0045	1	04/29/19 23:19	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.011	0.0030	1	04/29/19 23:19	4/28/19	
Monochlorobiphenyls, Total	ND U	0.0054	0.0030	1	04/29/19 23:19	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.022	0.0080	1	04/29/19 23:19	4/28/19	
Octachlorobiphenyls, Total	ND U	0.016	0.0052	1	04/29/19 23:19	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.011	0.0018	1	04/29/19 23:19	4/28/19	
Tetrachlorobiphenyls, Total	ND U	0.011	0.0033	1	04/29/19 23:19	4/28/19	
Trichlorobiphenyls, Total	ND U	0.0054	0.0012	1	04/29/19 23:19	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	50	46 - 130	04/29/19 23:19	
4,4'-DDT	36	30 - 194	04/29/19 23:19	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R1903686
Project:	UR115: 3029818	**Date Collected:**	04/24/19 13:00
Sample Matrix:	Water	**Date Received:**	04/27/19 10:00
Sample Name:	3029818 008	**Units:**	ug/L
Lab Code:	R1903686-005	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.027	0.012	1	04/30/19 00:16	4/28/19	
Dichlorobiphenyls, Total	**0.0082**	0.0054	0.0025	1	04/30/19 00:16	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.016	0.0045	1	04/30/19 00:16	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.011	0.0030	1	04/30/19 00:16	4/28/19	
Monochlorobiphenyls, Total	ND U	0.0054	0.0030	1	04/30/19 00:16	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.022	0.0081	1	04/30/19 00:16	4/28/19	
Octachlorobiphenyls, Total	ND U	0.016	0.0053	1	04/30/19 00:16	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.011	0.0018	1	04/30/19 00:16	4/28/19	
Tetrachlorobiphenyls, Total	ND U	0.011	0.0033	1	04/30/19 00:16	4/28/19	
Trichlorobiphenyls, Total	ND U	0.0054	0.0012	1	04/30/19 00:16	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	77	46 - 130	04/30/19 00:16	
4,4'-DDT	31	30 - 194	04/30/19 00:16	

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R1903686
Project:	UR115: 3029818	**Date Collected:**	04/24/19 13:20
Sample Matrix:	Water	**Date Received:**	04/27/19 10:00
Sample Name:	3029818 009	**Units:**	ug/L
Lab Code:	R1903686-006	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.026	0.012	1	04/30/19 01:13	4/28/19	
Dichlorobiphenyls, Total	**0.0052**	0.0052	J 0.0024	1	04/30/19 01:13	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.016	J 0.0043	1	04/30/19 01:13	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.010	J 0.0029	1	04/30/19 01:13	4/28/19	
Monochlorobiphenyls, Total	ND U	0.0052	J 0.0029	1	04/30/19 01:13	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.021	J 0.0078	1	04/30/19 01:13	4/28/19	
Octachlorobiphenyls, Total	ND U	0.016	J 0.0050	1	04/30/19 01:13	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.010	J 0.0017	1	04/30/19 01:13	4/28/19	
Tetrachlorobiphenyls, Total	ND U	0.010	J 0.0032	1	04/30/19 01:13	4/28/19	
Trichlorobiphenyls, Total	ND U	0.0052	J 0.0012	1	04/30/19 01:13	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	58	46 - 130	04/30/19 01:13	
4,4'-DDT	27 *	30 - 194	04/30/19 01:13	*

Client:	ALS Environmental - US	**Service Request:**	R1903686
Project:	UR115: 3029818	**Date Collected:**	04/24/19 13:35
Sample Matrix:	Water	**Date Received:**	04/27/19 10:00
Sample Name:	3029818 010	**Units:**	ug/L
Lab Code:	R1903686-007	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.027	0.012	1	04/30/19 02:10	4/28/19	
Dichlorobiphenyls, Total	**0.0054 J**	0.0054	0.0025	1	04/30/19 02:10	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.016	0.0045	1	04/30/19 02:10	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.011	0.0030	1	04/30/19 02:10	4/28/19	
Monochlorobiphenyls, Total	ND U	0.0054	0.0030	1	04/30/19 02:10	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.022	0.0080	1	04/30/19 02:10	4/28/19	
Octachlorobiphenyls, Total	ND U	0.016	0.0052	1	04/30/19 02:10	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.011	0.0018	1	04/30/19 02:10	4/28/19	
Tetrachlorobiphenyls, Total	ND U	0.011	0.0033	1	04/30/19 02:10	4/28/19	
Trichlorobiphenyls, Total	ND U	0.0054	0.0012	1	04/30/19 02:10	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	70	46 - 130	04/30/19 02:10	
4,4'-DDT	39 *	30 - 194	04/30/19 02:10	*

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R1903686
Project:	UR115: 3029818	**Date Collected:**	04/24/19 12:45
Sample Matrix:	Water	**Date Received:**	04/27/19 10:00
Sample Name:	3029818 012	**Units:**	ug/L
Lab Code:	R1903686-008	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.025	0.011	1	04/30/19 03:07	4/28/19	
Dichlorobiphenyls, Total	**0.0030 J**	0.0050	0.0023	1	04/30/19 03:07	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.015	0.0041	1	04/30/19 03:07	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.010	0.0027	1	04/30/19 03:07	4/28/19	
Monochlorobiphenyls, Total	ND U	0.0050	0.0027	1	04/30/19 03:07	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.020	0.0074	1	04/30/19 03:07	4/28/19	
Octachlorobiphenyls, Total	ND U	0.015	0.0048	1	04/30/19 03:07	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.010	0.0016	1	04/30/19 03:07	4/28/19	
Tetrachlorobiphenyls, Total	ND U	0.010	0.0030	1	04/30/19 03:07	4/28/19	
Trichlorobiphenyls, Total	ND U	0.0050	0.0011	1	04/30/19 03:07	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	59	46 - 130	04/30/19 03:07	
4,4'-DDT	36 *	30 - 194	04/30/19 03:07	*

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R1903686
Project:	UR115: 3029818	**Date Collected:**	04/24/19 14:35
Sample Matrix:	Water	**Date Received:**	04/27/19 10:00
Sample Name:	3029818 013	**Units:**	ug/L
Lab Code:	R1903686-009	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.027	0.012	1	04/30/19 04:04	4/28/19	
Dichlorobiphenyls, Total	**0.0076**	0.0054	J 0.0025	1	04/30/19 04:04	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.016	J 0.0045	1	04/30/19 04:04	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.011	J 0.0030	1	04/30/19 04:04	4/28/19	
Monochlorobiphenyls, Total	ND U	0.0054	J 0.0030	1	04/30/19 04:04	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.022	J 0.0081	1	04/30/19 04:04	4/28/19	
Octachlorobiphenyls, Total	ND U	0.016	J 0.0053	1	04/30/19 04:04	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.011	J 0.0018	1	04/30/19 04:04	4/28/19	
Tetrachlorobiphenyls, Total	ND U	0.011	J 0.0033	1	04/30/19 04:04	4/28/19	
Trichlorobiphenyls, Total	ND U	0.0054	J 0.0012	1	04/30/19 04:04	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	71	46 - 130	04/30/19 04:04	
4,4'-DDT	33 *	30 - 194	04/30/19 04:04	*

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R1903686
Project:	UR115: 3029818	**Date Collected:**	04/24/19 14:20
Sample Matrix:	Water	**Date Received:**	04/27/19 10:00
Sample Name:	3029818 014	**Units:**	ug/L
Lab Code:	R1903686-010	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.027	0.012	1	04/30/19 05:01	4/28/19	
Dichlorobiphenyls, Total	**0.0059**	0.0054	J 0.0025	1	04/30/19 05:01	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.016	J 0.0045	1	04/30/19 05:01	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.011	J 0.0030	1	04/30/19 05:01	4/28/19	
Monochlorobiphenyls, Total	ND U	0.0054	J 0.0030	1	04/30/19 05:01	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.022	J 0.0080	1	04/30/19 05:01	4/28/19	
Octachlorobiphenyls, Total	ND U	0.016	J 0.0052	1	04/30/19 05:01	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.011	J 0.0018	1	04/30/19 05:01	4/28/19	
Tetrachlorobiphenyls, Total	ND U	0.011	J 0.0033	1	04/30/19 05:01	4/28/19	
Trichlorobiphenyls, Total	ND U	0.0054	J 0.0012	1	04/30/19 05:01	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	57	46 - 130	04/30/19 05:01	
4,4'-DDT	16 *	30 - 194	04/30/19 05:01	*

QC Summary Forms

ALS Environmental Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Semivolatile Organic Compounds by GC/MS

ALS Environmental Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: ALS Environmental - US **Service Request:** R1903686

Project: UR115: 3029818

Sample Matrix: Water

SURROGATE RECOVERY SUMMARY

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680

Extraction Method: EPA 3510C

Sample Name	Lab Code	gamma-BHC (Lindane) 46-130	4,4'-DDT 30-194
3029818 003	R1903686-001	70	56
3029818 004	R1903686-002	60	46
3029818 005	R1903686-003	71	39
3029818 007	R1903686-004	60	36
3029818 008	R1903686-005	77	31
3029818 009	R1903686-006	68	27*
3029818 010	R1903686-007	70	29*
3029818 012	R1903686-008	69	26*
3029818 013	R1903686-009	71	23*
3029818 014	R1903686-010	57	16*
Method Blank	RQ1903855-01	73	96
Lab Control Sample	RQ1903855-02	66	79
Duplicate Lab Control Sample	RQ1903855-03	70	97

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	R1903686
Project:	UR115: 3029818	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1903855-01	**Basis:**	NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.025	0.011	1	04/29/19 16:14	4/28/19	
Dichlorobiphenyls, Total	ND U	0.0050	0.0023	1	04/29/19 16:14	4/28/19	
Heptachlorobiphenyls, Total	ND U	0.015	0.0041	1	04/29/19 16:14	4/28/19	
Hexachlorobiphenyls, Total	ND U	0.010	0.0027	1	04/29/19 16:14	4/28/19	
Monochlorobiphenyls, Total	ND U	0.0050	0.0027	1	04/29/19 16:14	4/28/19	
Nonachlorobiphenyls, Total	ND U	0.020	0.0074	1	04/29/19 16:14	4/28/19	
Octachlorobiphenyls, Total	ND U	0.015	0.0048	1	04/29/19 16:14	4/28/19	
Pentachlorobiphenyls, Total	ND U	0.010	0.0016	1	04/29/19 16:14	4/28/19	
Tetrachlorobiphenyls, Total	ND U	0.010	0.0030	1	04/29/19 16:14	4/28/19	
Trichlorobiphenyls, Total	ND U	0.0050	0.0011	1	04/29/19 16:14	4/28/19	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
gamma-BHC (Lindane)	73	46 - 130	04/29/19 16:14	
4,4'-DDT	96	30 - 194	04/29/19 16:14	

Client: ALS Environmental - US
Project: UR115: 3029818
Sample Matrix: Water

Service Request: R1903686
Date Analyzed: 04/29/19

Duplicate Lab Control Sample Summary
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Units: ug/L
Basis: NA

		Lab Control Sample RQ1903855-02			Duplicate Lab Control Sample RQ1903855-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Decachlorobiphenyl	680	0.632	1.25	51	0.738	1.25	59	10-112	16	30
Dichlorobiphenyls, Total	680	0.119	0.250	48	0.117	0.250	47	31-119	2	30
Heptachlorobiphenyls, Total	680	0.358	0.750	48	0.423	0.750	56	17-118	17	30
Hexachlorobiphenyls, Total	680	0.230	0.500	46	0.285	0.500	57	34-119	21	30
Monochlorobiphenyls, Total	680	0.111	0.250	44	0.112	0.250	45	28-111	<1	30
Octachlorobiphenyls, Total	680	0.382	0.750	51	0.427	0.750	57	11-115	11	30
Pentachlorobiphenyls, Total	680	0.237	0.500	47	0.288	0.500	58	33-120	19	30
Tetrachlorobiphenyls, Total	680	0.218	0.500	44	0.219	0.500	44	26-122	<1	30
Trichlorobiphenyls, Total	680	0.116	0.250	46	0.117	0.250	47	30-121	<1	30

ANALYTICAL REPORT

Lab Number:	L1917478
Client:	AECOM 8000 Virginia Manor Road Suite 110 Beltsville, MD 20705
ATTN:	Ravi Damera
Phone:	(301) 289-3809
Project Name:	LMC MRC/95840ACM
Project Number:	Not Specified
Report Date:	05/10/19

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: LMC MRC/95840ACM
Project Number: Not Specified

Lab Number: L1917478
Report Date: 05/10/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1917478-01	MRC-SW7A-S-042419-AA	WATER	BALTIMORE, MD	04/25/19 09:45	04/27/19
L1917478-02	TB-042519-ALPHA	WATER	BALTIMORE, MD	04/25/19 00:00	04/27/19

Project Name:	LMC MRC/95840ACM	**Lab Number:**	L1917478
Project Number:	Not Specified	**Report Date:**	05/10/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	LMC MRC/95840ACM	**Lab Number:**	L1917478
Project Number:	Not Specified	**Report Date:**	05/10/19

Case Narrative (continued)

Report Submission

May 10, 2019: This final report includes the results of all requested analyses.

May 03, 2019: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L1917478-02: The Trip Blank has a result for acetone present above the reporting limit. The sample vial was verified as being labeled correctly by the laboratory and the previous analysis showed there was no potential for carry over.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 05/10/19

ORGANICS

VOLATILES

Project Name: LMC MRC/95840ACM
Lab Number: L1917478
Project Number: Not Specified
Report Date: 05/10/19

SAMPLE RESULTS

Lab ID: L1917478-01
Client ID: MRC-SW7A-S-042419-AA
Sample Location: BALTIMORE, MD

Date Collected: 04/25/19 09:45
Date Received: 04/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/02/19 12:58
Analyst: BD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.68	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.22	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	2.5	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.24	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.20	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1

Project Name: LMC MRC/95840ACM **Lab Number:** L1917478

Project Number: Not Specified **Report Date:** 05/10/19

SAMPLE RESULTS

Lab ID: L1917478-01 Date Collected: 04/25/19 09:45

Client ID: MRC-SW7A-S-042419-AA Date Received: 04/27/19

Sample Location: BALTIMORE, MD Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	5.0	0.36	1
1,4-Dichlorobutane	ND		ug/l	5.0	0.46	1
1,2,3-Trichloropropane	ND		ug/l	5.0	0.18	1
Styrene	ND		ug/l	1.0	0.36	1
Dichlorodifluoromethane	ND		ug/l	5.0	0.24	1
Acetone	3.3	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	0.31	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Ethyl methacrylate	ND		ug/l	5.0	0.61	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	2.5	0.15	1
Tetrahydrofuran	ND		ug/l	5.0	0.52	1
2,2-Dichloropropane	ND		ug/l	2.5	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
1,3-Dichloropropane	ND		ug/l	2.5	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	2.5	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	2.5	0.20	1
o-Chlorotoluene	ND		ug/l	2.5	0.22	1
p-Chlorotoluene	ND		ug/l	2.5	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.35	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1

Project Name: LMC MRC/95840ACM **Lab Number:** L1917478

Project Number: Not Specified **Report Date:** 05/10/19

SAMPLE RESULTS

Lab ID: L1917478-01 Date Collected: 04/25/19 09:45

Client ID: MRC-SW7A-S-042419-AA Date Received: 04/27/19

Sample Location: BALTIMORE, MD Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	2.5	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.21	1
Ethyl ether	ND		ug/l	2.5	0.16	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	99		70-130

Project Name: LMC MRC/95840ACM
Project Number: Not Specified
Lab Number: L1917478
Report Date: 05/10/19

SAMPLE RESULTS

Lab ID: L1917478-02
Client ID: TB-042519-ALPHA
Sample Location: BALTIMORE, MD
Date Collected: 04/25/19 00:00
Date Received: 04/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/02/19 13:26
Analyst: BD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.68	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.22	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	2.5	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.24	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.20	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1

Project Name: LMC MRC/95840ACM **Lab Number:** L1917478

Project Number: Not Specified **Report Date:** 05/10/19

SAMPLE RESULTS

Lab ID: L1917478-02 Date Collected: 04/25/19 00:00

Client ID: TB-042519-ALPHA Date Received: 04/27/19

Sample Location: BALTIMORE, MD Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	5.0	0.36	1
1,4-Dichlorobutane	ND		ug/l	5.0	0.46	1
1,2,3-Trichloropropane	ND		ug/l	5.0	0.18	1
Styrene	ND		ug/l	1.0	0.36	1
Dichlorodifluoromethane	ND		ug/l	5.0	0.24	1
Acetone	5.4		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	0.31	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Ethyl methacrylate	ND		ug/l	5.0	0.61	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	2.5	0.15	1
Tetrahydrofuran	ND		ug/l	5.0	0.52	1
2,2-Dichloropropane	ND		ug/l	2.5	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
1,3-Dichloropropane	ND		ug/l	2.5	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	2.5	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	2.5	0.20	1
o-Chlorotoluene	ND		ug/l	2.5	0.22	1
p-Chlorotoluene	ND		ug/l	2.5	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.35	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1

Project Name: LMC MRC/95840ACM
Lab Number: L1917478
Project Number: Not Specified
Report Date: 05/10/19

SAMPLE RESULTS

Lab ID: L1917478-02
Client ID: TB-042519-ALPHA
Sample Location: BALTIMORE, MD
Date Collected: 04/25/19 00:00
Date Received: 04/27/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	2.5	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.21	1
Ethyl ether	ND		ug/l	2.5	0.16	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	100		70-130

Project Name: LMC MRC/95840ACM
Project Number: Not Specified
Lab Number: L1917478
Report Date: 05/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 05/02/19 08:43
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1233043-5					
Methylene chloride	ND		ug/l	3.0	0.68
1,1-Dichloroethane	ND		ug/l	0.75	0.21
Chloroform	ND		ug/l	0.75	0.22
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.8	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14
2-Chloroethylvinyl ether	ND		ug/l	10	0.40
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	0.50	0.18
Trichlorofluoromethane	ND		ug/l	2.5	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.24
Bromoform	ND		ug/l	2.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
Chloromethane	ND		ug/l	2.5	0.20
Bromomethane	ND		ug/l	1.0	0.26
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	1.0	0.13
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16

Project Name: LMC MRC/95840ACM **Lab Number:** L1917478

Project Number: Not Specified **Report Date:** 05/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 05/02/19 08:43
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1233043-5					
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19
Methyl tert butyl ether	ND		ug/l	1.0	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19
Dibromomethane	ND		ug/l	5.0	0.36
1,4-Dichlorobutane	ND		ug/l	5.0	0.46
Iodomethane	ND		ug/l	5.0	0.40
1,2,3-Trichloropropane	ND		ug/l	5.0	0.18
Styrene	ND		ug/l	1.0	0.36
Dichlorodifluoromethane	ND		ug/l	5.0	0.24
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	0.30
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	0.31
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42
2-Hexanone	ND		ug/l	5.0	0.52
Ethyl methacrylate	ND		ug/l	5.0	0.61
Acrolein	ND		ug/l	5.0	0.44
Acrylonitrile	ND		ug/l	5.0	0.43
Bromochloromethane	ND		ug/l	2.5	0.15
Tetrahydrofuran	ND		ug/l	5.0	0.52
2,2-Dichloropropane	ND		ug/l	2.5	0.20
1,2-Dibromoethane	ND		ug/l	2.0	0.19

Project Name: LMC MRC/95840ACM **Lab Number:** L1917478

Project Number: Not Specified **Report Date:** 05/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 05/02/19 08:43
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1233043-5					
1,3-Dichloropropane	ND		ug/l	2.5	0.21
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16
Bromobenzene	ND		ug/l	2.5	0.15
n-Butylbenzene	ND		ug/l	0.50	0.19
sec-Butylbenzene	ND		ug/l	0.50	0.18
tert-Butylbenzene	ND		ug/l	2.5	0.20
o-Chlorotoluene	ND		ug/l	2.5	0.22
p-Chlorotoluene	ND		ug/l	2.5	0.18
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.35
Hexachlorobutadiene	ND		ug/l	0.50	0.22
Isopropylbenzene	ND		ug/l	0.50	0.19
p-Isopropyltoluene	ND		ug/l	0.50	0.19
Naphthalene	ND		ug/l	2.5	0.22
n-Propylbenzene	ND		ug/l	0.50	0.17
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.23
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.22
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,3,5-Trichlorobenzene	ND		ug/l	2.0	0.14
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.21
Halothane	ND		ug/l	2.5	0.29
Ethyl ether	ND		ug/l	2.5	0.16
Methyl Acetate	ND		ug/l	10	0.23
Ethyl Acetate	ND		ug/l	10	0.72
Isopropyl Ether	ND		ug/l	2.0	0.42
Cyclohexane	ND		ug/l	10	0.27
Tert-Butyl Alcohol	ND		ug/l	10	1.4
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	0.18
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	0.28

Project Name: LMC MRC/95840ACM
Project Number: Not Specified
Lab Number: L1917478
Report Date: 05/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 05/02/19 08:43
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1233043-5					
1,4-Dioxane	ND		ug/l	250	61.
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/l	10	0.15
Methyl cyclohexane	ND		ug/l	10	0.40
p-Diethylbenzene	ND		ug/l	2.0	0.39
4-Ethyltoluene	ND		ug/l	2.0	0.34
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	100		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: LMC MRC/95840ACM
Project Number: Not Specified

Lab Number: L1917478
Report Date: 05/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1233043-3 WG1233043-4								
Methylene chloride	110		110		70-130	0		20
1,1-Dichloroethane	110		110		70-130	0		20
Chloroform	110		110		70-130	0		20
Carbon tetrachloride	120		120		63-132	0		20
1,2-Dichloropropane	110		110		70-130	0		20
Dibromochloromethane	96		95		63-130	1		20
1,1,2-Trichloroethane	100		100		70-130	0		20
2-Chloroethylvinyl ether	79		76		70-130	4		20
Tetrachloroethene	110		100		70-130	10		20
Chlorobenzene	100		100		75-130	0		25
Trichlorofluoromethane	120		120		62-150	0		20
1,2-Dichloroethane	110		110		70-130	0		20
1,1,1-Trichloroethane	110		110		67-130	0		20
Bromodichloromethane	110		110		67-130	0		20
trans-1,3-Dichloropropene	97		96		70-130	1		20
cis-1,3-Dichloropropene	110		110		70-130	0		20
1,1-Dichloropropene	110		110		70-130	0		20
Bromoform	88		86		54-136	2		20
1,1,2,2-Tetrachloroethane	100		99		67-130	1		20
Benzene	110		110		70-130	0		25
Toluene	100		100		70-130	0		25
Ethylbenzene	100		100		70-130	0		20
Chloromethane	120		110		64-130	9		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LMC MRC/95840ACM
Project Number: Not Specified

Lab Number: L1917478
Report Date: 05/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1233043-3 WG1233043-4								
Bromomethane	120		110		39-139	9		20
Vinyl chloride	120		120		55-140	0		20
Chloroethane	120		120		55-138	0		20
1,1-Dichloroethene	120		120		61-145	0		25
trans-1,2-Dichloroethene	110		110		70-130	0		20
Trichloroethene	110		110		70-130	0		25
1,2-Dichlorobenzene	99		98		70-130	1		20
1,3-Dichlorobenzene	100		100		70-130	0		20
1,4-Dichlorobenzene	100		100		70-130	0		20
Methyl tert butyl ether	110		110		63-130	0		20
p/m-Xylene	105		105		70-130	0		20
o-Xylene	105		105		70-130	0		20
cis-1,2-Dichloroethene	110		110		70-130	0		20
Dibromomethane	110		100		70-130	10		20
1,4-Dichlorobutane	100		100		70-130	0		20
Iodomethane	74		87		70-130	16		20
1,2,3-Trichloropropane	99		110		64-130	11		20
Styrene	100		100		70-130	0		20
Dichlorodifluoromethane	120		120		36-147	0		20
Acetone	110		100		58-148	10		20
Carbon disulfide	120		110		51-130	9		20
2-Butanone	100		110		63-138	10		20
Vinyl acetate	110		110		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: LMC MRC/95840ACM

Project Number: Not Specified

Lab Number: L1917478

Report Date: 05/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1233043-3 WG1233043-4								
4-Methyl-2-pentanone	92		91		59-130	1		20
2-Hexanone	97		97		57-130	0		20
Ethyl methacrylate	97		96		70-130	1		20
Acrolein	100		100		70-130	0		20
Acrylonitrile	100		100		70-130	0		20
Bromochloromethane	110		110		70-130	0		20
Tetrahydrofuran	100		100		58-130	0		20
2,2-Dichloropropane	120		120		63-133	0		20
1,2-Dibromoethane	100		99		70-130	1		20
1,3-Dichloropropane	100		100		70-130	0		20
1,1,1,2-Tetrachloroethane	100		100		64-130	0		20
Bromobenzene	100		100		70-130	0		20
n-Butylbenzene	110		110		53-136	0		20
sec-Butylbenzene	110		110		70-130	0		20
tert-Butylbenzene	110		110		70-130	0		20
o-Chlorotoluene	110		110		70-130	0		20
p-Chlorotoluene	110		110		70-130	0		20
1,2-Dibromo-3-chloropropane	83		80		41-144	4		20
Hexachlorobutadiene	110		100		63-130	10		20
Isopropylbenzene	110		110		70-130	0		20
p-Isopropyltoluene	110		110		70-130	0		20
Naphthalene	91		88		70-130	3		20
n-Propylbenzene	110		110		69-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LMC MRC/95840ACM
Project Number: Not Specified

Lab Number: L1917478
Report Date: 05/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1233043-3 WG1233043-4								
1,2,3-Trichlorobenzene	91		90		70-130	1		20
1,2,4-Trichlorobenzene	95		95		70-130	0		20
1,3,5-Trimethylbenzene	110		110		64-130	0		20
1,3,5-Trichlorobenzene	99		98		70-130	1		20
1,2,4-Trimethylbenzene	110		110		70-130	0		20
trans-1,4-Dichloro-2-butene	95		90		70-130	5		20
Halothane	110		110		70-130	0		20
Ethyl ether	110		110		59-134	0		20
Methyl Acetate	100		100		70-130	0		20
Ethyl Acetate	**39**	Q	**39**	Q	70-130	0		20
Isopropyl Ether	110		110		70-130	0		20
Cyclohexane	120		120		70-130	0		20
Tert-Butyl Alcohol	112		108		70-130	4		20
Ethyl-Tert-Butyl-Ether	110		110		70-130	0		20
Tertiary-Amyl Methyl Ether	100		100		66-130	0		20
1,4-Dioxane	112		108		56-162	4		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	120		120		70-130	0		20
Methyl cyclohexane	120		120		70-130	0		20
p-Diethylbenzene	110		110		70-130	0		20
4-Ethyltoluene	110		110		70-130	0		20
1,2,4,5-Tetramethylbenzene	100		100		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: LMC MRC/95840ACM

Project Number: Not Specified

Lab Number: L1917478

Report Date: 05/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits

Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1233043-3 WG1233043-4

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		98		70-130
Toluene-d8	97		96		70-130
4-Bromofluorobenzene	103		102		70-130
Dibromofluoromethane	100		100		70-130

PCBS

Project Name: LMC MRC/95840ACM
Project Number: Not Specified
Lab Number: L1917478
Report Date: 05/10/19

SAMPLE RESULTS

Lab ID: L1917478-01
Client ID: MRC-SW7A-S-042419-AA
Sample Location: BALTIMORE, MD

Date Collected: 04/25/19 09:45
Date Received: 04/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 105,8270D-SIM/680(M)
Analytical Date: 05/01/19 06:32
Analyst: SV

Extraction Method: EPA 3510C
Extraction Date: 04/30/19 08:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/l	0.526	0.526	1
Dichlorobiphenyls	ND		ng/l	0.526	0.526	1
Trichlorobiphenyls	ND		ng/l	0.526	0.526	1
Tetrachlorobiphenyls	2.16		ng/l	0.526	0.526	1
Pentachlorobiphenyls	ND		ng/l	0.526	0.526	1
Hexachlorobiphenyls	1.64		ng/l	0.526	0.526	1
Heptachlorobiphenyls	ND		ng/l	0.526	0.526	1
Octachlorobiphenyls	ND		ng/l	0.526	0.526	1
Nonachlorobiphenyls	ND		ng/l	0.526	0.526	1
Decachlorobiphenyl	ND		ng/l	0.526	0.526	1
Total Homologs	3.80		ng/l	0.526	0.526	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	100		50-125
Cl8-BZ#202-C13	104		50-125

Project Name: LMC MRC/95840ACM
Project Number: Not Specified
Lab Number: L1917478
Report Date: 05/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,8270D-SIM/680(M)
Analytical Date: 05/01/19 02:34
Analyst: SV

Extraction Method: EPA 3510C
Extraction Date: 04/30/19 08:30

Parameter	Result	Qualifier	Units	RL	MDL
PCB Homologs by GC/MS-SIM - Mansfield Lab for sample(s): 01 Batch: WG1231807-1					
Monochlorobiphenyls	ND		ng/l	0.500	0.500
Dichlorobiphenyls	ND		ng/l	0.500	0.500
Trichlorobiphenyls	ND		ng/l	0.500	0.500
Tetrachlorobiphenyls	ND		ng/l	0.500	0.500
Pentachlorobiphenyls	ND		ng/l	0.500	0.500
Hexachlorobiphenyls	ND		ng/l	0.500	0.500
Heptachlorobiphenyls	ND		ng/l	0.500	0.500
Octachlorobiphenyls	ND		ng/l	0.500	0.500
Nonachlorobiphenyls	ND		ng/l	0.500	0.500
Decachlorobiphenyl	ND		ng/l	0.500	0.500
Total Homologs	ND		ng/l	0.500	0.500

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	96		50-125
Cl8-BZ#202-C13	99		50-125

Lab Control Sample Analysis

Batch Quality Control

Project Name: LMC MRC/95840ACM

Project Number: Not Specified

Lab Number: L1917478

Report Date: 05/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1231807-2 WG1231807-3								
Cl1-BZ#1	91		89		40-140	2		30
Cl1-BZ#2	90		88		40-140	2		30
CL1-BZ#3	91		88		40-140	3		30
Cl2-BZ#4/#10	92		90		40-140	2		30
Cl2-BZ#9	91		88		40-140	3		30
Cl2-BZ#7	91		89		40-140	2		30
Cl2-BZ#6	91		88		40-140	3		30
Cl2-BZ#5	89		86		40-140	3		30
Cl2-BZ#8	90		88		40-140	2		30
Cl3-BZ#19	91		89		40-140	2		30
Cl2-BZ#14	92		89		40-140	3		30
Cl3-BZ#30	90		88		40-140	2		30
Cl3-BZ#18	90		87		40-140	3		30
Cl2-BZ#11	90		88		40-140	2		30
Cl3-BZ#17	91		89		40-140	2		30
Cl2-BZ#12	95		92		40-140	3		30
Cl3-BZ#27	93		90		40-140	3		30
Cl2-BZ#13	90		88		40-140	2		30
Cl3-BZ#24	92		89		40-140	3		30
Cl3-BZ#16	91		88		40-140	3		30
Cl3-BZ#32	90		87		40-140	3		30
Cl2-BZ#15	88		85		40-140	3		30
Cl3-BZ#34	91		88		40-140	3		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: LMC MRC/95840ACM

Project Number: Not Specified

Lab Number: L1917478

Report Date: 05/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1231807-2 WG1231807-3								
Cl3-BZ#23	92		89		40-140	3		30
Cl4-BZ#54	92		90		40-140	2		30
Cl3-BZ#29	91		88		40-140	3		30
Cl4-BZ#50	90		88		40-140	2		30
Cl3-BZ#26	92		89		40-140	3		30
Cl3-BZ#25	90		87		40-140	3		30
Cl4-BZ#53	90		87		40-140	3		30
Cl3-BZ#-31	89		86		40-140	3		30
Cl3-BZ#28	91		87		40-140	4		30
Cl3-BZ#33	101		89		40-140	13		30
Cl4-BZ#51	95		93		40-140	2		30
Cl3-BZ#21/#20	94		88		40-140	7		30
Cl4-BZ#45	89		87		40-140	2		30
Cl3-BZ#22	89		87		40-140	2		30
Cl4-BZ#73/#46	94		92		40-140	2		30
Cl4-BZ#69	93		89		40-140	4		30
Cl4-BZ#43	91		89		40-140	2		30
Cl3-BZ#36	94		92		40-140	2		30
Cl4-BZ#52	93		91		40-140	2		30
Cl4-BZ#48	91		89		40-140	2		30
Cl4-BZ#49	96		93		40-140	3		30
Cl5-BZ#104	98		97		40-140	1		30
Cl4-BZ#47	94		98		40-140	4		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: LMC MRC/95840ACM

Project Number: Not Specified

Lab Number: L1917478

Report Date: 05/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1231807-2 WG1231807-3								
Cl4-BZ#65/#75/#62	94		91		40-140	3		30
Cl3-BZ#39	93		90		40-140	3		30
Cl3-BZ#38	93		91		40-140	2		30
Cl4-BZ#44	89		87		40-140	2		30
Cl4-BZ#59	97		93		40-140	4		30
Cl4-BZ#42	94		94		40-140	0		30
Cl4-BZ#71	92		90		40-140	2		30
Cl3-BZ#35	94		91		40-140	3		30
Cl4-BZ#41	91		87		40-140	4		30
Cl4-BZ#72	95		93		40-140	2		30
Cl5-BZ#96	96		94		40-140	2		30
Cl5-BZ#103	94		93		40-140	1		30
Cl4-BZ#68/#64	98		95		40-140	3		30
Cl4-BZ#40	92		91		40-140	1		30
Cl3-BZ#37	91		89		40-140	2		30
Cl5-BZ#100	99		96		40-140	3		30
Cl5-BZ#94	98		95		40-140	3		30
Cl4-BZ#57	90		88		40-140	2		30
Cl4-BZ#67/#58	94		92		40-140	2		30
Cl5-BZ#102	97		94		40-140	3		30
Cl4-BZ#61	92		90		40-140	2		30
Cl5-BZ#98	96		93		40-140	3		30
Cl4-BZ#76	94		90		40-140	4		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: LMC MRC/95840ACM

Project Number: Not Specified

Lab Number: L1917478

Report Date: 05/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1231807-2 WG1231807-3								
Cl5-BZ#93	98		95		40-140	3		30
Cl4-BZ#63	101		100		40-140	1		30
Cl5-BZ#121/#95/#88	98		96		40-140	2		30
Cl4-BZ#74	96		93		40-140	3		30
Cl6-BZ#155	100		99		40-140	1		30
Cl4-BZ#70	105		104		40-140	1		30
Cl5-BZ#91	110		110		40-140	0		30
Cl4-BZ#66	105		104		40-140	1		30
Cl4-BZ#80	99		98		40-140	1		30
Cl4-BZ#55	97		96		40-140	1		30
Cl5-BZ#92	100		98		40-140	2		30
Cl5-BZ#89/#84	96		96		40-140	0		30
Cl5-BZ#101/#90	104		100		40-140	4		30
Cl4-BZ#56	106		99		40-140	7		30
Cl5-BZ#113	100		100		40-140	0		30
Cl5-BZ#99	98		96		40-140	2		30
Cl6-BZ#150	101		99		40-140	2		30
Cl4-BZ#60	98		96		40-140	2		30
Cl6-BZ#152	98		95		40-140	3		30
Cl5-BZ#119	102		98		40-140	4		30
Cl5-BZ#83/#125/#112	100		98		40-140	2		30
Cl5-BZ#86/#109	97		98		40-140	1		30
Cl6-BZ#145	100		98		40-140	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: LMC MRC/95840ACM

Project Number: Not Specified

Lab Number: L1917478

Report Date: 05/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1231807-2 WG1231807-3								
Cl5-BZ#97	106		104		40-140	2		30
Cl6-BZ#148	98		96		40-140	2		30
Cl4-BZ#79	96		94		40-140	2		30
Cl5-BZ#116	97		94		40-140	3		30
Cl6-BZ#154	100		97		40-140	3		30
Cl4-BZ#78	97		96		40-140	1		30
Cl5-BZ#87/#111	102		100		40-140	2		30
Cl6-BZ#136	102		100		40-140	2		30
Cl5-BZ#117	100		96		40-140	4		30
Cl5-BZ#115	98		101		40-140	3		30
Cl5-BZ#85	108		103		40-140	5		30
Cl5-BZ#120	100		97		40-140	3		30
Cl5-BZ#110	94		92		40-140	2		30
Cl4-BZ#81	94		92		40-140	2		30
Cl6-BZ#151	93		91		40-140	2		30
Cl6-BZ#135	94		91		40-140	3		30
Cl5-BZ#82	92		90		40-140	2		30
Cl6-BZ#144	96		93		40-140	3		30
Cl6-BZ#147/#149	95		92		40-140	3		30
Cl4-BZ#77	94		93		40-140	1		30
Cl6-BZ#143/#139	94		92		40-140	2		30
Cl5-BZ#124	93		91		40-140	2		30
Cl6-BZ#140	97		94		40-140	3		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: LMC MRC/95840ACM

Project Number: Not Specified

Lab Number: L1917478

Report Date: 05/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1231807-2 WG1231807-3								
Cl5-BZ#108	86		89		40-140	3		30
Cl5-BZ#107/#123	100		95		40-140	5		30
Cl7-BZ#188	94		91		40-140	3		30
Cl6-BZ#134	97		96		40-140	1		30
Cl5-BZ#106	97		95		40-140	2		30
Cl6-BZ#133	98		100		40-140	2		30
Cl6-BZ#142	100		90		40-140	11		30
Cl5-BZ#118	107		98		40-140	9		30
Cl6-BZ#131	102		103		40-140	1		30
Cl7-BZ#184	103		102		40-140	1		30
Cl6-BZ#165	104		103		40-140	1		30
Cl6-BZ#146	103		104		40-140	1		30
Cl6-BZ#161	100		99		40-140	1		30
Cl5-BZ#122	101		101		40-140	0		30
Cl6-BZ#168	102		95		40-140	7		30
Cl5-BZ#114	101		100		40-140	1		30
Cl6-BZ#153	93		99		40-140	6		30
Cl6-BZ#132	93		91		40-140	2		30
Cl7-BZ#179	95		92		40-140	3		30
Cl6-BZ#141	92		92		40-140	0		30
Cl7-BZ#176	97		95		40-140	2		30
Cl5-BZ#105	89		88		40-140	1		30
Cl6-BZ#137	105		103		40-140	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: LMC MRC/95840ACM

Project Number: Not Specified

Lab Number: L1917478

Report Date: 05/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1231807-2 WG1231807-3								
Cl5-BZ#127	92		91		40-140	1		30
Cl7-BZ#186	94		92		40-140	2		30
Cl6-BZ#130/#164	96		94		40-140	2		30
Cl7-BZ#178	94		93		40-140	1		30
Cl6-BZ#138	98		93		40-140	5		30
Cl6-BZ#163/#160	100		97		40-140	3		30
Cl6-BZ#129/#158	95		96		40-140	1		30
Cl7-BZ#182/#175	97		95		40-140	2		30
Cl7-BZ#187	92		90		40-140	2		30
Cl7-BZ#183	88		88		40-140	0		30
Cl6-BZ#166	89		87		40-140	2		30
Cl6-BZ#159	90		90		40-140	0		30
Cl5-BZ#126	94		92		40-140	2		30
Cl7-BZ#185	98		97		40-140	1		30
Cl6-BZ#162	92		92		40-140	0		30
Cl7-BZ#174	95		93		40-140	2		30
Cl6-BZ#128	93		92		40-140	1		30
Cl8-BZ#202	95		93		40-140	2		30
Cl6-BZ#167	99		97		40-140	2		30
Cl7-BZ#181	93		91		40-140	2		30
Cl7-BZ#177	95		92		40-140	3		30
Cl8-BZ#204/#200-CAL	94		92		40-140	2		30
Cl7-BZ#171	91		91		40-140	0		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: LMC MRC/95840ACM

Project Number: Not Specified

Lab Number: L1917478

Report Date: 05/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1231807-2 WG1231807-3								
Cl7-BZ#173	91		88		40-140	3		30
Cl8-BZ#197	92		91		40-140	1		30
Cl7-BZ#172	87		86		40-140	1		30
Cl7-BZ#192	94		92		40-140	2		30
Cl6-BZ#156	99		98		40-140	1		30
Cl6-BZ#157	86		85		40-140	1		30
Cl7-BZ#180	88		88		40-140	0		30
Cl7-BZ#193	89		86		40-140	3		30
Cl8-BZ#199	92		90		40-140	2		30
Cl7-BZ#191	90		88		40-140	2		30
Cl8-BZ#198	87		88		40-140	1		30
Cl8-BZ#201	97		92		40-140	5		30
Cl7-BZ#170	87		84		40-140	4		30
Cl7-BZ#190	94		93		40-140	1		30
Cl8-BZ#196	97		92		40-140	5		30
Cl8-BZ#203	91		92		40-140	1		30
Cl6-BZ#169	89		87		40-140	2		30
Cl9-BZ#208	92		90		40-140	2		30
Cl9-BZ#207	89		88		40-140	1		30
Cl7-BZ#189	91		89		40-140	2		30
Cl8-BZ#195	94		93		40-140	1		30
Cl8-BZ#194	92		91		40-140	1		30
Cl8-BZ#205	91		89		40-140	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: LMC MRC/95840ACM

Project Number: Not Specified

Lab Number: L1917478

Report Date: 05/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1231807-2 WG1231807-3								
Cl9-BZ#206	92		90		40-140	2		30
Cl10-BZ#209	93		93		40-140	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Cl3-BZ#19-C13	94		89		50-125
Cl8-BZ#202-C13	100		97		50-125

Project Name: LMC MRC/95840ACM
Project Number: Not Specified

Lab Number: L1917478
Report Date: 05/10/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1917478-01A	Vial HCl preserved	A	NA		3.9	Y	Absent		8260(14)
L1917478-01B	Vial HCl preserved	A	NA		3.9	Y	Absent		8260(14)
L1917478-01C	Amber 1000ml unpreserved	A	7	7	3.9	Y	Absent		A2-PCBHOMS-8270SIM(7)
L1917478-01D	Amber 1000ml unpreserved	A	7	7	3.9	Y	Absent		A2-PCBHOMS-8270SIM(7)
L1917478-02A	Vial HCl preserved	A	NA		3.9	Y	Absent		8260(14)
L1917478-02B	Vial HCl preserved	A	NA		3.9	Y	Absent		8260(14)

*Values in parentheses indicate holding time in days

Project Name:	LMC MRC/95840ACM	**Lab Number:**	L1917478
Project Number:	Not Specified	**Report Date:**	05/10/19

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: DU Report with 'J' Qualifiers

Project Name:	LMC MRC/95840ACM	**Lab Number:**	L1917478
Project Number:	Not Specified	**Report Date:**	05/10/19

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers

Project Name:	LMC MRC/95840ACM	**Lab Number:**	L1917478
Project Number:	Not Specified	**Report Date:**	05/10/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

105 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997 in conjunction with NOAA Technical Memorandum NMFS-NWFSC-59: Extraction, Cleanup and GC/MS Analysis of Sediments and Tissues for Organic Contaminants, March 2004 and the Determination of Pesticides and PCBs in Water and Oil/Sediment by GC/MS: Method 680, EPA 01A0005295, November 1985.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: L1917478 | 1 of 1
ALS Quote #:

Client Name: AECOM
Address: 12420 Milestone Center Drive, Suite 150
Germantown, MD 20876
Contact: Ravi Damera & Holly Brown
Phone#: 301-674-3199
Project Name/#: LMC MRC / 95840ACM
Bill To: Ravi Damera

TAT: [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required: Approved?
Email? [X] -Y ravi.damara@aecom.com
Fax? [ ] -Y No.:

Container Type	CG	AG	P	P	AG	CG	P	P	P	AG
Container Size	40mL	1L	250mL	250mL	1L	40mL	500mL	250mL	250mL	40mL
Preservative	HCl	-	HNO3	NH4OH	-	HCl	-	-	H2SO4	HCl

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	VOCs (8260C)	1,4-Dioxane (8270D SIM)	TAL Metals (6010C/6020A/7470A)	Hexavalent Chromium (218.6)	PCB Homologs (680/8260C)	MEE (RSK 175)	MNA (Cl, NO2, NO3, SO4, TDS, Ortho)	Alkalinity (S2320B)	Ammonia-N (D6919)	TOC (5310B)
					Enter Number of Containers Per Sample or Field Results Below.									
MRC-SW7A-S-042419-AA	4/25/2019	945	G	SW	2				2					
TB-042519-ALPHA	4/25/2019	1700	G	WQ	2									

Receipt Information (completed by Receiving Lab)
Cooler Temp: ____ Therm ID: ____
No. of Coolers: ____

	Y	N	Initial
Custody Seals Present?			
(if present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. In Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

Sample/COC Comments
SW = Surface Water
Trip Blank

ALS Field Services: _Pickup _Labor _Composite Sampling _Rental Equipment _Other:

Project Comments: Pleae also email data to holly.brown@aecom.com and naoum.tavantzis@aecom.com

LOGGED BY(signature): DATE: TIME:
REVIEWED BY(signature): DATE: TIME:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature] / AECOM	4-26-19	1330	2 Chris Telesca	4/26/19	1000
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE [ ]
Special Processing: USACE [ ] Navy [ ] [ ]
State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] NC [ ]
Reportable to PADEP? Yes [ ] PWSID #
Sample Disposal: Lab [X] Special [ ]
EDDS: Format Type- EQuIS and .csv

* G=Grab; C=Composite
**Matrix - Al=Air; DW=Drinking Water; GW=Groundwater; Oil=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057

Rev 10/14

ORIGIN ID:DLOA (301) 674-3199
HOLLY BROWN
AECOM
8000 VIRGINIA MANOR RD STE 110

BELTSVILLE, MD 20705
UNITED STATES US

SHIP DATE: 26APR19
ACTWGT: 44.10 LB
CAD: 6990826/SSF02002
DIMS: 26x14x14 IN

BILL THIRD PARTY

TO SAMPLES RECIEVING
ALPHA ANALYTICAL
8 WALKUP DR

WESTBOROUGH MA 01581

(508) 898-9220
INV:
PO:
REF:
DEPT:

FedEx
Express

TRK# 0201 7868 9444 5030

SATURDAY 12:00P
PRIORITY OVERNIGHT

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01581
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ALS Environmental

301 Fulling Mill Road - Middletown, PA 17057 - Phone: 717-944-5541 - Fax:717-944-1430 - www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

June 24, 2019

Mr. Zachary Neigh
AECOM (fka URS) - Germantown MD

Certificate of Analysis

Project Name:	**2018-MIDDLE RIVER COMPLEX**	Workorder:	**3039542**
Purchase Order:	**95840ACM**	Workorder ID:	**LMC MRC / 95840ACM**

Dear Mr. Neigh:

Enclosed are the analytical results for samples received by the laboratory on Wednesday, June 12, 2019.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Mrs. Vanessa N Badman (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Ms. Holly Brown , Mr. Ravi Damera , Ms. Victoria Kirkpatrick , Mr. Naoum Tavantzis

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

SAMPLE SUMMARY

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3039542001	MRC-SW15A-S-061219	Water	6/12/2019 11:15	6/12/2019 21:11	Collected by Client
3039542002	MRC-SW18A-S-061219	Water	6/12/2019 10:15	6/12/2019 21:11	Collected by Client
3039542003	MRC-SW5A1-S-061219	Water	6/12/2019 09:40	6/12/2019 21:11	Collected by Client
3039542004	MRC-SW13A-S-061219	Water	6/12/2019 10:30	6/12/2019 21:11	Collected by Client
3039542005	MRC-SW11B-S-061219	Water	6/12/2019 11:05	6/12/2019 21:11	Collected by Client
3039542006	MRC-SW5A2-S-061219	Water	6/12/2019 09:50	6/12/2019 21:11	Collected by Client
3039542007	MRC-SW12A-S-061219	Water	6/12/2019 10:45	6/12/2019 21:11	Collected by Client
3039542008	MRC-SW11A-S-061219	Water	6/12/2019 10:55	6/12/2019 21:11	Collected by Client
3039542009	MRC-SW5B-S-061219	Water	6/12/2019 10:00	6/12/2019 21:11	Collected by Client
3039542010	MRC-SW2A-061219	Water	6/12/2019 09:10	6/12/2019 21:11	Collected by Client
3039542011	MRC-SW1A-061219	Water	6/12/2019 08:45	6/12/2019 21:11	Collected by Client
3039542012	TB-061219	Water	6/12/2019 21:11	6/12/2019 21:11	Collected by Client

ALS Environmental

301 Fulling Mill Road - Middletown, PA 17057 - Phone: 717-944-5541 - Fax:717-944-1430 - www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

SAMPLE SUMMARY

Workorder: 3039542 LMC MRC / 95840ACM

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
-- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542001** Date Collected: 6/12/2019 11:15 Matrix: Water

Sample ID: **MRC-SW15A-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	6.3J	J	ug/L	10.0	3.1	SW846 8260B		6/19/19 17:14	DD	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		6/19/19 17:14	DD	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		6/19/19 17:14	DD	A
Bromobenzene	ND	25	ug/L	1.0	0.32	SW846 8260B		6/19/19 17:14	DD	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/19/19 17:14	DD	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/19/19 17:14	DD	A
Bromoform	ND	22,23,24	ug/L	1.0	0.40	SW846 8260B		6/19/19 17:14	DD	A
Bromomethane	1.6J	J,1	ug/L	2.0	0.39	SW846 8260B		6/19/19 17:14	DD	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/19/19 17:14	DD	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		6/19/19 17:14	DD	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/19/19 17:14	DD	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/19/19 17:14	DD	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/19/19 17:14	DD	A
Carbon Disulfide	ND	12,13	ug/L	1.0	0.23	SW846 8260B		6/19/19 17:14	DD	A
Carbon Tetrachloride	ND	17,18	ug/L	1.0	0.31	SW846 8260B		6/19/19 17:14	DD	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		6/19/19 17:14	DD	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/19/19 17:14	DD	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/19/19 17:14	DD	A
2-Chloroethylvinyl ether	ND	19,20	ug/L	2.0	0.38	SW846 8260B		6/19/19 17:14	DD	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		6/19/19 17:14	DD	A
Chloromethane	0.69J	J	ug/L	1.0	0.31	SW846 8260B		6/19/19 17:14	DD	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/19/19 17:14	DD	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/19/19 17:14	DD	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		6/19/19 17:14	DD	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/19/19 17:14	DD	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/19/19 17:14	DD	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/19/19 17:14	DD	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		6/19/19 17:14	DD	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/19/19 17:14	DD	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		6/19/19 17:14	DD	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/19/19 17:14	DD	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/19/19 17:14	DD	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/19/19 17:14	DD	A
1,1-Dichloroethene	ND	4,5	ug/L	1.0	0.29	SW846 8260B		6/19/19 17:14	DD	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542001** Date Collected: 6/12/2019 11:15 Matrix: Water

Sample ID: **MRC-SW15A-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
1,2-Dichloroethene, Total	ND	31	ug/L	2.0	0.45	SW846 8260B		6/19/19 17:14	DD	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		6/19/19 17:14	DD	A
trans-1,2-Dichloroethene	ND	14,15	ug/L	1.0	0.26	SW846 8260B		6/19/19 17:14	DD	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/19/19 17:14	DD	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		6/19/19 17:14	DD	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/19/19 17:14	DD	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/19/19 17:14	DD	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/19/19 17:14	DD	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/19/19 17:14	DD	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/19/19 17:14	DD	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/19/19 17:14	DD	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/19/19 17:14	DD	A
Freon 113	ND	10,11	ug/L	1.0	0.26	SW846 8260B		6/19/19 17:14	DD	A
Hexachlorobutadiene	ND	29	ug/L	5.0	1.0	SW846 8260B		6/19/19 17:14	DD	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/19/19 17:14	DD	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/19/19 17:14	DD	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/19/19 17:14	DD	A
Methyl acetate	ND	30	ug/L	2.0	0.32	SW846 8260B		6/19/19 17:14	DD	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/19/19 17:14	DD	A
Methyl t-Butyl Ether	ND	16	ug/L	1.0	0.33	SW846 8260B		6/19/19 17:14	DD	A
4-Methyl-2-Pentanone(MIBK)	ND	21	ug/L	5.0	1.5	SW846 8260B		6/19/19 17:14	DD	A
Methylene Chloride	ND	6,7,8,9	ug/L	1.0	0.45	SW846 8260B		6/19/19 17:14	DD	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/19/19 17:14	DD	A
n-Propylbenzene	ND	26,27,28	ug/L	1.0	0.33	SW846 8260B		6/19/19 17:14	DD	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		6/19/19 17:14	DD	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/19/19 17:14	DD	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/19/19 17:14	DD	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/19/19 17:14	DD	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/19/19 17:14	DD	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/19/19 17:14	DD	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/19/19 17:14	DD	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/19/19 17:14	DD	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/19/19 17:14	DD	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/19/19 17:14	DD	A
Trichloroethene	0.88J	J	ug/L	1.0	0.33	SW846 8260B		6/19/19 17:14	DD	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542001** Date Collected: 6/12/2019 11:15 Matrix: Water

Sample ID: **MRC-SW15A-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Trichlorofluoromethane	ND	2,3	ug/L	1.0	0.24	SW846 8260B			6/19/19 17:14	DD	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B			6/19/19 17:14	DD	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B			6/19/19 17:14	DD	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B			6/19/19 17:14	DD	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B			6/19/19 17:14	DD	A
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/19/19 17:14	DD	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/19/19 17:14	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	94.4		%	62 - 133		SW846 8260B			6/19/19 17:14	DD	A
4-Bromofluorobenzene (S)	107		%	79 - 114		SW846 8260B			6/19/19 17:14	DD	A
Dibromofluoromethane (S)	97.6		%	78 - 116		SW846 8260B			6/19/19 17:14	DD	A
Toluene-d8 (S)	95.6		%	76 - 127		SW846 8260B			6/19/19 17:14	DD	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542002** Date Collected: 6/12/2019 10:15 Matrix: Water

Sample ID: **MRC-SW18A-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	3.2J	J	ug/L	10.0	3.1	SW846 8260B		6/21/19 23:36	VLM	B
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		6/21/19 23:36	VLM	B
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		6/21/19 23:36	VLM	B
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		6/21/19 23:36	VLM	B
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/21/19 23:36	VLM	B
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/21/19 23:36	VLM	B
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		6/21/19 23:36	VLM	B
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		6/21/19 23:36	VLM	B
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/21/19 23:36	VLM	B
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		6/21/19 23:36	VLM	B
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/21/19 23:36	VLM	B
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/21/19 23:36	VLM	B
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/21/19 23:36	VLM	B
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		6/21/19 23:36	VLM	B
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		6/21/19 23:36	VLM	B
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		6/21/19 23:36	VLM	B
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/21/19 23:36	VLM	B
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/21/19 23:36	VLM	B
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		6/21/19 23:36	VLM	B
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		6/21/19 23:36	VLM	B
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		6/21/19 23:36	VLM	B
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/21/19 23:36	VLM	B
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/21/19 23:36	VLM	B
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		6/21/19 23:36	VLM	B
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/21/19 23:36	VLM	B
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/21/19 23:36	VLM	B
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/21/19 23:36	VLM	B
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		6/21/19 23:36	VLM	B
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/21/19 23:36	VLM	B
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		6/21/19 23:36	VLM	B
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/21/19 23:36	VLM	B
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/21/19 23:36	VLM	B
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/21/19 23:36	VLM	B
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		6/21/19 23:36	VLM	B
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		6/21/19 23:36	VLM	B
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		6/21/19 23:36	VLM	B

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542002** Date Collected: 6/12/2019 10:15 Matrix: Water

Sample ID: **MRC-SW18A-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		6/21/19 23:36	VLM	B
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/21/19 23:36	VLM	B
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		6/21/19 23:36	VLM	B
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/21/19 23:36	VLM	B
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/21/19 23:36	VLM	B
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/21/19 23:36	VLM	B
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/21/19 23:36	VLM	B
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/21/19 23:36	VLM	B
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/21/19 23:36	VLM	B
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/21/19 23:36	VLM	B
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		6/21/19 23:36	VLM	B
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		6/21/19 23:36	VLM	B
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/21/19 23:36	VLM	B
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/21/19 23:36	VLM	B
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/21/19 23:36	VLM	B
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		6/21/19 23:36	VLM	B
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/21/19 23:36	VLM	B
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		6/21/19 23:36	VLM	B
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		6/21/19 23:36	VLM	B
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		6/21/19 23:36	VLM	B
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/21/19 23:36	VLM	B
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		6/21/19 23:36	VLM	B
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		6/21/19 23:36	VLM	B
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/21/19 23:36	VLM	B
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/21/19 23:36	VLM	B
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/21/19 23:36	VLM	B
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/21/19 23:36	VLM	B
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/21/19 23:36	VLM	B
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/21/19 23:36	VLM	B
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/21/19 23:36	VLM	B
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/21/19 23:36	VLM	B
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/21/19 23:36	VLM	B
Trichloroethene	0.69J	J	ug/L	1.0	0.33	SW846 8260B		6/21/19 23:36	VLM	B
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		6/21/19 23:36	VLM	B
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		6/21/19 23:36	VLM	B
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/21/19 23:36	VLM	B
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		6/21/19 23:36	VLM	B
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		6/21/19 23:36	VLM	B

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ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542002** Date Collected: 6/12/2019 10:15 Matrix: Water

Sample ID: **MRC-SW18A-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/21/19 23:36	VLM	B
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/21/19 23:36	VLM	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	107		%	62 - 133		SW846 8260B			6/21/19 23:36	VLM	B
4-Bromofluorobenzene (S)	106		%	79 - 114		SW846 8260B			6/21/19 23:36	VLM	B
Dibromofluoromethane (S)	105		%	78 - 116		SW846 8260B			6/21/19 23:36	VLM	B
Toluene-d8 (S)	105		%	76 - 127		SW846 8260B			6/21/19 23:36	VLM	B

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542003** Date Collected: 6/12/2019 09:40 Matrix: Water

Sample ID: **MRC-SW5A1-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	3.2J	J	ug/L	10.0	3.1	SW846 8260B		6/21/19 23:59	VLM	B
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		6/21/19 23:59	VLM	B
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		6/21/19 23:59	VLM	B
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		6/21/19 23:59	VLM	B
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/21/19 23:59	VLM	B
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/21/19 23:59	VLM	B
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		6/21/19 23:59	VLM	B
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		6/21/19 23:59	VLM	B
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/21/19 23:59	VLM	B
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		6/21/19 23:59	VLM	B
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/21/19 23:59	VLM	B
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/21/19 23:59	VLM	B
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/21/19 23:59	VLM	B
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		6/21/19 23:59	VLM	B
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		6/21/19 23:59	VLM	B
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		6/21/19 23:59	VLM	B
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/21/19 23:59	VLM	B
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/21/19 23:59	VLM	B
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		6/21/19 23:59	VLM	B
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		6/21/19 23:59	VLM	B
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		6/21/19 23:59	VLM	B
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/21/19 23:59	VLM	B
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/21/19 23:59	VLM	B
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		6/21/19 23:59	VLM	B
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/21/19 23:59	VLM	B
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/21/19 23:59	VLM	B
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/21/19 23:59	VLM	B
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		6/21/19 23:59	VLM	B
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/21/19 23:59	VLM	B
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		6/21/19 23:59	VLM	B
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/21/19 23:59	VLM	B
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/21/19 23:59	VLM	B
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/21/19 23:59	VLM	B
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		6/21/19 23:59	VLM	B
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		6/21/19 23:59	VLM	B
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		6/21/19 23:59	VLM	B

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542003** Date Collected: 6/12/2019 09:40 Matrix: Water

Sample ID: **MRC-SW5A1-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		6/21/19 23:59	VLM	B
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/21/19 23:59	VLM	B
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		6/21/19 23:59	VLM	B
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/21/19 23:59	VLM	B
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/21/19 23:59	VLM	B
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/21/19 23:59	VLM	B
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/21/19 23:59	VLM	B
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/21/19 23:59	VLM	B
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/21/19 23:59	VLM	B
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/21/19 23:59	VLM	B
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		6/21/19 23:59	VLM	B
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		6/21/19 23:59	VLM	B
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/21/19 23:59	VLM	B
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/21/19 23:59	VLM	B
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/21/19 23:59	VLM	B
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		6/21/19 23:59	VLM	B
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/21/19 23:59	VLM	B
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		6/21/19 23:59	VLM	B
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		6/21/19 23:59	VLM	B
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		6/21/19 23:59	VLM	B
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/21/19 23:59	VLM	B
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		6/21/19 23:59	VLM	B
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		6/21/19 23:59	VLM	B
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/21/19 23:59	VLM	B
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/21/19 23:59	VLM	B
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/21/19 23:59	VLM	B
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/21/19 23:59	VLM	B
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/21/19 23:59	VLM	B
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/21/19 23:59	VLM	B
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/21/19 23:59	VLM	B
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/21/19 23:59	VLM	B
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/21/19 23:59	VLM	B
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		6/21/19 23:59	VLM	B
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		6/21/19 23:59	VLM	B
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		6/21/19 23:59	VLM	B
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/21/19 23:59	VLM	B
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		6/21/19 23:59	VLM	B
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		6/21/19 23:59	VLM	B

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542003** Date Collected: 6/12/2019 09:40 Matrix: Water

Sample ID: **MRC-SW5A1-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/21/19 23:59	VLM	B
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/21/19 23:59	VLM	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	107		%	62 - 133		SW846 8260B			6/21/19 23:59	VLM	B
4-Bromofluorobenzene (S)	105		%	79 - 114		SW846 8260B			6/21/19 23:59	VLM	B
Dibromofluoromethane (S)	106		%	78 - 116		SW846 8260B			6/21/19 23:59	VLM	B
Toluene-d8 (S)	104		%	76 - 127		SW846 8260B			6/21/19 23:59	VLM	B

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542004** Date Collected: 6/12/2019 10:30 Matrix: Water

Sample ID: **MRC-SW13A-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	3.3J	J	ug/L	10.0	3.1	SW846 8260B		6/22/19 00:21	VLM	B
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		6/22/19 00:21	VLM	B
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 00:21	VLM	B
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 00:21	VLM	B
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 00:21	VLM	B
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 00:21	VLM	B
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		6/22/19 00:21	VLM	B
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		6/22/19 00:21	VLM	B
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/22/19 00:21	VLM	B
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		6/22/19 00:21	VLM	B
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 00:21	VLM	B
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/22/19 00:21	VLM	B
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 00:21	VLM	B
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 00:21	VLM	B
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 00:21	VLM	B
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 00:21	VLM	B
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 00:21	VLM	B
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 00:21	VLM	B
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		6/22/19 00:21	VLM	B
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		6/22/19 00:21	VLM	B
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 00:21	VLM	B
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 00:21	VLM	B
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 00:21	VLM	B
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 00:21	VLM	B
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/22/19 00:21	VLM	B
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 00:21	VLM	B
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 00:21	VLM	B
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		6/22/19 00:21	VLM	B
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 00:21	VLM	B
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 00:21	VLM	B
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 00:21	VLM	B
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 00:21	VLM	B
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 00:21	VLM	B
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 00:21	VLM	B
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		6/22/19 00:21	VLM	B
cis-1,2-Dichloroethene	0.36J	J	ug/L	1.0	0.32	SW846 8260B		6/22/19 00:21	VLM	B

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542004** Date Collected: 6/12/2019 10:30 Matrix: Water

Sample ID: **MRC-SW13A-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 00:21	VLM	B
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 00:21	VLM	B
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 00:21	VLM	B
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 00:21	VLM	B
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 00:21	VLM	B
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 00:21	VLM	B
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/22/19 00:21	VLM	B
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 00:21	VLM	B
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 00:21	VLM	B
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 00:21	VLM	B
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 00:21	VLM	B
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		6/22/19 00:21	VLM	B
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/22/19 00:21	VLM	B
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 00:21	VLM	B
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 00:21	VLM	B
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		6/22/19 00:21	VLM	B
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 00:21	VLM	B
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 00:21	VLM	B
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		6/22/19 00:21	VLM	B
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 00:21	VLM	B
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/22/19 00:21	VLM	B
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 00:21	VLM	B
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 00:21	VLM	B
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 00:21	VLM	B
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 00:21	VLM	B
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 00:21	VLM	B
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 00:21	VLM	B
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/22/19 00:21	VLM	B
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/22/19 00:21	VLM	B
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/22/19 00:21	VLM	B
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 00:21	VLM	B
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 00:21	VLM	B
Trichloroethene	1.8		ug/L	1.0	0.33	SW846 8260B		6/22/19 00:21	VLM	B
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 00:21	VLM	B
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 00:21	VLM	B
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 00:21	VLM	B
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		6/22/19 00:21	VLM	B
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 00:21	VLM	B

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ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542004** Date Collected: 6/12/2019 10:30 Matrix: Water
Sample ID: **MRC-SW13A-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/22/19 00:21	VLM	B
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/22/19 00:21	VLM	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	107		%	62 - 133		SW846 8260B			6/22/19 00:21	VLM	B
4-Bromofluorobenzene (S)	106		%	79 - 114		SW846 8260B			6/22/19 00:21	VLM	B
Dibromofluoromethane (S)	105		%	78 - 116		SW846 8260B			6/22/19 00:21	VLM	B
Toluene-d8 (S)	104		%	76 - 127		SW846 8260B			6/22/19 00:21	VLM	B

Vanessa N. Badman
Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542005** Date Collected: 6/12/2019 11:05 Matrix: Water

Sample ID: **MRC-SW11B-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND		ug/L	10.0	3.1	SW846 8260B		6/22/19 00:44	VLM	B
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		6/22/19 00:44	VLM	B
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 00:44	VLM	B
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 00:44	VLM	B
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 00:44	VLM	B
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 00:44	VLM	B
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		6/22/19 00:44	VLM	B
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		6/22/19 00:44	VLM	B
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/22/19 00:44	VLM	B
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		6/22/19 00:44	VLM	B
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 00:44	VLM	B
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/22/19 00:44	VLM	B
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 00:44	VLM	B
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 00:44	VLM	B
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 00:44	VLM	B
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 00:44	VLM	B
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 00:44	VLM	B
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 00:44	VLM	B
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		6/22/19 00:44	VLM	B
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		6/22/19 00:44	VLM	B
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 00:44	VLM	B
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 00:44	VLM	B
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 00:44	VLM	B
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 00:44	VLM	B
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/22/19 00:44	VLM	B
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 00:44	VLM	B
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 00:44	VLM	B
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		6/22/19 00:44	VLM	B
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 00:44	VLM	B
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 00:44	VLM	B
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 00:44	VLM	B
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 00:44	VLM	B
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 00:44	VLM	B
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 00:44	VLM	B
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		6/22/19 00:44	VLM	B
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 00:44	VLM	B

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542005** Date Collected: 6/12/2019 11:05 Matrix: Water

Sample ID: **MRC-SW11B-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 00:44	VLM	B
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 00:44	VLM	B
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 00:44	VLM	B
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 00:44	VLM	B
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 00:44	VLM	B
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 00:44	VLM	B
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/22/19 00:44	VLM	B
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 00:44	VLM	B
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 00:44	VLM	B
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 00:44	VLM	B
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 00:44	VLM	B
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		6/22/19 00:44	VLM	B
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/22/19 00:44	VLM	B
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 00:44	VLM	B
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 00:44	VLM	B
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		6/22/19 00:44	VLM	B
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 00:44	VLM	B
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 00:44	VLM	B
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		6/22/19 00:44	VLM	B
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 00:44	VLM	B
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/22/19 00:44	VLM	B
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 00:44	VLM	B
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 00:44	VLM	B
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 00:44	VLM	B
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 00:44	VLM	B
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 00:44	VLM	B
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 00:44	VLM	B
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/22/19 00:44	VLM	B
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/22/19 00:44	VLM	B
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/22/19 00:44	VLM	B
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 00:44	VLM	B
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 00:44	VLM	B
Trichloroethene	0.98J	J	ug/L	1.0	0.33	SW846 8260B		6/22/19 00:44	VLM	B
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 00:44	VLM	B
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 00:44	VLM	B
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 00:44	VLM	B
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		6/22/19 00:44	VLM	B
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 00:44	VLM	B

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542005** Date Collected: 6/12/2019 11:05 Matrix: Water
Sample ID: **MRC-SW11B-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/22/19 00:44	VLM	B
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/22/19 00:44	VLM	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	108		%	62 - 133		SW846 8260B			6/22/19 00:44	VLM	B
4-Bromofluorobenzene (S)	105		%	79 - 114		SW846 8260B			6/22/19 00:44	VLM	B
Dibromofluoromethane (S)	106		%	78 - 116		SW846 8260B			6/22/19 00:44	VLM	B
Toluene-d8 (S)	104		%	76 - 127		SW846 8260B			6/22/19 00:44	VLM	B

Vanessa N. Badman
Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542006** Date Collected: 6/12/2019 09:50 Matrix: Water

Sample ID: **MRC-SW5A2-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND		ug/L	10.0	3.1	SW846 8260B		6/22/19 01:07	VLM	B
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		6/22/19 01:07	VLM	B
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 01:07	VLM	B
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 01:07	VLM	B
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 01:07	VLM	B
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 01:07	VLM	B
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		6/22/19 01:07	VLM	B
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		6/22/19 01:07	VLM	B
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/22/19 01:07	VLM	B
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		6/22/19 01:07	VLM	B
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 01:07	VLM	B
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/22/19 01:07	VLM	B
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 01:07	VLM	B
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 01:07	VLM	B
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 01:07	VLM	B
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 01:07	VLM	B
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 01:07	VLM	B
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 01:07	VLM	B
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		6/22/19 01:07	VLM	B
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		6/22/19 01:07	VLM	B
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 01:07	VLM	B
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 01:07	VLM	B
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 01:07	VLM	B
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 01:07	VLM	B
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/22/19 01:07	VLM	B
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 01:07	VLM	B
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 01:07	VLM	B
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		6/22/19 01:07	VLM	B
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 01:07	VLM	B
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 01:07	VLM	B
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 01:07	VLM	B
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 01:07	VLM	B
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 01:07	VLM	B
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 01:07	VLM	B
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		6/22/19 01:07	VLM	B
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 01:07	VLM	B

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542006** Date Collected: 6/12/2019 09:50 Matrix: Water

Sample ID: **MRC-SW5A2-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 01:07	VLM	B
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 01:07	VLM	B
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 01:07	VLM	B
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 01:07	VLM	B
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 01:07	VLM	B
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 01:07	VLM	B
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/22/19 01:07	VLM	B
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 01:07	VLM	B
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 01:07	VLM	B
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 01:07	VLM	B
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 01:07	VLM	B
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		6/22/19 01:07	VLM	B
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/22/19 01:07	VLM	B
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 01:07	VLM	B
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 01:07	VLM	B
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		6/22/19 01:07	VLM	B
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 01:07	VLM	B
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 01:07	VLM	B
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		6/22/19 01:07	VLM	B
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 01:07	VLM	B
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/22/19 01:07	VLM	B
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 01:07	VLM	B
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 01:07	VLM	B
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 01:07	VLM	B
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 01:07	VLM	B
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 01:07	VLM	B
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 01:07	VLM	B
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/22/19 01:07	VLM	B
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/22/19 01:07	VLM	B
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/22/19 01:07	VLM	B
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 01:07	VLM	B
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 01:07	VLM	B
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 01:07	VLM	B
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 01:07	VLM	B
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 01:07	VLM	B
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 01:07	VLM	B
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		6/22/19 01:07	VLM	B
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 01:07	VLM	B

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ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542006** Date Collected: 6/12/2019 09:50 Matrix: Water

Sample ID: **MRC-SW5A2-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/22/19 01:07	VLM	B
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/22/19 01:07	VLM	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	108		%	62 - 133		SW846 8260B			6/22/19 01:07	VLM	B
4-Bromofluorobenzene (S)	105		%	79 - 114		SW846 8260B			6/22/19 01:07	VLM	B
Dibromofluoromethane (S)	104		%	78 - 116		SW846 8260B			6/22/19 01:07	VLM	B
Toluene-d8 (S)	104		%	76 - 127		SW846 8260B			6/22/19 01:07	VLM	B

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542007** Date Collected: 6/12/2019 10:45 Matrix: Water

Sample ID: **MRC-SW12A-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	3.3J	J	ug/L	10.0	3.1	SW846 8260B		6/22/19 01:29	VLM	B
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		6/22/19 01:29	VLM	B
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 01:29	VLM	B
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 01:29	VLM	B
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 01:29	VLM	B
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 01:29	VLM	B
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		6/22/19 01:29	VLM	B
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		6/22/19 01:29	VLM	B
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/22/19 01:29	VLM	B
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		6/22/19 01:29	VLM	B
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 01:29	VLM	B
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/22/19 01:29	VLM	B
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 01:29	VLM	B
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 01:29	VLM	B
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 01:29	VLM	B
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 01:29	VLM	B
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 01:29	VLM	B
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 01:29	VLM	B
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		6/22/19 01:29	VLM	B
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		6/22/19 01:29	VLM	B
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 01:29	VLM	B
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 01:29	VLM	B
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 01:29	VLM	B
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 01:29	VLM	B
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/22/19 01:29	VLM	B
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 01:29	VLM	B
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 01:29	VLM	B
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		6/22/19 01:29	VLM	B
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 01:29	VLM	B
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 01:29	VLM	B
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 01:29	VLM	B
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 01:29	VLM	B
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 01:29	VLM	B
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 01:29	VLM	B
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		6/22/19 01:29	VLM	B
cis-1,2-Dichloroethene	0.41J	J	ug/L	1.0	0.32	SW846 8260B		6/22/19 01:29	VLM	B

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542007** Date Collected: 6/12/2019 10:45 Matrix: Water

Sample ID: **MRC-SW12A-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 01:29	VLM	B
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 01:29	VLM	B
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 01:29	VLM	B
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 01:29	VLM	B
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 01:29	VLM	B
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 01:29	VLM	B
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/22/19 01:29	VLM	B
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 01:29	VLM	B
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 01:29	VLM	B
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 01:29	VLM	B
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 01:29	VLM	B
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		6/22/19 01:29	VLM	B
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/22/19 01:29	VLM	B
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 01:29	VLM	B
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 01:29	VLM	B
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		6/22/19 01:29	VLM	B
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 01:29	VLM	B
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 01:29	VLM	B
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		6/22/19 01:29	VLM	B
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 01:29	VLM	B
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/22/19 01:29	VLM	B
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 01:29	VLM	B
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 01:29	VLM	B
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 01:29	VLM	B
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 01:29	VLM	B
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 01:29	VLM	B
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 01:29	VLM	B
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/22/19 01:29	VLM	B
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/22/19 01:29	VLM	B
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/22/19 01:29	VLM	B
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 01:29	VLM	B
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 01:29	VLM	B
Trichloroethene	2.1		ug/L	1.0	0.33	SW846 8260B		6/22/19 01:29	VLM	B
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 01:29	VLM	B
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 01:29	VLM	B
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 01:29	VLM	B
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		6/22/19 01:29	VLM	B
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 01:29	VLM	B

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542007** Date Collected: 6/12/2019 10:45 Matrix: Water

Sample ID: **MRC-SW12A-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/22/19 01:29	VLM	B
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/22/19 01:29	VLM	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	109		%	62 - 133		SW846 8260B			6/22/19 01:29	VLM	B
4-Bromofluorobenzene (S)	104		%	79 - 114		SW846 8260B			6/22/19 01:29	VLM	B
Dibromofluoromethane (S)	106		%	78 - 116		SW846 8260B			6/22/19 01:29	VLM	B
Toluene-d8 (S)	103		%	76 - 127		SW846 8260B			6/22/19 01:29	VLM	B

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542008** Date Collected: 6/12/2019 10:55 Matrix: Water

Sample ID: **MRC-SW11A-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	5.6J	J	ug/L	10.0	3.1	SW846 8260B		6/22/19 01:52	VLM	B
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		6/22/19 01:52	VLM	B
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 01:52	VLM	B
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 01:52	VLM	B
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 01:52	VLM	B
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 01:52	VLM	B
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		6/22/19 01:52	VLM	B
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		6/22/19 01:52	VLM	B
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/22/19 01:52	VLM	B
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		6/22/19 01:52	VLM	B
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 01:52	VLM	B
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/22/19 01:52	VLM	B
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 01:52	VLM	B
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 01:52	VLM	B
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 01:52	VLM	B
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 01:52	VLM	B
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 01:52	VLM	B
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 01:52	VLM	B
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		6/22/19 01:52	VLM	B
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		6/22/19 01:52	VLM	B
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 01:52	VLM	B
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 01:52	VLM	B
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 01:52	VLM	B
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 01:52	VLM	B
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/22/19 01:52	VLM	B
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 01:52	VLM	B
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 01:52	VLM	B
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		6/22/19 01:52	VLM	B
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 01:52	VLM	B
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 01:52	VLM	B
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 01:52	VLM	B
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 01:52	VLM	B
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 01:52	VLM	B
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 01:52	VLM	B
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		6/22/19 01:52	VLM	B
cis-1,2-Dichloroethene	0.37J	J	ug/L	1.0	0.32	SW846 8260B		6/22/19 01:52	VLM	B

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542008** Date Collected: 6/12/2019 10:55 Matrix: Water

Sample ID: **MRC-SW11A-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 01:52	VLM	B
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 01:52	VLM	B
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 01:52	VLM	B
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 01:52	VLM	B
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 01:52	VLM	B
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 01:52	VLM	B
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/22/19 01:52	VLM	B
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 01:52	VLM	B
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 01:52	VLM	B
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 01:52	VLM	B
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 01:52	VLM	B
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		6/22/19 01:52	VLM	B
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/22/19 01:52	VLM	B
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 01:52	VLM	B
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 01:52	VLM	B
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		6/22/19 01:52	VLM	B
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 01:52	VLM	B
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 01:52	VLM	B
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		6/22/19 01:52	VLM	B
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 01:52	VLM	B
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/22/19 01:52	VLM	B
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 01:52	VLM	B
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 01:52	VLM	B
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 01:52	VLM	B
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 01:52	VLM	B
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 01:52	VLM	B
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 01:52	VLM	B
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/22/19 01:52	VLM	B
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/22/19 01:52	VLM	B
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/22/19 01:52	VLM	B
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 01:52	VLM	B
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 01:52	VLM	B
Trichloroethene	2.4		ug/L	1.0	0.33	SW846 8260B		6/22/19 01:52	VLM	B
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 01:52	VLM	B
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 01:52	VLM	B
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 01:52	VLM	B
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		6/22/19 01:52	VLM	B
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 01:52	VLM	B

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542008** Date Collected: 6/12/2019 10:55 Matrix: Water

Sample ID: **MRC-SW11A-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/22/19 01:52	VLM	B
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/22/19 01:52	VLM	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	108		%	62 - 133		SW846 8260B			6/22/19 01:52	VLM	B
4-Bromofluorobenzene (S)	105		%	79 - 114		SW846 8260B			6/22/19 01:52	VLM	B
Dibromofluoromethane (S)	106		%	78 - 116		SW846 8260B			6/22/19 01:52	VLM	B
Toluene-d8 (S)	104		%	76 - 127		SW846 8260B			6/22/19 01:52	VLM	B

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542009** Date Collected: 6/12/2019 10:00 Matrix: Water

Sample ID: **MRC-SW5B-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	3.3J	J	ug/L	10.0	3.1	SW846 8260B		6/22/19 02:14	VLM	B
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		6/22/19 02:14	VLM	B
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 02:14	VLM	B
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 02:14	VLM	B
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 02:14	VLM	B
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 02:14	VLM	B
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		6/22/19 02:14	VLM	B
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		6/22/19 02:14	VLM	B
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/22/19 02:14	VLM	B
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		6/22/19 02:14	VLM	B
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 02:14	VLM	B
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/22/19 02:14	VLM	B
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 02:14	VLM	B
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 02:14	VLM	B
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 02:14	VLM	B
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 02:14	VLM	B
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 02:14	VLM	B
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 02:14	VLM	B
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		6/22/19 02:14	VLM	B
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		6/22/19 02:14	VLM	B
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 02:14	VLM	B
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 02:14	VLM	B
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 02:14	VLM	B
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 02:14	VLM	B
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/22/19 02:14	VLM	B
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 02:14	VLM	B
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 02:14	VLM	B
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		6/22/19 02:14	VLM	B
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 02:14	VLM	B
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 02:14	VLM	B
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 02:14	VLM	B
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 02:14	VLM	B
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 02:14	VLM	B
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 02:14	VLM	B
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		6/22/19 02:14	VLM	B
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 02:14	VLM	B

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542009** Date Collected: 6/12/2019 10:00 Matrix: Water

Sample ID: **MRC-SW5B-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 02:14	VLM	B
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 02:14	VLM	B
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 02:14	VLM	B
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 02:14	VLM	B
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 02:14	VLM	B
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 02:14	VLM	B
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/22/19 02:14	VLM	B
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 02:14	VLM	B
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 02:14	VLM	B
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 02:14	VLM	B
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 02:14	VLM	B
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		6/22/19 02:14	VLM	B
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/22/19 02:14	VLM	B
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 02:14	VLM	B
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 02:14	VLM	B
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		6/22/19 02:14	VLM	B
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 02:14	VLM	B
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 02:14	VLM	B
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		6/22/19 02:14	VLM	B
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 02:14	VLM	B
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/22/19 02:14	VLM	B
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 02:14	VLM	B
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 02:14	VLM	B
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 02:14	VLM	B
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 02:14	VLM	B
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 02:14	VLM	B
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 02:14	VLM	B
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/22/19 02:14	VLM	B
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/22/19 02:14	VLM	B
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/22/19 02:14	VLM	B
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 02:14	VLM	B
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 02:14	VLM	B
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 02:14	VLM	B
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 02:14	VLM	B
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 02:14	VLM	B
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 02:14	VLM	B
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		6/22/19 02:14	VLM	B
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 02:14	VLM	B

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542009** Date Collected: 6/12/2019 10:00 Matrix: Water

Sample ID: **MRC-SW5B-S-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/22/19 02:14	VLM	B
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/22/19 02:14	VLM	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	108		%	62 - 133		SW846 8260B			6/22/19 02:14	VLM	B
4-Bromofluorobenzene (S)	104		%	79 - 114		SW846 8260B			6/22/19 02:14	VLM	B
Dibromofluoromethane (S)	106		%	78 - 116		SW846 8260B			6/22/19 02:14	VLM	B
Toluene-d8 (S)	105		%	76 - 127		SW846 8260B			6/22/19 02:14	VLM	B

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542010** Date Collected: 6/12/2019 09:10 Matrix: Water

Sample ID: **MRC-SW2A-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	8.3J	J	ug/L	10.0	3.1	SW846 8260B		6/20/19 03:11	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		6/20/19 03:11	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		6/20/19 03:11	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		6/20/19 03:11	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/20/19 03:11	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/20/19 03:11	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		6/20/19 03:11	PDK	A
Bromomethane	0.81J	J	ug/L	1.0	0.39	SW846 8260B		6/20/19 03:11	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/20/19 03:11	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		6/20/19 03:11	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/20/19 03:11	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/20/19 03:11	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/20/19 03:11	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		6/20/19 03:11	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		6/20/19 03:11	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		6/20/19 03:11	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/20/19 03:11	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/20/19 03:11	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		6/20/19 03:11	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		6/20/19 03:11	PDK	A
Chloromethane	0.40J	J	ug/L	1.0	0.31	SW846 8260B		6/20/19 03:11	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/20/19 03:11	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/20/19 03:11	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		6/20/19 03:11	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/20/19 03:11	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/20/19 03:11	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/20/19 03:11	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		6/20/19 03:11	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/20/19 03:11	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		6/20/19 03:11	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/20/19 03:11	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/20/19 03:11	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/20/19 03:11	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		6/20/19 03:11	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		6/20/19 03:11	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		6/20/19 03:11	PDK	A

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542010** Date Collected: 6/12/2019 09:10 Matrix: Water

Sample ID: **MRC-SW2A-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		6/20/19 03:11	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/20/19 03:11	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		6/20/19 03:11	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/20/19 03:11	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/20/19 03:11	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/20/19 03:11	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/20/19 03:11	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/20/19 03:11	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/20/19 03:11	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/20/19 03:11	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		6/20/19 03:11	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		6/20/19 03:11	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/20/19 03:11	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/20/19 03:11	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/20/19 03:11	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		6/20/19 03:11	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/20/19 03:11	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		6/20/19 03:11	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND	1	ug/L	5.0	1.5	SW846 8260B		6/20/19 03:11	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		6/20/19 03:11	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/20/19 03:11	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		6/20/19 03:11	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		6/20/19 03:11	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/20/19 03:11	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/20/19 03:11	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/20/19 03:11	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/20/19 03:11	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/20/19 03:11	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/20/19 03:11	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/20/19 03:11	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/20/19 03:11	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/20/19 03:11	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		6/20/19 03:11	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		6/20/19 03:11	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		6/20/19 03:11	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/20/19 03:11	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		6/20/19 03:11	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		6/20/19 03:11	PDK	A

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ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542010** Date Collected: 6/12/2019 09:10 Matrix: Water

Sample ID: **MRC-SW2A-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/20/19 03:11	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/20/19 03:11	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	99.2		%	62 - 133		SW846 8260B			6/20/19 03:11	PDK	A
4-Bromofluorobenzene (S)	105		%	79 - 114		SW846 8260B			6/20/19 03:11	PDK	A
Dibromofluoromethane (S)	95.9		%	78 - 116		SW846 8260B			6/20/19 03:11	PDK	A
Toluene-d8 (S)	101		%	76 - 127		SW846 8260B			6/20/19 03:11	PDK	A
SEMIVOLATILE SIM											
1,4-Dioxane	0.029J	J	ug/L	0.098	0.019	8270 SIM	6/19/19 17:50	J1H	6/20/19 10:10	GEC	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	83.8		%	29 - 112		8270 SIM	6/19/19 17:50	J1H	6/20/19 10:10	GEC	C
Fluoranthene-d10 (S)	91.7		%	45 - 130		8270 SIM	6/19/19 17:50	J1H	6/20/19 10:10	GEC	C

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542011** Date Collected: 6/12/2019 08:45 Matrix: Water

Sample ID: **MRC-SW1A-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	14.9		ug/L	10.0	3.1	SW846 8260B		6/20/19 03:34	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		6/20/19 03:34	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		6/20/19 03:34	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		6/20/19 03:34	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/20/19 03:34	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/20/19 03:34	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		6/20/19 03:34	PDK	A
Bromomethane	0.80J	J	ug/L	1.0	0.39	SW846 8260B		6/20/19 03:34	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/20/19 03:34	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		6/20/19 03:34	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/20/19 03:34	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/20/19 03:34	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/20/19 03:34	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		6/20/19 03:34	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		6/20/19 03:34	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		6/20/19 03:34	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/20/19 03:34	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/20/19 03:34	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		6/20/19 03:34	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		6/20/19 03:34	PDK	A
Chloromethane	0.35J	J	ug/L	1.0	0.31	SW846 8260B		6/20/19 03:34	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/20/19 03:34	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/20/19 03:34	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		6/20/19 03:34	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/20/19 03:34	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/20/19 03:34	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/20/19 03:34	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		6/20/19 03:34	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/20/19 03:34	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		6/20/19 03:34	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/20/19 03:34	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/20/19 03:34	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/20/19 03:34	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		6/20/19 03:34	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		6/20/19 03:34	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		6/20/19 03:34	PDK	A

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542011** Date Collected: 6/12/2019 08:45 Matrix: Water

Sample ID: **MRC-SW1A-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		6/20/19 03:34	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/20/19 03:34	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		6/20/19 03:34	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/20/19 03:34	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/20/19 03:34	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/20/19 03:34	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/20/19 03:34	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/20/19 03:34	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/20/19 03:34	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/20/19 03:34	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		6/20/19 03:34	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		6/20/19 03:34	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/20/19 03:34	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/20/19 03:34	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/20/19 03:34	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		6/20/19 03:34	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/20/19 03:34	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		6/20/19 03:34	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND	1	ug/L	5.0	1.5	SW846 8260B		6/20/19 03:34	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		6/20/19 03:34	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/20/19 03:34	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		6/20/19 03:34	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		6/20/19 03:34	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/20/19 03:34	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/20/19 03:34	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/20/19 03:34	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/20/19 03:34	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/20/19 03:34	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/20/19 03:34	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/20/19 03:34	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/20/19 03:34	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/20/19 03:34	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		6/20/19 03:34	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		6/20/19 03:34	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		6/20/19 03:34	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/20/19 03:34	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		6/20/19 03:34	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		6/20/19 03:34	PDK	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542011** Date Collected: 6/12/2019 08:45 Matrix: Water

Sample ID: **MRC-SW1A-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/20/19 03:34	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/20/19 03:34	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	101		%	62 - 133		SW846 8260B			6/20/19 03:34	PDK	A
4-Bromofluorobenzene (S)	97.3		%	79 - 114		SW846 8260B			6/20/19 03:34	PDK	A
Dibromofluoromethane (S)	96.8		%	78 - 116		SW846 8260B			6/20/19 03:34	PDK	A
Toluene-d8 (S)	96.4		%	76 - 127		SW846 8260B			6/20/19 03:34	PDK	A
SEMIVOLATILE SIM											
1,4-Dioxane	0.037J	J	ug/L	0.095	0.018	8270 SIM	6/19/19 17:50	J1H	6/20/19 10:39	GEC	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	85.5		%	29 - 112		8270 SIM	6/19/19 17:50	J1H	6/20/19 10:39	GEC	C
Fluoranthene-d10 (S)	91.6		%	45 - 130		8270 SIM	6/19/19 17:50	J1H	6/20/19 10:39	GEC	C

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Project Coordinator

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID: **3039542012** Date Collected: 6/12/2019 21:11 Matrix: Water
Sample ID: **TB-061219** Date Received: 6/12/2019 21:11

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
ADMINISTRATIVE											
Sample Cancelled	Improper sampling container.								6/13/19 10:11	VNB	A

Vanessa N. Badman
Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3039542001	1	MRC-SW15A-S-061219	SW846 8260B	Bromomethane
The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Bromomethane.				
3039542001	2	MRC-SW15A-S-061219	SW846 8260B	Trichlorofluoromethane
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Trichlorofluoromethane. The % Recovery was reported as 137 and the control limits were 38 to 123.				
3039542001	3	MRC-SW15A-S-061219	SW846 8260B	Trichlorofluoromethane
The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Trichlorofluoromethane. The % Recovery was reported as 125 and the control limits were 38 to 123.				
3039542001	4	MRC-SW15A-S-061219	SW846 8260B	1,1-Dichloroethene
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte 1,1-Dichloroethene. The % Recovery was reported as 145 and the control limits were 63 to 128.				
3039542001	5	MRC-SW15A-S-061219	SW846 8260B	1,1-Dichloroethene
The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte 1,1-Dichloroethene. The RPD was reported as 27.1 and the upper control limit is 21.				
3039542001	6	MRC-SW15A-S-061219	SW846 8260B	Methylene Chloride
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 164 and the control limits were 76 to 121.				
3039542001	7	MRC-SW15A-S-061219	SW846 8260B	Methylene Chloride
The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 124 and the control limits were 76 to 121.				
3039542001	8	MRC-SW15A-S-061219	SW846 8260B	Methylene Chloride
The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Methylene Chloride. The RPD was reported as 27.7 and the upper control limit is 17.				
3039542001	9	MRC-SW15A-S-061219	SW846 8260B	Methylene Chloride
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 136 and the control limits were 76 to 121.				
3039542001	10	MRC-SW15A-S-061219	SW846 8260B	Freon 113
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Freon 113. The % Recovery was reported as 150 and the control limits were 50 to 130.				
3039542001	11	MRC-SW15A-S-061219	SW846 8260B	Freon 113
The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Freon 113. The RPD was reported as 29.5 and the upper control limit is 26.				
3039542001	12	MRC-SW15A-S-061219	SW846 8260B	Carbon Disulfide
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Carbon Disulfide. The % Recovery was reported as 161 and the control limits were 57 to 131.				
3039542001	13	MRC-SW15A-S-061219	SW846 8260B	Carbon Disulfide
The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Carbon Disulfide. The RPD was reported as 40.7 and the upper control limit is 28.				
3039542001	14	MRC-SW15A-S-061219	SW846 8260B	trans-1,2-Dichloroethene
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte trans-1,2-Dichloroethene. The % Recovery was reported as 144 and the control limits were 71 to 122.				
3039542001	15	MRC-SW15A-S-061219	SW846 8260B	trans-1,2-Dichloroethene
The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte trans-1,2-Dichloroethene. The RPD was reported as 30.9 and the upper control limit is 22.				

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

3039542001	16	MRC-SW15A-S-061219	SW846 8260B	Methyl t-Butyl Ether

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 134 and the control limits were 69 to 115.

3039542001	17	MRC-SW15A-S-061219	SW846 8260B	Carbon Tetrachloride

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Carbon Tetrachloride. The % Recovery was reported as 147 and the control limits were 62 to 132.

3039542001	18	MRC-SW15A-S-061219	SW846 8260B	Carbon Tetrachloride

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Carbon Tetrachloride. The % Recovery was reported as 134 and the control limits were 62 to 132.

3039542001	19	MRC-SW15A-S-061219	SW846 8260B	2-Chloroethylvinyl ether

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte 2-Chloroethylvinyl ether. The % Recovery was reported as 0 and the control limits were 1 to 150.

3039542001	20	MRC-SW15A-S-061219	SW846 8260B	2-Chloroethylvinyl ether

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte 2-Chloroethylvinyl ether. The % Recovery was reported as 0 and the control limits were 1 to 150.

3039542001	21	MRC-SW15A-S-061219	SW846 8260B	4-Methyl-2-Pentanone(MIBK)

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte 4-Methyl-2-Pentanone(MIBK). The % Recovery was reported as 69.7 and the control limits were 71 to 146.

3039542001	22	MRC-SW15A-S-061219	SW846 8260B	Bromoform

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Bromoform. The % Recovery was reported as 139 and the control limits were 70 to 123.

3039542001	23	MRC-SW15A-S-061219	SW846 8260B	Bromoform

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Bromoform. The % Recovery was reported as 132 and the control limits were 70 to 123.

3039542001	24	MRC-SW15A-S-061219	SW846 8260B	Bromoform

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Bromoform. The % Recovery was reported as 145 and the control limits were 70 to 123.

3039542001	25	MRC-SW15A-S-061219	SW846 8260B	Bromobenzene

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Bromobenzene. The % Recovery was reported as 120 and the control limits were 81 to 119.

3039542001	26	MRC-SW15A-S-061219	SW846 8260B	n-Propylbenzene

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte n-Propylbenzene. The % Recovery was reported as 146 and the control limits were 74 to 122.

3039542001	27	MRC-SW15A-S-061219	SW846 8260B	n-Propylbenzene

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte n-Propylbenzene. The % Recovery was reported as 138 and the control limits were 74 to 122.

3039542001	28	MRC-SW15A-S-061219	SW846 8260B	n-Propylbenzene

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte n-Propylbenzene. The % Recovery was reported as 137 and the control limits were 74 to 122.

3039542001	29	MRC-SW15A-S-061219	SW846 8260B	Hexachlorobutadiene

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Hexachlorobutadiene. The % Recovery was reported as 130 and the control limits were 55 to 128.

3039542001	30	MRC-SW15A-S-061219	SW846 8260B	Methyl acetate

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Methyl acetate. The RPD was reported as 31.2 and the upper control limit is 18.

ANALYTICAL RESULTS

Workorder: 3039542 LMC MRC / 95840ACM

3039542001	31	MRC-SW15A-S-061219	SW846 8260B	1,2-Dichloroethene, Total

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte 1,2-Dichloroethene, Total. The % Recovery was reported as 129 and the control limits were 78 to 125.

3039542010	1	MRC-SW2A-061219	SW846 8260B	4-Methyl-2-Pentanone(MIBK)

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte 4-Methyl-2-Pentanone(MIBK). The % Recovery was reported as 70.5 and the control limits were 71 to 146.

3039542011	1	MRC-SW1A-061219	SW846 8260B	4-Methyl-2-Pentanone(MIBK)

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte 4-Methyl-2-Pentanone(MIBK). The % Recovery was reported as 70.5 and the control limits were 71 to 146.

ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID	Sample ID	Analysis Method	Prep Method
3039542001	MRC-SW15A-S-061219	SW846 8260B	
3039542002	MRC-SW18A-S-061219	SW846 8260B	
3039542003	MRC-SW5A1-S-061219	SW846 8260B	
3039542004	MRC-SW13A-S-061219	SW846 8260B	
3039542005	MRC-SW11B-S-061219	SW846 8260B	
3039542006	MRC-SW5A2-S-061219	SW846 8260B	
3039542007	MRC-SW12A-S-061219	SW846 8260B	
3039542008	MRC-SW11A-S-061219	SW846 8260B	
3039542009	MRC-SW5B-S-061219	SW846 8260B	
3039542010	MRC-SW2A-061219	8270 SIM	SW846 3510C
3039542010	MRC-SW2A-061219	SW846 8260B	
3039542011	MRC-SW1A-061219	8270 SIM	SW846 3510C
3039542011	MRC-SW1A-061219	SW846 8260B	

QUALITY CONTROL DATA

Workorder: 3039542 LMC MRC / 95840ACM

QC Batch: EXTR/56844 **Analysis Method:** 8270 SIM

QC Batch Method: SW846 3510C

Associated Lab Samples: 3039542010, 3039542011

METHOD BLANK: 2966729

Parameter	Blank Result	Units	Reporting Limit
1,4-Dioxane	ND	ug/L	0.10
2-Methylnapthalene-d10 (S)	86.3	%	29 - 112
Fluoranthene-d10 (S)	100	%	45 - 130

LABORATORY CONTROL SAMPLE: 2966730

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
1,4-Dioxane	51.1	ug/L	1	0.51	22 - 75
2-Methylnapthalene-d10 (S)	74.2	%			29 - 112
Fluoranthene-d10 (S)	87.5	%			45 - 130

MATRIX SPIKE: 2966731 DUPLICATE: 2966732 ORIGINAL: 3039864008

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
1,4-Dioxane	0	ug/L	.97	.45464	.5018	46.8	51.7	22 - 75	9.86	30
2-Methylnapthalene-d10 (S)	81	%				81	82	29 - 112		
Fluoranthene-d10 (S)	89.6	%				89.6	88.4	45 - 130		

QUALITY CONTROL DATA

Workorder: 3039542 LMC MRC / 95840ACM

QC Batch: VOMS/51286 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 8260B

Associated Lab Samples: 3039542001, 3039542002, 3039542003, 3039542004, 3039542005, 3039542006, 3039542007, 3039542008, 3039542009

METHOD BLANK: 2966475

Parameter	Blank Result	Units	Reporting Limit
Acetone	ND	ug/L	10.0
tert-Amyl methyl ether	ND	ug/L	1.0
Benzene	ND	ug/L	1.0
Bromobenzene	ND	ug/L	1.0
Bromochloromethane	ND	ug/L	1.0
Bromodichloromethane	ND	ug/L	1.0
Bromoform	ND	ug/L	1.0
Bromomethane	1.8	ug/L	1.0
2-Butanone	ND	ug/L	10.0
tert-Butyl Alcohol	ND	ug/L	10.0
n-Butylbenzene	ND	ug/L	2.0
tert-Butylbenzene	ND	ug/L	2.0
sec-Butylbenzene	ND	ug/L	1.0
Carbon Disulfide	ND	ug/L	1.0
Carbon Tetrachloride	ND	ug/L	1.0
Chlorobenzene	ND	ug/L	1.0
Chlorodibromomethane	ND	ug/L	1.0
Chloroethane	ND	ug/L	1.0
2-Chloroethylvinyl ether	ND	ug/L	2.0
Chloroform	ND	ug/L	1.0
Chloromethane	0.77J	ug/L	1.0
o-Chlorotoluene	ND	ug/L	1.0
p-Chlorotoluene	ND	ug/L	1.0
Cyclohexane	ND	ug/L	1.0
1,2-Dibromo-3-chloropropane	ND	ug/L	7.0
1,2-Dibromoethane	ND	ug/L	1.0
Dibromomethane	ND	ug/L	1.0
1,2-Dichlorobenzene	ND	ug/L	1.0
1,3-Dichlorobenzene	ND	ug/L	1.0
1,4-Dichlorobenzene	ND	ug/L	1.0
Dichlorodifluoromethane	ND	ug/L	1.0
1,1-Dichloroethane	ND	ug/L	1.0
1,2-Dichloroethane	ND	ug/L	1.0
1,1-Dichloroethene	ND	ug/L	1.0
1,2-Dichloroethene, Total	ND	ug/L	2.0
cis-1,2-Dichloroethene	ND	ug/L	1.0
trans-1,2-Dichloroethene	ND	ug/L	1.0

QUALITY CONTROL DATA

Workorder: 3039542 LMC MRC / 95840ACM

1,3-Dichloropropane	ND	ug/L	1.0
2,2-Dichloropropane	ND	ug/L	1.0
1,2-Dichloropropane	ND	ug/L	1.0
cis-1,3-Dichloropropene	ND	ug/L	1.0
trans-1,3-Dichloropropene	ND	ug/L	1.0
1,3-Dichloropropene, Total	ND	ug/L	2.0
Diisopropyl ether	ND	ug/L	1.0
Ethyl tert-butyl ether	ND	ug/L	1.0
Ethylbenzene	ND	ug/L	1.0
Freon 113	ND	ug/L	1.0
Hexachlorobutadiene	ND	ug/L	5.0
2-Hexanone	ND	ug/L	5.0
Isopropylbenzene	ND	ug/L	1.0
p-Isopropyltoluene	ND	ug/L	1.0
Methyl acetate	ND	ug/L	2.0
Methyl cyclohexane	ND	ug/L	1.0
Methyl t-Butyl Ether	ND	ug/L	1.0
4-Methyl-2-Pentanone(MIBK)	ND	ug/L	5.0
Methylene Chloride	ND	ug/L	1.0
Naphthalene	ND	ug/L	2.0
n-Propylbenzene	ND	ug/L	1.0
Styrene	ND	ug/L	1.0
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0
Tetrachloroethene	ND	ug/L	1.0
Toluene	ND	ug/L	1.0
Total Xylenes	ND	ug/L	3.0
1,2,3-Trichlorobenzene	ND	ug/L	2.0
1,2,4-Trichlorobenzene	ND	ug/L	2.0
1,1,1-Trichloroethane	ND	ug/L	1.0
1,1,2-Trichloroethane	ND	ug/L	1.0
Trichloroethene	ND	ug/L	1.0
Trichlorofluoromethane	ND	ug/L	1.0
1,2,3-Trichloropropane	ND	ug/L	2.0
1,2,4-Trimethylbenzene	ND	ug/L	1.0
Vinyl Acetate	ND	ug/L	5.0
Vinyl Chloride	ND	ug/L	1.0
o-Xylene	ND	ug/L	1.0
mp-Xylene	ND	ug/L	2.0
1,2-Dichloroethane-d4 (S)	93.5	%	62 - 133
4-Bromofluorobenzene (S)	111	%	79 - 114
Dibromofluoromethane (S)	95	%	78 - 116
Toluene-d8 (S)	100	%	76 - 127

QUALITY CONTROL DATA

Workorder: 3039542 LMC MRC / 95840ACM

LABORATORY CONTROL SAMPLE: 2966476

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acetone	114	ug/L	100	114	40 - 151
tert-Amyl methyl ether	116	ug/L	20	23.2	75 - 121
Benzene	111	ug/L	20	22.3	80 - 124
Bromobenzene	111	ug/L	20	22.3	81 - 119
Bromochloromethane	112	ug/L	20	22.3	73 - 117
Bromodichloromethane	109	ug/L	20	21.7	79 - 126
Bromoform	145*	ug/L	20	29.0	70 - 123
Bromomethane	128	ug/L	20	25.5	45 - 148
2-Butanone	103	ug/L	100	103	50 - 152
tert-Butyl Alcohol	120	ug/L	100	120	17 - 168
n-Butylbenzene	96.7	ug/L	20	19.3	71 - 130
tert-Butylbenzene	109	ug/L	20	21.7	72 - 124
sec-Butylbenzene	112	ug/L	20	22.3	72 - 127
Carbon Disulfide	118	ug/L	20	23.6	57 - 131
Carbon Tetrachloride	129	ug/L	20	25.7	62 - 132
Chlorobenzene	98.2	ug/L	20	19.6	85 - 117
Chlorodibromomethane	113	ug/L	20	22.7	77 - 122
Chloroethane	111	ug/L	20	22.3	51 - 142
2-Chloroethylvinyl ether	88.1	ug/L	20	17.6	1 - 150
Chloroform	110	ug/L	20	21.9	78 - 122
Chloromethane	120	ug/L	20	24.0	38 - 156
o-Chlorotoluene	108	ug/L	20	21.5	78 - 126
p-Chlorotoluene	109	ug/L	20	21.8	78 - 125
Cyclohexane	122	ug/L	20	24.4	66 - 130
1,2-Dibromo-3-chloropropane	103	ug/L	20	20.7	59 - 133
1,2-Dibromoethane	108	ug/L	20	21.7	80 - 124
Dibromomethane	107	ug/L	20	21.3	81 - 125
1,2-Dichlorobenzene	101	ug/L	20	20.3	82 - 118
1,3-Dichlorobenzene	101	ug/L	20	20.2	81 - 118
1,4-Dichlorobenzene	99.5	ug/L	20	19.9	81 - 116
Dichlorodifluoromethane	91.8	ug/L	20	18.4	17 - 166
1,1-Dichloroethane	106	ug/L	20	21.1	78 - 124
1,2-Dichloroethane	103	ug/L	20	20.6	70 - 133
1,1-Dichloroethene	118	ug/L	20	23.7	63 - 128
1,2-Dichloroethene, Total	109	ug/L	40	43.6	78 - 125
cis-1,2-Dichloroethene	107	ug/L	20	21.3	78 - 125
trans-1,2-Dichloroethene	112	ug/L	20	22.3	71 - 122
1,3-Dichloropropane	107	ug/L	20	21.4	82 - 126
2,2-Dichloropropane	74.1	ug/L	20	14.8	64 - 129
1,2-Dichloropropane	118	ug/L	20	23.7	81 - 127
cis-1,3-Dichloropropene	91	ug/L	20	18.2	81 - 121
trans-1,3-Dichloropropene	100	ug/L	20	20.1	78 - 126

QUALITY CONTROL DATA

Workorder: 3039542 LMC MRC / 95840ACM

1,3-Dichloropropene, Total	95.7	ug/L	40	38.3	80 - 123
Diisopropyl ether	112	ug/L	20	22.4	74 - 131
Ethyl tert-butyl ether	110	ug/L	20	22.0	75 - 123
Ethylbenzene	105	ug/L	20	20.9	80 - 124
Freon 113	110	ug/L	20	22.0	50 - 130
Hexachlorobutadiene	114	ug/L	20	22.7	55 - 128
2-Hexanone	108	ug/L	100	108	65 - 154
Isopropylbenzene	119	ug/L	20	23.9	73 - 129
p-Isopropyltoluene	105	ug/L	20	20.9	72 - 123
Methyl acetate	108	ug/L	20	21.6	70 - 130
Methyl cyclohexane	106	ug/L	20	21.3	70 - 130
Methyl t-Butyl Ether	111	ug/L	20	22.2	69 - 115
4-Methyl-2-Pentanone(MIBK)	78.5	ug/L	100	78.5	71 - 146
Methylene Chloride	136*	ug/L	20	27.1	76 - 121
Naphthalene	101	ug/L	20	20.3	56 - 134
n-Propylbenzene	137*	ug/L	20	27.4	74 - 122
Styrene	112	ug/L	20	22.4	79 - 123
1,1,1,2-Tetrachloroethane	107	ug/L	20	21.4	78 - 121
1,1,2,2-Tetrachloroethane	107	ug/L	20	21.4	74 - 135
Tetrachloroethene	105	ug/L	20	20.9	72 - 124
Toluene	102	ug/L	20	20.4	80 - 125
Total Xylenes	107	ug/L	60	63.9	79 - 125
1,2,3-Trichlorobenzene	98.2	ug/L	20	19.6	61 - 126
1,2,4-Trichlorobenzene	102	ug/L	20	20.4	67 - 123
1,1,1-Trichloroethane	110	ug/L	20	22.1	66 - 130
1,1,2-Trichloroethane	101	ug/L	20	20.3	82 - 126
Trichloroethene	110	ug/L	20	22.0	77 - 124
Trichlorofluoromethane	122	ug/L	20	24.5	38 - 123
1,2,3-Trichloropropane	108	ug/L	20	21.7	75 - 132
1,2,4-Trimethylbenzene	108	ug/L	20	21.6	76 - 125
Vinyl Acetate	93.8	ug/L	20	18.8	58 - 136
Vinyl Chloride	123	ug/L	20	24.7	27 - 138
o-Xylene	102	ug/L	20	20.4	79 - 124
mp-Xylene	109	ug/L	40	43.5	79 - 125
1,2-Dichloroethane-d4 (S)	99.4	%			62 - 133
4-Bromofluorobenzene (S)	107	%			79 - 114
Dibromofluoromethane (S)	99.7	%			78 - 116
Toluene-d8 (S)	99.3	%			76 - 127

MATRIX SPIKE: 2966739 DUPLICATE: 2966740 ORIGINAL: 3039542001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD

QUALITY CONTROL DATA

Workorder: 3039542 LMC MRC / 95840ACM

Acetone	6.32409	ug/L	100	137.12	101.177	131	94.9	40 - 151	30.2	40
tert-Amyl methyl ether	0	ug/L	20	22.1526	22.9324	111	115	75 - 121	3.46	40
Benzene	0	ug/L	20	22.0814	20.9033	110	105	80 - 124	5.48	26
Bromobenzene	0	ug/L	20	23.9933	21.276	120*	106	81 - 119	12	17
Bromochloromethane	0	ug/L	20	22.7082	22.5958	114	113	73 - 117	.5	19
Bromodichloromethane	0	ug/L	20	23.6314	22.2584	118	111	79 - 126	5.98	16
Bromoform	0	ug/L	20	27.788	26.4188	139*	132*	70 - 123	5.05	16
Bromomethane	1.5786	ug/L	20	25.3012	30.4017	119	144	45 - 148	18.3	26
2-Butanone	0	ug/L	100	102.08	89.74	102	89.7	50 - 152	12.9	16
tert-Butyl Alcohol	0	ug/L	100	125.835	99.8282	126	99.8	17 - 168	23	40
n-Butylbenzene	0	ug/L	20	23.0631	21.4387	115	107	71 - 130	7.3	20
tert-Butylbenzene	0	ug/L	20	24.4644	22.2308	122	111	72 - 124	9.57	17
sec-Butylbenzene	0	ug/L	20	23.9265	22.647	120	113	72 - 127	5.49	17
Carbon Disulfide	0	ug/L	20	32.1693	21.2997	161*	106	57 - 131	40.7	28
Carbon Tetrachloride	0	ug/L	20	29.3184	26.7844	147*	134*	62 - 132	9.03	17
Chlorobenzene	0	ug/L	20	21.4568	19.1943	107	96	85 - 117	11.1	15
Chlorodibromomethane	0	ug/L	20	22.7713	21.7671	114	109	77 - 122	4.51	15
Chloroethane	0	ug/L	20	22.6524	20.9941	113	105	51 - 142	7.6	24
2-Chloroethylvinyl ether	0	ug/L	20	0	0	0*	0*	1 - 150	NC	40
Chloroform	0	ug/L	20	22.8727	21.4553	114	107	78 - 122	6.4	16
Chloromethane	.6878	ug/L	20	24.9348	24.342	121	118	38 - 156	2.41	27
o-Chlorotoluene	0	ug/L	20	22.9218	20.6865	115	103	78 - 126	10.3	17
p-Chlorotoluene	0	ug/L	20	23.3634	20.639	117	103	78 - 125	12.4	16
Cyclohexane	0	ug/L	20	25.6397	23.6481	128	118	66 - 130	8.08	20
1,2-Dibromo-3-chloropropane	0	ug/L	20	20.3446	18.1685	102	90.8	59 - 133	11.3	26
1,2-Dibromoethane	0	ug/L	20	20.7853	19.8691	104	99.3	80 - 124	4.51	19
Dibromomethane	0	ug/L	20	22.3105	21.0259	112	105	81 - 125	5.93	16
1,2-Dichlorobenzene	0	ug/L	20	21.3865	19.9584	107	99.8	82 - 118	6.91	15
1,3-Dichlorobenzene	0	ug/L	20	21.5512	20.0589	108	100	81 - 118	7.17	16
1,4-Dichlorobenzene	0	ug/L	20	21.3902	19.8085	107	99	81 - 116	7.68	15
Dichlorodifluoromethane	0	ug/L	20	20.1196	19.1094	101	95.5	17 - 166	5.15	24
1,1-Dichloroethane	0	ug/L	20	21.8109	20.0548	109	100	78 - 124	8.39	15
1,2-Dichloroethane	0	ug/L	20	22.839	22.4309	114	112	70 - 133	1.8	19
1,1-Dichloroethene	0	ug/L	20	29.0462	22.1238	145*	111	63 - 128	27.1	21
1,2-Dichloroethene, Total	0	ug/L	40	51.5684	42.4875	129*	106	78 - 125	19.3	40
cis-1,2-Dichloroethene	0	ug/L	20	22.7186	21.3549	114	107	78 - 125	6.19	21
trans-1,2-Dichloroethene	0	ug/L	20	28.8498	21.1326	144*	106	71 - 122	30.9	22
1,3-Dichloropropane	0	ug/L	20	21.0758	19.7102	105	98.6	82 - 126	6.7	15
2,2-Dichloropropane	0	ug/L	20	22.0422	20.1455	110	101	64 - 129	8.99	18
1,2-Dichloropropane	0	ug/L	20	24.8365	21.6486	124	108	81 - 127	13.7	15
cis-1,3-Dichloropropene	0	ug/L	20	19.0847	17.435	95.4	87.2	81 - 121	9.03	16
trans-1,3-Dichloropropene	0	ug/L	20	20.3975	19.9175	102	99.6	78 - 126	2.38	18
1,3-Dichloropropene, Total	0	ug/L	40	39.4821	37.3524	98.7	93.4	80 - 123	5.54	16
Diisopropyl ether	0	ug/L	20	22.857	21.5684	114	108	74 - 131	5.8	15
Ethyl tert-butyl ether	0	ug/L	20	22.0984	21.5253	110	108	75 - 123	2.63	16
Ethylbenzene	0	ug/L	20	22.3855	20.5184	112	103	80 - 124	8.7	19

QUALITY CONTROL DATA

Workorder: 3039542 LMC MRC / 95840ACM

Freon 113	0	ug/L	20	29.931	22.2459	150*	111	50 - 130	29.5	26
Hexachlorobutadiene	0	ug/L	20	25.9721	23.704	130*	119	55 - 128	9.13	35
2-Hexanone	0	ug/L	100	113.035	97.7902	113	97.8	65 - 154	14.5	17
Isopropylbenzene	0	ug/L	20	25.6983	22.3841	128	112	73 - 129	13.8	18
p-Isopropyltoluene	0	ug/L	20	23.3082	21.7057	117	109	72 - 123	7.12	17
Methyl acetate	0	ug/L	20	20.4341	14.9222	102	74.6	70 - 130	31.2	18
Methyl cyclohexane	0	ug/L	20	23.9519	21.5947	120	108	70 - 130	10.4	18
Methyl t-Butyl Ether	0	ug/L	20	26.7993	22.2488	134*	111	69 - 115	18.6	20
4-Methyl-2-Pentanone(MIBK)	0	ug/L	100	80.8918	69.7339	80.9	69.7*	71 - 146	14.8	16
Methylene Chloride	0	ug/L	20	32.803	24.8154	164*	124*	76 - 121	27.7	17
Naphthalene	0	ug/L	20	21.4724	19.5883	107	97.9	56 - 134	9.18	40
n-Propylbenzene	0	ug/L	20	29.2027	27.5451	146*	138*	74 - 122	5.84	20
Styrene	0	ug/L	20	24.0667	20.7905	120	104	79 - 123	14.6	16
1,1,1,2-Tetrachloroethane	0	ug/L	20	22.8559	21.6949	114	108	78 - 121	5.21	16
1,1,2,2-Tetrachloroethane	0	ug/L	20	21.4952	19.1755	107	95.9	74 - 135	11.4	16
Tetrachloroethene	0	ug/L	20	20.105	18.2389	101	91.2	72 - 124	9.73	38
Toluene	0	ug/L	20	22.3389	19.427	112	97.1	80 - 125	13.9	20
Total Xylenes	0	ug/L	60	68.5425	61.5534	114	103	79 - 125	10.7	35
1,2,3-Trichlorobenzene	0	ug/L	20	21.8887	20.5693	109	103	61 - 126	6.22	36
1,2,4-Trichlorobenzene	0	ug/L	20	22.283	21.5331	111	108	67 - 123	3.42	22
1,1,1-Trichloroethane	0	ug/L	20	24.6461	22.874	123	114	66 - 130	7.46	20
1,1,2-Trichloroethane	0	ug/L	20	19.9022	18.8941	99.5	94.5	82 - 126	5.2	15
Trichloroethene	.88241	ug/L	20	23.5686	22.3517	113	107	77 - 124	5.3	18
Trichlorofluoromethane	0	ug/L	20	27.381	24.9929	137*	125*	38 - 123	9.12	23
1,2,3-Trichloropropane	0	ug/L	20	23.5379	20.9112	118	105	75 - 132	11.8	19
1,2,4-Trimethylbenzene	0	ug/L	20	22.9465	21.166	115	106	76 - 125	8.07	24
Vinyl Acetate	0	ug/L	20	17.1129	16.4767	85.6	82.4	58 - 136	3.79	17
Vinyl Chloride	0	ug/L	20	23.3109	25.4218	117	127	27 - 138	8.66	40
o-Xylene	0	ug/L	20	22.1604	19.6884	111	98.4	79 - 124	11.8	19
mp-Xylene	0	ug/L	40	46.3822	41.865	116	105	79 - 125	10.2	21
1,2-Dichloroethane-d4 (S)	103	%				103	104	62 - 133		
4-Bromofluorobenzene (S)	110	%				110	105	79 - 114		
Dibromofluoromethane (S)	101	%				101	96.6	78 - 116		
Toluene-d8 (S)	100	%				100	95.4	76 - 127		

QUALITY CONTROL DATA

Workorder: 3039542 LMC MRC / 95840ACM

QC Batch: VOMS/51294 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 8260B

Associated Lab Samples: 3039542010, 3039542011

METHOD BLANK: 2966920

Parameter	Blank Result	Units	Reporting Limit
Acetone	ND	ug/L	10.0
tert-Amyl methyl ether	ND	ug/L	1.0
Benzene	ND	ug/L	1.0
Bromobenzene	ND	ug/L	1.0
Bromochloromethane	ND	ug/L	1.0
Bromodichloromethane	ND	ug/L	1.0
Bromoform	ND	ug/L	1.0
Bromomethane	0.77J	ug/L	1.0
2-Butanone	ND	ug/L	10.0
tert-Butyl Alcohol	ND	ug/L	10.0
n-Butylbenzene	ND	ug/L	2.0
tert-Butylbenzene	ND	ug/L	2.0
sec-Butylbenzene	ND	ug/L	1.0
Carbon Disulfide	ND	ug/L	1.0
Carbon Tetrachloride	ND	ug/L	1.0
Chlorobenzene	ND	ug/L	1.0
Chlorodibromomethane	ND	ug/L	1.0
Chloroethane	ND	ug/L	1.0
2-Chloroethylvinyl ether	ND	ug/L	2.0
Chloroform	ND	ug/L	1.0
Chloromethane	0.42J	ug/L	1.0
o-Chlorotoluene	ND	ug/L	1.0
p-Chlorotoluene	ND	ug/L	1.0
Cyclohexane	ND	ug/L	1.0
1,2-Dibromo-3-chloropropane	ND	ug/L	7.0
1,2-Dibromoethane	ND	ug/L	1.0
Dibromomethane	ND	ug/L	1.0
1,2-Dichlorobenzene	ND	ug/L	1.0
1,3-Dichlorobenzene	ND	ug/L	1.0
1,4-Dichlorobenzene	ND	ug/L	1.0
Dichlorodifluoromethane	ND	ug/L	1.0
1,1-Dichloroethane	ND	ug/L	1.0
1,2-Dichloroethane	ND	ug/L	1.0
1,1-Dichloroethene	ND	ug/L	1.0
1,2-Dichloroethene, Total	ND	ug/L	2.0
cis-1,2-Dichloroethene	ND	ug/L	1.0
trans-1,2-Dichloroethene	ND	ug/L	1.0

QUALITY CONTROL DATA

Workorder: 3039542 LMC MRC / 95840ACM

1,3-Dichloropropane	ND	ug/L	1.0
2,2-Dichloropropane	ND	ug/L	1.0
1,2-Dichloropropane	ND	ug/L	1.0
cis-1,3-Dichloropropene	ND	ug/L	1.0
trans-1,3-Dichloropropene	ND	ug/L	1.0
1,3-Dichloropropene, Total	ND	ug/L	2.0
Diisopropyl ether	ND	ug/L	1.0
Ethyl tert-butyl ether	ND	ug/L	1.0
Ethylbenzene	ND	ug/L	1.0
Freon 113	ND	ug/L	1.0
Hexachlorobutadiene	ND	ug/L	5.0
2-Hexanone	ND	ug/L	5.0
Isopropylbenzene	ND	ug/L	1.0
p-Isopropyltoluene	ND	ug/L	1.0
Methyl acetate	ND	ug/L	2.0
Methyl cyclohexane	ND	ug/L	1.0
Methyl t-Butyl Ether	ND	ug/L	1.0
4-Methyl-2-Pentanone(MIBK)	ND	ug/L	5.0
Methylene Chloride	ND	ug/L	1.0
Naphthalene	ND	ug/L	2.0
n-Propylbenzene	ND	ug/L	1.0
Styrene	ND	ug/L	1.0
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0
Tetrachloroethene	ND	ug/L	1.0
Toluene	ND	ug/L	1.0
Total Xylenes	ND	ug/L	3.0
1,2,3-Trichlorobenzene	ND	ug/L	2.0
1,2,4-Trichlorobenzene	ND	ug/L	2.0
1,1,1-Trichloroethane	ND	ug/L	1.0
1,1,2-Trichloroethane	ND	ug/L	1.0
Trichloroethene	ND	ug/L	1.0
Trichlorofluoromethane	ND	ug/L	1.0
1,2,3-Trichloropropane	ND	ug/L	2.0
1,2,4-Trimethylbenzene	ND	ug/L	1.0
Vinyl Acetate	ND	ug/L	5.0
Vinyl Chloride	ND	ug/L	1.0
o-Xylene	ND	ug/L	1.0
mp-Xylene	ND	ug/L	2.0
1,2-Dichloroethane-d4 (S)	95.5	%	62 - 133
4-Bromofluorobenzene (S)	107	%	79 - 114
Dibromofluoromethane (S)	94.8	%	78 - 116
Toluene-d8 (S)	93	%	76 - 127

QUALITY CONTROL DATA

Workorder: 3039542 LMC MRC / 95840ACM

LABORATORY CONTROL SAMPLE: 2966921

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acetone	104	ug/L	100	104	40 - 151
tert-Amyl methyl ether	108	ug/L	20	21.6	75 - 121
Benzene	106	ug/L	20	21.2	80 - 124
Bromobenzene	100	ug/L	20	20.1	81 - 119
Bromochloromethane	103	ug/L	20	20.7	73 - 117
Bromodichloromethane	103	ug/L	20	20.5	79 - 126
Bromoform	127*	ug/L	20	25.4	70 - 123
Bromomethane	131	ug/L	20	26.3	45 - 148
2-Butanone	94.8	ug/L	100	94.8	50 - 152
tert-Butyl Alcohol	77.6	ug/L	100	77.6	17 - 168
n-Butylbenzene	112	ug/L	20	22.5	71 - 130
tert-Butylbenzene	110	ug/L	20	22.1	72 - 124
sec-Butylbenzene	115	ug/L	20	23.1	72 - 127
Carbon Disulfide	118	ug/L	20	23.7	57 - 131
Carbon Tetrachloride	122	ug/L	20	24.5	62 - 132
Chlorobenzene	94.6	ug/L	20	18.9	85 - 117
Chlorodibromomethane	103	ug/L	20	20.6	77 - 122
Chloroethane	92.5	ug/L	20	18.5	51 - 142
2-Chloroethylvinyl ether	77.6	ug/L	20	15.5	1 - 150
Chloroform	106	ug/L	20	21.1	78 - 122
Chloromethane	114	ug/L	20	22.9	38 - 156
o-Chlorotoluene	102	ug/L	20	20.5	78 - 126
p-Chlorotoluene	105	ug/L	20	21.1	78 - 125
Cyclohexane	115	ug/L	20	22.9	66 - 130
1,2-Dibromo-3-chloropropane	84.9	ug/L	20	17.0	59 - 133
1,2-Dibromoethane	99.4	ug/L	20	19.9	80 - 124
Dibromomethane	104	ug/L	20	20.9	81 - 125
1,2-Dichlorobenzene	93.1	ug/L	20	18.6	82 - 118
1,3-Dichlorobenzene	99.9	ug/L	20	20.0	81 - 118
1,4-Dichlorobenzene	99.1	ug/L	20	19.8	81 - 116
Dichlorodifluoromethane	81.3	ug/L	20	16.3	17 - 166
1,1-Dichloroethane	106	ug/L	20	21.1	78 - 124
1,2-Dichloroethane	95.5	ug/L	20	19.1	70 - 133
1,1-Dichloroethene	101	ug/L	20	20.2	63 - 128
1,2-Dichloroethene, Total	107	ug/L	40	42.9	78 - 125
cis-1,2-Dichloroethene	104	ug/L	20	20.9	78 - 125
trans-1,2-Dichloroethene	110	ug/L	20	22.1	71 - 122
1,3-Dichloropropane	99.3	ug/L	20	19.9	82 - 126
2,2-Dichloropropane	119	ug/L	20	23.7	64 - 129
1,2-Dichloropropane	114	ug/L	20	22.8	81 - 127
cis-1,3-Dichloropropene	92.4	ug/L	20	18.5	81 - 121
trans-1,3-Dichloropropene	99.9	ug/L	20	20.0	78 - 126

QUALITY CONTROL DATA

Workorder: 3039542 LMC MRC / 95840ACM

1,3-Dichloropropene, Total	96.2	ug/L	40	38.5	80 - 123
Diisopropyl ether	110	ug/L	20	21.9	74 - 131
Ethyl tert-butyl ether	106	ug/L	20	21.2	75 - 123
Ethylbenzene	101	ug/L	20	20.1	80 - 124
Freon 113	103	ug/L	20	20.5	50 - 130
Hexachlorobutadiene	123	ug/L	20	24.5	55 - 128
2-Hexanone	96	ug/L	100	96.0	65 - 154
Isopropylbenzene	119	ug/L	20	23.8	73 - 129
p-Isopropyltoluene	109	ug/L	20	21.7	72 - 123
Methyl acetate	82.9	ug/L	20	16.6	70 - 130
Methyl cyclohexane	112	ug/L	20	22.3	70 - 130
Methyl t-Butyl Ether	105	ug/L	20	21.1	69 - 115
4-Methyl-2-Pentanone(MIBK)	70.5*	ug/L	100	70.5	71 - 146
Methylene Chloride	115	ug/L	20	22.9	76 - 121
Naphthalene	98.2	ug/L	20	19.6	56 - 134
n-Propylbenzene	131*	ug/L	20	26.2	74 - 122
Styrene	103	ug/L	20	20.7	79 - 123
1,1,1,2-Tetrachloroethane	102	ug/L	20	20.3	78 - 121
1,1,2,2-Tetrachloroethane	96.9	ug/L	20	19.4	74 - 135
Tetrachloroethene	87.5	ug/L	20	17.5	72 - 124
Toluene	97.4	ug/L	20	19.5	80 - 125
Total Xylenes	99.1	ug/L	60	59.4	79 - 125
1,2,3-Trichlorobenzene	98.8	ug/L	20	19.8	61 - 126
1,2,4-Trichlorobenzene	106	ug/L	20	21.2	67 - 123
1,1,1-Trichloroethane	105	ug/L	20	21.0	66 - 130
1,1,2-Trichloroethane	96.1	ug/L	20	19.2	82 - 126
Trichloroethene	110	ug/L	20	22.1	77 - 124
Trichlorofluoromethane	101	ug/L	20	20.2	38 - 123
1,2,3-Trichloropropane	96.9	ug/L	20	19.4	75 - 132
1,2,4-Trimethylbenzene	108	ug/L	20	21.6	76 - 125
Vinyl Acetate	102	ug/L	20	20.4	58 - 136
Vinyl Chloride	119	ug/L	20	23.8	27 - 138
o-Xylene	96.3	ug/L	20	19.3	79 - 124
mp-Xylene	100	ug/L	40	40.2	79 - 125
1,2-Dichloroethane-d4 (S)	91.6	%			62 - 133
4-Bromofluorobenzene (S)	105	%			79 - 114
Dibromofluoromethane (S)	97.9	%			78 - 116
Toluene-d8 (S)	98.8	%			76 - 127

MATRIX SPIKE: 2967120 DUPLICATE: 2967121 ORIGINAL: 3040101007

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD

QUALITY CONTROL DATA

Workorder: 3039542 LMC MRC / 95840ACM

Acetone	3.22558	ug/L	100	93.9738	96.7277	90.7	93.5	40 - 151	2.89	40
tert-Amyl methyl ether	0	ug/L	20	22.6314	21.2891	113	106	75 - 121	6.11	40
Benzene	0	ug/L	20	23.3495	19.8272	117	99.1	80 - 124	16.3	26
Bromochloromethane	0	ug/L	20	22.1246	21.3319	111	107	73 - 117	3.65	19
Bromodichloromethane	0	ug/L	20	17.3132	21.43	86.6	107	79 - 126	21.3	16
Bromoform	0	ug/L	20	27.9296	33.2626	140*	166*	70 - 123	17.4	16
Bromomethane	1.41362	ug/L	20	8.78696	11.9532	36.9*	52.7	45 - 148	30.5	26
2-Butanone	0	ug/L	100	88.4026	92.1087	88.4	92.1	50 - 152	4.11	16
tert-Butyl Alcohol	2.23083	ug/L	100	73.5711	93.7194	71.3	91.5	17 - 168	24.1	40
Carbon Disulfide	0	ug/L	20	26.6546	20.6553	133*	103	57 - 131	25.4	28
Carbon Tetrachloride	0	ug/L	20	28.2399	25.1308	141*	126	62 - 132	11.7	17
Chlorobenzene	0	ug/L	20	21.4397	18.1577	107	90.8	85 - 117	16.6	15
Chlorodibromomethane	0	ug/L	20	21.9922	21.3424	110	107	77 - 122	3	15
Chloroethane	0	ug/L	20	17.7009	22.3079	88.5	112	51 - 142	23	24
Chloroform	0	ug/L	20	22.9522	20.3081	115	102	78 - 122	12.2	16
Chloromethane	.63619	ug/L	20	14.632	23.7276	70	115	38 - 156	47.4	27
1,2-Dibromo-3-chloropropane	0	ug/L	20	18.3572	17.7151	91.8	88.6	59 - 133	3.56	26
1,2-Dibromoethane	0	ug/L	20	20.1851	22.8339	101	114	80 - 124	12.3	19
Dichlorodifluoromethane	0	ug/L	20	15.7959	18.0388	79	90.2	17 - 166	13.3	24
1,1-Dichloroethane	0	ug/L	20	22.9443	18.3879	115	91.9	78 - 124	22	15
1,2-Dichloroethane	0	ug/L	20	21.2032	21.3644	106	107	70 - 133	.76	19
1,1-Dichloroethene	0	ug/L	20	22.4893	17.9059	112	89.5	63 - 128	22.7	21
cis-1,2-Dichloroethene	0	ug/L	20	23.658	19.4434	118	97.2	78 - 125	19.6	21
trans-1,2-Dichloroethene	0	ug/L	20	25.6721	20.4327	128*	102	71 - 122	22.7	22
1,2-Dichloropropane	0	ug/L	20	16.172	20.2663	80.9*	101	81 - 127	22.5	15
cis-1,3-Dichloropropene	0	ug/L	20	18.1498	14.4431	90.7	72.2*	81 - 121	22.7	16
trans-1,3-Dichloropropene	0	ug/L	20	19.8904	15.7952	99.5	79	78 - 126	23	18
Diisopropyl ether	0	ug/L	20	23.9853	19.9592	120	99.8	74 - 131	18.3	15
Ethyl tert-butyl ether	0	ug/L	20	22.3647	20.1827	112	101	75 - 123	10.3	16
Ethylbenzene	.53003	ug/L	20	22.5553	19.7321	110	96	80 - 124	13.4	19
2-Hexanone	0	ug/L	100	94.4537	111.463	94.5	111	65 - 154	16.5	17
Methyl t-Butyl Ether	0	ug/L	20	22.2717	21.3723	111	107	69 - 115	4.12	20
4-Methyl-2-Pentanone(MIBK)	0	ug/L	100	69.7677	58.8197	69.8*	58.8*	71 - 146	17	16
Methylene Chloride	0	ug/L	20	26.962	22.9262	135*	115	76 - 121	16.2	17
Styrene	0	ug/L	20	21.3865	26.6212	107	133*	79 - 123	21.8	16
1,1,2,2-Tetrachloroethane	0	ug/L	20	18.4038	26.4119	92	132	74 - 135	35.7	16
Tetrachloroethene	0	ug/L	20	20.4229	15.8374	102	79.2	72 - 124	25.3	38
Toluene	0	ug/L	20	21.2997	15.9164	106	79.6*	80 - 125	28.9	20
Total Xylenes	1.55378	ug/L	60	70.2288	63.7008	114	104	79 - 125	9.75	35
1,1,1-Trichloroethane	0	ug/L	20	23.7159	21.1872	119	106	66 - 130	11.3	20
1,1,2-Trichloroethane	0	ug/L	20	19.5035	16.7657	97.5	83.8	82 - 126	15.1	15
Trichloroethene	0	ug/L	20	22.5695	20.3514	113	102	77 - 124	10.3	18
Vinyl Chloride	0	ug/L	20	19.9579	21.3281	99.8	107	27 - 138	6.64	40
o-Xylene	0	ug/L	20	21.8295	22.4585	109	112	79 - 124	2.84	19
mp-Xylene	1.55378	ug/L	40	48.3994	41.2423	117	99.2	79 - 125	16	21
1,2-Dichloroethane-d4 (S)	97.9	%				97.9	101	62 - 133		

QUALITY CONTROL DATA

Workorder: 3039542 LMC MRC / 95840ACM

4-Bromofluorobenzene (S)	105	%	105	134*	79 - 114
Dibromofluoromethane (S)	101	%	101	99.5	78 - 116
Toluene-d8 (S)	96.8	%	96.8	81.9	76 - 127

QUALITY CONTROL DATA

Workorder: 3039542 LMC MRC / 95840ACM

QC Batch: VOMS/51335 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 8260B

Associated Lab Samples: 3039542002, 3039542003, 3039542004, 3039542005, 3039542006, 3039542007, 3039542008, 3039542009

METHOD BLANK: 2968376

Parameter	Blank Result	Units	Reporting Limit
Acetone	ND	ug/L	10.0
tert-Amyl methyl ether	ND	ug/L	1.0
Benzene	ND	ug/L	1.0
Bromobenzene	ND	ug/L	1.0
Bromochloromethane	ND	ug/L	1.0
Bromodichloromethane	ND	ug/L	1.0
Bromoform	ND	ug/L	1.0
Bromomethane	ND	ug/L	1.0
2-Butanone	ND	ug/L	10.0
tert-Butyl Alcohol	ND	ug/L	10.0
n-Butylbenzene	ND	ug/L	2.0
tert-Butylbenzene	ND	ug/L	2.0
sec-Butylbenzene	ND	ug/L	1.0
Carbon Disulfide	ND	ug/L	1.0
Carbon Tetrachloride	ND	ug/L	1.0
Chlorobenzene	ND	ug/L	1.0
Chlorodibromomethane	ND	ug/L	1.0
Chloroethane	ND	ug/L	1.0
2-Chloroethylvinyl ether	ND	ug/L	2.0
Chloroform	ND	ug/L	1.0
Chloromethane	ND	ug/L	1.0
o-Chlorotoluene	ND	ug/L	1.0
p-Chlorotoluene	ND	ug/L	1.0
Cyclohexane	ND	ug/L	1.0
1,2-Dibromo-3-chloropropane	ND	ug/L	7.0
1,2-Dibromoethane	ND	ug/L	1.0
Dibromomethane	ND	ug/L	1.0
1,2-Dichlorobenzene	ND	ug/L	1.0
1,3-Dichlorobenzene	ND	ug/L	1.0
1,4-Dichlorobenzene	ND	ug/L	1.0
Dichlorodifluoromethane	ND	ug/L	1.0
1,1-Dichloroethane	ND	ug/L	1.0
1,2-Dichloroethane	ND	ug/L	1.0
1,1-Dichloroethene	ND	ug/L	1.0
1,2-Dichloroethene, Total	ND	ug/L	2.0
cis-1,2-Dichloroethene	ND	ug/L	1.0
trans-1,2-Dichloroethene	ND	ug/L	1.0

QUALITY CONTROL DATA

Workorder: 3039542 LMC MRC / 95840ACM

1,3-Dichloropropane	ND	ug/L	1.0
2,2-Dichloropropane	ND	ug/L	1.0
1,2-Dichloropropane	ND	ug/L	1.0
cis-1,3-Dichloropropene	ND	ug/L	1.0
trans-1,3-Dichloropropene	ND	ug/L	1.0
1,3-Dichloropropene, Total	ND	ug/L	2.0
Diisopropyl ether	ND	ug/L	1.0
Ethyl tert-butyl ether	ND	ug/L	1.0
Ethylbenzene	ND	ug/L	1.0
Freon 113	ND	ug/L	1.0
Hexachlorobutadiene	ND	ug/L	5.0
2-Hexanone	ND	ug/L	5.0
Isopropylbenzene	ND	ug/L	1.0
p-Isopropyltoluene	ND	ug/L	1.0
Methyl acetate	ND	ug/L	2.0
Methyl cyclohexane	ND	ug/L	1.0
Methyl t-Butyl Ether	ND	ug/L	1.0
4-Methyl-2-Pentanone(MIBK)	ND	ug/L	5.0
Methylene Chloride	ND	ug/L	1.0
Naphthalene	ND	ug/L	2.0
n-Propylbenzene	ND	ug/L	1.0
Styrene	ND	ug/L	1.0
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0
Tetrachloroethene	ND	ug/L	1.0
Toluene	ND	ug/L	1.0
Total Xylenes	ND	ug/L	3.0
1,2,3-Trichlorobenzene	ND	ug/L	2.0
1,2,4-Trichlorobenzene	ND	ug/L	2.0
1,1,1-Trichloroethane	ND	ug/L	1.0
1,1,2-Trichloroethane	ND	ug/L	1.0
Trichloroethene	0.62J	ug/L	1.0
Trichlorofluoromethane	ND	ug/L	1.0
1,2,3-Trichloropropane	ND	ug/L	2.0
1,2,4-Trimethylbenzene	ND	ug/L	1.0
Vinyl Acetate	ND	ug/L	5.0
Vinyl Chloride	ND	ug/L	1.0
o-Xylene	ND	ug/L	1.0
mp-Xylene	ND	ug/L	2.0
1,2-Dichloroethane-d4 (S)	109	%	62 - 133
4-Bromofluorobenzene (S)	105	%	79 - 114
Dibromofluoromethane (S)	105	%	78 - 116
Toluene-d8 (S)	105	%	76 - 127

QUALITY CONTROL DATA

Workorder: 3039542 LMC MRC / 95840ACM

LABORATORY CONTROL SAMPLE: 2968377

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acetone	90.4	ug/L	100	90.4	40 - 151
tert-Amyl methyl ether	107	ug/L	20	21.4	75 - 121
Benzene	103	ug/L	20	20.5	80 - 124
Bromobenzene	105	ug/L	20	21.0	81 - 119
Bromochloromethane	110	ug/L	20	21.9	73 - 117
Bromodichloromethane	105	ug/L	20	21.0	79 - 126
Bromoform	98.6	ug/L	20	19.7	70 - 123
Bromomethane	97.7	ug/L	20	19.5	45 - 148
2-Butanone	91.3	ug/L	100	91.3	50 - 152
tert-Butyl Alcohol	79	ug/L	100	79.0	17 - 168
n-Butylbenzene	110	ug/L	20	22.1	71 - 130
tert-Butylbenzene	105	ug/L	20	21.0	72 - 124
sec-Butylbenzene	108	ug/L	20	21.6	72 - 127
Carbon Disulfide	105	ug/L	20	21.0	57 - 131
Carbon Tetrachloride	110	ug/L	20	22.1	62 - 132
Chlorobenzene	104	ug/L	20	20.8	85 - 117
Chlorodibromomethane	108	ug/L	20	21.6	77 - 122
Chloroethane	99.5	ug/L	20	19.9	51 - 142
2-Chloroethylvinyl ether	93	ug/L	20	18.6	1 - 150
Chloroform	102	ug/L	20	20.5	78 - 122
Chloromethane	94.1	ug/L	20	18.8	38 - 156
o-Chlorotoluene	101	ug/L	20	20.1	78 - 126
p-Chlorotoluene	101	ug/L	20	20.3	78 - 125
Cyclohexane	109	ug/L	20	21.8	66 - 130
1,2-Dibromo-3-chloropropane	95.5	ug/L	20	19.1	59 - 133
1,2-Dibromoethane	106	ug/L	20	21.2	80 - 124
Dibromomethane	107	ug/L	20	21.4	81 - 125
1,2-Dichlorobenzene	104	ug/L	20	20.7	82 - 118
1,3-Dichlorobenzene	102	ug/L	20	20.5	81 - 118
1,4-Dichlorobenzene	104	ug/L	20	20.7	81 - 116
Dichlorodifluoromethane	106	ug/L	20	21.3	17 - 166
1,1-Dichloroethane	97.9	ug/L	20	19.6	78 - 124
1,2-Dichloroethane	100	ug/L	20	20.0	70 - 133
1,1-Dichloroethene	103	ug/L	20	20.5	63 - 128
1,2-Dichloroethene, Total	100	ug/L	40	40.0	78 - 125
cis-1,2-Dichloroethene	98.2	ug/L	20	19.6	78 - 125
trans-1,2-Dichloroethene	102	ug/L	20	20.4	71 - 122
1,3-Dichloropropane	99.2	ug/L	20	19.8	82 - 126
2,2-Dichloropropane	103	ug/L	20	20.6	64 - 129
1,2-Dichloropropane	98.2	ug/L	20	19.6	81 - 127
cis-1,3-Dichloropropene	102	ug/L	20	20.4	81 - 121
trans-1,3-Dichloropropene	103	ug/L	20	20.6	78 - 126

QUALITY CONTROL DATA

Workorder: 3039542 LMC MRC / 95840ACM

1,3-Dichloropropene, Total	102	ug/L	40	41.0	80 - 123
Diisopropyl ether	95.4	ug/L	20	19.1	74 - 131
Ethyl tert-butyl ether	100	ug/L	20	20.0	75 - 123
Ethylbenzene	103	ug/L	20	20.7	80 - 124
Freon 113	108	ug/L	20	21.6	50 - 130
Hexachlorobutadiene	125	ug/L	20	24.9	55 - 128
2-Hexanone	90	ug/L	100	90.0	65 - 154
Isopropylbenzene	107	ug/L	20	21.4	73 - 129
p-Isopropyltoluene	110	ug/L	20	21.9	72 - 123
Methyl acetate	91.6	ug/L	20	18.3	70 - 130
Methyl cyclohexane	106	ug/L	20	21.1	70 - 130
Methyl t-Butyl Ether	103	ug/L	20	20.7	69 - 115
4-Methyl-2-Pentanone(MIBK)	89.3	ug/L	100	89.3	71 - 146
Methylene Chloride	103	ug/L	20	20.6	76 - 121
Naphthalene	103	ug/L	20	20.5	56 - 134
n-Propylbenzene	104	ug/L	20	20.8	74 - 122
Styrene	104	ug/L	20	20.8	79 - 123
1,1,1,2-Tetrachloroethane	109	ug/L	20	21.7	78 - 121
1,1,2,2-Tetrachloroethane	99.1	ug/L	20	19.8	74 - 135
Tetrachloroethene	107	ug/L	20	21.3	72 - 124
Toluene	102	ug/L	20	20.4	80 - 125
Total Xylenes	104	ug/L	60	62.6	79 - 125
1,2,3-Trichlorobenzene	104	ug/L	20	20.7	61 - 126
1,2,4-Trichlorobenzene	109	ug/L	20	21.9	67 - 123
1,1,1-Trichloroethane	107	ug/L	20	21.5	66 - 130
1,1,2-Trichloroethane	98.8	ug/L	20	19.8	82 - 126
Trichloroethene	103	ug/L	20	20.6	77 - 124
Trichlorofluoromethane	118	ug/L	20	23.5	38 - 123
1,2,3-Trichloropropane	103	ug/L	20	20.7	75 - 132
1,2,4-Trimethylbenzene	104	ug/L	20	20.8	76 - 125
Vinyl Acetate	98.2	ug/L	20	19.6	58 - 136
Vinyl Chloride	97.9	ug/L	20	19.6	27 - 138
o-Xylene	104	ug/L	20	20.7	79 - 124
mp-Xylene	105	ug/L	40	41.9	79 - 125
1,2-Dichloroethane-d4 (S)	105	%			62 - 133
4-Bromofluorobenzene (S)	108	%			79 - 114
Dibromofluoromethane (S)	108	%			78 - 116
Toluene-d8 (S)	103	%			76 - 127

QUALITY CONTROL DATA QUALIFIERS

Workorder: 3039542 LMC MRC / 95840ACM

QUALITY CONTROL PARAMETER QUALIFIERS

Lab ID	#	Sample Type	Analytical Method	Analyte
2966475	1	Method Blank	SW846 8260B	Bromomethane
The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Bromomethane.				
2966476	2	Lab Control Standard	SW846 8260B	Bromoform
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Bromoform. The % Recovery was reported as 145 and the control limits were 70 to 123.				
2966476	3	Lab Control Standard	SW846 8260B	Methylene Chloride
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 136 and the control limits were 76 to 121.				
2966476	4	Lab Control Standard	SW846 8260B	n-Propylbenzene
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte n-Propylbenzene. The % Recovery was reported as 137 and the control limits were 74 to 122.				
2966921	5	Lab Control Standard	SW846 8260B	4-Methyl-2-Pentanone(MIBK)
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte 4-Methyl-2-Pentanone(MIBK). The % Recovery was reported as 70.5 and the control limits were 71 to 146.				
2966921	6	Lab Control Standard	SW846 8260B	n-Propylbenzene
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte n-Propylbenzene. The % Recovery was reported as 131 and the control limits were 74 to 122.				
2966921	7	Lab Control Standard	SW846 8260B	Bromoform
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Bromoform. The % Recovery was reported as 127 and the control limits were 70 to 123.				
2967120	8	Matrix Spike	SW846 8260B	Acetone
This volatile sample was analyzed past the method specified 12 hour tune time. Data is not believed to be impacted.				

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 3039542 LMC MRC / 95840ACM

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
3039542001	MRC-SW15A-S-061219			SW846 8260B	VOMS/51286
3039542010	MRC-SW2A-061219	SW846 3510C	EXTR/56844	8270 SIM	SVMS/33402
3039542011	MRC-SW1A-061219	SW846 3510C	EXTR/56844	8270 SIM	SVMS/33402
3039542010	MRC-SW2A-061219			SW846 8260B	VOMS/51294
3039542011	MRC-SW1A-061219			SW846 8260B	VOMS/51294
3039542002	MRC-SW18A-S-061219			SW846 8260B	VOMS/51335
3039542003	MRC-SW5A1-S-061219			SW846 8260B	VOMS/51335
3039542004	MRC-SW13A-S-061219			SW846 8260B	VOMS/51335
3039542005	MRC-SW11B-S-061219			SW846 8260B	VOMS/51335
3039542006	MRC-SW5A2-S-061219			SW846 8260B	VOMS/51335
3039542007	MRC-SW12A-S-061219			SW846 8260B	VOMS/51335
3039542008	MRC-SW11A-S-061219			SW846 8260B	VOMS/51335
3039542009	MRC-SW5B-S-061219			SW846 8260B	VOMS/51335

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F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC ALS *30395542* 1 of 2

Client Name: AECOM
Address: 12420 Milestone Center Drive, Suite 150
Germantown, MD 20876
Contact: Ravi Damera & Holly Brown
Phone#: 301-674-3199
Project Name/#: LMC MRC / 95840ACM
Bill To: Ravi Damera

TAT [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required: Approved?
Email? [X] -Y ravi.damara@aecom.com
Fax? [ ] -Y No.:

Container Type	CG	AG								
Container Size	40mL	1L								
Preservative	HCl	-								

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	VOCs (8260C)	1,4-Dioxane (8270D SIM)								Sample/COC Comments
			Enter Number of Containers Per Sample or Field Results Below.											
1 MRC-SW15A-S-061219	6-12-19	1115	G	SW	2									
2 MRC-SW18A-S-061219		1015	G	SW	2									
3 MRC-SW5A1-S-061219		0940	G	SW	2									
4 MRC-SW13A-S-061219		1030	G	SW	2									
5 MRC-SW11B-S-061219		1105	G	SW	2									
6 MRC-SW5A2-S-061219		0950	G	SW	2									
7 MRC-SW12A-S-061219		1045	G	SW	2									
8 MRC-SW11A-S-061219		1055	G	SW	2									
9 MRC-SW5B-S-061219		1000	G	SW	2									
10 MRC-SW2A-061219	↓	0910	G	SW	2	2								

Cooler Temp: 4°C Therm ID: 401 (Receiving Lab)
No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(if present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. In Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

ALS Field Services: _Pickup _Labor _Composite Sampling _Rental Equipment _Other:

Project Comments: Please also email data to holly.brown@aecom.com and naoum.tavantzis@aecom.com

LOGGED BY(signature): DATE TIME
REVIEWED BY(signature): DATE TIME

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 AECOM	6-12-19	1444	2 ALS	6/12/19	1444
3 ALS	6/12/19		4	6/12/19	2111
5			6		
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE [ ]
Special Processing: USACE [ ] Navy [ ]
State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] NC [ ]
Reportable to PADEP? Yes [ ] PWSID #
Sample Disposal: Lab [X] Special [ ]
EDDS: Format Type- EQuIS and .csv

* G=Grab; C=Composite
**Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057

Rev 10/14

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Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 30395412 — 2 of 2
ALS Quote #:

Client Name: AECOM
Address: 12420 Milestone Center Drive, Suite 150
Germantown, MD 20876
Contact: Ravi Damera & Holly Brown
Phone#: 301-674-3199
Project Name/#: LMC MRC / 95840ACM
Bill To: Ravi Damera
TAT [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required: Approved?
Email? [X] -Y ravi.damara@aecom.com
Fax? [ ] -Y No.:

Container Type	CG	AG								
Container Size	40mL	1L								
Preservative	HCl	-								

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	VOCs (8260C)	1,4-Dioxane (8270D SIM)								Sample/COC Comments
			Enter Number of Containers Per Sample or Field Results Below.											
1 MRC-SW1-061219	6-12-19	0845	G	GW	2	2								
2 TB-061219	6-12-19	1400	G	~~GW~~	2 1									trip blank
3			G	GW										* Trip Blank rec in a
4			G	GW										A. 250mL Bottle.
5			G	GW										DN 6/13
6			G	GW										
7			G	GW										
8			G	GW										
9			G	GW										
10			G	GW										

Receipt Information (completed by Receiving Lab)
Cooler Temp: 4.6 Therm ID: 461
No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(If present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. In Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

ALS Field Services: _Pickup _Labor _Composite Sampling _Rental Equipment _Other:

Project Comments: Ptease also email data to holly.brown@aecom.com and naoum.tavantzis@aecom.com

LOGGED BY(signature): DATE TIME
REVIEWED BY(signature): DATE TIME

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 AECOM	6-12-19	1444	2 ALS	6/12/19	1444
3 ALS	6/12/19		4	6/12/19	2111
5			6		
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE
Special Processing: USACE [ ] Navy [ ]
State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] NC
Reportable to PADEP? Yes [ ]
PWSID #
Sample Disposal: Lab [X] Special [ ]
EDDS: Format Type- EQuIS and .csv

* G=Grab; C=Composite **Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

301 Fulling Mill Road
Middletown, PA 17057
P: (717) 944-5541
F: (717) 944-1430

Condition of Sample Receipt Form

Client:	Work Order #:	Initials:	Date:
AECOM	3639542	DN	6/13

1. Were airbills / tracking numbers present and recorded?	(NONE)	YES	NO
Tracking number:			
2. Are Custody Seals on shipping containers intact?	(NONE)	YES	NO
3. Are Custody Seals on sample containers intact?	(NONE)	YES	NO
4. Is there a COC (Chain-of-Custody) present?		(YES)	NO
5. Are the COC and bottle labels complete, legible and in agreement?		(YES)	NO
5a. Does the COC contain sample locations?		(YES)	NO
5b. Does the COC contain date and time of sample collection for all samples?		(YES)	NO
5c. Does the COC contain sample collectors name?		(YES)	NO
5d. Does the COC note the type(s) of preservation for all bottles?		(YES)	NO
5e. Does the COC note the number of bottles submitted for each sample?		(YES)	NO
5f. Does the COC note the type of sample, composite or grab?		(YES)	NO
5g. Does the COC note the matrix of the sample(s)?		(YES)	NO
6. Are all aqueous samples requiring preservation preserved correctly?	N/A	(YES)	NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?		(YES)	NO
8. Are all samples within holding times for the requested analyses?		(YES)	NO
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.)		(YES)	NO
10. Did we receive trip blanks (applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)?	(N/A)	YES	NO
11. Were the samples received on ice?		(YES)	NO
12. Were sample temperatures measured at 0.0-6.0°C		(YES)	NO
13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below		YES	(NO)
13a. Are the samples required for SDWA compliance reporting?	(N/A)	YES	NO
13b. Did the client provide a SDWA PWS ID#?	(N/A)	YES	NO
13c. Are all aqueous unpreserved SDWA samples pH 5-9?	(N/A)	YES	NO
13d. Did the client provide the SDWA sample location ID/Description?	(N/A)	YES	NO
13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?	(N/A)	YES	NO

Cooler #: _____

Temperature (°C): 4

Thermometer ID: 401

Radiological (µCi): _____

COMMENTS (Required for all NO responses above and any sample non-conformance):

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

June 26, 2019

Mr. Zachary Neigh
AECOM (fka URS) - Germantown MD

Certificate of Analysis

Project Name:	**2018-MIDDLE RIVER COMPLEX**	Workorder:	**3039864**
Purchase Order:	**95840ACM**	Workorder ID:	**LMC MRC June SWS/95840ACM**

Dear Mr. Neigh:

Enclosed are the analytical results for samples received by the laboratory on Friday, June 14, 2019.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Mrs. Vanessa N Badman (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Ms. Holly Brown , Mr. Ravi Damera , Ms. Victoria Kirkpatrick , Mr. Naoum Tavantzis

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

SAMPLE SUMMARY

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3039864001	MRC-SW16A-S-061219	Water	6/12/2019 11:50	6/14/2019 08:25	Collected by Client
3039864002	MRC-SW7A-S-061219	Water	6/12/2019 14:00	6/14/2019 08:25	Collected by Client
3039864003	MRC-SW9B-S-S061219	Water	6/12/2019 13:40	6/14/2019 08:25	Collected by Client
3039864004	MRC-SW9A-S-061219	Water	6/12/2019 13:50	6/14/2019 08:25	Collected by Client
3039864005	MRC-SW7B-S-061219	Water	6/12/2019 14:10	6/14/2019 08:25	Collected by Client
3039864006	MRC-SW6B-S-061219	Water	6/12/2019 13:00	6/14/2019 08:25	Collected by Client
3039864007	MRC-SW8A-S-061219	Water	6/12/2019 12:10	6/14/2019 08:25	Collected by Client
3039864008	MRC-SW8B-S-061219	Water	6/12/2019 12:30	6/14/2019 08:25	Collected by Client
3039864009	MRC-SW8B-S-DUP-061219	Water	6/12/2019 12:45	6/14/2019 08:25	Collected by Client
3039864010	MRC-SW6A-S-061219	Water	6/12/2019 13:30	6/14/2019 08:25	Collected by Client
3039864011	MRC-SW17A-S-061219	Water	6/12/2019 15:00	6/14/2019 08:25	Collected by Client
3039864012	FB-061319	Water	6/13/2019 14:00	6/14/2019 08:25	Collected by Client

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

SAMPLE SUMMARY

Workorder: 3039864 LMC MRC June SWS/95840ACM

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
-- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

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ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864001** Date Collected: 6/12/2019 11:50 Matrix: Water

Sample ID: **MRC-SW16A-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	3.8J	J	ug/L	10.0	3.1	SW846 8260B		6/22/19 02:37	VLM	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		6/22/19 02:37	VLM	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 02:37	VLM	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 02:37	VLM	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 02:37	VLM	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 02:37	VLM	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		6/22/19 02:37	VLM	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		6/22/19 02:37	VLM	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/22/19 02:37	VLM	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		6/22/19 02:37	VLM	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 02:37	VLM	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/22/19 02:37	VLM	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 02:37	VLM	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 02:37	VLM	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 02:37	VLM	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 02:37	VLM	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 02:37	VLM	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 02:37	VLM	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		6/22/19 02:37	VLM	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		6/22/19 02:37	VLM	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 02:37	VLM	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 02:37	VLM	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 02:37	VLM	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 02:37	VLM	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/22/19 02:37	VLM	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 02:37	VLM	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 02:37	VLM	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		6/22/19 02:37	VLM	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 02:37	VLM	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 02:37	VLM	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 02:37	VLM	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 02:37	VLM	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 02:37	VLM	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 02:37	VLM	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		6/22/19 02:37	VLM	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 02:37	VLM	A

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864001** Date Collected: 6/12/2019 11:50 Matrix: Water

Sample ID: **MRC-SW16A-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 02:37	VLM	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 02:37	VLM	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 02:37	VLM	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 02:37	VLM	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 02:37	VLM	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 02:37	VLM	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/22/19 02:37	VLM	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 02:37	VLM	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 02:37	VLM	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 02:37	VLM	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 02:37	VLM	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		6/22/19 02:37	VLM	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/22/19 02:37	VLM	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 02:37	VLM	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 02:37	VLM	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		6/22/19 02:37	VLM	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 02:37	VLM	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 02:37	VLM	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		6/22/19 02:37	VLM	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 02:37	VLM	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/22/19 02:37	VLM	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 02:37	VLM	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 02:37	VLM	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 02:37	VLM	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 02:37	VLM	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 02:37	VLM	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 02:37	VLM	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/22/19 02:37	VLM	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/22/19 02:37	VLM	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/22/19 02:37	VLM	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 02:37	VLM	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 02:37	VLM	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 02:37	VLM	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 02:37	VLM	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 02:37	VLM	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 02:37	VLM	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		6/22/19 02:37	VLM	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 02:37	VLM	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864001** Date Collected: 6/12/2019 11:50 Matrix: Water
Sample ID: **MRC-SW16A-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/22/19 02:37	VLM	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/22/19 02:37	VLM	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	110		%	62 - 133		SW846 8260B			6/22/19 02:37	VLM	A
4-Bromofluorobenzene (S)	106		%	79 - 114		SW846 8260B			6/22/19 02:37	VLM	A
Dibromofluoromethane (S)	107		%	78 - 116		SW846 8260B			6/22/19 02:37	VLM	A
Toluene-d8 (S)	104		%	76 - 127		SW846 8260B			6/22/19 02:37	VLM	A

Vanessa N. Badman
Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864002** Date Collected: 6/12/2019 14:00 Matrix: Water

Sample ID: **MRC-SW7A-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	5.3J	J	ug/L	10.0	3.1	SW846 8260B		6/22/19 02:59	VLM	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		6/22/19 02:59	VLM	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 02:59	VLM	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 02:59	VLM	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 02:59	VLM	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 02:59	VLM	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		6/22/19 02:59	VLM	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		6/22/19 02:59	VLM	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/22/19 02:59	VLM	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		6/22/19 02:59	VLM	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 02:59	VLM	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/22/19 02:59	VLM	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 02:59	VLM	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 02:59	VLM	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 02:59	VLM	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 02:59	VLM	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 02:59	VLM	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 02:59	VLM	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		6/22/19 02:59	VLM	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		6/22/19 02:59	VLM	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 02:59	VLM	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 02:59	VLM	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 02:59	VLM	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 02:59	VLM	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/22/19 02:59	VLM	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 02:59	VLM	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 02:59	VLM	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		6/22/19 02:59	VLM	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 02:59	VLM	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 02:59	VLM	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 02:59	VLM	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 02:59	VLM	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 02:59	VLM	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 02:59	VLM	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		6/22/19 02:59	VLM	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 02:59	VLM	A

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864002** Date Collected: 6/12/2019 14:00 Matrix: Water

Sample ID: **MRC-SW7A-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 02:59	VLM	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 02:59	VLM	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 02:59	VLM	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 02:59	VLM	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 02:59	VLM	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 02:59	VLM	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/22/19 02:59	VLM	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 02:59	VLM	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 02:59	VLM	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 02:59	VLM	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 02:59	VLM	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		6/22/19 02:59	VLM	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/22/19 02:59	VLM	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 02:59	VLM	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 02:59	VLM	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		6/22/19 02:59	VLM	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 02:59	VLM	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 02:59	VLM	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		6/22/19 02:59	VLM	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 02:59	VLM	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/22/19 02:59	VLM	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 02:59	VLM	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 02:59	VLM	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 02:59	VLM	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 02:59	VLM	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 02:59	VLM	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 02:59	VLM	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/22/19 02:59	VLM	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/22/19 02:59	VLM	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/22/19 02:59	VLM	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 02:59	VLM	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 02:59	VLM	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 02:59	VLM	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 02:59	VLM	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 02:59	VLM	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 02:59	VLM	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		6/22/19 02:59	VLM	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 02:59	VLM	A

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ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864002** Date Collected: 6/12/2019 14:00 Matrix: Water
Sample ID: **MRC-SW7A-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/22/19 02:59	VLM	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/22/19 02:59	VLM	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	108		%	62 - 133		SW846 8260B			6/22/19 02:59	VLM	A
4-Bromofluorobenzene (S)	104		%	79 - 114		SW846 8260B			6/22/19 02:59	VLM	A
Dibromofluoromethane (S)	105		%	78 - 116		SW846 8260B			6/22/19 02:59	VLM	A
Toluene-d8 (S)	104		%	76 - 127		SW846 8260B			6/22/19 02:59	VLM	A

Vanessa N. Badman
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Project Coordinator

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864003** Date Collected: 6/12/2019 13:40 Matrix: Water

Sample ID: **MRC-SW9B-S-S061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	6.5J	J	ug/L	10.0	3.1	SW846 8260B		6/22/19 03:22	VLM	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		6/22/19 03:22	VLM	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 03:22	VLM	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 03:22	VLM	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 03:22	VLM	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 03:22	VLM	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		6/22/19 03:22	VLM	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		6/22/19 03:22	VLM	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/22/19 03:22	VLM	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		6/22/19 03:22	VLM	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 03:22	VLM	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/22/19 03:22	VLM	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 03:22	VLM	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 03:22	VLM	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 03:22	VLM	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 03:22	VLM	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 03:22	VLM	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 03:22	VLM	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		6/22/19 03:22	VLM	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		6/22/19 03:22	VLM	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 03:22	VLM	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 03:22	VLM	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 03:22	VLM	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 03:22	VLM	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/22/19 03:22	VLM	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 03:22	VLM	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 03:22	VLM	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		6/22/19 03:22	VLM	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 03:22	VLM	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 03:22	VLM	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 03:22	VLM	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 03:22	VLM	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 03:22	VLM	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 03:22	VLM	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		6/22/19 03:22	VLM	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 03:22	VLM	A

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864003** Date Collected: 6/12/2019 13:40 Matrix: Water

Sample ID: **MRC-SW9B-S-S061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 03:22	VLM	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 03:22	VLM	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 03:22	VLM	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 03:22	VLM	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 03:22	VLM	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 03:22	VLM	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/22/19 03:22	VLM	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 03:22	VLM	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 03:22	VLM	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 03:22	VLM	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 03:22	VLM	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		6/22/19 03:22	VLM	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/22/19 03:22	VLM	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 03:22	VLM	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 03:22	VLM	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		6/22/19 03:22	VLM	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 03:22	VLM	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 03:22	VLM	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		6/22/19 03:22	VLM	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 03:22	VLM	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/22/19 03:22	VLM	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 03:22	VLM	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 03:22	VLM	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 03:22	VLM	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 03:22	VLM	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 03:22	VLM	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 03:22	VLM	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/22/19 03:22	VLM	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/22/19 03:22	VLM	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/22/19 03:22	VLM	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 03:22	VLM	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 03:22	VLM	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 03:22	VLM	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 03:22	VLM	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 03:22	VLM	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 03:22	VLM	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		6/22/19 03:22	VLM	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 03:22	VLM	A

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ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864003** Date Collected: 6/12/2019 13:40 Matrix: Water

Sample ID: **MRC-SW9B-S-S061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/22/19 03:22	VLM	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/22/19 03:22	VLM	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	109		%	62 - 133		SW846 8260B			6/22/19 03:22	VLM	A
4-Bromofluorobenzene (S)	105		%	79 - 114		SW846 8260B			6/22/19 03:22	VLM	A
Dibromofluoromethane (S)	104		%	78 - 116		SW846 8260B			6/22/19 03:22	VLM	A
Toluene-d8 (S)	103		%	76 - 127		SW846 8260B			6/22/19 03:22	VLM	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864004** Date Collected: 6/12/2019 13:50 Matrix: Water

Sample ID: **MRC-SW9A-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	7.1J	J	ug/L	10.0	3.1	SW846 8260B		6/22/19 03:45	VLM	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		6/22/19 03:45	VLM	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 03:45	VLM	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 03:45	VLM	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 03:45	VLM	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 03:45	VLM	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		6/22/19 03:45	VLM	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		6/22/19 03:45	VLM	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/22/19 03:45	VLM	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		6/22/19 03:45	VLM	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 03:45	VLM	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/22/19 03:45	VLM	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 03:45	VLM	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 03:45	VLM	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 03:45	VLM	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 03:45	VLM	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 03:45	VLM	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 03:45	VLM	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		6/22/19 03:45	VLM	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		6/22/19 03:45	VLM	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 03:45	VLM	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 03:45	VLM	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 03:45	VLM	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 03:45	VLM	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/22/19 03:45	VLM	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 03:45	VLM	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 03:45	VLM	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		6/22/19 03:45	VLM	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 03:45	VLM	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 03:45	VLM	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 03:45	VLM	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 03:45	VLM	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 03:45	VLM	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 03:45	VLM	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		6/22/19 03:45	VLM	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 03:45	VLM	A

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ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864004** Date Collected: 6/12/2019 13:50 Matrix: Water

Sample ID: **MRC-SW9A-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 03:45	VLM	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 03:45	VLM	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 03:45	VLM	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 03:45	VLM	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 03:45	VLM	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 03:45	VLM	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/22/19 03:45	VLM	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 03:45	VLM	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 03:45	VLM	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 03:45	VLM	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 03:45	VLM	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		6/22/19 03:45	VLM	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/22/19 03:45	VLM	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 03:45	VLM	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 03:45	VLM	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		6/22/19 03:45	VLM	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 03:45	VLM	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 03:45	VLM	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		6/22/19 03:45	VLM	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 03:45	VLM	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/22/19 03:45	VLM	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 03:45	VLM	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 03:45	VLM	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 03:45	VLM	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 03:45	VLM	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 03:45	VLM	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 03:45	VLM	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/22/19 03:45	VLM	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/22/19 03:45	VLM	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/22/19 03:45	VLM	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 03:45	VLM	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 03:45	VLM	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 03:45	VLM	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 03:45	VLM	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 03:45	VLM	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 03:45	VLM	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		6/22/19 03:45	VLM	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 03:45	VLM	A

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ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864004** Date Collected: 6/12/2019 13:50 Matrix: Water

Sample ID: **MRC-SW9A-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/22/19 03:45	VLM	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/22/19 03:45	VLM	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	109		%	62 - 133		SW846 8260B			6/22/19 03:45	VLM	A
4-Bromofluorobenzene (S)	106		%	79 - 114		SW846 8260B			6/22/19 03:45	VLM	A
Dibromofluoromethane (S)	105		%	78 - 116		SW846 8260B			6/22/19 03:45	VLM	A
Toluene-d8 (S)	106		%	76 - 127		SW846 8260B			6/22/19 03:45	VLM	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864005** Date Collected: 6/12/2019 14:10 Matrix: Water

Sample ID: **MRC-SW7B-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	7.8J	J	ug/L	10.0	3.1	SW846 8260B		6/22/19 04:07	VLM	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		6/22/19 04:07	VLM	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 04:07	VLM	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 04:07	VLM	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 04:07	VLM	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 04:07	VLM	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		6/22/19 04:07	VLM	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		6/22/19 04:07	VLM	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/22/19 04:07	VLM	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		6/22/19 04:07	VLM	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 04:07	VLM	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/22/19 04:07	VLM	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 04:07	VLM	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 04:07	VLM	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 04:07	VLM	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 04:07	VLM	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 04:07	VLM	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 04:07	VLM	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		6/22/19 04:07	VLM	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		6/22/19 04:07	VLM	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 04:07	VLM	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 04:07	VLM	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 04:07	VLM	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 04:07	VLM	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/22/19 04:07	VLM	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 04:07	VLM	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 04:07	VLM	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		6/22/19 04:07	VLM	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 04:07	VLM	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 04:07	VLM	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 04:07	VLM	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 04:07	VLM	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 04:07	VLM	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 04:07	VLM	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		6/22/19 04:07	VLM	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 04:07	VLM	A

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ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864005** Date Collected: 6/12/2019 14:10 Matrix: Water

Sample ID: **MRC-SW7B-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 04:07	VLM	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 04:07	VLM	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 04:07	VLM	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 04:07	VLM	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 04:07	VLM	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 04:07	VLM	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/22/19 04:07	VLM	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 04:07	VLM	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 04:07	VLM	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 04:07	VLM	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 04:07	VLM	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		6/22/19 04:07	VLM	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/22/19 04:07	VLM	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 04:07	VLM	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 04:07	VLM	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		6/22/19 04:07	VLM	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 04:07	VLM	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 04:07	VLM	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		6/22/19 04:07	VLM	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 04:07	VLM	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/22/19 04:07	VLM	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 04:07	VLM	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 04:07	VLM	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 04:07	VLM	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 04:07	VLM	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 04:07	VLM	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 04:07	VLM	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/22/19 04:07	VLM	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/22/19 04:07	VLM	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/22/19 04:07	VLM	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 04:07	VLM	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 04:07	VLM	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 04:07	VLM	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 04:07	VLM	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 04:07	VLM	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 04:07	VLM	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		6/22/19 04:07	VLM	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 04:07	VLM	A

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ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864005** Date Collected: 6/12/2019 14:10 Matrix: Water
Sample ID: **MRC-SW7B-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/22/19 04:07	VLM	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/22/19 04:07	VLM	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	108		%	62 - 133		SW846 8260B			6/22/19 04:07	VLM	A
4-Bromofluorobenzene (S)	104		%	79 - 114		SW846 8260B			6/22/19 04:07	VLM	A
Dibromofluoromethane (S)	104		%	78 - 116		SW846 8260B			6/22/19 04:07	VLM	A
Toluene-d8 (S)	103		%	76 - 127		SW846 8260B			6/22/19 04:07	VLM	A

Vanessa N. Badman
Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864006** Date Collected: 6/12/2019 13:00 Matrix: Water

Sample ID: **MRC-SW6B-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	5.7J	J	ug/L	10.0	3.1	SW846 8260B		6/22/19 04:30	VLM	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		6/22/19 04:30	VLM	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 04:30	VLM	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 04:30	VLM	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 04:30	VLM	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 04:30	VLM	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		6/22/19 04:30	VLM	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		6/22/19 04:30	VLM	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/22/19 04:30	VLM	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		6/22/19 04:30	VLM	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 04:30	VLM	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/22/19 04:30	VLM	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 04:30	VLM	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 04:30	VLM	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 04:30	VLM	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 04:30	VLM	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 04:30	VLM	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 04:30	VLM	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		6/22/19 04:30	VLM	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		6/22/19 04:30	VLM	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 04:30	VLM	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 04:30	VLM	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 04:30	VLM	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 04:30	VLM	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/22/19 04:30	VLM	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 04:30	VLM	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 04:30	VLM	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		6/22/19 04:30	VLM	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 04:30	VLM	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 04:30	VLM	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 04:30	VLM	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 04:30	VLM	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 04:30	VLM	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 04:30	VLM	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		6/22/19 04:30	VLM	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 04:30	VLM	A

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864006** Date Collected: 6/12/2019 13:00 Matrix: Water

Sample ID: **MRC-SW6B-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 04:30	VLM	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 04:30	VLM	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 04:30	VLM	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 04:30	VLM	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 04:30	VLM	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 04:30	VLM	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/22/19 04:30	VLM	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 04:30	VLM	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 04:30	VLM	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 04:30	VLM	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 04:30	VLM	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		6/22/19 04:30	VLM	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/22/19 04:30	VLM	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 04:30	VLM	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 04:30	VLM	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		6/22/19 04:30	VLM	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 04:30	VLM	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 04:30	VLM	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		6/22/19 04:30	VLM	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 04:30	VLM	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/22/19 04:30	VLM	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 04:30	VLM	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 04:30	VLM	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 04:30	VLM	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 04:30	VLM	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 04:30	VLM	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 04:30	VLM	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/22/19 04:30	VLM	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/22/19 04:30	VLM	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/22/19 04:30	VLM	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 04:30	VLM	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 04:30	VLM	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 04:30	VLM	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 04:30	VLM	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 04:30	VLM	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 04:30	VLM	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		6/22/19 04:30	VLM	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 04:30	VLM	A

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ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864006** Date Collected: 6/12/2019 13:00 Matrix: Water

Sample ID: **MRC-SW6B-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/22/19 04:30	VLM	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/22/19 04:30	VLM	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	110		%	62 - 133		SW846 8260B			6/22/19 04:30	VLM	A
4-Bromofluorobenzene (S)	105		%	79 - 114		SW846 8260B			6/22/19 04:30	VLM	A
Dibromofluoromethane (S)	107		%	78 - 116		SW846 8260B			6/22/19 04:30	VLM	A
Toluene-d8 (S)	105		%	76 - 127		SW846 8260B			6/22/19 04:30	VLM	A
SEMIVOLATILE SIM											
1,4-Dioxane	ND		ug/L	0.098	0.019	8270 SIM	6/19/19 17:50	J1H	6/20/19 11:07	GEC	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	74.3		%	29 - 112		8270 SIM	6/19/19 17:50	J1H	6/20/19 11:07	GEC	C
Fluoranthene-d10 (S)	83.5		%	45 - 130		8270 SIM	6/19/19 17:50	J1H	6/20/19 11:07	GEC	C

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864007** Date Collected: 6/12/2019 12:10 Matrix: Water

Sample ID: **MRC-SW8A-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	6.5J	J	ug/L	10.0	3.1	SW846 8260B		6/22/19 04:53	VLM	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		6/22/19 04:53	VLM	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 04:53	VLM	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 04:53	VLM	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 04:53	VLM	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 04:53	VLM	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		6/22/19 04:53	VLM	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		6/22/19 04:53	VLM	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/22/19 04:53	VLM	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		6/22/19 04:53	VLM	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 04:53	VLM	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/22/19 04:53	VLM	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 04:53	VLM	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 04:53	VLM	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 04:53	VLM	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 04:53	VLM	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 04:53	VLM	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 04:53	VLM	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		6/22/19 04:53	VLM	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		6/22/19 04:53	VLM	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 04:53	VLM	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 04:53	VLM	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 04:53	VLM	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 04:53	VLM	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/22/19 04:53	VLM	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 04:53	VLM	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 04:53	VLM	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		6/22/19 04:53	VLM	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 04:53	VLM	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 04:53	VLM	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 04:53	VLM	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 04:53	VLM	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 04:53	VLM	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 04:53	VLM	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		6/22/19 04:53	VLM	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 04:53	VLM	A

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864007** Date Collected: 6/12/2019 12:10 Matrix: Water

Sample ID: **MRC-SW8A-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 04:53	VLM	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 04:53	VLM	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 04:53	VLM	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 04:53	VLM	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 04:53	VLM	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 04:53	VLM	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/22/19 04:53	VLM	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 04:53	VLM	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 04:53	VLM	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 04:53	VLM	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 04:53	VLM	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		6/22/19 04:53	VLM	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/22/19 04:53	VLM	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 04:53	VLM	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 04:53	VLM	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		6/22/19 04:53	VLM	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 04:53	VLM	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 04:53	VLM	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		6/22/19 04:53	VLM	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 04:53	VLM	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/22/19 04:53	VLM	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 04:53	VLM	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 04:53	VLM	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 04:53	VLM	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 04:53	VLM	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 04:53	VLM	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 04:53	VLM	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/22/19 04:53	VLM	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/22/19 04:53	VLM	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/22/19 04:53	VLM	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 04:53	VLM	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 04:53	VLM	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 04:53	VLM	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 04:53	VLM	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 04:53	VLM	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 04:53	VLM	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		6/22/19 04:53	VLM	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 04:53	VLM	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864007** Date Collected: 6/12/2019 12:10 Matrix: Water

Sample ID: **MRC-SW8A-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/22/19 04:53	VLM	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/22/19 04:53	VLM	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	110		%	62 - 133		SW846 8260B			6/22/19 04:53	VLM	A
4-Bromofluorobenzene (S)	105		%	79 - 114		SW846 8260B			6/22/19 04:53	VLM	A
Dibromofluoromethane (S)	105		%	78 - 116		SW846 8260B			6/22/19 04:53	VLM	A
Toluene-d8 (S)	104		%	76 - 127		SW846 8260B			6/22/19 04:53	VLM	A
SEMIVOLATILE SIM											
1,4-Dioxane	ND		ug/L	0.095	0.018	8270 SIM	6/19/19 17:50	J1H	6/20/19 11:36	GEC	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	85.1		%	29 - 112		8270 SIM	6/19/19 17:50	J1H	6/20/19 11:36	GEC	C
Fluoranthene-d10 (S)	90.7		%	45 - 130		8270 SIM	6/19/19 17:50	J1H	6/20/19 11:36	GEC	C

Vanessa N. Badman

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864008** Date Collected: 6/12/2019 12:30 Matrix: Water

Sample ID: **MRC-SW8B-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	5.6J	J	ug/L	10.0	3.1	SW846 8260B		6/25/19 15:47	DD	B
tert-Amyl methyl ether	ND	22	ug/L	1.0	0.20	SW846 8260B		6/25/19 15:47	DD	B
Benzene	ND	14	ug/L	1.0	0.23	SW846 8260B		6/25/19 15:47	DD	B
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		6/25/19 15:47	DD	B
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/25/19 15:47	DD	B
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/25/19 15:47	DD	B
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		6/25/19 15:47	DD	B
Bromomethane	0.83J	J,1, 2	ug/L	1.0	0.39	SW846 8260B		6/25/19 15:47	DD	B
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/25/19 15:47	DD	B
tert-Butyl Alcohol	ND	4,5	ug/L	10.0	2.2	SW846 8260B		6/25/19 15:47	DD	B
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/25/19 15:47	DD	B
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/25/19 15:47	DD	B
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/25/19 15:47	DD	B
Carbon Disulfide	ND	7	ug/L	1.0	0.23	SW846 8260B		6/25/19 15:47	DD	B
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		6/25/19 15:47	DD	B
Chlorobenzene	ND	17	ug/L	1.0	0.19	SW846 8260B		6/25/19 15:47	DD	B
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/25/19 15:47	DD	B
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/25/19 15:47	DD	B
2-Chloroethylvinyl ether	ND	15,16	ug/L	2.0	0.38	SW846 8260B		6/25/19 15:47	DD	B
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		6/25/19 15:47	DD	B
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		6/25/19 15:47	DD	B
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/25/19 15:47	DD	B
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/25/19 15:47	DD	B
Cyclohexane	ND	13	ug/L	1.0	0.29	SW846 8260B		6/25/19 15:47	DD	B
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/25/19 15:47	DD	B
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/25/19 15:47	DD	B
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/25/19 15:47	DD	B
1,2-Dichlorobenzene	ND	21	ug/L	1.0	0.38	SW846 8260B		6/25/19 15:47	DD	B
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/25/19 15:47	DD	B
1,4-Dichlorobenzene	ND	20	ug/L	1.0	0.27	SW846 8260B		6/25/19 15:47	DD	B
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/25/19 15:47	DD	B
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/25/19 15:47	DD	B
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/25/19 15:47	DD	B
1,1-Dichloroethene	ND	3	ug/L	1.0	0.29	SW846 8260B		6/25/19 15:47	DD	B
1,2-Dichloroethene, Total	ND	23	ug/L	2.0	0.45	SW846 8260B		6/25/19 15:47	DD	B

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864008** Date Collected: 6/12/2019 12:30 Matrix: Water

Sample ID: **MRC-SW8B-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		6/25/19 15:47	DD	B
trans-1,2-Dichloroethene	ND	8	ug/L	1.0	0.26	SW846 8260B		6/25/19 15:47	DD	B
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/25/19 15:47	DD	B
2,2-Dichloropropane	ND	11,12	ug/L	1.0	0.32	SW846 8260B		6/25/19 15:47	DD	B
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/25/19 15:47	DD	B
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/25/19 15:47	DD	B
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/25/19 15:47	DD	B
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/25/19 15:47	DD	B
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/25/19 15:47	DD	B
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/25/19 15:47	DD	B
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/25/19 15:47	DD	B
Freon 113	ND	6	ug/L	1.0	0.26	SW846 8260B		6/25/19 15:47	DD	B
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		6/25/19 15:47	DD	B
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/25/19 15:47	DD	B
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/25/19 15:47	DD	B
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/25/19 15:47	DD	B
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		6/25/19 15:47	DD	B
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/25/19 15:47	DD	B
Methyl t-Butyl Ether	ND	10,9	ug/L	1.0	0.33	SW846 8260B		6/25/19 15:47	DD	B
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		6/25/19 15:47	DD	B
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		6/25/19 15:47	DD	B
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/25/19 15:47	DD	B
n-Propylbenzene	ND	19	ug/L	1.0	0.33	SW846 8260B		6/25/19 15:47	DD	B
Styrene	ND	18	ug/L	1.0	0.24	SW846 8260B		6/25/19 15:47	DD	B
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/25/19 15:47	DD	B
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/25/19 15:47	DD	B
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/25/19 15:47	DD	B
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/25/19 15:47	DD	B
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/25/19 15:47	DD	B
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/25/19 15:47	DD	B
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/25/19 15:47	DD	B
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/25/19 15:47	DD	B
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/25/19 15:47	DD	B
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		6/25/19 15:47	DD	B
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		6/25/19 15:47	DD	B
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		6/25/19 15:47	DD	B
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/25/19 15:47	DD	B

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864008** Date Collected: 6/12/2019 12:30 Matrix: Water

Sample ID: **MRC-SW8B-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B			6/25/19 15:47	DD	B
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B			6/25/19 15:47	DD	B
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/25/19 15:47	DD	B
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/25/19 15:47	DD	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	99		%	62 - 133		SW846 8260B			6/25/19 15:47	DD	B
4-Bromofluorobenzene (S)	103		%	79 - 114		SW846 8260B			6/25/19 15:47	DD	B
Dibromofluoromethane (S)	104		%	78 - 116		SW846 8260B			6/25/19 15:47	DD	B
Toluene-d8 (S)	103		%	76 - 127		SW846 8260B			6/25/19 15:47	DD	B
SEMIVOLATILE SIM											
1,4-Dioxane	ND		ug/L	0.099	0.019	8270 SIM	6/19/19 17:50	J1H	6/20/19 12:04	GEC	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	84.4		%	29 - 112		8270 SIM	6/19/19 17:50	J1H	6/20/19 12:04	GEC	C
Fluoranthene-d10 (S)	91.7		%	45 - 130		8270 SIM	6/19/19 17:50	J1H	6/20/19 12:04	GEC	C

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864009** Date Collected: 6/12/2019 12:45 Matrix: Water

Sample ID: **MRC-SW8B-S-DUP-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	9.4J	J	ug/L	10.0	3.1	SW846 8260B		6/22/19 05:38	VLM	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		6/22/19 05:38	VLM	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 05:38	VLM	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 05:38	VLM	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 05:38	VLM	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 05:38	VLM	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		6/22/19 05:38	VLM	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		6/22/19 05:38	VLM	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/22/19 05:38	VLM	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		6/22/19 05:38	VLM	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 05:38	VLM	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/22/19 05:38	VLM	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 05:38	VLM	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 05:38	VLM	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 05:38	VLM	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 05:38	VLM	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 05:38	VLM	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 05:38	VLM	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		6/22/19 05:38	VLM	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		6/22/19 05:38	VLM	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 05:38	VLM	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 05:38	VLM	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 05:38	VLM	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 05:38	VLM	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/22/19 05:38	VLM	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 05:38	VLM	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 05:38	VLM	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		6/22/19 05:38	VLM	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 05:38	VLM	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 05:38	VLM	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 05:38	VLM	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 05:38	VLM	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 05:38	VLM	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 05:38	VLM	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		6/22/19 05:38	VLM	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 05:38	VLM	A

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864009** Date Collected: 6/12/2019 12:45 Matrix: Water

Sample ID: **MRC-SW8B-S-DUP-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 05:38	VLM	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 05:38	VLM	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 05:38	VLM	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 05:38	VLM	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 05:38	VLM	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 05:38	VLM	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/22/19 05:38	VLM	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 05:38	VLM	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 05:38	VLM	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 05:38	VLM	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 05:38	VLM	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		6/22/19 05:38	VLM	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/22/19 05:38	VLM	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 05:38	VLM	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 05:38	VLM	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		6/22/19 05:38	VLM	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 05:38	VLM	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 05:38	VLM	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		6/22/19 05:38	VLM	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 05:38	VLM	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/22/19 05:38	VLM	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 05:38	VLM	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 05:38	VLM	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 05:38	VLM	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 05:38	VLM	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 05:38	VLM	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 05:38	VLM	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/22/19 05:38	VLM	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/22/19 05:38	VLM	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/22/19 05:38	VLM	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 05:38	VLM	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 05:38	VLM	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 05:38	VLM	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 05:38	VLM	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 05:38	VLM	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 05:38	VLM	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		6/22/19 05:38	VLM	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 05:38	VLM	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864009** Date Collected: 6/12/2019 12:45 Matrix: Water

Sample ID: **MRC-SW8B-S-DUP-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/22/19 05:38	VLM	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/22/19 05:38	VLM	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	107		%	62 - 133		SW846 8260B			6/22/19 05:38	VLM	A
4-Bromofluorobenzene (S)	104		%	79 - 114		SW846 8260B			6/22/19 05:38	VLM	A
Dibromofluoromethane (S)	106		%	78 - 116		SW846 8260B			6/22/19 05:38	VLM	A
Toluene-d8 (S)	105		%	76 - 127		SW846 8260B			6/22/19 05:38	VLM	A
SEMIVOLATILE SIM											
1,4-Dioxane	ND		ug/L	0.096	0.018	8270 SIM	6/19/19 17:50	J1H	6/20/19 13:29	GEC	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	86.5		%	29 - 112		8270 SIM	6/19/19 17:50	J1H	6/20/19 13:29	GEC	C
Fluoranthene-d10 (S)	91.5		%	45 - 130		8270 SIM	6/19/19 17:50	J1H	6/20/19 13:29	GEC	C

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864010** Date Collected: 6/12/2019 13:30 Matrix: Water

Sample ID: **MRC-SW6A-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	9.0J	J	ug/L	10.0	3.1	SW846 8260B		6/22/19 06:00	VLM	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		6/22/19 06:00	VLM	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 06:00	VLM	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 06:00	VLM	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 06:00	VLM	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 06:00	VLM	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		6/22/19 06:00	VLM	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		6/22/19 06:00	VLM	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/22/19 06:00	VLM	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		6/22/19 06:00	VLM	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 06:00	VLM	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/22/19 06:00	VLM	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 06:00	VLM	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 06:00	VLM	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 06:00	VLM	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 06:00	VLM	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 06:00	VLM	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 06:00	VLM	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		6/22/19 06:00	VLM	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		6/22/19 06:00	VLM	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 06:00	VLM	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 06:00	VLM	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 06:00	VLM	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 06:00	VLM	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/22/19 06:00	VLM	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 06:00	VLM	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 06:00	VLM	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		6/22/19 06:00	VLM	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 06:00	VLM	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 06:00	VLM	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 06:00	VLM	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 06:00	VLM	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 06:00	VLM	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 06:00	VLM	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		6/22/19 06:00	VLM	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 06:00	VLM	A

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864010** Date Collected: 6/12/2019 13:30 Matrix: Water

Sample ID: **MRC-SW6A-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 06:00	VLM	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 06:00	VLM	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 06:00	VLM	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 06:00	VLM	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 06:00	VLM	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 06:00	VLM	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/22/19 06:00	VLM	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 06:00	VLM	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 06:00	VLM	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 06:00	VLM	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 06:00	VLM	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		6/22/19 06:00	VLM	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/22/19 06:00	VLM	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 06:00	VLM	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 06:00	VLM	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		6/22/19 06:00	VLM	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 06:00	VLM	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 06:00	VLM	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		6/22/19 06:00	VLM	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 06:00	VLM	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/22/19 06:00	VLM	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 06:00	VLM	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 06:00	VLM	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 06:00	VLM	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 06:00	VLM	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 06:00	VLM	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 06:00	VLM	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/22/19 06:00	VLM	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/22/19 06:00	VLM	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/22/19 06:00	VLM	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 06:00	VLM	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 06:00	VLM	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 06:00	VLM	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 06:00	VLM	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 06:00	VLM	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 06:00	VLM	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		6/22/19 06:00	VLM	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 06:00	VLM	A

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ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864010** Date Collected: 6/12/2019 13:30 Matrix: Water

Sample ID: **MRC-SW6A-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/22/19 06:00	VLM	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/22/19 06:00	VLM	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	110		%	62 - 133		SW846 8260B			6/22/19 06:00	VLM	A
4-Bromofluorobenzene (S)	107		%	79 - 114		SW846 8260B			6/22/19 06:00	VLM	A
Dibromofluoromethane (S)	105		%	78 - 116		SW846 8260B			6/22/19 06:00	VLM	A
Toluene-d8 (S)	105		%	76 - 127		SW846 8260B			6/22/19 06:00	VLM	A
SEMIVOLATILE SIM											
1,4-Dioxane	0.022J	J	ug/L	0.098	0.019	8270 SIM	6/19/19 17:50	J1H	6/20/19 13:57	GEC	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	81.1		%	29 - 112		8270 SIM	6/19/19 17:50	J1H	6/20/19 13:57	GEC	C
Fluoranthene-d10 (S)	87.8		%	45 - 130		8270 SIM	6/19/19 17:50	J1H	6/20/19 13:57	GEC	C

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ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864011** Date Collected: 6/12/2019 15:00 Matrix: Water

Sample ID: **MRC-SW17A-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	9.5J	J	ug/L	10.0	3.1	SW846 8260B		6/22/19 06:23	VLM	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		6/22/19 06:23	VLM	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 06:23	VLM	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 06:23	VLM	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 06:23	VLM	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 06:23	VLM	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		6/22/19 06:23	VLM	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		6/22/19 06:23	VLM	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/22/19 06:23	VLM	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		6/22/19 06:23	VLM	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 06:23	VLM	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/22/19 06:23	VLM	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 06:23	VLM	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 06:23	VLM	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 06:23	VLM	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 06:23	VLM	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 06:23	VLM	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 06:23	VLM	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		6/22/19 06:23	VLM	A
Chloroform	0.47J	J	ug/L	1.0	0.21	SW846 8260B		6/22/19 06:23	VLM	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 06:23	VLM	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 06:23	VLM	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 06:23	VLM	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 06:23	VLM	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/22/19 06:23	VLM	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 06:23	VLM	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 06:23	VLM	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		6/22/19 06:23	VLM	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 06:23	VLM	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 06:23	VLM	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 06:23	VLM	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/22/19 06:23	VLM	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 06:23	VLM	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 06:23	VLM	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		6/22/19 06:23	VLM	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 06:23	VLM	A

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864011** Date Collected: 6/12/2019 15:00 Matrix: Water

Sample ID: **MRC-SW17A-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 06:23	VLM	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/22/19 06:23	VLM	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 06:23	VLM	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 06:23	VLM	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/22/19 06:23	VLM	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/22/19 06:23	VLM	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/22/19 06:23	VLM	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 06:23	VLM	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/22/19 06:23	VLM	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 06:23	VLM	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		6/22/19 06:23	VLM	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		6/22/19 06:23	VLM	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/22/19 06:23	VLM	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 06:23	VLM	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/22/19 06:23	VLM	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		6/22/19 06:23	VLM	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 06:23	VLM	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 06:23	VLM	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		6/22/19 06:23	VLM	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		6/22/19 06:23	VLM	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/22/19 06:23	VLM	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 06:23	VLM	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 06:23	VLM	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 06:23	VLM	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/22/19 06:23	VLM	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/22/19 06:23	VLM	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/22/19 06:23	VLM	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/22/19 06:23	VLM	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/22/19 06:23	VLM	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/22/19 06:23	VLM	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/22/19 06:23	VLM	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 06:23	VLM	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		6/22/19 06:23	VLM	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		6/22/19 06:23	VLM	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		6/22/19 06:23	VLM	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/22/19 06:23	VLM	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		6/22/19 06:23	VLM	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		6/22/19 06:23	VLM	A

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ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864011** Date Collected: 6/12/2019 15:00 Matrix: Water

Sample ID: **MRC-SW17A-S-061219** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/22/19 06:23	VLM	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/22/19 06:23	VLM	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	108		%	62 - 133		SW846 8260B			6/22/19 06:23	VLM	A
4-Bromofluorobenzene (S)	104		%	79 - 114		SW846 8260B			6/22/19 06:23	VLM	A
Dibromofluoromethane (S)	105		%	78 - 116		SW846 8260B			6/22/19 06:23	VLM	A
Toluene-d8 (S)	103		%	76 - 127		SW846 8260B			6/22/19 06:23	VLM	A
SEMIVOLATILE SIM											
1,4-Dioxane	0.057J	J	ug/L	0.094	0.018	8270 SIM	6/19/19 17:50	J1H	6/20/19 14:26	GEC	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	81.9		%	29 - 112		8270 SIM	6/19/19 17:50	J1H	6/20/19 14:26	GEC	C
Fluoranthene-d10 (S)	92.2		%	45 - 130		8270 SIM	6/19/19 17:50	J1H	6/20/19 14:26	GEC	C

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ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864012** Date Collected: 6/13/2019 14:00 Matrix: Water

Sample ID: **FB-061319** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	3.9J	J	ug/L	10.0	3.1	SW846 8260B		6/25/19 15:23	DD	B
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		6/25/19 15:23	DD	B
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		6/25/19 15:23	DD	B
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		6/25/19 15:23	DD	B
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		6/25/19 15:23	DD	B
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		6/25/19 15:23	DD	B
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		6/25/19 15:23	DD	B
Bromomethane	0.63J	J	ug/L	1.0	0.39	SW846 8260B		6/25/19 15:23	DD	B
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		6/25/19 15:23	DD	B
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		6/25/19 15:23	DD	B
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		6/25/19 15:23	DD	B
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		6/25/19 15:23	DD	B
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		6/25/19 15:23	DD	B
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		6/25/19 15:23	DD	B
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		6/25/19 15:23	DD	B
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		6/25/19 15:23	DD	B
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		6/25/19 15:23	DD	B
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/25/19 15:23	DD	B
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		6/25/19 15:23	DD	B
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		6/25/19 15:23	DD	B
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		6/25/19 15:23	DD	B
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		6/25/19 15:23	DD	B
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		6/25/19 15:23	DD	B
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		6/25/19 15:23	DD	B
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		6/25/19 15:23	DD	B
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		6/25/19 15:23	DD	B
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		6/25/19 15:23	DD	B
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		6/25/19 15:23	DD	B
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/25/19 15:23	DD	B
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		6/25/19 15:23	DD	B
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		6/25/19 15:23	DD	B
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		6/25/19 15:23	DD	B
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		6/25/19 15:23	DD	B
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		6/25/19 15:23	DD	B
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		6/25/19 15:23	DD	B
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		6/25/19 15:23	DD	B

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864012** Date Collected: 6/13/2019 14:00 Matrix: Water

Sample ID: **FB-061319** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		6/25/19 15:23	DD	B
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		6/25/19 15:23	DD	B
2,2-Dichloropropane	ND	1	ug/L	1.0	0.32	SW846 8260B		6/25/19 15:23	DD	B
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		6/25/19 15:23	DD	B
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		6/25/19 15:23	DD	B
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		6/25/19 15:23	DD	B
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		6/25/19 15:23	DD	B
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		6/25/19 15:23	DD	B
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		6/25/19 15:23	DD	B
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		6/25/19 15:23	DD	B
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		6/25/19 15:23	DD	B
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		6/25/19 15:23	DD	B
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		6/25/19 15:23	DD	B
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		6/25/19 15:23	DD	B
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		6/25/19 15:23	DD	B
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		6/25/19 15:23	DD	B
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		6/25/19 15:23	DD	B
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		6/25/19 15:23	DD	B
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		6/25/19 15:23	DD	B
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		6/25/19 15:23	DD	B
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		6/25/19 15:23	DD	B
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		6/25/19 15:23	DD	B
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		6/25/19 15:23	DD	B
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		6/25/19 15:23	DD	B
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		6/25/19 15:23	DD	B
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		6/25/19 15:23	DD	B
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		6/25/19 15:23	DD	B
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		6/25/19 15:23	DD	B
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		6/25/19 15:23	DD	B
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		6/25/19 15:23	DD	B
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		6/25/19 15:23	DD	B
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		6/25/19 15:23	DD	B
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		6/25/19 15:23	DD	B
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		6/25/19 15:23	DD	B
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		6/25/19 15:23	DD	B
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		6/25/19 15:23	DD	B
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		6/25/19 15:23	DD	B
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		6/25/19 15:23	DD	B

ALS Environmental

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID: **3039864012** Date Collected: 6/13/2019 14:00 Matrix: Water

Sample ID: **FB-061319** Date Received: 6/14/2019 08:25

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			6/25/19 15:23	DD	B
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			6/25/19 15:23	DD	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	97.1		%	62 - 133		SW846 8260B			6/25/19 15:23	DD	B
4-Bromofluorobenzene (S)	105		%	79 - 114		SW846 8260B			6/25/19 15:23	DD	B
Dibromofluoromethane (S)	102		%	78 - 116		SW846 8260B			6/25/19 15:23	DD	B
Toluene-d8 (S)	103		%	76 - 127		SW846 8260B			6/25/19 15:23	DD	B

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3039864008	1	MRC-SW8B-S-061219	SW846 8260B	Bromomethane
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Bromomethane. The % Recovery was reported as 37.1 and the control limits were 45 to 148.				
3039864008	2	MRC-SW8B-S-061219	SW846 8260B	Bromomethane
The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Bromomethane. The RPD was reported as 44.1 and the upper control limit is 26.				
3039864008	3	MRC-SW8B-S-061219	SW846 8260B	1,1-Dichloroethene
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte 1,1-Dichloroethene. The % Recovery was reported as 134 and the control limits were 63 to 128.				
3039864008	4	MRC-SW8B-S-061219	SW846 8260B	tert-Butyl Alcohol
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte tert-Butyl Alcohol. The % Recovery was reported as 280 and the control limits were 17 to 168.				
3039864008	5	MRC-SW8B-S-061219	SW846 8260B	tert-Butyl Alcohol
The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte tert-Butyl Alcohol. The RPD was reported as 60.3 and the upper control limit is 40.				
3039864008	6	MRC-SW8B-S-061219	SW846 8260B	Freon 113
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Freon 113. The % Recovery was reported as 131 and the control limits were 50 to 130.				
3039864008	7	MRC-SW8B-S-061219	SW846 8260B	Carbon Disulfide
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Carbon Disulfide. The % Recovery was reported as 139 and the control limits were 57 to 131.				
3039864008	8	MRC-SW8B-S-061219	SW846 8260B	trans-1,2-Dichloroethene
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte trans-1,2-Dichloroethene. The % Recovery was reported as 130 and the control limits were 71 to 122.				
3039864008	9	MRC-SW8B-S-061219	SW846 8260B	Methyl t-Butyl Ether
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 123 and the control limits were 69 to 115.				
3039864008	10	MRC-SW8B-S-061219	SW846 8260B	Methyl t-Butyl Ether
The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 116 and the control limits were 69 to 115.				
3039864008	11	MRC-SW8B-S-061219	SW846 8260B	2,2-Dichloropropane
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte 2,2-Dichloropropane. The % Recovery was reported as 147 and the control limits were 64 to 129.				
3039864008	12	MRC-SW8B-S-061219	SW846 8260B	2,2-Dichloropropane
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte 2,2-Dichloropropane. The % Recovery was reported as 134 and the control limits were 64 to 129.				
3039864008	13	MRC-SW8B-S-061219	SW846 8260B	Cyclohexane
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Cyclohexane. The % Recovery was reported as 134 and the control limits were 66 to 130.				
3039864008	14	MRC-SW8B-S-061219	SW846 8260B	Benzene
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Benzene. The % Recovery was reported as 126 and the control limits were 80 to 124.				

ANALYTICAL RESULTS

Workorder: 3039864 LMC MRC June SWS/95840ACM

3039864008	15	MRC-SW8B-S-061219	SW846 8260B	2-Chloroethylvinyl ether

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte 2-Chloroethylvinyl ether. The % Recovery was reported as .59 and the control limits were 1 to 150.

3039864008	16	MRC-SW8B-S-061219	SW846 8260B	2-Chloroethylvinyl ether

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte 2-Chloroethylvinyl ether. The % Recovery was reported as .84 and the control limits were 1 to 150.

3039864008	17	MRC-SW8B-S-061219	SW846 8260B	Chlorobenzene

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Chlorobenzene. The % Recovery was reported as 119 and the control limits were 85 to 117.

3039864008	18	MRC-SW8B-S-061219	SW846 8260B	Styrene

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Styrene. The % Recovery was reported as 124 and the control limits were 79 to 123.

3039864008	19	MRC-SW8B-S-061219	SW846 8260B	n-Propylbenzene

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte n-Propylbenzene. The % Recovery was reported as 125 and the control limits were 74 to 122.

3039864008	20	MRC-SW8B-S-061219	SW846 8260B	1,4-Dichlorobenzene

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte 1,4-Dichlorobenzene. The % Recovery was reported as 119 and the control limits were 81 to 116.

3039864008	21	MRC-SW8B-S-061219	SW846 8260B	1,2-Dichlorobenzene

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte 1,2-Dichlorobenzene. The % Recovery was reported as 120 and the control limits were 82 to 118.

3039864008	22	MRC-SW8B-S-061219	SW846 8260B	tert-Amyl methyl ether

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte tert-Amyl methyl ether. The % Recovery was reported as 123 and the control limits were 75 to 121.

3039864008	23	MRC-SW8B-S-061219	SW846 8260B	1,2-Dichloroethene, Total

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte 1,2-Dichloroethene, Total. The % Recovery was reported as 126 and the control limits were 78 to 125.

3039864012	1	FB-061319	SW846 8260B	2,2-Dichloropropane

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte 2,2-Dichloropropane. The % Recovery was reported as 134 and the control limits were 64 to 129.

ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID	Sample ID	Analysis Method	Prep Method
3039864001	MRC-SW16A-S-061219	SW846 8260B	
3039864002	MRC-SW7A-S-061219	SW846 8260B	
3039864003	MRC-SW9B-S-S061219	SW846 8260B	
3039864004	MRC-SW9A-S-061219	SW846 8260B	
3039864005	MRC-SW7B-S-061219	SW846 8260B	
3039864006	MRC-SW6B-S-061219	8270 SIM	SW846 3510C
3039864006	MRC-SW6B-S-061219	SW846 8260B	
3039864007	MRC-SW8A-S-061219	8270 SIM	SW846 3510C
3039864007	MRC-SW8A-S-061219	SW846 8260B	
3039864008	MRC-SW8B-S-061219	8270 SIM	SW846 3510C
3039864008	MRC-SW8B-S-061219	SW846 8260B	
3039864009	MRC-SW8B-S-DUP-061219	8270 SIM	SW846 3510C
3039864009	MRC-SW8B-S-DUP-061219	SW846 8260B	
3039864010	MRC-SW6A-S-061219	8270 SIM	SW846 3510C
3039864010	MRC-SW6A-S-061219	SW846 8260B	
3039864011	MRC-SW17A-S-061219	8270 SIM	SW846 3510C
3039864011	MRC-SW17A-S-061219	SW846 8260B	
3039864012	FB-061319	SW846 8260B	

QUALITY CONTROL DATA

Workorder: 3039864 LMC MRC June SWS/95840ACM

QC Batch: EXTR/56844 **Analysis Method:** 8270 SIM

QC Batch Method: SW846 3510C

Associated Lab Samples: 3039864006, 3039864007, 3039864008, 3039864009, 3039864010, 3039864011

METHOD BLANK: 2966729

Parameter	Blank Result	Units	Reporting Limit
1,4-Dioxane	ND	ug/L	0.10
2-Methylnapthalene-d10 (S)	86.3	%	29 - 112
Fluoranthene-d10 (S)	100	%	45 - 130

LABORATORY CONTROL SAMPLE: 2966730

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
1,4-Dioxane	51.1	ug/L	1	0.51	22 - 75
2-Methylnapthalene-d10 (S)	74.2	%			29 - 112
Fluoranthene-d10 (S)	87.5	%			45 - 130

MATRIX SPIKE: 2966731 DUPLICATE: 2966732 ORIGINAL: 3039864008

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
1,4-Dioxane	0	ug/L	.97	.45464	.5018	46.8	51.7	22 - 75	9.86	30
2-Methylnapthalene-d10 (S)	81	%				81	82	29 - 112		
Fluoranthene-d10 (S)	89.6	%				89.6	88.4	45 - 130		

QUALITY CONTROL DATA

Workorder: 3039864 LMC MRC June SWS/95840ACM

QC Batch: VOMS/51335 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 8260B

Associated Lab Samples: 3039864001, 3039864002, 3039864003, 3039864004, 3039864005, 3039864006, 3039864007, 3039864008, 3039864009, 3039864010, 3039864011, 3039864012

METHOD BLANK: 2968376

Parameter	Blank Result	Units	Reporting Limit
Acetone	ND	ug/L	10.0
tert-Amyl methyl ether	ND	ug/L	1.0
Benzene	ND	ug/L	1.0
Bromobenzene	ND	ug/L	1.0
Bromochloromethane	ND	ug/L	1.0
Bromodichloromethane	ND	ug/L	1.0
Bromoform	ND	ug/L	1.0
Bromomethane	ND	ug/L	1.0
2-Butanone	ND	ug/L	10.0
tert-Butyl Alcohol	ND	ug/L	10.0
n-Butylbenzene	ND	ug/L	2.0
tert-Butylbenzene	ND	ug/L	2.0
sec-Butylbenzene	ND	ug/L	1.0
Carbon Disulfide	ND	ug/L	1.0
Carbon Tetrachloride	ND	ug/L	1.0
Chlorobenzene	ND	ug/L	1.0
Chlorodibromomethane	ND	ug/L	1.0
Chloroethane	ND	ug/L	1.0
2-Chloroethylvinyl ether	ND	ug/L	2.0
Chloroform	ND	ug/L	1.0
Chloromethane	ND	ug/L	1.0
o-Chlorotoluene	ND	ug/L	1.0
p-Chlorotoluene	ND	ug/L	1.0
Cyclohexane	ND	ug/L	1.0
1,2-Dibromo-3-chloropropane	ND	ug/L	7.0
1,2-Dibromoethane	ND	ug/L	1.0
Dibromomethane	ND	ug/L	1.0
1,2-Dichlorobenzene	ND	ug/L	1.0
1,3-Dichlorobenzene	ND	ug/L	1.0
1,4-Dichlorobenzene	ND	ug/L	1.0
Dichlorodifluoromethane	ND	ug/L	1.0
1,1-Dichloroethane	ND	ug/L	1.0
1,2-Dichloroethane	ND	ug/L	1.0
1,1-Dichloroethene	ND	ug/L	1.0
1,2-Dichloroethene, Total	ND	ug/L	2.0
cis-1,2-Dichloroethene	ND	ug/L	1.0
trans-1,2-Dichloroethene	ND	ug/L	1.0

QUALITY CONTROL DATA

Workorder: 3039864 LMC MRC June SWS/95840ACM

1,3-Dichloropropane	ND	ug/L	1.0
2,2-Dichloropropane	ND	ug/L	1.0
1,2-Dichloropropane	ND	ug/L	1.0
cis-1,3-Dichloropropene	ND	ug/L	1.0
trans-1,3-Dichloropropene	ND	ug/L	1.0
1,3-Dichloropropene, Total	ND	ug/L	2.0
Diisopropyl ether	ND	ug/L	1.0
Ethyl tert-butyl ether	ND	ug/L	1.0
Ethylbenzene	ND	ug/L	1.0
Freon 113	ND	ug/L	1.0
Hexachlorobutadiene	ND	ug/L	5.0
2-Hexanone	ND	ug/L	5.0
Isopropylbenzene	ND	ug/L	1.0
p-Isopropyltoluene	ND	ug/L	1.0
Methyl acetate	ND	ug/L	2.0
Methyl cyclohexane	ND	ug/L	1.0
Methyl t-Butyl Ether	ND	ug/L	1.0
4-Methyl-2-Pentanone(MIBK)	ND	ug/L	5.0
Methylene Chloride	ND	ug/L	1.0
Naphthalene	ND	ug/L	2.0
n-Propylbenzene	ND	ug/L	1.0
Styrene	ND	ug/L	1.0
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0
Tetrachloroethene	ND	ug/L	1.0
Toluene	ND	ug/L	1.0
Total Xylenes	ND	ug/L	3.0
1,2,3-Trichlorobenzene	ND	ug/L	2.0
1,2,4-Trichlorobenzene	ND	ug/L	2.0
1,1,1-Trichloroethane	ND	ug/L	1.0
1,1,2-Trichloroethane	ND	ug/L	1.0
Trichloroethene	0.62J	ug/L	1.0
Trichlorofluoromethane	ND	ug/L	1.0
1,2,3-Trichloropropane	ND	ug/L	2.0
1,2,4-Trimethylbenzene	ND	ug/L	1.0
Vinyl Acetate	ND	ug/L	5.0
Vinyl Chloride	ND	ug/L	1.0
o-Xylene	ND	ug/L	1.0
mp-Xylene	ND	ug/L	2.0
1,2-Dichloroethane-d4 (S)	109	%	62 - 133
4-Bromofluorobenzene (S)	105	%	79 - 114
Dibromofluoromethane (S)	105	%	78 - 116
Toluene-d8 (S)	105	%	76 - 127

QUALITY CONTROL DATA

Workorder: 3039864 LMC MRC June SWS/95840ACM

LABORATORY CONTROL SAMPLE: 2968377

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acetone	90.4	ug/L	100	90.4	40 - 151
tert-Amyl methyl ether	107	ug/L	20	21.4	75 - 121
Benzene	103	ug/L	20	20.5	80 - 124
Bromobenzene	105	ug/L	20	21.0	81 - 119
Bromochloromethane	110	ug/L	20	21.9	73 - 117
Bromodichloromethane	105	ug/L	20	21.0	79 - 126
Bromoform	98.6	ug/L	20	19.7	70 - 123
Bromomethane	97.7	ug/L	20	19.5	45 - 148
2-Butanone	91.3	ug/L	100	91.3	50 - 152
tert-Butyl Alcohol	79	ug/L	100	79.0	17 - 168
n-Butylbenzene	110	ug/L	20	22.1	71 - 130
tert-Butylbenzene	105	ug/L	20	21.0	72 - 124
sec-Butylbenzene	108	ug/L	20	21.6	72 - 127
Carbon Disulfide	105	ug/L	20	21.0	57 - 131
Carbon Tetrachloride	110	ug/L	20	22.1	62 - 132
Chlorobenzene	104	ug/L	20	20.8	85 - 117
Chlorodibromomethane	108	ug/L	20	21.6	77 - 122
Chloroethane	99.5	ug/L	20	19.9	51 - 142
2-Chloroethylvinyl ether	93	ug/L	20	18.6	1 - 150
Chloroform	102	ug/L	20	20.5	78 - 122
Chloromethane	94.1	ug/L	20	18.8	38 - 156
o-Chlorotoluene	101	ug/L	20	20.1	78 - 126
p-Chlorotoluene	101	ug/L	20	20.3	78 - 125
Cyclohexane	109	ug/L	20	21.8	66 - 130
1,2-Dibromo-3-chloropropane	95.5	ug/L	20	19.1	59 - 133
1,2-Dibromoethane	106	ug/L	20	21.2	80 - 124
Dibromomethane	107	ug/L	20	21.4	81 - 125
1,2-Dichlorobenzene	104	ug/L	20	20.7	82 - 118
1,3-Dichlorobenzene	102	ug/L	20	20.5	81 - 118
1,4-Dichlorobenzene	104	ug/L	20	20.7	81 - 116
Dichlorodifluoromethane	106	ug/L	20	21.3	17 - 166
1,1-Dichloroethane	97.9	ug/L	20	19.6	78 - 124
1,2-Dichloroethane	100	ug/L	20	20.0	70 - 133
1,1-Dichloroethene	103	ug/L	20	20.5	63 - 128
1,2-Dichloroethene, Total	100	ug/L	40	40.0	78 - 125
cis-1,2-Dichloroethene	98.2	ug/L	20	19.6	78 - 125
trans-1,2-Dichloroethene	102	ug/L	20	20.4	71 - 122
1,3-Dichloropropane	99.2	ug/L	20	19.8	82 - 126
2,2-Dichloropropane	103	ug/L	20	20.6	64 - 129
1,2-Dichloropropane	98.2	ug/L	20	19.6	81 - 127
cis-1,3-Dichloropropene	102	ug/L	20	20.4	81 - 121
trans-1,3-Dichloropropene	103	ug/L	20	20.6	78 - 126

QUALITY CONTROL DATA

Workorder: 3039864 LMC MRC June SWS/95840ACM

1,3-Dichloropropene, Total	102	ug/L	40	41.0	80 - 123
Diisopropyl ether	95.4	ug/L	20	19.1	74 - 131
Ethyl tert-butyl ether	100	ug/L	20	20.0	75 - 123
Ethylbenzene	103	ug/L	20	20.7	80 - 124
Freon 113	108	ug/L	20	21.6	50 - 130
Hexachlorobutadiene	125	ug/L	20	24.9	55 - 128
2-Hexanone	90	ug/L	100	90.0	65 - 154
Isopropylbenzene	107	ug/L	20	21.4	73 - 129
p-Isopropyltoluene	110	ug/L	20	21.9	72 - 123
Methyl acetate	91.6	ug/L	20	18.3	70 - 130
Methyl cyclohexane	106	ug/L	20	21.1	70 - 130
Methyl t-Butyl Ether	103	ug/L	20	20.7	69 - 115
4-Methyl-2-Pentanone(MIBK)	89.3	ug/L	100	89.3	71 - 146
Methylene Chloride	103	ug/L	20	20.6	76 - 121
Naphthalene	103	ug/L	20	20.5	56 - 134
n-Propylbenzene	104	ug/L	20	20.8	74 - 122
Styrene	104	ug/L	20	20.8	79 - 123
1,1,1,2-Tetrachloroethane	109	ug/L	20	21.7	78 - 121
1,1,2,2-Tetrachloroethane	99.1	ug/L	20	19.8	74 - 135
Tetrachloroethene	107	ug/L	20	21.3	72 - 124
Toluene	102	ug/L	20	20.4	80 - 125
Total Xylenes	104	ug/L	60	62.6	79 - 125
1,2,3-Trichlorobenzene	104	ug/L	20	20.7	61 - 126
1,2,4-Trichlorobenzene	109	ug/L	20	21.9	67 - 123
1,1,1-Trichloroethane	107	ug/L	20	21.5	66 - 130
1,1,2-Trichloroethane	98.8	ug/L	20	19.8	82 - 126
Trichloroethene	103	ug/L	20	20.6	77 - 124
Trichlorofluoromethane	118	ug/L	20	23.5	38 - 123
1,2,3-Trichloropropane	103	ug/L	20	20.7	75 - 132
1,2,4-Trimethylbenzene	104	ug/L	20	20.8	76 - 125
Vinyl Acetate	98.2	ug/L	20	19.6	58 - 136
Vinyl Chloride	97.9	ug/L	20	19.6	27 - 138
o-Xylene	104	ug/L	20	20.7	79 - 124
mp-Xylene	105	ug/L	40	41.9	79 - 125
1,2-Dichloroethane-d4 (S)	105	%			62 - 133
4-Bromofluorobenzene (S)	108	%			79 - 114
Dibromofluoromethane (S)	108	%			78 - 116
Toluene-d8 (S)	103	%			76 - 127

QUALITY CONTROL DATA

Workorder: 3039864 LMC MRC June SWS/95840ACM

QC Batch: VOMS/51370 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 8260B

Associated Lab Samples: 3039864008, 3039864012

METHOD BLANK: 2969611

Parameter	Blank Result	Units	Reporting Limit
Acetone	ND	ug/L	10.0
tert-Amyl methyl ether	ND	ug/L	1.0
Benzene	ND	ug/L	1.0
Bromobenzene	ND	ug/L	1.0
Bromochloromethane	ND	ug/L	1.0
Bromodichloromethane	ND	ug/L	1.0
Bromoform	ND	ug/L	1.0
Bromomethane	0.72J	ug/L	1.0
2-Butanone	ND	ug/L	10.0
tert-Butyl Alcohol	ND	ug/L	10.0
n-Butylbenzene	ND	ug/L	2.0
tert-Butylbenzene	ND	ug/L	2.0
sec-Butylbenzene	ND	ug/L	1.0
Carbon Disulfide	ND	ug/L	1.0
Carbon Tetrachloride	ND	ug/L	1.0
Chlorobenzene	ND	ug/L	1.0
Chlorodibromomethane	ND	ug/L	1.0
Chloroethane	ND	ug/L	1.0
2-Chloroethylvinyl ether	ND	ug/L	2.0
Chloroform	ND	ug/L	1.0
Chloromethane	ND	ug/L	1.0
o-Chlorotoluene	ND	ug/L	1.0
p-Chlorotoluene	ND	ug/L	1.0
Cyclohexane	ND	ug/L	1.0
1,2-Dibromo-3-chloropropane	ND	ug/L	7.0
1,2-Dibromoethane	ND	ug/L	1.0
Dibromomethane	ND	ug/L	1.0
1,2-Dichlorobenzene	ND	ug/L	1.0
1,3-Dichlorobenzene	ND	ug/L	1.0
1,4-Dichlorobenzene	ND	ug/L	1.0
Dichlorodifluoromethane	ND	ug/L	1.0
1,1-Dichloroethane	ND	ug/L	1.0
1,2-Dichloroethane	ND	ug/L	1.0
1,1-Dichloroethene	ND	ug/L	1.0
1,2-Dichloroethene, Total	ND	ug/L	2.0
cis-1,2-Dichloroethene	ND	ug/L	1.0
trans-1,2-Dichloroethene	ND	ug/L	1.0

QUALITY CONTROL DATA

Workorder: 3039864 LMC MRC June SWS/95840ACM

1,3-Dichloropropane	ND	ug/L	1.0
2,2-Dichloropropane	ND	ug/L	1.0
1,2-Dichloropropane	ND	ug/L	1.0
cis-1,3-Dichloropropene	ND	ug/L	1.0
trans-1,3-Dichloropropene	ND	ug/L	1.0
1,3-Dichloropropene, Total	ND	ug/L	2.0
Diisopropyl ether	ND	ug/L	1.0
Ethyl tert-butyl ether	ND	ug/L	1.0
Ethylbenzene	ND	ug/L	1.0
Freon 113	ND	ug/L	1.0
Hexachlorobutadiene	ND	ug/L	5.0
2-Hexanone	ND	ug/L	5.0
Isopropylbenzene	ND	ug/L	1.0
p-Isopropyltoluene	ND	ug/L	1.0
Methyl acetate	ND	ug/L	2.0
Methyl cyclohexane	ND	ug/L	1.0
Methyl t-Butyl Ether	ND	ug/L	1.0
4-Methyl-2-Pentanone(MIBK)	ND	ug/L	5.0
Methylene Chloride	ND	ug/L	1.0
Naphthalene	ND	ug/L	2.0
n-Propylbenzene	ND	ug/L	1.0
Styrene	ND	ug/L	1.0
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0
Tetrachloroethene	ND	ug/L	1.0
Toluene	ND	ug/L	1.0
Total Xylenes	ND	ug/L	3.0
1,2,3-Trichlorobenzene	ND	ug/L	2.0
1,2,4-Trichlorobenzene	ND	ug/L	2.0
1,1,1-Trichloroethane	ND	ug/L	1.0
1,1,2-Trichloroethane	ND	ug/L	1.0
Trichloroethene	ND	ug/L	1.0
Trichlorofluoromethane	ND	ug/L	1.0
1,2,3-Trichloropropane	ND	ug/L	2.0
1,2,4-Trimethylbenzene	ND	ug/L	1.0
Vinyl Acetate	ND	ug/L	5.0
Vinyl Chloride	ND	ug/L	1.0
o-Xylene	ND	ug/L	1.0
mp-Xylene	ND	ug/L	2.0
1,2-Dichloroethane-d4 (S)	97.9	%	62 - 133
4-Bromofluorobenzene (S)	107	%	79 - 114
Dibromofluoromethane (S)	102	%	78 - 116
Toluene-d8 (S)	103	%	76 - 127

QUALITY CONTROL DATA

Workorder: 3039864 LMC MRC June SWS/95840ACM

LABORATORY CONTROL SAMPLE: 2969612

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acetone	115	ug/L	100	115	40 - 151
tert-Amyl methyl ether	116	ug/L	20	23.2	75 - 121
Benzene	113	ug/L	20	22.7	80 - 124
Bromobenzene	112	ug/L	20	22.4	81 - 119
Bromochloromethane	101	ug/L	20	20.2	73 - 117
Bromodichloromethane	111	ug/L	20	22.3	79 - 126
Bromoform	116	ug/L	20	23.3	70 - 123
Bromomethane	86.8	ug/L	20	17.4	45 - 148
2-Butanone	114	ug/L	100	114	50 - 152
tert-Butyl Alcohol	116	ug/L	100	116	17 - 168
n-Butylbenzene	112	ug/L	20	22.5	71 - 130
tert-Butylbenzene	111	ug/L	20	22.3	72 - 124
sec-Butylbenzene	115	ug/L	20	23.0	72 - 127
Carbon Disulfide	117	ug/L	20	23.4	57 - 131
Carbon Tetrachloride	110	ug/L	20	22.0	62 - 132
Chlorobenzene	112	ug/L	20	22.5	85 - 117
Chlorodibromomethane	114	ug/L	20	22.8	77 - 122
Chloroethane	104	ug/L	20	20.7	51 - 142
2-Chloroethylvinyl ether	116	ug/L	20	23.2	1 - 150
Chloroform	109	ug/L	20	21.8	78 - 122
Chloromethane	104	ug/L	20	20.8	38 - 156
o-Chlorotoluene	113	ug/L	20	22.5	78 - 126
p-Chlorotoluene	113	ug/L	20	22.6	78 - 125
Cyclohexane	118	ug/L	20	23.5	66 - 130
1,2-Dibromo-3-chloropropane	115	ug/L	20	23.0	59 - 133
1,2-Dibromoethane	114	ug/L	20	22.8	80 - 124
Dibromomethane	113	ug/L	20	22.6	81 - 125
1,2-Dichlorobenzene	112	ug/L	20	22.3	82 - 118
1,3-Dichlorobenzene	111	ug/L	20	22.1	81 - 118
1,4-Dichlorobenzene	110	ug/L	20	22.0	81 - 116
Dichlorodifluoromethane	105	ug/L	20	21.1	17 - 166
1,1-Dichloroethane	108	ug/L	20	21.6	78 - 124
1,2-Dichloroethane	108	ug/L	20	21.6	70 - 133
1,1-Dichloroethene	118	ug/L	20	23.5	63 - 128
1,2-Dichloroethene, Total	113	ug/L	40	45.1	78 - 125
cis-1,2-Dichloroethene	110	ug/L	20	21.9	78 - 125
trans-1,2-Dichloroethene	116	ug/L	20	23.1	71 - 122
1,3-Dichloropropane	113	ug/L	20	22.6	82 - 126
2,2-Dichloropropane	134*	ug/L	20	26.9	64 - 129
1,2-Dichloropropane	113	ug/L	20	22.6	81 - 127
cis-1,3-Dichloropropene	117	ug/L	20	23.5	81 - 121
trans-1,3-Dichloropropene	116	ug/L	20	23.2	78 - 126

QUALITY CONTROL DATA

Workorder: 3039864 LMC MRC June SWS/95840ACM

1,3-Dichloropropene, Total	117	ug/L	40	46.6	80 - 123
Diisopropyl ether	115	ug/L	20	23.1	74 - 131
Ethyl tert-butyl ether	112	ug/L	20	22.5	75 - 123
Ethylbenzene	113	ug/L	20	22.6	80 - 124
Freon 113	115	ug/L	20	23.1	50 - 130
Hexachlorobutadiene	104	ug/L	20	20.8	55 - 128
2-Hexanone	125	ug/L	100	125	65 - 154
Isopropylbenzene	116	ug/L	20	23.3	73 - 129
p-Isopropyltoluene	114	ug/L	20	22.8	72 - 123
Methyl acetate	106	ug/L	20	21.2	70 - 130
Methyl cyclohexane	116	ug/L	20	23.2	70 - 130
Methyl t-Butyl Ether	114	ug/L	20	22.8	69 - 115
4-Methyl-2-Pentanone(MIBK)	123	ug/L	100	123	71 - 146
Methylene Chloride	101	ug/L	20	20.1	76 - 121
Naphthalene	116	ug/L	20	23.3	56 - 134
n-Propylbenzene	113	ug/L	20	22.7	74 - 122
Styrene	114	ug/L	20	22.9	79 - 123
1,1,1,2-Tetrachloroethane	112	ug/L	20	22.5	78 - 121
1,1,2,2-Tetrachloroethane	118	ug/L	20	23.6	74 - 135
Tetrachloroethene	107	ug/L	20	21.5	72 - 124
Toluene	111	ug/L	20	22.3	80 - 125
Total Xylenes	113	ug/L	60	68.1	79 - 125
1,2,3-Trichlorobenzene	111	ug/L	20	22.1	61 - 126
1,2,4-Trichlorobenzene	112	ug/L	20	22.4	67 - 123
1,1,1-Trichloroethane	110	ug/L	20	22.1	66 - 130
1,1,2-Trichloroethane	112	ug/L	20	22.4	82 - 126
Trichloroethene	108	ug/L	20	21.7	77 - 124
Trichlorofluoromethane	115	ug/L	20	23.0	38 - 123
1,2,3-Trichloropropane	118	ug/L	20	23.6	75 - 132
1,2,4-Trimethylbenzene	111	ug/L	20	22.2	76 - 125
Vinyl Acetate	116	ug/L	20	23.1	58 - 136
Vinyl Chloride	110	ug/L	20	22.0	27 - 138
o-Xylene	111	ug/L	20	22.2	79 - 124
mp-Xylene	115	ug/L	40	45.9	79 - 125
1,2-Dichloroethane-d4 (S)	98.1	%			62 - 133
4-Bromofluorobenzene (S)	104	%			79 - 114
Dibromofluoromethane (S)	103	%			78 - 116
Toluene-d8 (S)	105	%			76 - 127

MATRIX SPIKE: 2969903 DUPLICATE: 2969904 ORIGINAL: 3039864008

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD

QUALITY CONTROL DATA

Workorder: 3039864 LMC MRC June SWS/95840ACM

Acetone	5.59679	ug/L	100	119.806	120.973	114	115	40 - 151	.97	40
tert-Amyl methyl ether	0	ug/L	20	24.5619	23.1013	123*	116	75 - 121	6.13	40
Benzene	0	ug/L	20	25.28	22.8169	126*	114	80 - 124	10.2	26
Bromobenzene	0	ug/L	20	23.7422	21.3633	119	107	81 - 119	10.5	17
Bromochloromethane	0	ug/L	20	22.6703	21.7066	113	109	73 - 117	4.34	19
Bromodichloromethane	0	ug/L	20	23.6933	21.8945	118	109	79 - 126	7.89	16
Bromoform	0	ug/L	20	22.5879	21.4433	113	107	70 - 123	5.2	16
Bromomethane	.82818	ug/L	20	8.2539	12.9264	37.1*	60.5	45 - 148	44.1	26
2-Butanone	0	ug/L	100	119.444	116.537	119	117	50 - 152	2.46	16
tert-Butyl Alcohol	0	ug/L	100	280.135	150.288	280*	150	17 - 168	60.3	40
n-Butylbenzene	0	ug/L	20	25.2334	23.8522	126	119	71 - 130	5.63	20
tert-Butylbenzene	0	ug/L	20	24.0522	22.4734	120	112	72 - 124	6.79	17
sec-Butylbenzene	0	ug/L	20	24.882	23.5065	124	118	72 - 127	5.69	17
Carbon Disulfide	0	ug/L	20	27.7759	23.9606	139*	120	57 - 131	14.7	28
Carbon Tetrachloride	0	ug/L	20	24.9551	22.1282	125	111	62 - 132	12	17
Chlorobenzene	0	ug/L	20	23.8961	22.2211	119*	111	85 - 117	7.26	15
Chlorodibromomethane	0	ug/L	20	23.4723	21.7747	117	109	77 - 122	7.5	15
Chloroethane	0	ug/L	20	21.7651	19.412	109	97.1	51 - 142	11.4	24
2-Chloroethylvinyl ether	0	ug/L	20	.11809	.16783	.59*	.84*	1 - 150	34.8	40
Chloroform	0	ug/L	20	23.6018	21.5233	118	108	78 - 122	9.21	16
Chloromethane	0	ug/L	20	21.2142	19.9869	106	99.9	38 - 156	5.96	27
o-Chlorotoluene	0	ug/L	20	23.8569	21.7815	119	109	78 - 126	9.09	17
p-Chlorotoluene	0	ug/L	20	24.1429	21.8532	121	109	78 - 125	9.96	16
Cyclohexane	0	ug/L	20	26.8645	23.9781	134*	120	66 - 130	11.4	20
1,2-Dibromo-3-chloropropane	0	ug/L	20	22.8483	21.8009	114	109	59 - 133	4.69	26
1,2-Dibromoethane	0	ug/L	20	23.4914	22.4523	117	112	80 - 124	4.52	19
Dibromomethane	0	ug/L	20	24.545	22.7898	123	114	81 - 125	7.42	16
1,2-Dichlorobenzene	0	ug/L	20	24.0455	22.1589	120*	111	82 - 118	8.17	15
1,3-Dichlorobenzene	0	ug/L	20	23.6804	21.6535	118	108	81 - 118	8.94	16
1,4-Dichlorobenzene	0	ug/L	20	23.7898	21.5804	119*	108	81 - 116	9.74	15
Dichlorodifluoromethane	0	ug/L	20	22.2271	19.8685	111	99.3	17 - 166	11.2	24
1,1-Dichloroethane	0	ug/L	20	23.9864	21.7123	120	109	78 - 124	9.95	15
1,2-Dichloroethane	0	ug/L	20	23.2779	21.3661	116	107	70 - 133	8.56	19
1,1-Dichloroethene	0	ug/L	20	26.7564	23.6329	134*	118	63 - 128	12.4	21
1,2-Dichloroethene, Total	0	ug/L	40	50.3194	45.2757	126*	113	78 - 125	10.6	40
cis-1,2-Dichloroethene	0	ug/L	20	24.3241	22.1757	122	111	78 - 125	9.24	21
trans-1,2-Dichloroethene	0	ug/L	20	25.9953	23.1001	130*	116	71 - 122	11.8	22
1,3-Dichloropropane	0	ug/L	20	23.7517	22.4929	119	112	82 - 126	5.44	15
2,2-Dichloropropane	0	ug/L	20	29.3046	25.7368	147*	129	64 - 129	13	18
1,2-Dichloropropane	0	ug/L	20	24.3496	22.491	122	112	81 - 127	7.94	15
cis-1,3-Dichloropropene	0	ug/L	20	24.0935	22.8853	120	114	81 - 121	5.14	16
trans-1,3-Dichloropropene	0	ug/L	20	24.1752	22.763	121	114	78 - 126	6.02	18
1,3-Dichloropropene, Total	0	ug/L	40	48.2688	45.6483	121	114	80 - 123	5.58	16
Diisopropyl ether	0	ug/L	20	24.8639	22.8283	124	114	74 - 131	8.54	15
Ethyl tert-butyl ether	0	ug/L	20	24.1228	22.3443	121	112	75 - 123	7.65	16
Ethylbenzene	0	ug/L	20	24.3637	22.3924	122	112	80 - 124	8.43	19

QUALITY CONTROL DATA

Workorder: 3039864 LMC MRC June SWS/95840ACM

Freon 113	0	ug/L	20	26.1059	23.4209	131*	117	50 - 130	10.8	26
Hexachlorobutadiene	0	ug/L	20	22.7789	21.8591	114	109	55 - 128	4.12	35
2-Hexanone	0	ug/L	100	124.371	124.761	124	125	65 - 154	.31	17
Isopropylbenzene	0	ug/L	20	25.11	22.7085	126	114	73 - 129	10	18
p-Isopropyltoluene	0	ug/L	20	24.6311	23.1918	123	116	72 - 123	6.02	17
Methyl acetate	0	ug/L	20	18.5987	19.836	93	99.2	70 - 130	6.44	18
Methyl cyclohexane	0	ug/L	20	25.8529	24.7634	129	124	70 - 130	4.3	18
Methyl t-Butyl Ether	0	ug/L	20	24.5534	23.1242	123*	116*	69 - 115	6	20
4-Methyl-2-Pentanone(MIBK)	0	ug/L	100	127.471	120.969	127	121	71 - 146	5.23	16
Methylene Chloride	0	ug/L	20	22.9452	21.1079	115	106	76 - 121	8.34	17
Naphthalene	0	ug/L	20	23.9324	23.1206	120	116	56 - 134	3.45	40
n-Propylbenzene	0	ug/L	20	24.9834	22.6288	125*	113	74 - 122	9.89	20
Styrene	0	ug/L	20	24.7846	22.4134	124*	112	79 - 123	10	16
1,1,1,2-Tetrachloroethane	0	ug/L	20	23.7379	22.5916	119	113	78 - 121	4.95	16
1,1,2,2-Tetrachloroethane	0	ug/L	20	24.3461	22.881	122	114	74 - 135	6.2	16
Tetrachloroethene	0	ug/L	20	21.5724	19.8699	108	99.3	72 - 124	8.22	38
Toluene	0	ug/L	20	23.9523	22.4647	120	112	80 - 125	6.41	20
Total Xylenes	0	ug/L	60	72.7722	67.5073	121	113	79 - 125	7.51	35
1,2,3-Trichlorobenzene	0	ug/L	20	22.8971	22.3363	114	112	61 - 126	2.48	36
1,2,4-Trichlorobenzene	0	ug/L	20	23.8232	22.4679	119	112	67 - 123	5.86	22
1,1,1-Trichloroethane	0	ug/L	20	24.5076	21.7494	123	109	66 - 130	11.9	20
1,1,2-Trichloroethane	0	ug/L	20	23.1226	21.8809	116	109	82 - 126	5.52	15
Trichloroethene	0	ug/L	20	23.5261	21.2815	118	106	77 - 124	10	18
Trichlorofluoromethane	0	ug/L	20	23.6794	21.1175	118	106	38 - 123	11.4	23
1,2,3-Trichloropropane	0	ug/L	20	24.1129	23.1239	121	116	75 - 132	4.19	19
1,2,4-Trimethylbenzene	0	ug/L	20	23.9725	22.002	120	110	76 - 125	8.57	24
Vinyl Acetate	0	ug/L	20	22.8879	21.9562	114	110	58 - 136	4.16	17
Vinyl Chloride	0	ug/L	20	22.3058	20.5688	112	103	27 - 138	8.1	40
o-Xylene	0	ug/L	20	23.7843	22.1048	119	111	79 - 124	7.32	19
mp-Xylene	0	ug/L	40	48.9878	45.4025	122	114	79 - 125	7.6	21
1,2-Dichloroethane-d4 (S)	98.6	%				98.6	95.3	62 - 133		
4-Bromofluorobenzene (S)	105	%				105	104	79 - 114		
Dibromofluoromethane (S)	105	%				105	101	78 - 116		
Toluene-d8 (S)	104	%				104	105	76 - 127		

QUALITY CONTROL DATA QUALIFIERS

Workorder: 3039864 LMC MRC June SWS/95840ACM

QUALITY CONTROL PARAMETER QUALIFIERS

Lab ID	#	Sample Type	Analytical Method	Analyte
2969612	1	Lab Control Standard	SW846 8260B	2,2-Dichloropropane

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte 2,2-Dichloropropane. The % Recovery was reported as 134 and the control limits were 64 to 129.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 3039864 LMC MRC June SWS/95840ACM

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
3039864006	MRC-SW6B-S-061219	SW846 3510C	EXTR/56844	8270 SIM	SVMS/33402
3039864007	MRC-SW8A-S-061219	SW846 3510C	EXTR/56844	8270 SIM	SVMS/33402
3039864008	MRC-SW8B-S-061219	SW846 3510C	EXTR/56844	8270 SIM	SVMS/33402
3039864009	MRC-SW8B-S-DUP-061219	SW846 3510C	EXTR/56844	8270 SIM	SVMS/33402
3039864010	MRC-SW6A-S-061219	SW846 3510C	EXTR/56844	8270 SIM	SVMS/33402
3039864011	MRC-SW17A-S-061219	SW846 3510C	EXTR/56844	8270 SIM	SVMS/33402
3039864001	MRC-SW16A-S-061219			SW846 8260B	VOMS/51335
3039864002	MRC-SW7A-S-061219			SW846 8260B	VOMS/51335
3039864003	MRC-SW9B-S-S061219			SW846 8260B	VOMS/51335
3039864004	MRC-SW9A-S-061219			SW846 8260B	VOMS/51335
3039864005	MRC-SW7B-S-061219			SW846 8260B	VOMS/51335
3039864006	MRC-SW6B-S-061219			SW846 8260B	VOMS/51335
3039864007	MRC-SW8A-S-061219			SW846 8260B	VOMS/51335
3039864009	MRC-SW8B-S-DUP-061219			SW846 8260B	VOMS/51335
3039864010	MRC-SW6A-S-061219			SW846 8260B	VOMS/51335
3039864011	MRC-SW17A-S-061219			SW846 8260B	VOMS/51335
3039864008	MRC-SW8B-S-061219			SW846 8260B	VOMS/51370
3039864012	FB-061319			SW846 8260B	VOMS/51370

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: * 3039864 *

ALS Qu

Page 1 of 2

Client Name: AECOM

Address: 12420 Milestone Center Drive, Suite 150
Germantown, MD 20876

Contact: Ravi Damera & Holly Brown

Phone#: 301-674-3199

Project Name/#: LMC MRC June SWS / 95840ACM

Bill To: Ravi Damera

TAT [X] Normal-Standard TAT is 10-12 business days.
[ ] Rush-Subject to ALS approval and surcharges.

Date Required: Approved?

Email? [X] -Y ravi.damara@aecom.com

Fax? [ ] -Y No.:

Container Type	CG	AG								
Container Size	40mL	1L								
Preservative	HCl	-								

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	VOCs (8260C)	1,4-Dioxane (8270D SIM)							
MRC-SW16A-S-061219	6/12/2019	1150	G	SW	2								
MRC-SW7A-S-061219	6/12/2019	1400	G	SW	2								
MRC-SW9B-S-061219	6/12/2019	1340	G	SW	2								
MRC-SW9A-S-061219	6/12/2019	1350	G	SW	2								
MRC-SW7B-S-061219	6/12/2019	1410	G	SW	2								
MRC-SW6B-S-061219	6/12/2019	1300	G	SW	2	2							
MRC-SW8A-S-061219	6/12/2019	1210	G	SW	2	2							
MRC-SW8B-S-061219	6/12/2019	1230	G	SW	6	6							
MRC-SW8B-S-DUP-061219	6/12/2019	1245	G	SW	2	2							
MRC-SW6A-S-061219	6/12/2019	1330	G	SW	2	2							

Enter Number of Containers Per Sample or Field Results Below.

Cooler Temp: 2 Therm ID: 401

No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(If present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. in Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:

Sample/COC Comments

Extra Volume for MS/MSD

ALS Field Services: _Pickup _Labor _Composite Sampling _Rental Equipment _Other:

Project Comments: Please also email data to holly.brown@aecom.com and naoum.tavantzis@aecom.com

LOGGED BY(signature): DATE TIME

REVIEWED BY(signature): DATE TIME

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 AECOM	6/13	1453	2	6/13	1453
3	6/13		4 COMMON COURIER / ALS COURIER		
5 COMMON COURIER / ALS COURIER			6	6/14/19	825
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE

Special Processing: USACE [ ] Navy [ ]

State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] NC

Reportable to PADEP? Yes [ ]

PWSID #

Sample Disposal: Lab [X] Special [ ]

EDDS: Format Type- EQuIS and .csv

* G=Grab; C=Composite **Matrix - Al=Air; DW=Drinking Water; GW=Groundwater; Oi=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

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F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 30399864 | 2 of 2
ALS Quote #:

Client Name: AECOM
Address: 12420 Milestone Center Drive, Suite 150
Germantown, MD 20876
Contact: Ravi Damera & Holly Brown
Phone#: 301-674-3199
Project Name/#: LMC MRC June SWS / 95840ACM
Bill To: Ravi Damera

TAT [X] Normal-Standard TAT is 10-12 business days.
[ ] Rush-Subject to ALS approval and surcharges.
Date Required: Approved?
Email? [X] -Y ravi.damara@aecom.com
Fax? [ ] -Y No.:

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	Container Type	Container Size	Preservative	VOCs (8260C)	1,4-Dioxane (8270D SIM)							
					CG	AG										
					40mL	1L										
					HCl	-										
					ANALYSES/METHOD REQUESTED											
					Enter Number of Containers Per Sample or Field Results Below.											
MRC-SW17A-061219	6/12/2019	1500	G	SW	2	2										
FB-061319	6/13/2019	1400	G	SW	2											Field Blank
			G	SW												
			G	SW												
			G	SW												
			G	SW												
			G	SW												
			G	SW												
			G	SW												
			G	SW												
			G	SW												

Receipt Information (completed by Receiving Lab)
Cooler Temp: ____ Therm ID: ____
No. of Coolers: ____

	Y	N	Initial
Custody Seals Present?			
(If present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. in Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #:
Sample/COC Comments

ALS Field Services: _Pickup _Labor _Composite Sampling _Rental Equipment _Other:

Project Comments: Please also email data to holly.brown@aecom.com and naoum.tavantzis@aecom.com

LOGGED BY(signature): DATE TIME
REVIEWED BY(signature): DATE TIME

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 AMP/D AECOM	6/12/19	1753	2	6/12	1453
3	6/13		4 COMMON COURIER / ALS COURIER		
5 COMMON COURIER / ALS COURIER			6	6-14-19	825
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE
Special Processing: USACE [ ] Navy [ ]
State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] NC
Reportable to PADEP? Yes [ ]
Sample Disposal: Lab [X] Special [ ]
PWSID #
EDDS: Format Type- EQuIS and .csv

* G=Grab; C=Composite **Matrix - Al=Air; DW=Drinking Water; GW=Groundwater; Oi=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

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Rev 10/14

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P: (717) 944-5541
F: (717) 944-1430

Condition of Sample Receipt Form

Client: AECOM | Work Order #: 30398604 | Initials: NB | Date: 6-14-19

1. Were airbills / tracking numbers present and recorded?	NONE	YES	NO
Tracking number:			
2. Are Custody Seals on shipping containers intact?	NONE	YES	NO
3. Are Custody Seals on sample containers intact?	NONE	YES	NO
4. Is there a COC (Chain-of-Custody) present?		YES	NO
5. Are the COC and bottle labels complete, legible and in agreement?		YES	NO
5a. Does the COC contain sample locations?		YES	NO
5b. Does the COC contain date and time of sample collection for all samples?		YES	NO
5c. Does the COC contain sample collectors name?		YES	NO
5d. Does the COC note the type(s) of preservation for all bottles?		YES	NO
5e. Does the COC note the number of bottles submitted for each sample?		YES	NO
5f. Does the COC note the type of sample, composite or grab?		YES	NO
5g. Does the COC note the matrix of the sample(s)?		YES	NO
6. Are all aqueous samples requiring preservation preserved correctly?	N/A	YES	NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?		YES	NO
8. Are all samples within holding times for the requested analyses?		YES	NO
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.)		YES	NO
10. Did we receive trip blanks (applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)?	N/A	YES	NO
11. Were the samples received on ice?		YES	NO
12. Were sample temperatures measured at 0.0-6.0°C		YES	NO
13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below		YES	NO
13a. Are the samples required for SDWA compliance reporting?	N/A	YES	NO
13b. Did the client provide a SDWA PWS ID#?	N/A	YES	NO
13c. Are all aqueous unpreserved SDWA samples pH 5-9?	N/A	YES	NO
13d. Did the client provide the SDWA sample location ID/Description?	N/A	YES	NO
13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?	N/A	YES	NO

Cooler #: _____

Temperature (°C): 2

Thermometer ID: 401

COMMENTS (Required for all NO responses above and any sample non-conformance):

Non Dw

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ALS Environmental

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

September 25, 2019

Mr. Zachary Neigh
AECOM (fka URS) - Germantown MD

Certificate of Analysis

Project Name:	**2018-MIDDLE RIVER COMPLEX**	Workorder:	**3058438**
Purchase Order:	**116942**	Workorder ID:	**LM MRC Sept SWs**

Dear Mr. Neigh:

Enclosed are the analytical results for samples received by the laboratory on Tuesday, September 17, 2019.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Mrs. Vanessa N Badman (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Ms. Holly Brown , Mr. Ravi Damera , Ms. Victoria Kirkpatrick , Mr. Naoum Tavantzis

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ALS Environmental

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

SAMPLE SUMMARY

Workorder: 3058438 LM MRC Sept SWs

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3058438001	MRC-SW1A-091619	Water	9/16/2019 16:30	9/17/2019 22:55	Collected by Client
3058438002	MRC-SW2A-091619	Water	9/16/2019 16:05	9/17/2019 22:55	Collected by Client
3058438003	MRC-SW17A-091619	Water	9/16/2019 08:55	9/17/2019 22:55	Collected by Client
3058438004	MRC-SW6AS-091619	Water	9/16/2019 11:20	9/17/2019 22:55	Collected by Client
3058438005	MRC-SW6bS-091619	Water	9/16/2019 11:35	9/17/2019 22:55	Collected by Client
3058438006	MRC-SW8BS-091619	Water	9/16/2019 13:00	9/17/2019 22:55	Collected by Client
3058438007	MRC-SW8A-S-091619	Water	9/16/2019 12:00	9/17/2019 22:55	Collected by Client
3058438008	MRC-SW8A-S-DUP-091619	Water	9/16/2019 12:10	9/17/2019 22:55	Collected by Client
3058438009	MRC-SW9A-S-091619	Water	9/16/2019 10:45	9/17/2019 22:55	Collected by Client
3058438010	MRC-SW9B-S-091619	Water	9/16/2019 11:00	9/17/2019 22:55	Collected by Client
3058438011	MRC-SW5A1-S-091619	Water	9/16/2019 15:50	9/17/2019 22:55	Collected by Client
3058438012	MRC-SW5A2-S-091619	Water	9/16/2019 15:35	9/17/2019 22:55	Collected by Client
3058438013	MRC-SW5B-S-091619	Water	9/16/2019 15:20	9/17/2019 22:55	Collected by Client
3058438014	MRC-SW7A-S-091619	Water	9/16/2019 10:15	9/17/2019 22:55	Collected by Client
3058438015	MRC-SW7B-S-091619	Water	9/16/2019 10:30	9/17/2019 22:55	Collected by Client
3058438016	MRC-SW18A-S-091619	Water	9/16/2019 15:00	9/17/2019 22:55	Collected by Client
3058438017	MRC-SW11A-S-091619	Water	9/16/2019 14:05	9/17/2019 22:55	Collected by Client
3058438018	MRC-SW11B-S-091619	Water	9/16/2019 14:15	9/17/2019 22:55	Collected by Client
3058438019	MRC-SW12A-S-091619	Water	9/16/2019 14:30	9/17/2019 22:55	Collected by Client
3058438020	MRC-SW13A-S-091619	Water	9/16/2019 14:50	9/17/2019 22:55	Collected by Client
3058438021	MRC-SW15A-S-091619	Water	9/16/2019 13:50	9/17/2019 22:55	Collected by Client
3058438022	MRC-SW16A-S-091619	Water	9/16/2019 13:35	9/17/2019 22:55	Collected by Client
3058438023	TB-091619	Water	9/17/2019 22:55	9/17/2019 22:55	Collected by Client

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SAMPLE SUMMARY

Workorder: 3058438 LM MRC Sept SWs

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
-- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438001** Date Collected: 9/16/2019 16:30 Matrix: Water

Sample ID: **MRC-SW1A-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	6.4J	J	ug/L	10.0	3.1	SW846 8260B		9/19/19 22:42	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		9/19/19 22:42	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		9/19/19 22:42	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		9/19/19 22:42	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		9/19/19 22:42	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		9/19/19 22:42	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		9/19/19 22:42	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		9/19/19 22:42	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		9/19/19 22:42	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		9/19/19 22:42	PDK	A
n-Butylbenzene	ND	2	ug/L	2.0	0.60	SW846 8260B		9/19/19 22:42	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		9/19/19 22:42	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		9/19/19 22:42	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		9/19/19 22:42	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		9/19/19 22:42	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		9/19/19 22:42	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		9/19/19 22:42	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/19/19 22:42	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		9/19/19 22:42	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		9/19/19 22:42	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		9/19/19 22:42	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		9/19/19 22:42	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		9/19/19 22:42	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		9/19/19 22:42	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		9/19/19 22:42	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		9/19/19 22:42	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		9/19/19 22:42	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		9/19/19 22:42	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/19/19 22:42	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		9/19/19 22:42	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		9/19/19 22:42	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		9/19/19 22:42	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		9/19/19 22:42	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		9/19/19 22:42	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		9/19/19 22:42	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		9/19/19 22:42	PDK	A

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438001** Date Collected: 9/16/2019 16:30 Matrix: Water

Sample ID: **MRC-SW1A-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		9/19/19 22:42	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/19/19 22:42	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		9/19/19 22:42	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		9/19/19 22:42	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/19/19 22:42	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/19/19 22:42	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/19/19 22:42	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/19/19 22:42	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		9/19/19 22:42	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/19/19 22:42	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		9/19/19 22:42	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		9/19/19 22:42	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		9/19/19 22:42	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/19/19 22:42	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/19/19 22:42	PDK	A
Methyl acetate	ND	3	ug/L	2.0	0.32	SW846 8260B		9/19/19 22:42	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/19/19 22:42	PDK	A
Methyl t-Butyl Ether	ND	1	ug/L	1.0	0.33	SW846 8260B		9/19/19 22:42	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		9/19/19 22:42	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		9/19/19 22:42	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/19/19 22:42	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/19/19 22:42	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/19/19 22:42	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/19/19 22:42	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/19/19 22:42	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/19/19 22:42	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		9/19/19 22:42	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/19/19 22:42	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/19/19 22:42	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		9/19/19 22:42	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		9/19/19 22:42	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/19/19 22:42	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		9/19/19 22:42	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		9/19/19 22:42	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		9/19/19 22:42	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/19/19 22:42	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		9/19/19 22:42	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		9/19/19 22:42	PDK	A

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438001** Date Collected: 9/16/2019 16:30 Matrix: Water

Sample ID: **MRC-SW1A-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/19/19 22:42	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/19/19 22:42	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	109		%	62 - 133		SW846 8260B			9/19/19 22:42	PDK	A
4-Bromofluorobenzene (S)	112		%	79 - 114		SW846 8260B			9/19/19 22:42	PDK	A
Dibromofluoromethane (S)	103		%	78 - 116		SW846 8260B			9/19/19 22:42	PDK	A
Toluene-d8 (S)	105		%	76 - 127		SW846 8260B			9/19/19 22:42	PDK	A
SEMIVOLATILE SIM											
1,4-Dioxane	ND		ug/L	0.10	0.019	8270 SIM	9/19/19 08:50	CAC	9/20/19 10:53	CGS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	79.7		%	29 - 112		8270 SIM	9/19/19 08:50	CAC	9/20/19 10:53	CGS	C
Fluoranthene-d10 (S)	90.7		%	45 - 130		8270 SIM	9/19/19 08:50	CAC	9/20/19 10:53	CGS	C

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438002** Date Collected: 9/16/2019 16:05 Matrix: Water

Sample ID: **MRC-SW2A-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	5.9J	J	ug/L	10.0	3.1	SW846 8260B		9/19/19 23:05	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		9/19/19 23:05	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		9/19/19 23:05	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		9/19/19 23:05	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		9/19/19 23:05	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		9/19/19 23:05	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		9/19/19 23:05	PDK	A
Bromomethane	0.49J	J	ug/L	1.0	0.39	SW846 8260B		9/19/19 23:05	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		9/19/19 23:05	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		9/19/19 23:05	PDK	A
n-Butylbenzene	ND	2	ug/L	2.0	0.60	SW846 8260B		9/19/19 23:05	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		9/19/19 23:05	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		9/19/19 23:05	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		9/19/19 23:05	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		9/19/19 23:05	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		9/19/19 23:05	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		9/19/19 23:05	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/19/19 23:05	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		9/19/19 23:05	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		9/19/19 23:05	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		9/19/19 23:05	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		9/19/19 23:05	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		9/19/19 23:05	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		9/19/19 23:05	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		9/19/19 23:05	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		9/19/19 23:05	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		9/19/19 23:05	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		9/19/19 23:05	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/19/19 23:05	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		9/19/19 23:05	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		9/19/19 23:05	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		9/19/19 23:05	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		9/19/19 23:05	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		9/19/19 23:05	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		9/19/19 23:05	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		9/19/19 23:05	PDK	A

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438002** Date Collected: 9/16/2019 16:05 Matrix: Water

Sample ID: **MRC-SW2A-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		9/19/19 23:05	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/19/19 23:05	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		9/19/19 23:05	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		9/19/19 23:05	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/19/19 23:05	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/19/19 23:05	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/19/19 23:05	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/19/19 23:05	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		9/19/19 23:05	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/19/19 23:05	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		9/19/19 23:05	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		9/19/19 23:05	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		9/19/19 23:05	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/19/19 23:05	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/19/19 23:05	PDK	A
Methyl acetate	ND	3	ug/L	2.0	0.32	SW846 8260B		9/19/19 23:05	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/19/19 23:05	PDK	A
Methyl t-Butyl Ether	ND	1	ug/L	1.0	0.33	SW846 8260B		9/19/19 23:05	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		9/19/19 23:05	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		9/19/19 23:05	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/19/19 23:05	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/19/19 23:05	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/19/19 23:05	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/19/19 23:05	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/19/19 23:05	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/19/19 23:05	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		9/19/19 23:05	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/19/19 23:05	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/19/19 23:05	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		9/19/19 23:05	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		9/19/19 23:05	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/19/19 23:05	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		9/19/19 23:05	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		9/19/19 23:05	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		9/19/19 23:05	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/19/19 23:05	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		9/19/19 23:05	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		9/19/19 23:05	PDK	A

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438002** Date Collected: 9/16/2019 16:05 Matrix: Water

Sample ID: **MRC-SW2A-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/19/19 23:05	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/19/19 23:05	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	112		%	62 - 133		SW846 8260B			9/19/19 23:05	PDK	A
4-Bromofluorobenzene (S)	111		%	79 - 114		SW846 8260B			9/19/19 23:05	PDK	A
Dibromofluoromethane (S)	102		%	78 - 116		SW846 8260B			9/19/19 23:05	PDK	A
Toluene-d8 (S)	95.3		%	76 - 127		SW846 8260B			9/19/19 23:05	PDK	A
SEMIVOLATILE SIM											
1,4-Dioxane	ND		ug/L	0.10	0.019	8270 SIM	9/19/19 08:50	CAC	9/20/19 11:21	CGS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	82.6		%	29 - 112		8270 SIM	9/19/19 08:50	CAC	9/20/19 11:21	CGS	C
Fluoranthene-d10 (S)	89.1		%	45 - 130		8270 SIM	9/19/19 08:50	CAC	9/20/19 11:21	CGS	C

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ALS Environmental

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438003** Date Collected: 9/16/2019 08:55 Matrix: Water

Sample ID: **MRC-SW17A-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	5.1J	J	ug/L	10.0	3.1	SW846 8260B		9/19/19 23:29	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		9/19/19 23:29	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		9/19/19 23:29	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		9/19/19 23:29	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		9/19/19 23:29	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		9/19/19 23:29	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		9/19/19 23:29	PDK	A
Bromomethane	0.46J	J	ug/L	1.0	0.39	SW846 8260B		9/19/19 23:29	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		9/19/19 23:29	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		9/19/19 23:29	PDK	A
n-Butylbenzene	ND	2	ug/L	2.0	0.60	SW846 8260B		9/19/19 23:29	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		9/19/19 23:29	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		9/19/19 23:29	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		9/19/19 23:29	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		9/19/19 23:29	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		9/19/19 23:29	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		9/19/19 23:29	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/19/19 23:29	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		9/19/19 23:29	PDK	A
Chloroform	0.32J	J	ug/L	1.0	0.21	SW846 8260B		9/19/19 23:29	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		9/19/19 23:29	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		9/19/19 23:29	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		9/19/19 23:29	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		9/19/19 23:29	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		9/19/19 23:29	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		9/19/19 23:29	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		9/19/19 23:29	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		9/19/19 23:29	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/19/19 23:29	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		9/19/19 23:29	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		9/19/19 23:29	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		9/19/19 23:29	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		9/19/19 23:29	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		9/19/19 23:29	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		9/19/19 23:29	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		9/19/19 23:29	PDK	A

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438003** Date Collected: 9/16/2019 08:55 Matrix: Water

Sample ID: **MRC-SW17A-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		9/19/19 23:29	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/19/19 23:29	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		9/19/19 23:29	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		9/19/19 23:29	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/19/19 23:29	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/19/19 23:29	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/19/19 23:29	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/19/19 23:29	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		9/19/19 23:29	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/19/19 23:29	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		9/19/19 23:29	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		9/19/19 23:29	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		9/19/19 23:29	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/19/19 23:29	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/19/19 23:29	PDK	A
Methyl acetate	ND	3	ug/L	2.0	0.32	SW846 8260B		9/19/19 23:29	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/19/19 23:29	PDK	A
Methyl t-Butyl Ether	ND	1	ug/L	1.0	0.33	SW846 8260B		9/19/19 23:29	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		9/19/19 23:29	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		9/19/19 23:29	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/19/19 23:29	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/19/19 23:29	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/19/19 23:29	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/19/19 23:29	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/19/19 23:29	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/19/19 23:29	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		9/19/19 23:29	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/19/19 23:29	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/19/19 23:29	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		9/19/19 23:29	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		9/19/19 23:29	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/19/19 23:29	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		9/19/19 23:29	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		9/19/19 23:29	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		9/19/19 23:29	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/19/19 23:29	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		9/19/19 23:29	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		9/19/19 23:29	PDK	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438003** Date Collected: 9/16/2019 08:55 Matrix: Water

Sample ID: **MRC-SW17A-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/19/19 23:29	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/19/19 23:29	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	113		%	62 - 133		SW846 8260B			9/19/19 23:29	PDK	A
4-Bromofluorobenzene (S)	109		%	79 - 114		SW846 8260B			9/19/19 23:29	PDK	A
Dibromofluoromethane (S)	103		%	78 - 116		SW846 8260B			9/19/19 23:29	PDK	A
Toluene-d8 (S)	95.7		%	76 - 127		SW846 8260B			9/19/19 23:29	PDK	A
SEMIVOLATILE SIM											
1,4-Dioxane	0.078J	J	ug/L	0.097	0.018	8270 SIM	9/19/19 08:50	CAC	9/20/19 11:48	CGS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	83.1		%	29 - 112		8270 SIM	9/19/19 08:50	CAC	9/20/19 11:48	CGS	C
Fluoranthene-d10 (S)	91		%	45 - 130		8270 SIM	9/19/19 08:50	CAC	9/20/19 11:48	CGS	C

Vanessa N. Badman

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438004** Date Collected: 9/16/2019 11:20 Matrix: Water

Sample ID: **MRC-SW6AS-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	3.3J	J	ug/L	10.0	3.1	SW846 8260B		9/24/19 00:32	PDK	B
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		9/24/19 00:32	PDK	B
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		9/24/19 00:32	PDK	B
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		9/24/19 00:32	PDK	B
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		9/24/19 00:32	PDK	B
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		9/24/19 00:32	PDK	B
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		9/24/19 00:32	PDK	B
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		9/24/19 00:32	PDK	B
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		9/24/19 00:32	PDK	B
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		9/24/19 00:32	PDK	B
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		9/24/19 00:32	PDK	B
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		9/24/19 00:32	PDK	B
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		9/24/19 00:32	PDK	B
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		9/24/19 00:32	PDK	B
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		9/24/19 00:32	PDK	B
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		9/24/19 00:32	PDK	B
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		9/24/19 00:32	PDK	B
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/24/19 00:32	PDK	B
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		9/24/19 00:32	PDK	B
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		9/24/19 00:32	PDK	B
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		9/24/19 00:32	PDK	B
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		9/24/19 00:32	PDK	B
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		9/24/19 00:32	PDK	B
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		9/24/19 00:32	PDK	B
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		9/24/19 00:32	PDK	B
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		9/24/19 00:32	PDK	B
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		9/24/19 00:32	PDK	B
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		9/24/19 00:32	PDK	B
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/24/19 00:32	PDK	B
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		9/24/19 00:32	PDK	B
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		9/24/19 00:32	PDK	B
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		9/24/19 00:32	PDK	B
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		9/24/19 00:32	PDK	B
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		9/24/19 00:32	PDK	B
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		9/24/19 00:32	PDK	B
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		9/24/19 00:32	PDK	B

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438004** Date Collected: 9/16/2019 11:20 Matrix: Water

Sample ID: **MRC-SW6AS-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		9/24/19 00:32	PDK	B
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/24/19 00:32	PDK	B
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		9/24/19 00:32	PDK	B
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		9/24/19 00:32	PDK	B
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/24/19 00:32	PDK	B
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/24/19 00:32	PDK	B
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/24/19 00:32	PDK	B
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/24/19 00:32	PDK	B
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		9/24/19 00:32	PDK	B
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/24/19 00:32	PDK	B
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		9/24/19 00:32	PDK	B
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		9/24/19 00:32	PDK	B
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		9/24/19 00:32	PDK	B
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/24/19 00:32	PDK	B
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/24/19 00:32	PDK	B
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		9/24/19 00:32	PDK	B
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/24/19 00:32	PDK	B
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		9/24/19 00:32	PDK	B
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		9/24/19 00:32	PDK	B
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		9/24/19 00:32	PDK	B
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/24/19 00:32	PDK	B
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/24/19 00:32	PDK	B
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/24/19 00:32	PDK	B
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/24/19 00:32	PDK	B
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/24/19 00:32	PDK	B
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/24/19 00:32	PDK	B
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		9/24/19 00:32	PDK	B
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/24/19 00:32	PDK	B
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/24/19 00:32	PDK	B
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		9/24/19 00:32	PDK	B
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		9/24/19 00:32	PDK	B
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/24/19 00:32	PDK	B
Trichloroethene	0.68J	J	ug/L	1.0	0.33	SW846 8260B		9/24/19 00:32	PDK	B
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		9/24/19 00:32	PDK	B
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		9/24/19 00:32	PDK	B
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/24/19 00:32	PDK	B
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		9/24/19 00:32	PDK	B
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		9/24/19 00:32	PDK	B

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438004** Date Collected: 9/16/2019 11:20 Matrix: Water

Sample ID: **MRC-SW6AS-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/24/19 00:32	PDK	B
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/24/19 00:32	PDK	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	105		%	62 - 133		SW846 8260B			9/24/19 00:32	PDK	B
4-Bromofluorobenzene (S)	112		%	79 - 114		SW846 8260B			9/24/19 00:32	PDK	B
Dibromofluoromethane (S)	102		%	78 - 116		SW846 8260B			9/24/19 00:32	PDK	B
Toluene-d8 (S)	104		%	76 - 127		SW846 8260B			9/24/19 00:32	PDK	B
SEMIVOLATILE SIM											
1,4-Dioxane	ND		ug/L	0.10	0.019	8270 SIM	9/19/19 08:50	CAC	9/20/19 12:15	CGS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	71.3		%	29 - 112		8270 SIM	9/19/19 08:50	CAC	9/20/19 12:15	CGS	C
Fluoranthene-d10 (S)	79.6		%	45 - 130		8270 SIM	9/19/19 08:50	CAC	9/20/19 12:15	CGS	C

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Project Coordinator

ALS Environmental

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438005** Date Collected: 9/16/2019 11:35 Matrix: Water

Sample ID: **MRC-SW6bS-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	3.9J	J	ug/L	10.0	3.1	SW846 8260B		9/20/19 00:15	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		9/20/19 00:15	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 00:15	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 00:15	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 00:15	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 00:15	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		9/20/19 00:15	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		9/20/19 00:15	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		9/20/19 00:15	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		9/20/19 00:15	PDK	A
n-Butylbenzene	ND	2	ug/L	2.0	0.60	SW846 8260B		9/20/19 00:15	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		9/20/19 00:15	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 00:15	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 00:15	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 00:15	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 00:15	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 00:15	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 00:15	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		9/20/19 00:15	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		9/20/19 00:15	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 00:15	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 00:15	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 00:15	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 00:15	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		9/20/19 00:15	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 00:15	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 00:15	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		9/20/19 00:15	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 00:15	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 00:15	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 00:15	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 00:15	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 00:15	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 00:15	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		9/20/19 00:15	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 00:15	PDK	A

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438005** Date Collected: 9/16/2019 11:35 Matrix: Water

Sample ID: **MRC-SW6bS-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 00:15	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 00:15	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 00:15	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 00:15	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 00:15	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 00:15	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/20/19 00:15	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 00:15	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 00:15	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 00:15	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 00:15	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		9/20/19 00:15	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		9/20/19 00:15	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 00:15	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 00:15	PDK	A
Methyl acetate	ND	3	ug/L	2.0	0.32	SW846 8260B		9/20/19 00:15	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 00:15	PDK	A
Methyl t-Butyl Ether	ND	1	ug/L	1.0	0.33	SW846 8260B		9/20/19 00:15	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		9/20/19 00:15	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 00:15	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/20/19 00:15	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 00:15	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 00:15	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 00:15	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 00:15	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 00:15	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 00:15	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/20/19 00:15	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/20/19 00:15	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		9/20/19 00:15	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 00:15	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 00:15	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 00:15	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 00:15	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		9/20/19 00:15	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 00:15	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		9/20/19 00:15	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 00:15	PDK	A

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438005** Date Collected: 9/16/2019 11:35 Matrix: Water

Sample ID: **MRC-SW6bS-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/20/19 00:15	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/20/19 00:15	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	111		%	62 - 133		SW846 8260B			9/20/19 00:15	PDK	A
4-Bromofluorobenzene (S)	112		%	79 - 114		SW846 8260B			9/20/19 00:15	PDK	A
Dibromofluoromethane (S)	110		%	78 - 116		SW846 8260B			9/20/19 00:15	PDK	A
Toluene-d8 (S)	95.1		%	76 - 127		SW846 8260B			9/20/19 00:15	PDK	A
SEMIVOLATILE SIM											
1,4-Dioxane	ND		ug/L	0.096	0.018	8270 SIM	9/19/19 08:50	CAC	9/20/19 12:43	CGS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	78.6		%	29 - 112		8270 SIM	9/19/19 08:50	CAC	9/20/19 12:43	CGS	C
Fluoranthene-d10 (S)	91.5		%	45 - 130		8270 SIM	9/19/19 08:50	CAC	9/20/19 12:43	CGS	C

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438006** Date Collected: 9/16/2019 13:00 Matrix: Water

Sample ID: **MRC-SW8BS-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	5.5J	J	ug/L	10.0	3.1	SW846 8260B		9/20/19 00:38	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		9/20/19 00:38	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 00:38	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 00:38	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 00:38	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 00:38	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		9/20/19 00:38	PDK	A
Bromomethane	0.50J	J	ug/L	1.0	0.39	SW846 8260B		9/20/19 00:38	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		9/20/19 00:38	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		9/20/19 00:38	PDK	A
n-Butylbenzene	ND	2	ug/L	2.0	0.60	SW846 8260B		9/20/19 00:38	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		9/20/19 00:38	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 00:38	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 00:38	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 00:38	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 00:38	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 00:38	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 00:38	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		9/20/19 00:38	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		9/20/19 00:38	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 00:38	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 00:38	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 00:38	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 00:38	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		9/20/19 00:38	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 00:38	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 00:38	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		9/20/19 00:38	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 00:38	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 00:38	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 00:38	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 00:38	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 00:38	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 00:38	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		9/20/19 00:38	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 00:38	PDK	A

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438006** Date Collected: 9/16/2019 13:00 Matrix: Water

Sample ID: **MRC-SW8BS-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 00:38	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 00:38	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 00:38	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 00:38	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 00:38	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 00:38	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/20/19 00:38	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 00:38	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 00:38	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 00:38	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 00:38	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		9/20/19 00:38	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		9/20/19 00:38	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 00:38	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 00:38	PDK	A
Methyl acetate	ND	3	ug/L	2.0	0.32	SW846 8260B		9/20/19 00:38	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 00:38	PDK	A
Methyl t-Butyl Ether	ND	1	ug/L	1.0	0.33	SW846 8260B		9/20/19 00:38	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		9/20/19 00:38	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 00:38	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/20/19 00:38	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 00:38	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 00:38	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 00:38	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 00:38	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 00:38	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 00:38	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/20/19 00:38	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/20/19 00:38	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		9/20/19 00:38	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 00:38	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 00:38	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 00:38	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 00:38	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		9/20/19 00:38	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 00:38	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		9/20/19 00:38	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 00:38	PDK	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438006** Date Collected: 9/16/2019 13:00 Matrix: Water

Sample ID: **MRC-SW8BS-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/20/19 00:38	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/20/19 00:38	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	117		%	62 - 133		SW846 8260B			9/20/19 00:38	PDK	A
4-Bromofluorobenzene (S)	106		%	79 - 114		SW846 8260B			9/20/19 00:38	PDK	A
Dibromofluoromethane (S)	107		%	78 - 116		SW846 8260B			9/20/19 00:38	PDK	A
Toluene-d8 (S)	101		%	76 - 127		SW846 8260B			9/20/19 00:38	PDK	A
SEMIVOLATILE SIM											
1,4-Dioxane	ND		ug/L	0.10	0.019	8270 SIM	9/19/19 08:50	CAC	9/20/19 13:10	CGS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	76.7		%	29 - 112		8270 SIM	9/19/19 08:50	CAC	9/20/19 13:10	CGS	C
Fluoranthene-d10 (S)	88.7		%	45 - 130		8270 SIM	9/19/19 08:50	CAC	9/20/19 13:10	CGS	C

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438007** Date Collected: 9/16/2019 12:00 Matrix: Water

Sample ID: **MRC-SW8A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	4.5J	J	ug/L	10.0	3.1	SW846 8260B		9/20/19 01:01	PDK	A
tert-Amyl methyl ether	ND	46	ug/L	1.0	0.20	SW846 8260B		9/20/19 01:01	PDK	A
Benzene	ND	28	ug/L	1.0	0.23	SW846 8260B		9/20/19 01:01	PDK	A
Bromobenzene	ND	38	ug/L	1.0	0.32	SW846 8260B		9/20/19 01:01	PDK	A
Bromochloromethane	ND	20,21	ug/L	1.0	0.32	SW846 8260B		9/20/19 01:01	PDK	A
Bromodichloromethane	ND	32	ug/L	1.0	0.27	SW846 8260B		9/20/19 01:01	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		9/20/19 01:01	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		9/20/19 01:01	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		9/20/19 01:01	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		9/20/19 01:01	PDK	A
n-Butylbenzene	ND	40	ug/L	2.0	0.60	SW846 8260B		9/20/19 01:01	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		9/20/19 01:01	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 01:01	PDK	A
Carbon Disulfide	ND	13	ug/L	1.0	0.23	SW846 8260B		9/20/19 01:01	PDK	A
Carbon Tetrachloride	ND	26,27	ug/L	1.0	0.31	SW846 8260B		9/20/19 01:01	PDK	A
Chlorobenzene	ND	37	ug/L	1.0	0.19	SW846 8260B		9/20/19 01:01	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 01:01	PDK	A
Chloroethane	ND	6,7	ug/L	1.0	0.33	SW846 8260B		9/20/19 01:01	PDK	A
2-Chloroethylvinyl ether	ND	33,34	ug/L	2.0	0.38	SW846 8260B		9/20/19 01:01	PDK	A
Chloroform	ND	22	ug/L	1.0	0.21	SW846 8260B		9/20/19 01:01	PDK	A
Chloromethane	ND	3	ug/L	1.0	0.31	SW846 8260B		9/20/19 01:01	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 01:01	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 01:01	PDK	A
Cyclohexane	ND	25	ug/L	1.0	0.29	SW846 8260B		9/20/19 01:01	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		9/20/19 01:01	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 01:01	PDK	A
Dibromomethane	ND	29	ug/L	1.0	0.31	SW846 8260B		9/20/19 01:01	PDK	A
1,2-Dichlorobenzene	ND	39	ug/L	1.0	0.38	SW846 8260B		9/20/19 01:01	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 01:01	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 01:01	PDK	A
Dichlorodifluoromethane	ND	1,2	ug/L	1.0	0.33	SW846 8260B		9/20/19 01:01	PDK	A
1,1-Dichloroethane	ND	18	ug/L	1.0	0.28	SW846 8260B		9/20/19 01:01	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 01:01	PDK	A
1,1-Dichloroethene	ND	10	ug/L	1.0	0.29	SW846 8260B		9/20/19 01:01	PDK	A

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438007** Date Collected: 9/16/2019 12:00 Matrix: Water

Sample ID: **MRC-SW8A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
1,2-Dichloroethene, Total	ND	48	ug/L	2.0	0.45	SW846 8260B		9/20/19 01:01	PDK	A
cis-1,2-Dichloroethene	ND	19	ug/L	1.0	0.32	SW846 8260B		9/20/19 01:01	PDK	A
trans-1,2-Dichloroethene	ND	14	ug/L	1.0	0.26	SW846 8260B		9/20/19 01:01	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 01:01	PDK	A
2,2-Dichloropropane	ND	23	ug/L	1.0	0.32	SW846 8260B		9/20/19 01:01	PDK	A
1,2-Dichloropropane	ND	30	ug/L	1.0	0.24	SW846 8260B		9/20/19 01:01	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 01:01	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 01:01	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/20/19 01:01	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 01:01	PDK	A
Ethyl tert-butyl ether	ND	45	ug/L	1.0	0.19	SW846 8260B		9/20/19 01:01	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 01:01	PDK	A
Freon 113	ND	12	ug/L	1.0	0.26	SW846 8260B		9/20/19 01:01	PDK	A
Hexachlorobutadiene	ND	43,44	ug/L	5.0	1.0	SW846 8260B		9/20/19 01:01	PDK	A
2-Hexanone	ND	36	ug/L	5.0	1.3	SW846 8260B		9/20/19 01:01	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 01:01	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 01:01	PDK	A
Methyl acetate	ND	47	ug/L	2.0	0.32	SW846 8260B		9/20/19 01:01	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 01:01	PDK	A
Methyl t-Butyl Ether	ND	15,16,17	ug/L	1.0	0.33	SW846 8260B		9/20/19 01:01	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND	35	ug/L	5.0	1.5	SW846 8260B		9/20/19 01:01	PDK	A
Methylene Chloride	ND	11	ug/L	1.0	0.45	SW846 8260B		9/20/19 01:01	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/20/19 01:01	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 01:01	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 01:01	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 01:01	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 01:01	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 01:01	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 01:01	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/20/19 01:01	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/20/19 01:01	PDK	A
1,2,4-Trichlorobenzene	ND	41,42	ug/L	2.0	0.82	SW846 8260B		9/20/19 01:01	PDK	A
1,1,1-Trichloroethane	ND	24	ug/L	1.0	0.22	SW846 8260B		9/20/19 01:01	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 01:01	PDK	A
Trichloroethene	ND	31	ug/L	1.0	0.33	SW846 8260B		9/20/19 01:01	PDK	A
Trichlorofluoromethane	ND	8,9	ug/L	1.0	0.24	SW846 8260B		9/20/19 01:01	PDK	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438007** Date Collected: 9/16/2019 12:00 Matrix: Water

Sample ID: **MRC-SW8A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B			9/20/19 01:01	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B			9/20/19 01:01	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B			9/20/19 01:01	PDK	A
Vinyl Chloride	ND	4,5	ug/L	1.0	0.30	SW846 8260B			9/20/19 01:01	PDK	A
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/20/19 01:01	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/20/19 01:01	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	117		%	62 - 133		SW846 8260B			9/20/19 01:01	PDK	A
4-Bromofluorobenzene (S)	107		%	79 - 114		SW846 8260B			9/20/19 01:01	PDK	A
Dibromofluoromethane (S)	110		%	78 - 116		SW846 8260B			9/20/19 01:01	PDK	A
Toluene-d8 (S)	96.4		%	76 - 127		SW846 8260B			9/20/19 01:01	PDK	A
SEMIVOLATILE SIM											
1,4-Dioxane	ND		ug/L	0.095	0.018	8270 SIM	9/19/19 08:50	CAC	9/20/19 13:37	CGS	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	83.7		%	29 - 112		8270 SIM	9/19/19 08:50	CAC	9/20/19 13:37	CGS	G
Fluoranthene-d10 (S)	92.3		%	45 - 130		8270 SIM	9/19/19 08:50	CAC	9/20/19 13:37	CGS	G

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438008** Date Collected: 9/16/2019 12:10 Matrix: Water

Sample ID: **MRC-SW8A-S-DUP-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	ND		ug/L	10.0	3.1	SW846 8260B			9/19/19 15:43	TMP	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B			9/19/19 15:43	TMP	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B			9/19/19 15:43	TMP	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B			9/19/19 15:43	TMP	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B			9/19/19 15:43	TMP	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B			9/19/19 15:43	TMP	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B			9/19/19 15:43	TMP	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B			9/19/19 15:43	TMP	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B			9/19/19 15:43	TMP	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B			9/19/19 15:43	TMP	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B			9/19/19 15:43	TMP	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B			9/19/19 15:43	TMP	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B			9/19/19 15:43	TMP	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B			9/19/19 15:43	TMP	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B			9/19/19 15:43	TMP	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B			9/19/19 15:43	TMP	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B			9/19/19 15:43	TMP	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B			9/19/19 15:43	TMP	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B			9/19/19 15:43	TMP	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B			9/19/19 15:43	TMP	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B			9/19/19 15:43	TMP	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B			9/19/19 15:43	TMP	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B			9/19/19 15:43	TMP	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B			9/19/19 15:43	TMP	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B			9/19/19 15:43	TMP	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B			9/19/19 15:43	TMP	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B			9/19/19 15:43	TMP	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B			9/19/19 15:43	TMP	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B			9/19/19 15:43	TMP	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B			9/19/19 15:43	TMP	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B			9/19/19 15:43	TMP	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B			9/19/19 15:43	TMP	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B			9/19/19 15:43	TMP	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B			9/19/19 15:43	TMP	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B			9/19/19 15:43	TMP	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B			9/19/19 15:43	TMP	A

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438008** Date Collected: 9/16/2019 12:10 Matrix: Water

Sample ID: **MRC-SW8A-S-DUP-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND	1	ug/L	1.0	0.26	SW846 8260B		9/19/19 15:43	TMP	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/19/19 15:43	TMP	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		9/19/19 15:43	TMP	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		9/19/19 15:43	TMP	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/19/19 15:43	TMP	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/19/19 15:43	TMP	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/19/19 15:43	TMP	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/19/19 15:43	TMP	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		9/19/19 15:43	TMP	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/19/19 15:43	TMP	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		9/19/19 15:43	TMP	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		9/19/19 15:43	TMP	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		9/19/19 15:43	TMP	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/19/19 15:43	TMP	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/19/19 15:43	TMP	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		9/19/19 15:43	TMP	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/19/19 15:43	TMP	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		9/19/19 15:43	TMP	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		9/19/19 15:43	TMP	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		9/19/19 15:43	TMP	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/19/19 15:43	TMP	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/19/19 15:43	TMP	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/19/19 15:43	TMP	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/19/19 15:43	TMP	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/19/19 15:43	TMP	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/19/19 15:43	TMP	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		9/19/19 15:43	TMP	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/19/19 15:43	TMP	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/19/19 15:43	TMP	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		9/19/19 15:43	TMP	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		9/19/19 15:43	TMP	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/19/19 15:43	TMP	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		9/19/19 15:43	TMP	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		9/19/19 15:43	TMP	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		9/19/19 15:43	TMP	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/19/19 15:43	TMP	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		9/19/19 15:43	TMP	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		9/19/19 15:43	TMP	A

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438008** Date Collected: 9/16/2019 12:10 Matrix: Water

Sample ID: **MRC-SW8A-S-DUP-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/19/19 15:43	TMP	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/19/19 15:43	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	110		%	62 - 133		SW846 8260B			9/19/19 15:43	TMP	A
4-Bromofluorobenzene (S)	110		%	79 - 114		SW846 8260B			9/19/19 15:43	TMP	A
Dibromofluoromethane (S)	110		%	78 - 116		SW846 8260B			9/19/19 15:43	TMP	A
Toluene-d8 (S)	105		%	76 - 127		SW846 8260B			9/19/19 15:43	TMP	A
SEMIVOLATILE SIM											
1,4-Dioxane	ND		ug/L	0.10	0.019	8270 SIM	9/19/19 08:50	CAC	9/20/19 09:05	CGS	G
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2-Methylnapthalene-d10 (S)	77.7		%	29 - 112		8270 SIM	9/19/19 08:50	CAC	9/20/19 09:05	CGS	G
Fluoranthene-d10 (S)	87.3		%	45 - 130		8270 SIM	9/19/19 08:50	CAC	9/20/19 09:05	CGS	G

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438009** Date Collected: 9/16/2019 10:45 Matrix: Water

Sample ID: **MRC-SW9A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	3.8J	J	ug/L	10.0	3.1	SW846 8260B		9/20/19 01:25	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		9/20/19 01:25	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 01:25	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 01:25	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 01:25	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 01:25	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		9/20/19 01:25	PDK	A
Bromomethane	0.67J	J	ug/L	1.0	0.39	SW846 8260B		9/20/19 01:25	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		9/20/19 01:25	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		9/20/19 01:25	PDK	A
n-Butylbenzene	ND	2	ug/L	2.0	0.60	SW846 8260B		9/20/19 01:25	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		9/20/19 01:25	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 01:25	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 01:25	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 01:25	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 01:25	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 01:25	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 01:25	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		9/20/19 01:25	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		9/20/19 01:25	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 01:25	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 01:25	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 01:25	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 01:25	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		9/20/19 01:25	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 01:25	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 01:25	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		9/20/19 01:25	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 01:25	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 01:25	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 01:25	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 01:25	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 01:25	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 01:25	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		9/20/19 01:25	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 01:25	PDK	A

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438009** Date Collected: 9/16/2019 10:45 Matrix: Water

Sample ID: **MRC-SW9A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 01:25	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 01:25	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 01:25	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 01:25	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 01:25	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 01:25	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/20/19 01:25	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 01:25	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 01:25	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 01:25	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 01:25	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		9/20/19 01:25	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		9/20/19 01:25	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 01:25	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 01:25	PDK	A
Methyl acetate	ND	3	ug/L	2.0	0.32	SW846 8260B		9/20/19 01:25	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 01:25	PDK	A
Methyl t-Butyl Ether	ND	1	ug/L	1.0	0.33	SW846 8260B		9/20/19 01:25	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		9/20/19 01:25	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 01:25	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/20/19 01:25	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 01:25	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 01:25	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 01:25	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 01:25	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 01:25	PDK	A
Toluene	0.27J	J	ug/L	1.0	0.23	SW846 8260B		9/20/19 01:25	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/20/19 01:25	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/20/19 01:25	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		9/20/19 01:25	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 01:25	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 01:25	PDK	A
Trichloroethene	0.72J	J	ug/L	1.0	0.33	SW846 8260B		9/20/19 01:25	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 01:25	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		9/20/19 01:25	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 01:25	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		9/20/19 01:25	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 01:25	PDK	A

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438009** Date Collected: 9/16/2019 10:45 Matrix: Water
Sample ID: **MRC-SW9A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/20/19 01:25	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/20/19 01:25	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	112		%	62 - 133		SW846 8260B			9/20/19 01:25	PDK	A
4-Bromofluorobenzene (S)	103		%	79 - 114		SW846 8260B			9/20/19 01:25	PDK	A
Dibromofluoromethane (S)	104		%	78 - 116		SW846 8260B			9/20/19 01:25	PDK	A
Toluene-d8 (S)	95.1		%	76 - 127		SW846 8260B			9/20/19 01:25	PDK	A

Vanessa N. Badman
Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438010** Date Collected: 9/16/2019 11:00 Matrix: Water

Sample ID: **MRC-SW9B-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
VOLATILE ORGANICS										
Acetone	4.0J	J	ug/L	10.0	3.1	SW846 8260B		9/20/19 01:48	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		9/20/19 01:48	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 01:48	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 01:48	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 01:48	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 01:48	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		9/20/19 01:48	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		9/20/19 01:48	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		9/20/19 01:48	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		9/20/19 01:48	PDK	A
n-Butylbenzene	ND	2	ug/L	2.0	0.60	SW846 8260B		9/20/19 01:48	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		9/20/19 01:48	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 01:48	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 01:48	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 01:48	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 01:48	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 01:48	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 01:48	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		9/20/19 01:48	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		9/20/19 01:48	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 01:48	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 01:48	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 01:48	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 01:48	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		9/20/19 01:48	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 01:48	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 01:48	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		9/20/19 01:48	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 01:48	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 01:48	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 01:48	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 01:48	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 01:48	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 01:48	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		9/20/19 01:48	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 01:48	PDK	A

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438010** Date Collected: 9/16/2019 11:00 Matrix: Water

Sample ID: **MRC-SW9B-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 01:48	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 01:48	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 01:48	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 01:48	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 01:48	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 01:48	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/20/19 01:48	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 01:48	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 01:48	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 01:48	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 01:48	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		9/20/19 01:48	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		9/20/19 01:48	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 01:48	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 01:48	PDK	A
Methyl acetate	ND	3	ug/L	2.0	0.32	SW846 8260B		9/20/19 01:48	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 01:48	PDK	A
Methyl t-Butyl Ether	ND	1	ug/L	1.0	0.33	SW846 8260B		9/20/19 01:48	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		9/20/19 01:48	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 01:48	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/20/19 01:48	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 01:48	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 01:48	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 01:48	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 01:48	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 01:48	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 01:48	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/20/19 01:48	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/20/19 01:48	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		9/20/19 01:48	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 01:48	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 01:48	PDK	A
Trichloroethene	0.80J	J	ug/L	1.0	0.33	SW846 8260B		9/20/19 01:48	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 01:48	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		9/20/19 01:48	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 01:48	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		9/20/19 01:48	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 01:48	PDK	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438010** Date Collected: 9/16/2019 11:00 Matrix: Water

Sample ID: **MRC-SW9B-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/20/19 01:48	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/20/19 01:48	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	114		%	62 - 133		SW846 8260B			9/20/19 01:48	PDK	A
4-Bromofluorobenzene (S)	105		%	79 - 114		SW846 8260B			9/20/19 01:48	PDK	A
Dibromofluoromethane (S)	103		%	78 - 116		SW846 8260B			9/20/19 01:48	PDK	A
Toluene-d8 (S)	97.4		%	76 - 127		SW846 8260B			9/20/19 01:48	PDK	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438011** Date Collected: 9/16/2019 15:50 Matrix: Water

Sample ID: **MRC-SW5A1-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	4.8J	J	ug/L	10.0	3.1	SW846 8260B		9/20/19 02:11	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		9/20/19 02:11	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 02:11	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 02:11	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 02:11	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 02:11	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		9/20/19 02:11	PDK	A
Bromomethane	0.40J	J	ug/L	1.0	0.39	SW846 8260B		9/20/19 02:11	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		9/20/19 02:11	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		9/20/19 02:11	PDK	A
n-Butylbenzene	ND	2	ug/L	2.0	0.60	SW846 8260B		9/20/19 02:11	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		9/20/19 02:11	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 02:11	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 02:11	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 02:11	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 02:11	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 02:11	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 02:11	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		9/20/19 02:11	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		9/20/19 02:11	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 02:11	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 02:11	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 02:11	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 02:11	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		9/20/19 02:11	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 02:11	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 02:11	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		9/20/19 02:11	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 02:11	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 02:11	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 02:11	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 02:11	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 02:11	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 02:11	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		9/20/19 02:11	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 02:11	PDK	A

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438011** Date Collected: 9/16/2019 15:50 Matrix: Water

Sample ID: **MRC-SW5A1-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 02:11	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 02:11	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 02:11	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 02:11	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 02:11	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 02:11	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/20/19 02:11	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 02:11	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 02:11	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 02:11	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 02:11	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		9/20/19 02:11	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		9/20/19 02:11	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 02:11	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 02:11	PDK	A
Methyl acetate	ND	3	ug/L	2.0	0.32	SW846 8260B		9/20/19 02:11	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 02:11	PDK	A
Methyl t-Butyl Ether	ND	1	ug/L	1.0	0.33	SW846 8260B		9/20/19 02:11	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		9/20/19 02:11	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 02:11	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/20/19 02:11	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 02:11	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 02:11	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 02:11	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 02:11	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 02:11	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 02:11	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/20/19 02:11	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/20/19 02:11	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		9/20/19 02:11	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 02:11	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 02:11	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 02:11	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 02:11	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		9/20/19 02:11	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 02:11	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		9/20/19 02:11	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 02:11	PDK	A

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438011** Date Collected: 9/16/2019 15:50 Matrix: Water

Sample ID: **MRC-SW5A1-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/20/19 02:11	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/20/19 02:11	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	114		%	62 - 133		SW846 8260B			9/20/19 02:11	PDK	A
4-Bromofluorobenzene (S)	108		%	79 - 114		SW846 8260B			9/20/19 02:11	PDK	A
Dibromofluoromethane (S)	104		%	78 - 116		SW846 8260B			9/20/19 02:11	PDK	A
Toluene-d8 (S)	94		%	76 - 127		SW846 8260B			9/20/19 02:11	PDK	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438012** Date Collected: 9/16/2019 15:35 Matrix: Water

Sample ID: **MRC-SW5A2-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	5.6J	J	ug/L	10.0	3.1	SW846 8260B		9/20/19 02:34	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		9/20/19 02:34	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 02:34	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 02:34	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 02:34	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 02:34	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		9/20/19 02:34	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		9/20/19 02:34	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		9/20/19 02:34	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		9/20/19 02:34	PDK	A
n-Butylbenzene	ND	2	ug/L	2.0	0.60	SW846 8260B		9/20/19 02:34	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		9/20/19 02:34	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 02:34	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 02:34	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 02:34	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 02:34	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 02:34	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 02:34	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		9/20/19 02:34	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		9/20/19 02:34	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 02:34	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 02:34	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 02:34	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 02:34	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		9/20/19 02:34	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 02:34	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 02:34	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		9/20/19 02:34	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 02:34	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 02:34	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 02:34	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 02:34	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 02:34	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 02:34	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		9/20/19 02:34	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 02:34	PDK	A

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438012** Date Collected: 9/16/2019 15:35 Matrix: Water

Sample ID: **MRC-SW5A2-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 02:34	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 02:34	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 02:34	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 02:34	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 02:34	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 02:34	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/20/19 02:34	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 02:34	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 02:34	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 02:34	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 02:34	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		9/20/19 02:34	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		9/20/19 02:34	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 02:34	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 02:34	PDK	A
Methyl acetate	ND	3	ug/L	2.0	0.32	SW846 8260B		9/20/19 02:34	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 02:34	PDK	A
Methyl t-Butyl Ether	ND	1	ug/L	1.0	0.33	SW846 8260B		9/20/19 02:34	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		9/20/19 02:34	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 02:34	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/20/19 02:34	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 02:34	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 02:34	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 02:34	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 02:34	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 02:34	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 02:34	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/20/19 02:34	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/20/19 02:34	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		9/20/19 02:34	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 02:34	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 02:34	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 02:34	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 02:34	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		9/20/19 02:34	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 02:34	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		9/20/19 02:34	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 02:34	PDK	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438012** Date Collected: 9/16/2019 15:35 Matrix: Water
Sample ID: **MRC-SW5A2-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/20/19 02:34	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/20/19 02:34	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	117		%	62 - 133		SW846 8260B			9/20/19 02:34	PDK	A
4-Bromofluorobenzene (S)	104		%	79 - 114		SW846 8260B			9/20/19 02:34	PDK	A
Dibromofluoromethane (S)	110		%	78 - 116		SW846 8260B			9/20/19 02:34	PDK	A
Toluene-d8 (S)	95.3		%	76 - 127		SW846 8260B			9/20/19 02:34	PDK	A

Vanessa N. Badman
Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438013** Date Collected: 9/16/2019 15:20 Matrix: Water

Sample ID: **MRC-SW5B-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	4.9J	J	ug/L	10.0	3.1	SW846 8260B		9/20/19 02:57	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		9/20/19 02:57	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 02:57	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 02:57	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 02:57	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 02:57	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		9/20/19 02:57	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		9/20/19 02:57	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		9/20/19 02:57	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		9/20/19 02:57	PDK	A
n-Butylbenzene	ND	2	ug/L	2.0	0.60	SW846 8260B		9/20/19 02:57	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		9/20/19 02:57	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 02:57	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 02:57	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 02:57	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 02:57	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 02:57	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 02:57	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		9/20/19 02:57	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		9/20/19 02:57	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 02:57	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 02:57	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 02:57	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 02:57	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		9/20/19 02:57	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 02:57	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 02:57	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		9/20/19 02:57	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 02:57	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 02:57	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 02:57	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 02:57	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 02:57	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 02:57	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		9/20/19 02:57	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 02:57	PDK	A

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438013** Date Collected: 9/16/2019 15:20 Matrix: Water

Sample ID: **MRC-SW5B-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 02:57	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 02:57	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 02:57	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 02:57	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 02:57	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 02:57	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/20/19 02:57	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 02:57	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 02:57	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 02:57	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 02:57	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		9/20/19 02:57	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		9/20/19 02:57	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 02:57	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 02:57	PDK	A
Methyl acetate	ND	3	ug/L	2.0	0.32	SW846 8260B		9/20/19 02:57	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 02:57	PDK	A
Methyl t-Butyl Ether	ND	1	ug/L	1.0	0.33	SW846 8260B		9/20/19 02:57	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		9/20/19 02:57	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 02:57	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/20/19 02:57	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 02:57	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 02:57	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 02:57	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 02:57	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 02:57	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 02:57	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/20/19 02:57	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/20/19 02:57	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		9/20/19 02:57	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 02:57	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 02:57	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 02:57	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 02:57	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		9/20/19 02:57	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 02:57	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		9/20/19 02:57	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 02:57	PDK	A

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438013** Date Collected: 9/16/2019 15:20 Matrix: Water

Sample ID: **MRC-SW5B-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/20/19 02:57	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/20/19 02:57	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	114		%	62 - 133		SW846 8260B			9/20/19 02:57	PDK	A
4-Bromofluorobenzene (S)	104		%	79 - 114		SW846 8260B			9/20/19 02:57	PDK	A
Dibromofluoromethane (S)	102		%	78 - 116		SW846 8260B			9/20/19 02:57	PDK	A
Toluene-d8 (S)	94.8		%	76 - 127		SW846 8260B			9/20/19 02:57	PDK	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438014** Date Collected: 9/16/2019 10:15 Matrix: Water

Sample ID: **MRC-SW7A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	9.0J	J	ug/L	10.0	3.1	SW846 8260B		9/20/19 03:20	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		9/20/19 03:20	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 03:20	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 03:20	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 03:20	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 03:20	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		9/20/19 03:20	PDK	A
Bromomethane	0.42J	J	ug/L	1.0	0.39	SW846 8260B		9/20/19 03:20	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		9/20/19 03:20	PDK	A
tert-Butyl Alcohol	5.2J	J	ug/L	10.0	2.2	SW846 8260B		9/20/19 03:20	PDK	A
n-Butylbenzene	ND	2	ug/L	2.0	0.60	SW846 8260B		9/20/19 03:20	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		9/20/19 03:20	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 03:20	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 03:20	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 03:20	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 03:20	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 03:20	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 03:20	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		9/20/19 03:20	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		9/20/19 03:20	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 03:20	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 03:20	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 03:20	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 03:20	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		9/20/19 03:20	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 03:20	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 03:20	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		9/20/19 03:20	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 03:20	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 03:20	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 03:20	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 03:20	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 03:20	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 03:20	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		9/20/19 03:20	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 03:20	PDK	A

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438014** Date Collected: 9/16/2019 10:15 Matrix: Water

Sample ID: **MRC-SW7A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 03:20	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 03:20	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 03:20	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 03:20	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 03:20	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 03:20	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/20/19 03:20	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 03:20	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 03:20	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 03:20	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 03:20	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		9/20/19 03:20	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		9/20/19 03:20	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 03:20	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 03:20	PDK	A
Methyl acetate	ND	3	ug/L	2.0	0.32	SW846 8260B		9/20/19 03:20	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 03:20	PDK	A
Methyl t-Butyl Ether	ND	1	ug/L	1.0	0.33	SW846 8260B		9/20/19 03:20	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		9/20/19 03:20	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 03:20	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/20/19 03:20	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 03:20	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 03:20	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 03:20	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 03:20	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 03:20	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 03:20	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/20/19 03:20	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/20/19 03:20	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		9/20/19 03:20	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 03:20	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 03:20	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 03:20	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 03:20	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		9/20/19 03:20	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 03:20	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		9/20/19 03:20	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 03:20	PDK	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438014** Date Collected: 9/16/2019 10:15 Matrix: Water

Sample ID: **MRC-SW7A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/20/19 03:20	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/20/19 03:20	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	114		%	62 - 133		SW846 8260B			9/20/19 03:20	PDK	A
4-Bromofluorobenzene (S)	104		%	79 - 114		SW846 8260B			9/20/19 03:20	PDK	A
Dibromofluoromethane (S)	105		%	78 - 116		SW846 8260B			9/20/19 03:20	PDK	A
Toluene-d8 (S)	96.8		%	76 - 127		SW846 8260B			9/20/19 03:20	PDK	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438015** Date Collected: 9/16/2019 10:30 Matrix: Water

Sample ID: **MRC-SW7B-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	3.9J	J	ug/L	10.0	3.1	SW846 8260B		9/20/19 03:44	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		9/20/19 03:44	PDK	A
Benzene	0.24J	J	ug/L	1.0	0.23	SW846 8260B		9/20/19 03:44	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 03:44	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 03:44	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 03:44	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		9/20/19 03:44	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		9/20/19 03:44	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		9/20/19 03:44	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		9/20/19 03:44	PDK	A
n-Butylbenzene	ND	2	ug/L	2.0	0.60	SW846 8260B		9/20/19 03:44	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		9/20/19 03:44	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 03:44	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 03:44	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 03:44	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 03:44	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 03:44	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 03:44	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		9/20/19 03:44	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		9/20/19 03:44	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 03:44	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 03:44	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 03:44	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 03:44	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		9/20/19 03:44	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 03:44	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 03:44	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		9/20/19 03:44	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 03:44	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 03:44	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 03:44	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 03:44	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 03:44	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 03:44	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		9/20/19 03:44	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 03:44	PDK	A

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438015** Date Collected: 9/16/2019 10:30 Matrix: Water

Sample ID: **MRC-SW7B-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 03:44	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 03:44	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 03:44	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 03:44	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 03:44	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 03:44	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/20/19 03:44	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 03:44	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 03:44	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 03:44	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 03:44	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		9/20/19 03:44	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		9/20/19 03:44	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 03:44	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 03:44	PDK	A
Methyl acetate	ND	3	ug/L	2.0	0.32	SW846 8260B		9/20/19 03:44	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 03:44	PDK	A
Methyl t-Butyl Ether	ND	1	ug/L	1.0	0.33	SW846 8260B		9/20/19 03:44	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		9/20/19 03:44	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 03:44	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/20/19 03:44	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 03:44	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 03:44	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 03:44	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 03:44	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 03:44	PDK	A
Toluene	0.43J	J	ug/L	1.0	0.23	SW846 8260B		9/20/19 03:44	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/20/19 03:44	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/20/19 03:44	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		9/20/19 03:44	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 03:44	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 03:44	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 03:44	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 03:44	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		9/20/19 03:44	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 03:44	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		9/20/19 03:44	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 03:44	PDK	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438015** Date Collected: 9/16/2019 10:30 Matrix: Water

Sample ID: **MRC-SW7B-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/20/19 03:44	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/20/19 03:44	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	113		%	62 - 133		SW846 8260B			9/20/19 03:44	PDK	A
4-Bromofluorobenzene (S)	112		%	79 - 114		SW846 8260B			9/20/19 03:44	PDK	A
Dibromofluoromethane (S)	102		%	78 - 116		SW846 8260B			9/20/19 03:44	PDK	A
Toluene-d8 (S)	94.4		%	76 - 127		SW846 8260B			9/20/19 03:44	PDK	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438016** Date Collected: 9/16/2019 15:00 Matrix: Water

Sample ID: **MRC-SW18A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	5.2J	J	ug/L	10.0	3.1	SW846 8260B		9/20/19 04:07	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		9/20/19 04:07	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 04:07	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 04:07	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 04:07	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 04:07	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		9/20/19 04:07	PDK	A
Bromomethane	0.44J	J	ug/L	1.0	0.39	SW846 8260B		9/20/19 04:07	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		9/20/19 04:07	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		9/20/19 04:07	PDK	A
n-Butylbenzene	ND	2	ug/L	2.0	0.60	SW846 8260B		9/20/19 04:07	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		9/20/19 04:07	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 04:07	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 04:07	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 04:07	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 04:07	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 04:07	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 04:07	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		9/20/19 04:07	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		9/20/19 04:07	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 04:07	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 04:07	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 04:07	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 04:07	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		9/20/19 04:07	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 04:07	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 04:07	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		9/20/19 04:07	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 04:07	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 04:07	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 04:07	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 04:07	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 04:07	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 04:07	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		9/20/19 04:07	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 04:07	PDK	A

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438016** Date Collected: 9/16/2019 15:00 Matrix: Water

Sample ID: **MRC-SW18A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 04:07	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 04:07	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 04:07	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 04:07	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 04:07	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 04:07	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/20/19 04:07	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 04:07	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 04:07	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 04:07	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 04:07	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		9/20/19 04:07	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		9/20/19 04:07	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 04:07	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 04:07	PDK	A
Methyl acetate	ND	3	ug/L	2.0	0.32	SW846 8260B		9/20/19 04:07	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 04:07	PDK	A
Methyl t-Butyl Ether	ND	1	ug/L	1.0	0.33	SW846 8260B		9/20/19 04:07	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		9/20/19 04:07	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 04:07	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/20/19 04:07	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 04:07	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 04:07	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 04:07	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 04:07	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 04:07	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 04:07	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/20/19 04:07	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/20/19 04:07	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		9/20/19 04:07	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 04:07	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 04:07	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 04:07	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 04:07	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		9/20/19 04:07	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 04:07	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		9/20/19 04:07	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 04:07	PDK	A

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438016** Date Collected: 9/16/2019 15:00 Matrix: Water

Sample ID: **MRC-SW18A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/20/19 04:07	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/20/19 04:07	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	112		%	62 - 133		SW846 8260B			9/20/19 04:07	PDK	A
4-Bromofluorobenzene (S)	107		%	79 - 114		SW846 8260B			9/20/19 04:07	PDK	A
Dibromofluoromethane (S)	104		%	78 - 116		SW846 8260B			9/20/19 04:07	PDK	A
Toluene-d8 (S)	97.1		%	76 - 127		SW846 8260B			9/20/19 04:07	PDK	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438017** Date Collected: 9/16/2019 14:05 Matrix: Water

Sample ID: **MRC-SW11A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	4.1J	J	ug/L	10.0	3.1	SW846 8260B		9/20/19 04:30	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		9/20/19 04:30	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 04:30	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 04:30	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 04:30	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 04:30	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		9/20/19 04:30	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		9/20/19 04:30	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		9/20/19 04:30	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		9/20/19 04:30	PDK	A
n-Butylbenzene	ND	2	ug/L	2.0	0.60	SW846 8260B		9/20/19 04:30	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		9/20/19 04:30	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 04:30	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 04:30	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 04:30	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 04:30	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 04:30	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 04:30	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		9/20/19 04:30	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		9/20/19 04:30	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 04:30	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 04:30	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 04:30	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 04:30	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		9/20/19 04:30	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 04:30	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 04:30	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		9/20/19 04:30	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 04:30	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 04:30	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 04:30	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 04:30	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 04:30	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 04:30	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		9/20/19 04:30	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 04:30	PDK	A

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438017** Date Collected: 9/16/2019 14:05 Matrix: Water

Sample ID: **MRC-SW11A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 04:30	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 04:30	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 04:30	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 04:30	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 04:30	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 04:30	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/20/19 04:30	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 04:30	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 04:30	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 04:30	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 04:30	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		9/20/19 04:30	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		9/20/19 04:30	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 04:30	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 04:30	PDK	A
Methyl acetate	ND	3	ug/L	2.0	0.32	SW846 8260B		9/20/19 04:30	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 04:30	PDK	A
Methyl t-Butyl Ether	ND	1	ug/L	1.0	0.33	SW846 8260B		9/20/19 04:30	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		9/20/19 04:30	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 04:30	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/20/19 04:30	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 04:30	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 04:30	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 04:30	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 04:30	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 04:30	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 04:30	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/20/19 04:30	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/20/19 04:30	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		9/20/19 04:30	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 04:30	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 04:30	PDK	A
Trichloroethene	1.3		ug/L	1.0	0.33	SW846 8260B		9/20/19 04:30	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 04:30	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		9/20/19 04:30	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 04:30	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		9/20/19 04:30	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 04:30	PDK	A

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438017** Date Collected: 9/16/2019 14:05 Matrix: Water

Sample ID: **MRC-SW11A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/20/19 04:30	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/20/19 04:30	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	113		%	62 - 133		SW846 8260B			9/20/19 04:30	PDK	A
4-Bromofluorobenzene (S)	106		%	79 - 114		SW846 8260B			9/20/19 04:30	PDK	A
Dibromofluoromethane (S)	102		%	78 - 116		SW846 8260B			9/20/19 04:30	PDK	A
Toluene-d8 (S)	96.6		%	76 - 127		SW846 8260B			9/20/19 04:30	PDK	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438018** Date Collected: 9/16/2019 14:15 Matrix: Water

Sample ID: **MRC-SW11B-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	6.4J	J	ug/L	10.0	3.1	SW846 8260B		9/20/19 04:53	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		9/20/19 04:53	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 04:53	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 04:53	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 04:53	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 04:53	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		9/20/19 04:53	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		9/20/19 04:53	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		9/20/19 04:53	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		9/20/19 04:53	PDK	A
n-Butylbenzene	ND	2	ug/L	2.0	0.60	SW846 8260B		9/20/19 04:53	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		9/20/19 04:53	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 04:53	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 04:53	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 04:53	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 04:53	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 04:53	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 04:53	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		9/20/19 04:53	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		9/20/19 04:53	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 04:53	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 04:53	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 04:53	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 04:53	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		9/20/19 04:53	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 04:53	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 04:53	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		9/20/19 04:53	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 04:53	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 04:53	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 04:53	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 04:53	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 04:53	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 04:53	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		9/20/19 04:53	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 04:53	PDK	A

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438018** Date Collected: 9/16/2019 14:15 Matrix: Water

Sample ID: **MRC-SW11B-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 04:53	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 04:53	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 04:53	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 04:53	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 04:53	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 04:53	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/20/19 04:53	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 04:53	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 04:53	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 04:53	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 04:53	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		9/20/19 04:53	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		9/20/19 04:53	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 04:53	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 04:53	PDK	A
Methyl acetate	ND	3	ug/L	2.0	0.32	SW846 8260B		9/20/19 04:53	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 04:53	PDK	A
Methyl t-Butyl Ether	ND	1	ug/L	1.0	0.33	SW846 8260B		9/20/19 04:53	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		9/20/19 04:53	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 04:53	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/20/19 04:53	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 04:53	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 04:53	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 04:53	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 04:53	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 04:53	PDK	A
Toluene	0.35J	J	ug/L	1.0	0.23	SW846 8260B		9/20/19 04:53	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/20/19 04:53	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/20/19 04:53	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		9/20/19 04:53	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 04:53	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 04:53	PDK	A
Trichloroethene	0.79J	J	ug/L	1.0	0.33	SW846 8260B		9/20/19 04:53	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 04:53	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		9/20/19 04:53	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 04:53	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		9/20/19 04:53	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 04:53	PDK	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438018** Date Collected: 9/16/2019 14:15 Matrix: Water
Sample ID: **MRC-SW11B-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/20/19 04:53	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/20/19 04:53	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	116		%	62 - 133		SW846 8260B			9/20/19 04:53	PDK	A
4-Bromofluorobenzene (S)	106		%	79 - 114		SW846 8260B			9/20/19 04:53	PDK	A
Dibromofluoromethane (S)	105		%	78 - 116		SW846 8260B			9/20/19 04:53	PDK	A
Toluene-d8 (S)	93.8		%	76 - 127		SW846 8260B			9/20/19 04:53	PDK	A

Vanessa N. Badman
Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438019** Date Collected: 9/16/2019 14:30 Matrix: Water

Sample ID: **MRC-SW12A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	4.7J	J	ug/L	10.0	3.1	SW846 8260B		9/20/19 05:16	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		9/20/19 05:16	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 05:16	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 05:16	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 05:16	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 05:16	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		9/20/19 05:16	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		9/20/19 05:16	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		9/20/19 05:16	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		9/20/19 05:16	PDK	A
n-Butylbenzene	ND	3	ug/L	2.0	0.60	SW846 8260B		9/20/19 05:16	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		9/20/19 05:16	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 05:16	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 05:16	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 05:16	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 05:16	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 05:16	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 05:16	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		9/20/19 05:16	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		9/20/19 05:16	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 05:16	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 05:16	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 05:16	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 05:16	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		9/20/19 05:16	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 05:16	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 05:16	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		9/20/19 05:16	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 05:16	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 05:16	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 05:16	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		9/20/19 05:16	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 05:16	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 05:16	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		9/20/19 05:16	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 05:16	PDK	A

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438019** Date Collected: 9/16/2019 14:30 Matrix: Water

Sample ID: **MRC-SW12A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 05:16	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/20/19 05:16	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 05:16	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 05:16	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/20/19 05:16	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/20/19 05:16	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/20/19 05:16	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 05:16	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		9/20/19 05:16	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 05:16	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		9/20/19 05:16	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		9/20/19 05:16	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		9/20/19 05:16	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 05:16	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/20/19 05:16	PDK	A
Methyl acetate	ND	1	ug/L	2.0	0.32	SW846 8260B		9/20/19 05:16	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 05:16	PDK	A
Methyl t-Butyl Ether	ND	2	ug/L	1.0	0.33	SW846 8260B		9/20/19 05:16	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		9/20/19 05:16	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		9/20/19 05:16	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/20/19 05:16	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 05:16	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 05:16	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 05:16	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/20/19 05:16	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/20/19 05:16	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		9/20/19 05:16	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/20/19 05:16	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/20/19 05:16	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		9/20/19 05:16	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		9/20/19 05:16	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/20/19 05:16	PDK	A
Trichloroethene	1.2		ug/L	1.0	0.33	SW846 8260B		9/20/19 05:16	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		9/20/19 05:16	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		9/20/19 05:16	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/20/19 05:16	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		9/20/19 05:16	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		9/20/19 05:16	PDK	A

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438019** Date Collected: 9/16/2019 14:30 Matrix: Water
Sample ID: **MRC-SW12A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/20/19 05:16	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/20/19 05:16	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	115		%	62 - 133		SW846 8260B			9/20/19 05:16	PDK	A
4-Bromofluorobenzene (S)	108		%	79 - 114		SW846 8260B			9/20/19 05:16	PDK	A
Dibromofluoromethane (S)	105		%	78 - 116		SW846 8260B			9/20/19 05:16	PDK	A
Toluene-d8 (S)	97.4		%	76 - 127		SW846 8260B			9/20/19 05:16	PDK	A

Vanessa N. Badman
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Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438020** Date Collected: 9/16/2019 14:50 Matrix: Water

Sample ID: **MRC-SW13A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	3.4J	J	ug/L	10.0	3.1	SW846 8260B		9/21/19 06:32	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		9/21/19 06:32	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		9/21/19 06:32	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 06:32	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 06:32	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		9/21/19 06:32	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		9/21/19 06:32	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		9/21/19 06:32	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		9/21/19 06:32	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		9/21/19 06:32	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		9/21/19 06:32	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		9/21/19 06:32	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		9/21/19 06:32	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		9/21/19 06:32	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		9/21/19 06:32	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		9/21/19 06:32	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		9/21/19 06:32	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 06:32	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		9/21/19 06:32	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		9/21/19 06:32	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		9/21/19 06:32	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		9/21/19 06:32	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 06:32	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		9/21/19 06:32	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		9/21/19 06:32	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		9/21/19 06:32	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		9/21/19 06:32	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		9/21/19 06:32	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/21/19 06:32	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		9/21/19 06:32	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 06:32	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		9/21/19 06:32	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 06:32	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		9/21/19 06:32	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		9/21/19 06:32	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 06:32	PDK	A

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438020** Date Collected: 9/16/2019 14:50 Matrix: Water

Sample ID: **MRC-SW13A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		9/21/19 06:32	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/21/19 06:32	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 06:32	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		9/21/19 06:32	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/21/19 06:32	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/21/19 06:32	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/21/19 06:32	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/21/19 06:32	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		9/21/19 06:32	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/21/19 06:32	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		9/21/19 06:32	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		9/21/19 06:32	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		9/21/19 06:32	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/21/19 06:32	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 06:32	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		9/21/19 06:32	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/21/19 06:32	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 06:32	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		9/21/19 06:32	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		9/21/19 06:32	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/21/19 06:32	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 06:32	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/21/19 06:32	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/21/19 06:32	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/21/19 06:32	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/21/19 06:32	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		9/21/19 06:32	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/21/19 06:32	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/21/19 06:32	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		9/21/19 06:32	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		9/21/19 06:32	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 06:32	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 06:32	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		9/21/19 06:32	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		9/21/19 06:32	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/21/19 06:32	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		9/21/19 06:32	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		9/21/19 06:32	PDK	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438020** Date Collected: 9/16/2019 14:50 Matrix: Water

Sample ID: **MRC-SW13A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/21/19 06:32	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/21/19 06:32	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	108		%	62 - 133		SW846 8260B			9/21/19 06:32	PDK	A
4-Bromofluorobenzene (S)	113		%	79 - 114		SW846 8260B			9/21/19 06:32	PDK	A
Dibromofluoromethane (S)	109		%	78 - 116		SW846 8260B			9/21/19 06:32	PDK	A
Toluene-d8 (S)	104		%	76 - 127		SW846 8260B			9/21/19 06:32	PDK	A

Vanessa N. Badman

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438021** Date Collected: 9/16/2019 13:50 Matrix: Water

Sample ID: **MRC-SW15A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	3.8J	J	ug/L	10.0	3.1	SW846 8260B		9/21/19 06:55	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		9/21/19 06:55	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		9/21/19 06:55	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 06:55	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 06:55	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		9/21/19 06:55	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		9/21/19 06:55	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		9/21/19 06:55	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		9/21/19 06:55	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		9/21/19 06:55	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		9/21/19 06:55	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		9/21/19 06:55	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		9/21/19 06:55	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		9/21/19 06:55	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		9/21/19 06:55	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		9/21/19 06:55	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		9/21/19 06:55	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 06:55	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		9/21/19 06:55	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		9/21/19 06:55	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		9/21/19 06:55	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		9/21/19 06:55	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 06:55	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		9/21/19 06:55	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		9/21/19 06:55	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		9/21/19 06:55	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		9/21/19 06:55	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		9/21/19 06:55	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/21/19 06:55	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		9/21/19 06:55	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 06:55	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		9/21/19 06:55	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 06:55	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		9/21/19 06:55	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		9/21/19 06:55	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 06:55	PDK	A

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438021** Date Collected: 9/16/2019 13:50 Matrix: Water

Sample ID: **MRC-SW15A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		9/21/19 06:55	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/21/19 06:55	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 06:55	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		9/21/19 06:55	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/21/19 06:55	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/21/19 06:55	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/21/19 06:55	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/21/19 06:55	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		9/21/19 06:55	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/21/19 06:55	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		9/21/19 06:55	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		9/21/19 06:55	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		9/21/19 06:55	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/21/19 06:55	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 06:55	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		9/21/19 06:55	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/21/19 06:55	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 06:55	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		9/21/19 06:55	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		9/21/19 06:55	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/21/19 06:55	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 06:55	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/21/19 06:55	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/21/19 06:55	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/21/19 06:55	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/21/19 06:55	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		9/21/19 06:55	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/21/19 06:55	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/21/19 06:55	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		9/21/19 06:55	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		9/21/19 06:55	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 06:55	PDK	A
Trichloroethene	1.8		ug/L	1.0	0.33	SW846 8260B		9/21/19 06:55	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		9/21/19 06:55	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		9/21/19 06:55	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/21/19 06:55	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		9/21/19 06:55	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		9/21/19 06:55	PDK	A

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438021** Date Collected: 9/16/2019 13:50 Matrix: Water

Sample ID: **MRC-SW15A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/21/19 06:55	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/21/19 06:55	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	109		%	62 - 133		SW846 8260B			9/21/19 06:55	PDK	A
4-Bromofluorobenzene (S)	111		%	79 - 114		SW846 8260B			9/21/19 06:55	PDK	A
Dibromofluoromethane (S)	109		%	78 - 116		SW846 8260B			9/21/19 06:55	PDK	A
Toluene-d8 (S)	105		%	76 - 127		SW846 8260B			9/21/19 06:55	PDK	A

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438022** Date Collected: 9/16/2019 13:35 Matrix: Water

Sample ID: **MRC-SW16A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	4.0J	J	ug/L	10.0	3.1	SW846 8260B		9/21/19 07:17	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		9/21/19 07:17	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		9/21/19 07:17	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 07:17	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 07:17	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		9/21/19 07:17	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		9/21/19 07:17	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		9/21/19 07:17	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		9/21/19 07:17	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		9/21/19 07:17	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		9/21/19 07:17	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		9/21/19 07:17	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		9/21/19 07:17	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		9/21/19 07:17	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		9/21/19 07:17	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		9/21/19 07:17	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		9/21/19 07:17	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 07:17	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		9/21/19 07:17	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		9/21/19 07:17	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		9/21/19 07:17	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		9/21/19 07:17	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 07:17	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		9/21/19 07:17	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		9/21/19 07:17	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		9/21/19 07:17	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		9/21/19 07:17	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		9/21/19 07:17	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/21/19 07:17	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		9/21/19 07:17	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 07:17	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		9/21/19 07:17	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 07:17	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		9/21/19 07:17	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		9/21/19 07:17	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 07:17	PDK	A

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438022** Date Collected: 9/16/2019 13:35 Matrix: Water

Sample ID: **MRC-SW16A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		9/21/19 07:17	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/21/19 07:17	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 07:17	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		9/21/19 07:17	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/21/19 07:17	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/21/19 07:17	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/21/19 07:17	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/21/19 07:17	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		9/21/19 07:17	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/21/19 07:17	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		9/21/19 07:17	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		9/21/19 07:17	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		9/21/19 07:17	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/21/19 07:17	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 07:17	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		9/21/19 07:17	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/21/19 07:17	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 07:17	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		9/21/19 07:17	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		9/21/19 07:17	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/21/19 07:17	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 07:17	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/21/19 07:17	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/21/19 07:17	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/21/19 07:17	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/21/19 07:17	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		9/21/19 07:17	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/21/19 07:17	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/21/19 07:17	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		9/21/19 07:17	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		9/21/19 07:17	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 07:17	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 07:17	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		9/21/19 07:17	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		9/21/19 07:17	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/21/19 07:17	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		9/21/19 07:17	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		9/21/19 07:17	PDK	A

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438022** Date Collected: 9/16/2019 13:35 Matrix: Water
Sample ID: **MRC-SW16A-S-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/21/19 07:17	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/21/19 07:17	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	108		%	62 - 133		SW846 8260B			9/21/19 07:17	PDK	A
4-Bromofluorobenzene (S)	112		%	79 - 114		SW846 8260B			9/21/19 07:17	PDK	A
Dibromofluoromethane (S)	108		%	78 - 116		SW846 8260B			9/21/19 07:17	PDK	A
Toluene-d8 (S)	104		%	76 - 127		SW846 8260B			9/21/19 07:17	PDK	A

Vanessa N. Badman
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Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438023** Date Collected: 9/17/2019 22:55 Matrix: Water

Sample ID: **TB-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Acetone	ND		ug/L	10.0	3.1	SW846 8260B		9/21/19 00:08	PDK	A
tert-Amyl methyl ether	ND		ug/L	1.0	0.20	SW846 8260B		9/21/19 00:08	PDK	A
Benzene	ND		ug/L	1.0	0.23	SW846 8260B		9/21/19 00:08	PDK	A
Bromobenzene	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 00:08	PDK	A
Bromochloromethane	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 00:08	PDK	A
Bromodichloromethane	ND		ug/L	1.0	0.27	SW846 8260B		9/21/19 00:08	PDK	A
Bromoform	ND		ug/L	1.0	0.40	SW846 8260B		9/21/19 00:08	PDK	A
Bromomethane	ND		ug/L	1.0	0.39	SW846 8260B		9/21/19 00:08	PDK	A
2-Butanone	ND		ug/L	10.0	1.8	SW846 8260B		9/21/19 00:08	PDK	A
tert-Butyl Alcohol	ND		ug/L	10.0	2.2	SW846 8260B		9/21/19 00:08	PDK	A
n-Butylbenzene	ND		ug/L	2.0	0.60	SW846 8260B		9/21/19 00:08	PDK	A
tert-Butylbenzene	ND		ug/L	2.0	0.44	SW846 8260B		9/21/19 00:08	PDK	A
sec-Butylbenzene	ND		ug/L	1.0	0.31	SW846 8260B		9/21/19 00:08	PDK	A
Carbon Disulfide	ND		ug/L	1.0	0.23	SW846 8260B		9/21/19 00:08	PDK	A
Carbon Tetrachloride	ND		ug/L	1.0	0.31	SW846 8260B		9/21/19 00:08	PDK	A
Chlorobenzene	ND		ug/L	1.0	0.19	SW846 8260B		9/21/19 00:08	PDK	A
Chlorodibromomethane	ND		ug/L	1.0	0.45	SW846 8260B		9/21/19 00:08	PDK	A
Chloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 00:08	PDK	A
2-Chloroethylvinyl ether	ND		ug/L	2.0	0.38	SW846 8260B		9/21/19 00:08	PDK	A
Chloroform	ND		ug/L	1.0	0.21	SW846 8260B		9/21/19 00:08	PDK	A
Chloromethane	ND		ug/L	1.0	0.31	SW846 8260B		9/21/19 00:08	PDK	A
o-Chlorotoluene	ND		ug/L	1.0	0.26	SW846 8260B		9/21/19 00:08	PDK	A
p-Chlorotoluene	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 00:08	PDK	A
Cyclohexane	ND		ug/L	1.0	0.29	SW846 8260B		9/21/19 00:08	PDK	A
1,2-Dibromo-3-chloropropane	ND		ug/L	7.0	1.5	SW846 8260B		9/21/19 00:08	PDK	A
1,2-Dibromoethane	ND		ug/L	1.0	0.28	SW846 8260B		9/21/19 00:08	PDK	A
Dibromomethane	ND		ug/L	1.0	0.31	SW846 8260B		9/21/19 00:08	PDK	A
1,2-Dichlorobenzene	ND		ug/L	1.0	0.38	SW846 8260B		9/21/19 00:08	PDK	A
1,3-Dichlorobenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/21/19 00:08	PDK	A
1,4-Dichlorobenzene	ND		ug/L	1.0	0.27	SW846 8260B		9/21/19 00:08	PDK	A
Dichlorodifluoromethane	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 00:08	PDK	A
1,1-Dichloroethane	ND		ug/L	1.0	0.28	SW846 8260B		9/21/19 00:08	PDK	A
1,2-Dichloroethane	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 00:08	PDK	A
1,1-Dichloroethene	ND		ug/L	1.0	0.29	SW846 8260B		9/21/19 00:08	PDK	A
1,2-Dichloroethene, Total	ND		ug/L	2.0	0.45	SW846 8260B		9/21/19 00:08	PDK	A
cis-1,2-Dichloroethene	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 00:08	PDK	A

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438023** Date Collected: 9/17/2019 22:55 Matrix: Water

Sample ID: **TB-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
trans-1,2-Dichloroethene	ND		ug/L	1.0	0.26	SW846 8260B		9/21/19 00:08	PDK	A
1,3-Dichloropropane	ND		ug/L	1.0	0.27	SW846 8260B		9/21/19 00:08	PDK	A
2,2-Dichloropropane	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 00:08	PDK	A
1,2-Dichloropropane	ND		ug/L	1.0	0.24	SW846 8260B		9/21/19 00:08	PDK	A
cis-1,3-Dichloropropene	ND		ug/L	1.0	0.31	SW846 8260B		9/21/19 00:08	PDK	A
trans-1,3-Dichloropropene	ND		ug/L	1.0	0.29	SW846 8260B		9/21/19 00:08	PDK	A
1,3-Dichloropropene, Total	ND		ug/L	2.0	0.47	SW846 8260B		9/21/19 00:08	PDK	A
Diisopropyl ether	ND		ug/L	1.0	0.25	SW846 8260B		9/21/19 00:08	PDK	A
Ethyl tert-butyl ether	ND		ug/L	1.0	0.19	SW846 8260B		9/21/19 00:08	PDK	A
Ethylbenzene	ND		ug/L	1.0	0.34	SW846 8260B		9/21/19 00:08	PDK	A
Freon 113	ND		ug/L	1.0	0.26	SW846 8260B		9/21/19 00:08	PDK	A
Hexachlorobutadiene	ND		ug/L	5.0	1.0	SW846 8260B		9/21/19 00:08	PDK	A
2-Hexanone	ND		ug/L	5.0	1.3	SW846 8260B		9/21/19 00:08	PDK	A
Isopropylbenzene	ND		ug/L	1.0	0.22	SW846 8260B		9/21/19 00:08	PDK	A
p-Isopropyltoluene	ND		ug/L	1.0	0.32	SW846 8260B		9/21/19 00:08	PDK	A
Methyl acetate	ND		ug/L	2.0	0.32	SW846 8260B		9/21/19 00:08	PDK	A
Methyl cyclohexane	ND		ug/L	1.0	0.30	SW846 8260B		9/21/19 00:08	PDK	A
Methyl t-Butyl Ether	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 00:08	PDK	A
4-Methyl-2-Pentanone(MIBK)	ND		ug/L	5.0	1.5	SW846 8260B		9/21/19 00:08	PDK	A
Methylene Chloride	ND		ug/L	1.0	0.45	SW846 8260B		9/21/19 00:08	PDK	A
Naphthalene	ND		ug/L	2.0	0.34	SW846 8260B		9/21/19 00:08	PDK	A
n-Propylbenzene	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 00:08	PDK	A
Styrene	ND		ug/L	1.0	0.24	SW846 8260B		9/21/19 00:08	PDK	A
1,1,1,2-Tetrachloroethane	ND		ug/L	1.0	0.35	SW846 8260B		9/21/19 00:08	PDK	A
1,1,2,2-Tetrachloroethane	ND		ug/L	1.0	0.34	SW846 8260B		9/21/19 00:08	PDK	A
Tetrachloroethene	ND		ug/L	1.0	0.35	SW846 8260B		9/21/19 00:08	PDK	A
Toluene	ND		ug/L	1.0	0.23	SW846 8260B		9/21/19 00:08	PDK	A
Total Xylenes	ND		ug/L	3.0	0.66	SW846 8260B		9/21/19 00:08	PDK	A
1,2,3-Trichlorobenzene	ND		ug/L	2.0	0.93	SW846 8260B		9/21/19 00:08	PDK	A
1,2,4-Trichlorobenzene	ND		ug/L	2.0	0.82	SW846 8260B		9/21/19 00:08	PDK	A
1,1,1-Trichloroethane	ND		ug/L	1.0	0.22	SW846 8260B		9/21/19 00:08	PDK	A
1,1,2-Trichloroethane	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 00:08	PDK	A
Trichloroethene	ND		ug/L	1.0	0.33	SW846 8260B		9/21/19 00:08	PDK	A
Trichlorofluoromethane	ND		ug/L	1.0	0.24	SW846 8260B		9/21/19 00:08	PDK	A
1,2,3-Trichloropropane	ND		ug/L	2.0	0.60	SW846 8260B		9/21/19 00:08	PDK	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	0.25	SW846 8260B		9/21/19 00:08	PDK	A
Vinyl Acetate	ND		ug/L	5.0	1.6	SW846 8260B		9/21/19 00:08	PDK	A
Vinyl Chloride	ND		ug/L	1.0	0.30	SW846 8260B		9/21/19 00:08	PDK	A

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ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

Lab ID: **3058438023** Date Collected: 9/17/2019 22:55 Matrix: Water

Sample ID: **TB-091619** Date Received: 9/17/2019 22:55

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
o-Xylene	ND		ug/L	1.0	0.33	SW846 8260B			9/21/19 00:08	PDK	A
mp-Xylene	ND		ug/L	2.0	0.52	SW846 8260B			9/21/19 00:08	PDK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	106		%	62 - 133		SW846 8260B			9/21/19 00:08	PDK	A
4-Bromofluorobenzene (S)	112		%	79 - 114		SW846 8260B			9/21/19 00:08	PDK	A
Dibromofluoromethane (S)	106		%	78 - 116		SW846 8260B			9/21/19 00:08	PDK	A
Toluene-d8 (S)	105		%	76 - 127		SW846 8260B			9/21/19 00:08	PDK	A

Vanessa N. Badman

Mrs. Vanessa N Badman
Project Coordinator

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3058438001	1	MRC-SW1A-091619	SW846 8260B	Methyl t-Butyl Ether
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 117 and the control limits were 69 to 115.				
3058438001	2	MRC-SW1A-091619	SW846 8260B	n-Butylbenzene
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte n-Butylbenzene. The % Recovery was reported as 69.3 and the control limits were 71 to 130.				
3058438001	3	MRC-SW1A-091619	SW846 8260B	Methyl acetate
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl acetate. The % Recovery was reported as 131 and the control limits were 70 to 130.				
3058438002	1	MRC-SW2A-091619	SW846 8260B	Methyl t-Butyl Ether
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 117 and the control limits were 69 to 115.				
3058438002	2	MRC-SW2A-091619	SW846 8260B	n-Butylbenzene
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte n-Butylbenzene. The % Recovery was reported as 69.3 and the control limits were 71 to 130.				
3058438002	3	MRC-SW2A-091619	SW846 8260B	Methyl acetate
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl acetate. The % Recovery was reported as 131 and the control limits were 70 to 130.				
3058438003	1	MRC-SW17A-091619	SW846 8260B	Methyl t-Butyl Ether
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 117 and the control limits were 69 to 115.				
3058438003	2	MRC-SW17A-091619	SW846 8260B	n-Butylbenzene
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte n-Butylbenzene. The % Recovery was reported as 69.3 and the control limits were 71 to 130.				
3058438003	3	MRC-SW17A-091619	SW846 8260B	Methyl acetate
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl acetate. The % Recovery was reported as 131 and the control limits were 70 to 130.				
3058438005	1	MRC-SW6bS-091619	SW846 8260B	Methyl t-Butyl Ether
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 117 and the control limits were 69 to 115.				
3058438005	2	MRC-SW6bS-091619	SW846 8260B	n-Butylbenzene
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte n-Butylbenzene. The % Recovery was reported as 69.3 and the control limits were 71 to 130.				
3058438005	3	MRC-SW6bS-091619	SW846 8260B	Methyl acetate
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl acetate. The % Recovery was reported as 131 and the control limits were 70 to 130.				
3058438006	1	MRC-SW8BS-091619	SW846 8260B	Methyl t-Butyl Ether
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 117 and the control limits were 69 to 115.				
3058438006	2	MRC-SW8BS-091619	SW846 8260B	n-Butylbenzene
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte n-Butylbenzene. The % Recovery was reported as 69.3 and the control limits were 71 to 130.				

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

3058438006	3	MRC-SW8BS-091619	SW846 8260B	Methyl acetate

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl acetate. The % Recovery was reported as 131 and the control limits were 70 to 130.

3058438007	1	MRC-SW8A-S-091619	SW846 8260B	Dichlorodifluoromethane

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Dichlorodifluoromethane. The % Recovery was reported as 173 and the control limits were 17 to 166.

3058438007	2	MRC-SW8A-S-091619	SW846 8260B	Dichlorodifluoromethane

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Dichlorodifluoromethane. The % Recovery was reported as 167 and the control limits were 17 to 166.

3058438007	3	MRC-SW8A-S-091619	SW846 8260B	Chloromethane

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Chloromethane. The % Recovery was reported as 187 and the control limits were 38 to 156.

3058438007	4	MRC-SW8A-S-091619	SW846 8260B	Vinyl Chloride

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Vinyl Chloride. The % Recovery was reported as 160 and the control limits were 27 to 138.

3058438007	5	MRC-SW8A-S-091619	SW846 8260B	Vinyl Chloride

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Vinyl Chloride. The % Recovery was reported as 152 and the control limits were 27 to 138.

3058438007	6	MRC-SW8A-S-091619	SW846 8260B	Chloroethane

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Chloroethane. The % Recovery was reported as 153 and the control limits were 51 to 142.

3058438007	7	MRC-SW8A-S-091619	SW846 8260B	Chloroethane

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Chloroethane. The % Recovery was reported as 143 and the control limits were 51 to 142.

3058438007	8	MRC-SW8A-S-091619	SW846 8260B	Trichlorofluoromethane

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Trichlorofluoromethane. The % Recovery was reported as 160 and the control limits were 38 to 123.

3058438007	9	MRC-SW8A-S-091619	SW846 8260B	Trichlorofluoromethane

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Trichlorofluoromethane. The % Recovery was reported as 156 and the control limits were 38 to 123.

3058438007	10	MRC-SW8A-S-091619	SW846 8260B	1,1-Dichloroethene

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte 1,1-Dichloroethene. The % Recovery was reported as 142 and the control limits were 63 to 128.

3058438007	11	MRC-SW8A-S-091619	SW846 8260B	Methylene Chloride

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 130 and the control limits were 76 to 121.

3058438007	12	MRC-SW8A-S-091619	SW846 8260B	Freon 113

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Freon 113. The % Recovery was reported as 138 and the control limits were 50 to 130.

3058438007	13	MRC-SW8A-S-091619	SW846 8260B	Carbon Disulfide

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Carbon Disulfide. The % Recovery was reported as 132 and the control limits were 57 to 131.

3058438007	14	MRC-SW8A-S-091619	SW846 8260B	trans-1,2-Dichloroethene

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte trans-1,2-Dichloroethene. The % Recovery was reported as 147 and the control limits were 71 to 122.

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

3058438007	15	MRC-SW8A-S-091619	SW846 8260B	Methyl t-Butyl Ether

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 131 and the control limits were 69 to 115.

3058438007	16	MRC-SW8A-S-091619	SW846 8260B	Methyl t-Butyl Ether

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 124 and the control limits were 69 to 115.

3058438007	17	MRC-SW8A-S-091619	SW846 8260B	Methyl t-Butyl Ether

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 117 and the control limits were 69 to 115.

3058438007	18	MRC-SW8A-S-091619	SW846 8260B	1,1-Dichloroethane

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte 1,1-Dichloroethane. The % Recovery was reported as 134 and the control limits were 78 to 124.

3058438007	19	MRC-SW8A-S-091619	SW846 8260B	cis-1,2-Dichloroethene

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte cis-1,2-Dichloroethene. The % Recovery was reported as 127 and the control limits were 78 to 125.

3058438007	20	MRC-SW8A-S-091619	SW846 8260B	Bromochloromethane

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Bromochloromethane. The % Recovery was reported as 129 and the control limits were 73 to 117.

3058438007	21	MRC-SW8A-S-091619	SW846 8260B	Bromochloromethane

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Bromochloromethane. The % Recovery was reported as 121 and the control limits were 73 to 117.

3058438007	22	MRC-SW8A-S-091619	SW846 8260B	Chloroform

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Chloroform. The % Recovery was reported as 130 and the control limits were 78 to 122.

3058438007	23	MRC-SW8A-S-091619	SW846 8260B	2,2-Dichloropropane

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte 2,2-Dichloropropane. The % Recovery was reported as 131 and the control limits were 64 to 129.

3058438007	24	MRC-SW8A-S-091619	SW846 8260B	1,1,1-Trichloroethane

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte 1,1,1-Trichloroethane. The % Recovery was reported as 145 and the control limits were 66 to 130.

3058438007	25	MRC-SW8A-S-091619	SW846 8260B	Cyclohexane

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Cyclohexane. The % Recovery was reported as 141 and the control limits were 66 to 130.

3058438007	26	MRC-SW8A-S-091619	SW846 8260B	Carbon Tetrachloride

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Carbon Tetrachloride. The % Recovery was reported as 138 and the control limits were 62 to 132.

3058438007	27	MRC-SW8A-S-091619	SW846 8260B	Carbon Tetrachloride

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Carbon Tetrachloride. The RPD was reported as 31.9 and the upper control limit is 17.

3058438007	28	MRC-SW8A-S-091619	SW846 8260B	Benzene

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Benzene. The % Recovery was reported as 133 and the control limits were 80 to 124.

3058438007	29	MRC-SW8A-S-091619	SW846 8260B	Dibromomethane

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Dibromomethane. The % Recovery was reported as 128 and the control limits were 81 to 125.

ANALYTICAL RESULTS

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3058438007	30	MRC-SW8A-S-091619	SW846 8260B	1,2-Dichloropropane

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte 1,2-Dichloropropane. The % Recovery was reported as 130 and the control limits were 81 to 127.

3058438007	31	MRC-SW8A-S-091619	SW846 8260B	Trichloroethene

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Trichloroethene. The % Recovery was reported as 132 and the control limits were 77 to 124.

3058438007	32	MRC-SW8A-S-091619	SW846 8260B	Bromodichloromethane

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Bromodichloromethane. The % Recovery was reported as 128 and the control limits were 79 to 126.

3058438007	33	MRC-SW8A-S-091619	SW846 8260B	2-Chloroethylvinyl ether

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte 2-Chloroethylvinyl ether. The % Recovery was reported as 0 and the control limits were 1 to 150.

3058438007	34	MRC-SW8A-S-091619	SW846 8260B	2-Chloroethylvinyl ether

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte 2-Chloroethylvinyl ether. The % Recovery was reported as 0 and the control limits were 1 to 150.

3058438007	35	MRC-SW8A-S-091619	SW846 8260B	4-Methyl-2-Pentanone(MIBK)

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte 4-Methyl-2-Pentanone(MIBK). The RPD was reported as 18.5 and the upper control limit is 16.

3058438007	36	MRC-SW8A-S-091619	SW846 8260B	2-Hexanone

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte 2-Hexanone. The RPD was reported as 19.5 and the upper control limit is 17.

3058438007	37	MRC-SW8A-S-091619	SW846 8260B	Chlorobenzene

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Chlorobenzene. The RPD was reported as 17.3 and the upper control limit is 15.

3058438007	38	MRC-SW8A-S-091619	SW846 8260B	Bromobenzene

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Bromobenzene. The % Recovery was reported as 123 and the control limits were 81 to 119.

3058438007	39	MRC-SW8A-S-091619	SW846 8260B	1,2-Dichlorobenzene

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte 1,2-Dichlorobenzene. The RPD was reported as 15.8 and the upper control limit is 15.

3058438007	40	MRC-SW8A-S-091619	SW846 8260B	n-Butylbenzene

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte n-Butylbenzene. The % Recovery was reported as 69.3 and the control limits were 71 to 130.

3058438007	41	MRC-SW8A-S-091619	SW846 8260B	1,2,4-Trichlorobenzene

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte 1,2,4-Trichlorobenzene. The % Recovery was reported as 61 and the control limits were 67 to 123.

3058438007	42	MRC-SW8A-S-091619	SW846 8260B	1,2,4-Trichlorobenzene

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte 1,2,4-Trichlorobenzene. The RPD was reported as 40.7 and the upper control limit is 22.

3058438007	43	MRC-SW8A-S-091619	SW846 8260B	Hexachlorobutadiene

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Hexachlorobutadiene. The % Recovery was reported as 48.5 and the control limits were 55 to 128.

3058438007	44	MRC-SW8A-S-091619	SW846 8260B	Hexachlorobutadiene

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Hexachlorobutadiene. The RPD was reported as 51.7 and the upper control limit is 35.

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

3058438007	45	MRC-SW8A-S-091619	SW846 8260B	Ethyl tert-butyl ether

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Ethyl tert-butyl ether. The % Recovery was reported as 130 and the control limits were 75 to 123.

3058438007	46	MRC-SW8A-S-091619	SW846 8260B	tert-Amyl methyl ether

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte tert-Amyl methyl ether. The % Recovery was reported as 129 and the control limits were 75 to 121.

3058438007	47	MRC-SW8A-S-091619	SW846 8260B	Methyl acetate

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl acetate. The % Recovery was reported as 131 and the control limits were 70 to 130.

3058438007	48	MRC-SW8A-S-091619	SW846 8260B	1,2-Dichloroethene, Total

The QC sample type MS for method SW846 8260B was outside the control limits for the analyte 1,2-Dichloroethene, Total. The % Recovery was reported as 137 and the control limits were 78 to 125.

3058438008	1	MRC-SW8A-S-DUP-091619	SW846 8260B	trans-1,2-Dichloroethene

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte trans-1,2-Dichloroethene. The % Recovery was reported as 123 and the control limits were 71 to 122.

3058438009	1	MRC-SW9A-S-091619	SW846 8260B	Methyl t-Butyl Ether

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 117 and the control limits were 69 to 115.

3058438009	2	MRC-SW9A-S-091619	SW846 8260B	n-Butylbenzene

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte n-Butylbenzene. The % Recovery was reported as 69.3 and the control limits were 71 to 130.

3058438009	3	MRC-SW9A-S-091619	SW846 8260B	Methyl acetate

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl acetate. The % Recovery was reported as 131 and the control limits were 70 to 130.

3058438010	1	MRC-SW9B-S-091619	SW846 8260B	Methyl t-Butyl Ether

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 117 and the control limits were 69 to 115.

3058438010	2	MRC-SW9B-S-091619	SW846 8260B	n-Butylbenzene

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte n-Butylbenzene. The % Recovery was reported as 69.3 and the control limits were 71 to 130.

3058438010	3	MRC-SW9B-S-091619	SW846 8260B	Methyl acetate

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl acetate. The % Recovery was reported as 131 and the control limits were 70 to 130.

3058438011	1	MRC-SW5A1-S-091619	SW846 8260B	Methyl t-Butyl Ether

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 117 and the control limits were 69 to 115.

3058438011	2	MRC-SW5A1-S-091619	SW846 8260B	n-Butylbenzene

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte n-Butylbenzene. The % Recovery was reported as 69.3 and the control limits were 71 to 130.

3058438011	3	MRC-SW5A1-S-091619	SW846 8260B	Methyl acetate

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl acetate. The % Recovery was reported as 131 and the control limits were 70 to 130.

3058438012	1	MRC-SW5A2-S-091619	SW846 8260B	Methyl t-Butyl Ether

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 117 and the control limits were 69 to 115.

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

3058438012	2	MRC-SW5A2-S-091619	SW846 8260B	n-Butylbenzene

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte n-Butylbenzene. The % Recovery was reported as 69.3 and the control limits were 71 to 130.

3058438012	3	MRC-SW5A2-S-091619	SW846 8260B	Methyl acetate

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl acetate. The % Recovery was reported as 131 and the control limits were 70 to 130.

3058438013	1	MRC-SW5B-S-091619	SW846 8260B	Methyl t-Butyl Ether

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 117 and the control limits were 69 to 115.

3058438013	2	MRC-SW5B-S-091619	SW846 8260B	n-Butylbenzene

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte n-Butylbenzene. The % Recovery was reported as 69.3 and the control limits were 71 to 130.

3058438013	3	MRC-SW5B-S-091619	SW846 8260B	Methyl acetate

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl acetate. The % Recovery was reported as 131 and the control limits were 70 to 130.

3058438014	1	MRC-SW7A-S-091619	SW846 8260B	Methyl t-Butyl Ether

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 117 and the control limits were 69 to 115.

3058438014	2	MRC-SW7A-S-091619	SW846 8260B	n-Butylbenzene

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte n-Butylbenzene. The % Recovery was reported as 69.3 and the control limits were 71 to 130.

3058438014	3	MRC-SW7A-S-091619	SW846 8260B	Methyl acetate

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl acetate. The % Recovery was reported as 131 and the control limits were 70 to 130.

3058438015	1	MRC-SW7B-S-091619	SW846 8260B	Methyl t-Butyl Ether

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 117 and the control limits were 69 to 115.

3058438015	2	MRC-SW7B-S-091619	SW846 8260B	n-Butylbenzene

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte n-Butylbenzene. The % Recovery was reported as 69.3 and the control limits were 71 to 130.

3058438015	3	MRC-SW7B-S-091619	SW846 8260B	Methyl acetate

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl acetate. The % Recovery was reported as 131 and the control limits were 70 to 130.

3058438016	1	MRC-SW18A-S-091619	SW846 8260B	Methyl t-Butyl Ether

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 117 and the control limits were 69 to 115.

3058438016	2	MRC-SW18A-S-091619	SW846 8260B	n-Butylbenzene

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte n-Butylbenzene. The % Recovery was reported as 69.3 and the control limits were 71 to 130.

3058438016	3	MRC-SW18A-S-091619	SW846 8260B	Methyl acetate

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl acetate. The % Recovery was reported as 131 and the control limits were 70 to 130.

3058438017	1	MRC-SW11A-S-091619	SW846 8260B	Methyl t-Butyl Ether

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 117 and the control limits were 69 to 115.

ANALYTICAL RESULTS

Workorder: 3058438 LM MRC Sept SWs

3058438017	2	MRC-SW11A-S-091619	SW846 8260B	n-Butylbenzene

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte n-Butylbenzene. The % Recovery was reported as 69.3 and the control limits were 71 to 130.

3058438017	3	MRC-SW11A-S-091619	SW846 8260B	Methyl acetate

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl acetate. The % Recovery was reported as 131 and the control limits were 70 to 130.

3058438018	1	MRC-SW11B-S-091619	SW846 8260B	Methyl t-Butyl Ether

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 117 and the control limits were 69 to 115.

3058438018	2	MRC-SW11B-S-091619	SW846 8260B	n-Butylbenzene

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte n-Butylbenzene. The % Recovery was reported as 69.3 and the control limits were 71 to 130.

3058438018	3	MRC-SW11B-S-091619	SW846 8260B	Methyl acetate

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl acetate. The % Recovery was reported as 131 and the control limits were 70 to 130.

3058438019	1	MRC-SW12A-S-091619	SW846 8260B	Methyl acetate

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl acetate. The % Recovery was reported as 131 and the control limits were 70 to 130.

3058438019	2	MRC-SW12A-S-091619	SW846 8260B	Methyl t-Butyl Ether

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 117 and the control limits were 69 to 115.

3058438019	3	MRC-SW12A-S-091619	SW846 8260B	n-Butylbenzene

The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte n-Butylbenzene. The % Recovery was reported as 69.3 and the control limits were 71 to 130.

ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3058438 LM MRC Sept SWs

Lab ID	Sample ID	Analysis Method	Prep Method
3058438001	MRC-SW1A-091619	8270 SIM	SW846 3510C
3058438001	MRC-SW1A-091619	SW846 8260B	
3058438002	MRC-SW2A-091619	8270 SIM	SW846 3510C
3058438002	MRC-SW2A-091619	SW846 8260B	
3058438003	MRC-SW17A-091619	8270 SIM	SW846 3510C
3058438003	MRC-SW17A-091619	SW846 8260B	
3058438004	MRC-SW6AS-091619	8270 SIM	SW846 3510C
3058438004	MRC-SW6AS-091619	SW846 8260B	
3058438005	MRC-SW6bS-091619	8270 SIM	SW846 3510C
3058438005	MRC-SW6bS-091619	SW846 8260B	
3058438006	MRC-SW8BS-091619	8270 SIM	SW846 3510C
3058438006	MRC-SW8BS-091619	SW846 8260B	
3058438007	MRC-SW8A-S-091619	8270 SIM	SW846 3510C
3058438007	MRC-SW8A-S-091619	SW846 8260B	
3058438008	MRC-SW8A-S-DUP-091619	8270 SIM	SW846 3510C
3058438008	MRC-SW8A-S-DUP-091619	SW846 8260B	
3058438009	MRC-SW9A-S-091619	SW846 8260B	
3058438010	MRC-SW9B-S-091619	SW846 8260B	
3058438011	MRC-SW5A1-S-091619	SW846 8260B	
3058438012	MRC-SW5A2-S-091619	SW846 8260B	
3058438013	MRC-SW5B-S-091619	SW846 8260B	
3058438014	MRC-SW7A-S-091619	SW846 8260B	
3058438015	MRC-SW7B-S-091619	SW846 8260B	
3058438016	MRC-SW18A-S-091619	SW846 8260B	
3058438017	MRC-SW11A-S-091619	SW846 8260B	
3058438018	MRC-SW11B-S-091619	SW846 8260B	
3058438019	MRC-SW12A-S-091619	SW846 8260B	
3058438020	MRC-SW13A-S-091619	SW846 8260B	
3058438021	MRC-SW15A-S-091619	SW846 8260B	
3058438022	MRC-SW16A-S-091619	SW846 8260B	
3058438023	TB-091619	SW846 8260B	

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

QC Batch: EXTR/57824 **Analysis Method:** 8270 SIM

QC Batch Method: SW846 3510C

Associated Lab Samples: 3058438001, 3058438002, 3058438003, 3058438004, 3058438005, 3058438006, 3058438007, 3058438008

METHOD BLANK: 3014152

Parameter	Blank Result	Units	Reporting Limit
1,4-Dioxane	ND	ug/L	0.10
2-Methylnapthalene-d10 (S)	81.6	%	29 - 112
Fluoranthene-d10 (S)	96	%	45 - 130

LABORATORY CONTROL SAMPLE: 3014153

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
1,4-Dioxane	59	ug/L	1	0.59	22 - 75
2-Methylnapthalene-d10 (S)	73.5	%			29 - 112
Fluoranthene-d10 (S)	88.7	%			45 - 130

MATRIX SPIKE: 3014154 DUPLICATE: 3014155 ORIGINAL: 3058438007

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
1,4-Dioxane	0	ug/L	.95	.45432	.52084	47.9	54.2	22 - 75	13.6	30
2-Methylnapthalene-d10 (S)	72.6	%				72.6	79.3	29 - 112		
Fluoranthene-d10 (S)	89.3	%				89.3	91.5	45 - 130		

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

QC Batch: VOMS/52367 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 8260B

Associated Lab Samples: 3058438008

METHOD BLANK: 3014198

Parameter	Blank Result	Units	Reporting Limit
Acetone	ND	ug/L	10.0
tert-Amyl methyl ether	ND	ug/L	1.0
Benzene	ND	ug/L	1.0
Bromobenzene	ND	ug/L	1.0
Bromochloromethane	ND	ug/L	1.0
Bromodichloromethane	ND	ug/L	1.0
Bromoform	ND	ug/L	1.0
Bromomethane	ND	ug/L	1.0
2-Butanone	ND	ug/L	10.0
tert-Butyl Alcohol	ND	ug/L	10.0
n-Butylbenzene	ND	ug/L	2.0
tert-Butylbenzene	ND	ug/L	2.0
sec-Butylbenzene	ND	ug/L	1.0
Carbon Disulfide	ND	ug/L	1.0
Carbon Tetrachloride	ND	ug/L	1.0
Chlorobenzene	ND	ug/L	1.0
Chlorodibromomethane	ND	ug/L	1.0
Chloroethane	ND	ug/L	1.0
2-Chloroethylvinyl ether	ND	ug/L	2.0
Chloroform	ND	ug/L	1.0
Chloromethane	ND	ug/L	1.0
o-Chlorotoluene	ND	ug/L	1.0
p-Chlorotoluene	ND	ug/L	1.0
Cyclohexane	ND	ug/L	1.0
1,2-Dibromo-3-chloropropane	ND	ug/L	7.0
1,2-Dibromoethane	ND	ug/L	1.0
Dibromomethane	ND	ug/L	1.0
1,2-Dichlorobenzene	ND	ug/L	1.0
1,3-Dichlorobenzene	ND	ug/L	1.0
1,4-Dichlorobenzene	ND	ug/L	1.0
Dichlorodifluoromethane	ND	ug/L	1.0
1,1-Dichloroethane	ND	ug/L	1.0
1,2-Dichloroethane	ND	ug/L	1.0
1,1-Dichloroethene	ND	ug/L	1.0
1,2-Dichloroethene, Total	ND	ug/L	2.0
cis-1,2-Dichloroethene	ND	ug/L	1.0
trans-1,2-Dichloroethene	ND	ug/L	1.0

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

1,3-Dichloropropane	ND	ug/L	1.0
2,2-Dichloropropane	ND	ug/L	1.0
1,2-Dichloropropane	ND	ug/L	1.0
cis-1,3-Dichloropropene	ND	ug/L	1.0
trans-1,3-Dichloropropene	ND	ug/L	1.0
1,3-Dichloropropene, Total	ND	ug/L	2.0
Diisopropyl ether	ND	ug/L	1.0
Ethyl tert-butyl ether	ND	ug/L	1.0
Ethylbenzene	ND	ug/L	1.0
Freon 113	ND	ug/L	1.0
Hexachlorobutadiene	ND	ug/L	5.0
2-Hexanone	ND	ug/L	5.0
Isopropylbenzene	ND	ug/L	1.0
p-Isopropyltoluene	ND	ug/L	1.0
Methyl acetate	ND	ug/L	2.0
Methyl cyclohexane	ND	ug/L	1.0
Methyl t-Butyl Ether	ND	ug/L	1.0
4-Methyl-2-Pentanone(MIBK)	ND	ug/L	5.0
Methylene Chloride	ND	ug/L	1.0
Naphthalene	ND	ug/L	2.0
n-Propylbenzene	ND	ug/L	1.0
Styrene	ND	ug/L	1.0
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0
Tetrachloroethene	ND	ug/L	1.0
Toluene	ND	ug/L	1.0
Total Xylenes	ND	ug/L	3.0
1,2,3-Trichlorobenzene	ND	ug/L	2.0
1,2,4-Trichlorobenzene	ND	ug/L	2.0
1,1,1-Trichloroethane	ND	ug/L	1.0
1,1,2-Trichloroethane	ND	ug/L	1.0
Trichloroethene	ND	ug/L	1.0
Trichlorofluoromethane	ND	ug/L	1.0
1,2,3-Trichloropropane	ND	ug/L	2.0
1,2,4-Trimethylbenzene	ND	ug/L	1.0
Vinyl Acetate	ND	ug/L	5.0
Vinyl Chloride	ND	ug/L	1.0
o-Xylene	ND	ug/L	1.0
mp-Xylene	ND	ug/L	2.0
1,2-Dichloroethane-d4 (S)	109	%	62 - 133
4-Bromofluorobenzene (S)	111	%	79 - 114
Dibromofluoromethane (S)	109	%	78 - 116
Toluene-d8 (S)	104	%	76 - 127

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

LABORATORY CONTROL SAMPLE: 3014199

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acetone	105	ug/L	100	105	40 - 151
tert-Amyl methyl ether	117	ug/L	20	23.3	75 - 121
Benzene	111	ug/L	20	22.1	80 - 124
Bromobenzene	106	ug/L	20	21.1	81 - 119
Bromochloromethane	109	ug/L	20	21.8	73 - 117
Bromodichloromethane	109	ug/L	20	21.8	79 - 126
Bromoform	92	ug/L	20	18.4	70 - 123
Bromomethane	84.5	ug/L	20	16.9	45 - 148
2-Butanone	114	ug/L	100	114	50 - 152
tert-Butyl Alcohol	127	ug/L	100	127	17 - 168
n-Butylbenzene	100	ug/L	20	20.1	71 - 130
tert-Butylbenzene	114	ug/L	20	22.8	72 - 124
sec-Butylbenzene	109	ug/L	20	21.8	72 - 127
Carbon Disulfide	104	ug/L	20	20.9	57 - 131
Carbon Tetrachloride	118	ug/L	20	23.6	62 - 132
Chlorobenzene	101	ug/L	20	20.2	85 - 117
Chlorodibromomethane	94.2	ug/L	20	18.8	77 - 122
Chloroethane	106	ug/L	20	21.2	51 - 142
2-Chloroethylvinyl ether	107	ug/L	20	21.4	1 - 150
Chloroform	108	ug/L	20	21.7	78 - 122
Chloromethane	96.9	ug/L	20	19.4	38 - 156
o-Chlorotoluene	109	ug/L	20	21.9	78 - 126
p-Chlorotoluene	107	ug/L	20	21.3	78 - 125
Cyclohexane	124	ug/L	20	24.8	66 - 130
1,2-Dibromo-3-chloropropane	104	ug/L	20	20.8	59 - 133
1,2-Dibromoethane	103	ug/L	20	20.7	80 - 124
Dibromomethane	107	ug/L	20	21.4	81 - 125
1,2-Dichlorobenzene	103	ug/L	20	20.5	82 - 118
1,3-Dichlorobenzene	103	ug/L	20	20.6	81 - 118
1,4-Dichlorobenzene	102	ug/L	20	20.5	81 - 116
Dichlorodifluoromethane	104	ug/L	20	20.8	17 - 166
1,1-Dichloroethane	120	ug/L	20	24.0	78 - 124
1,2-Dichloroethane	108	ug/L	20	21.6	70 - 133
1,1-Dichloroethene	122	ug/L	20	24.5	63 - 128
1,2-Dichloroethene, Total	115	ug/L	40	46.2	78 - 125
cis-1,2-Dichloroethene	108	ug/L	20	21.6	78 - 125
trans-1,2-Dichloroethene	123*	ug/L	20	24.5	71 - 122
1,3-Dichloropropane	101	ug/L	20	20.2	82 - 126
2,2-Dichloropropane	115	ug/L	20	23.0	64 - 129
1,2-Dichloropropane	110	ug/L	20	22.0	81 - 127
cis-1,3-Dichloropropene	104	ug/L	20	20.9	81 - 121
trans-1,3-Dichloropropene	107	ug/L	20	21.4	78 - 126

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

1,3-Dichloropropene, Total	106	ug/L	40	42.3	80 - 123
Diisopropyl ether	114	ug/L	20	22.7	74 - 131
Ethyl tert-butyl ether	113	ug/L	20	22.7	75 - 123
Ethylbenzene	105	ug/L	20	21.1	80 - 124
Freon 113	111	ug/L	20	22.2	50 - 130
Hexachlorobutadiene	99.2	ug/L	20	19.8	55 - 128
2-Hexanone	112	ug/L	100	112	65 - 154
Isopropylbenzene	117	ug/L	20	23.3	73 - 129
p-Isopropyltoluene	104	ug/L	20	20.7	72 - 123
Methyl acetate	119	ug/L	20	23.8	70 - 130
Methyl cyclohexane	100	ug/L	20	20.1	70 - 130
Methyl t-Butyl Ether	112	ug/L	20	22.4	69 - 115
4-Methyl-2-Pentanone(MIBK)	112	ug/L	100	112	71 - 146
Methylene Chloride	106	ug/L	20	21.2	76 - 121
Naphthalene	75.7	ug/L	20	15.1	56 - 134
n-Propylbenzene	116	ug/L	20	23.1	74 - 122
Styrene	111	ug/L	20	22.3	79 - 123
1,1,1,2-Tetrachloroethane	105	ug/L	20	21.1	78 - 121
1,1,2,2-Tetrachloroethane	108	ug/L	20	21.7	74 - 135
Tetrachloroethene	104	ug/L	20	20.8	72 - 124
Toluene	105	ug/L	20	20.9	80 - 125
Total Xylenes	107	ug/L	60	63.9	79 - 125
1,2,3-Trichlorobenzene	88.4	ug/L	20	17.7	61 - 126
1,2,4-Trichlorobenzene	89.2	ug/L	20	17.8	67 - 123
1,1,1-Trichloroethane	120	ug/L	20	24.0	66 - 130
1,1,2-Trichloroethane	100	ug/L	20	20.1	82 - 126
Trichloroethene	106	ug/L	20	21.3	77 - 124
Trichlorofluoromethane	121	ug/L	20	24.3	38 - 123
1,2,3-Trichloropropane	110	ug/L	20	22.1	75 - 132
1,2,4-Trimethylbenzene	109	ug/L	20	21.9	76 - 125
Vinyl Acetate	107	ug/L	20	21.4	58 - 136
Vinyl Chloride	116	ug/L	20	23.2	27 - 138
o-Xylene	105	ug/L	20	21.0	79 - 124
mp-Xylene	107	ug/L	40	42.9	79 - 125
1,2-Dichloroethane-d4 (S)	105	%			62 - 133
4-Bromofluorobenzene (S)	108	%			79 - 114
Dibromofluoromethane (S)	111	%			78 - 116
Toluene-d8 (S)	103	%			76 - 127

MATRIX SPIKE: 3014299 DUPLICATE: 3014300 ORIGINAL: 3058051005

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

Benzene	0	ug/L	20	22.6256	22.0794	113	110	80 - 124	2.44	26
Ethylbenzene	0	ug/L	20	21.1298	20.9951	106	105	80 - 124	.64	19
Isopropylbenzene	0	ug/L	20	22.4963	22.7331	112	114	73 - 129	1.05	18
Methyl t-Butyl Ether	0	ug/L	20	21.1228	21.4115	106	107	69 - 115	1.36	20
Naphthalene	0	ug/L	20	9.25347	9.67258	46.3*	48.4*	56 - 134	4.43	40
Toluene	0	ug/L	20	21.0695	20.7703	105	104	80 - 125	1.43	20
Total Xylenes	0	ug/L	60	63.6597	62.9166	106	105	79 - 125	1.17	35
1,2,4-Trimethylbenzene	0	ug/L	20	21.2407	21.4752	106	107	76 - 125	1.1	24
o-Xylene	0	ug/L	20	20.8659	20.6184	104	103	79 - 124	1.19	19
mp-Xylene	0	ug/L	40	42.7938	42.2983	107	106	79 - 125	1.16	21
1,2-Dichloroethane-d4 (S)	111	%				111	112	62 - 133		
4-Bromofluorobenzene (S)	104	%				104	106	79 - 114		
Dibromofluoromethane (S)	108	%				108	110	78 - 116		
Toluene-d8 (S)	101	%				101	103	76 - 127		

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

QC Batch: VOMS/52370 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 8260B

Associated Lab Samples: 3058438001, 3058438002, 3058438003, 3058438004, 3058438005, 3058438006, 3058438007, 3058438009, 3058438010, 3058438011, 3058438012, 3058438013, 3058438014, 3058438015, 3058438016, 3058438017, 3058438018, 3058438019

METHOD BLANK: 3014590

Parameter	Blank Result	Units	Reporting Limit
Acetone	ND	ug/L	10.0
tert-Amyl methyl ether	ND	ug/L	1.0
Benzene	ND	ug/L	1.0
Bromobenzene	ND	ug/L	1.0
Bromochloromethane	ND	ug/L	1.0
Bromodichloromethane	ND	ug/L	1.0
Bromoform	ND	ug/L	1.0
Bromomethane	0.68J	ug/L	1.0
2-Butanone	ND	ug/L	10.0
tert-Butyl Alcohol	ND	ug/L	10.0
n-Butylbenzene	ND	ug/L	2.0
tert-Butylbenzene	ND	ug/L	2.0
sec-Butylbenzene	ND	ug/L	1.0
Carbon Disulfide	ND	ug/L	1.0
Carbon Tetrachloride	ND	ug/L	1.0
Chlorobenzene	ND	ug/L	1.0
Chlorodibromomethane	ND	ug/L	1.0
Chloroethane	ND	ug/L	1.0
2-Chloroethylvinyl ether	ND	ug/L	2.0
Chloroform	ND	ug/L	1.0
Chloromethane	ND	ug/L	1.0
o-Chlorotoluene	ND	ug/L	1.0
p-Chlorotoluene	ND	ug/L	1.0
Cyclohexane	ND	ug/L	1.0
1,2-Dibromo-3-chloropropane	ND	ug/L	7.0
1,2-Dibromoethane	ND	ug/L	1.0
Dibromomethane	ND	ug/L	1.0
1,2-Dichlorobenzene	ND	ug/L	1.0
1,3-Dichlorobenzene	ND	ug/L	1.0
1,4-Dichlorobenzene	ND	ug/L	1.0
Dichlorodifluoromethane	ND	ug/L	1.0
1,1-Dichloroethane	ND	ug/L	1.0
1,2-Dichloroethane	ND	ug/L	1.0
1,1-Dichloroethene	ND	ug/L	1.0
1,2-Dichloroethene, Total	ND	ug/L	2.0
cis-1,2-Dichloroethene	ND	ug/L	1.0

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

trans-1,2-Dichloroethene	ND	ug/L	1.0
1,3-Dichloropropane	ND	ug/L	1.0
2,2-Dichloropropane	ND	ug/L	1.0
1,2-Dichloropropane	ND	ug/L	1.0
cis-1,3-Dichloropropene	ND	ug/L	1.0
trans-1,3-Dichloropropene	ND	ug/L	1.0
1,3-Dichloropropene, Total	ND	ug/L	2.0
Diisopropyl ether	ND	ug/L	1.0
Ethyl tert-butyl ether	ND	ug/L	1.0
Ethylbenzene	ND	ug/L	1.0
Freon 113	ND	ug/L	1.0
Hexachlorobutadiene	ND	ug/L	5.0
2-Hexanone	ND	ug/L	5.0
Isopropylbenzene	ND	ug/L	1.0
p-Isopropyltoluene	ND	ug/L	1.0
Methyl acetate	ND	ug/L	2.0
Methyl cyclohexane	ND	ug/L	1.0
Methyl t-Butyl Ether	ND	ug/L	1.0
4-Methyl-2-Pentanone(MIBK)	ND	ug/L	5.0
Methylene Chloride	ND	ug/L	1.0
Naphthalene	ND	ug/L	2.0
n-Propylbenzene	ND	ug/L	1.0
Styrene	ND	ug/L	1.0
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0
Tetrachloroethene	ND	ug/L	1.0
Toluene	ND	ug/L	1.0
Total Xylenes	ND	ug/L	3.0
1,2,3-Trichlorobenzene	ND	ug/L	2.0
1,2,4-Trichlorobenzene	ND	ug/L	2.0
1,1,1-Trichloroethane	ND	ug/L	1.0
1,1,2-Trichloroethane	ND	ug/L	1.0
Trichloroethene	ND	ug/L	1.0
Trichlorofluoromethane	ND	ug/L	1.0
1,2,3-Trichloropropane	ND	ug/L	2.0
1,2,4-Trimethylbenzene	ND	ug/L	1.0
Vinyl Acetate	ND	ug/L	5.0
Vinyl Chloride	ND	ug/L	1.0
o-Xylene	ND	ug/L	1.0
mp-Xylene	ND	ug/L	2.0
1,2-Dichloroethane-d4 (S)	112	%	62 - 133
4-Bromofluorobenzene (S)	108	%	79 - 114
Dibromofluoromethane (S)	99.3	%	78 - 116
Toluene-d8 (S)	96.2	%	76 - 127

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

LABORATORY CONTROL SAMPLE: 3014591

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acetone	113	ug/L	100	113	40 - 151
tert-Amyl methyl ether	118	ug/L	20	23.6	75 - 121
Benzene	107	ug/L	20	21.3	80 - 124
Bromobenzene	104	ug/L	20	20.9	81 - 119
Bromochloromethane	112	ug/L	20	22.4	73 - 117
Bromodichloromethane	112	ug/L	20	22.4	79 - 126
Bromoform	97.1	ug/L	20	19.4	70 - 123
Bromomethane	70.9	ug/L	20	14.2	45 - 148
2-Butanone	119	ug/L	100	119	50 - 152
tert-Butyl Alcohol	127	ug/L	100	127	17 - 168
n-Butylbenzene	69.3*	ug/L	20	13.9	71 - 130
tert-Butylbenzene	94	ug/L	20	18.8	72 - 124
sec-Butylbenzene	94.7	ug/L	20	18.9	72 - 127
Carbon Disulfide	108	ug/L	20	21.6	57 - 131
Carbon Tetrachloride	93.2	ug/L	20	18.6	62 - 132
Chlorobenzene	92.6	ug/L	20	18.5	85 - 117
Chlorodibromomethane	82	ug/L	20	16.4	77 - 122
Chloroethane	101	ug/L	20	20.2	51 - 142
2-Chloroethylvinyl ether	101	ug/L	20	20.2	1 - 150
Chloroform	107	ug/L	20	21.4	78 - 122
Chloromethane	136	ug/L	20	27.1	38 - 156
o-Chlorotoluene	98.3	ug/L	20	19.7	78 - 126
p-Chlorotoluene	98.7	ug/L	20	19.7	78 - 125
Cyclohexane	113	ug/L	20	22.5	66 - 130
1,2-Dibromo-3-chloropropane	103	ug/L	20	20.6	59 - 133
1,2-Dibromoethane	93.3	ug/L	20	18.7	80 - 124
Dibromomethane	113	ug/L	20	22.5	81 - 125
1,2-Dichlorobenzene	85.1	ug/L	20	17.0	82 - 118
1,3-Dichlorobenzene	89.6	ug/L	20	17.9	81 - 118
1,4-Dichlorobenzene	87.5	ug/L	20	17.5	81 - 116
Dichlorodifluoromethane	134	ug/L	20	26.7	17 - 166
1,1-Dichloroethane	110	ug/L	20	21.9	78 - 124
1,2-Dichloroethane	114	ug/L	20	22.8	70 - 133
1,1-Dichloroethene	112	ug/L	20	22.4	63 - 128
1,2-Dichloroethene, Total	110	ug/L	40	44.1	78 - 125
cis-1,2-Dichloroethene	106	ug/L	20	21.1	78 - 125
trans-1,2-Dichloroethene	115	ug/L	20	22.9	71 - 122
1,3-Dichloropropane	95.7	ug/L	20	19.1	82 - 126
2,2-Dichloropropane	109	ug/L	20	21.8	64 - 129
1,2-Dichloropropane	112	ug/L	20	22.5	81 - 127
cis-1,3-Dichloropropene	81.6	ug/L	20	16.3	81 - 121
trans-1,3-Dichloropropene	84.2	ug/L	20	16.8	78 - 126

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

1,3-Dichloropropene, Total	82.9	ug/L	40	33.2	80 - 123
Diisopropyl ether	115	ug/L	20	23.1	74 - 131
Ethyl tert-butyl ether	117	ug/L	20	23.4	75 - 123
Ethylbenzene	93	ug/L	20	18.6	80 - 124
Freon 113	111	ug/L	20	22.3	50 - 130
Hexachlorobutadiene	56.7	ug/L	20	11.3	55 - 128
2-Hexanone	104	ug/L	100	104	65 - 154
Isopropylbenzene	100	ug/L	20	20.1	73 - 129
p-Isopropyltoluene	79.7	ug/L	20	15.9	72 - 123
Methyl acetate	131*	ug/L	20	26.3	70 - 130
Methyl cyclohexane	97.1	ug/L	20	19.4	70 - 130
Methyl t-Butyl Ether	117*	ug/L	20	23.4	69 - 115
4-Methyl-2-Pentanone(MIBK)	92	ug/L	100	92.0	71 - 146
Methylene Chloride	110	ug/L	20	22.0	76 - 121
Naphthalene	93.7	ug/L	20	18.7	56 - 134
n-Propylbenzene	100	ug/L	20	20.1	74 - 122
Styrene	92.2	ug/L	20	18.4	79 - 123
1,1,1,2-Tetrachloroethane	88	ug/L	20	17.6	78 - 121
1,1,2,2-Tetrachloroethane	105	ug/L	20	21.1	74 - 135
Tetrachloroethene	90.9	ug/L	20	18.2	72 - 124
Toluene	90.7	ug/L	20	18.1	80 - 125
Total Xylenes	90.7	ug/L	60	54.4	79 - 125
1,2,3-Trichlorobenzene	105	ug/L	20	21.0	61 - 126
1,2,4-Trichlorobenzene	74.7	ug/L	20	14.9	67 - 123
1,1,1-Trichloroethane	115	ug/L	20	22.9	66 - 130
1,1,2-Trichloroethane	95.8	ug/L	20	19.2	82 - 126
Trichloroethene	106	ug/L	20	21.2	77 - 124
Trichlorofluoromethane	116	ug/L	20	23.1	38 - 123
1,2,3-Trichloropropane	109	ug/L	20	21.9	75 - 132
1,2,4-Trimethylbenzene	93.4	ug/L	20	18.7	76 - 125
Vinyl Acetate	112	ug/L	20	22.5	58 - 136
Vinyl Chloride	121	ug/L	20	24.2	27 - 138
o-Xylene	90.1	ug/L	20	18.0	79 - 124
mp-Xylene	91	ug/L	40	36.4	79 - 125
1,2-Dichloroethane-d4 (S)	103	%			62 - 133
4-Bromofluorobenzene (S)	104	%			79 - 114
Dibromofluoromethane (S)	102	%			78 - 116
Toluene-d8 (S)	89	%			76 - 127

MATRIX SPIKE: 3014743 DUPLICATE: 3014744 ORIGINAL: 3058438007

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

Acetone	4.53077	ug/L	100	115.58	99.3464	111	94.8	40 - 151	15.1	40
tert-Amyl methyl ether	0	ug/L	20	25.8592	24.1824	129*	121	75 - 121	6.7	40
Benzene	0	ug/L	20	26.5498	22.4858	133*	112	80 - 124	16.6	26
Bromobenzene	0	ug/L	20	24.6639	23.0202	123*	115	81 - 119	6.89	17
Bromochloromethane	0	ug/L	20	25.878	24.2036	129*	121*	73 - 117	6.69	19
Bromodichloromethane	0	ug/L	20	25.6024	23.4804	128*	117	79 - 126	8.65	16
Bromoform	0	ug/L	20	19.6706	19.106	98.4	95.5	70 - 123	2.91	16
Bromomethane	0	ug/L	20	18.56	17.3997	92.8	87	45 - 148	6.45	26
2-Butanone	0	ug/L	100	140.628	127.486	141	127	50 - 152	9.8	16
tert-Butyl Alcohol	0	ug/L	100	122.906	110.621	123	111	17 - 168	10.5	40
n-Butylbenzene	0	ug/L	20	16.3971	15.1413	82	75.7	71 - 130	7.96	20
tert-Butylbenzene	0	ug/L	20	22.2738	20.9262	111	105	72 - 124	6.24	17
sec-Butylbenzene	0	ug/L	20	22.0168	20.6957	110	103	72 - 127	6.19	17
Carbon Disulfide	0	ug/L	20	26.4735	21.1609	132*	106	57 - 131	22.3	28
Carbon Tetrachloride	0	ug/L	20	27.5926	20.0101	138*	100	62 - 132	31.9	17
Chlorobenzene	0	ug/L	20	22.5125	18.9288	113	94.6	85 - 117	17.3	15
Chlorodibromomethane	0	ug/L	20	19.1088	16.8382	95.5	84.2	77 - 122	12.6	15
Chloroethane	0	ug/L	20	30.5569	28.5674	153*	143*	51 - 142	6.73	24
2-Chloroethylvinyl ether	0	ug/L	20	0	0	0*	0*	1 - 150	NC	40
Chloroform	0	ug/L	20	25.9345	22.7966	130*	114	78 - 122	12.9	16
Chloromethane	0	ug/L	20	37.3454	30.6364	187*	153	38 - 156	19.7	27
o-Chlorotoluene	0	ug/L	20	24.3312	21.8978	122	109	78 - 126	10.5	17
p-Chlorotoluene	0	ug/L	20	24.4219	21.9142	122	110	78 - 125	10.8	16
Cyclohexane	0	ug/L	20	28.1461	23.8232	141*	119	66 - 130	16.6	20
1,2-Dibromo-3-chloropropane	0	ug/L	20	20.7044	17.1488	104	85.7	59 - 133	18.8	26
1,2-Dibromoethane	0	ug/L	20	20.2814	17.7645	101	88.8	80 - 124	13.2	19
Dibromomethane	0	ug/L	20	25.6676	23.895	128*	119	81 - 125	7.15	16
1,2-Dichlorobenzene	0	ug/L	20	20.3597	17.3731	102	86.9	82 - 118	15.8	15
1,3-Dichlorobenzene	0	ug/L	20	21.4541	19.0487	107	95.2	81 - 118	11.9	16
1,4-Dichlorobenzene	0	ug/L	20	21.2193	18.5286	106	92.6	81 - 116	13.5	15
Dichlorodifluoromethane	0	ug/L	20	34.5836	33.357	173*	167*	17 - 166	3.61	24
1,1-Dichloroethane	0	ug/L	20	26.8344	23.4032	134*	117	78 - 124	13.7	15
1,2-Dichloroethane	0	ug/L	20	26.2418	24.3198	131	122	70 - 133	7.6	19
1,1-Dichloroethene	0	ug/L	20	28.3626	23.1903	142*	116	63 - 128	20.1	21
1,2-Dichloroethene, Total	0	ug/L	40	54.8165	46.7424	137*	117	78 - 125	15.9	40
cis-1,2-Dichloroethene	0	ug/L	20	25.431	22.5595	127*	113	78 - 125	12	21
trans-1,2-Dichloroethene	0	ug/L	20	29.3855	24.183	147*	121	71 - 122	19.4	22
1,3-Dichloropropane	0	ug/L	20	22.8163	20.0652	114	100	82 - 126	12.8	15
2,2-Dichloropropane	0	ug/L	20	26.2384	22.2839	131*	111	64 - 129	16.3	18
1,2-Dichloropropane	0	ug/L	20	25.9277	23.6699	130*	118	81 - 127	9.1	15
cis-1,3-Dichloropropene	0	ug/L	20	19.8175	17.056	99.1	85.3	81 - 121	15	16
trans-1,3-Dichloropropene	0	ug/L	20	19.541	17.2107	97.7	86.1	78 - 126	12.7	18
1,3-Dichloropropene, Total	0	ug/L	40	39.3585	34.2667	98.4	85.7	80 - 123	13.8	16
Diisopropyl ether	0	ug/L	20	26.1039	24.4387	131	122	74 - 131	6.59	15
Ethyl tert-butyl ether	0	ug/L	20	25.9586	24.4051	130*	122	75 - 123	6.17	16
Ethylbenzene	0	ug/L	20	23.1137	19.1071	116	95.5	80 - 124	19	19

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

Freon 113	0	ug/L	20	27.6275	22.862	138*	114	50 - 130	18.9	26
Hexachlorobutadiene	0	ug/L	20	16.4516	9.69335	82.3	48.5*	55 - 128	51.7	35
2-Hexanone	0	ug/L	100	109.163	89.7783	109	89.8	65 - 154	19.5	17
Isopropylbenzene	0	ug/L	20	25.122	22.7491	126	114	73 - 129	9.91	18
p-Isopropyltoluene	0	ug/L	20	18.9336	17.5277	94.7	87.6	72 - 123	7.71	17
Methyl acetate	0	ug/L	20	23.1592	19.5791	116	97.9	70 - 130	16.8	18
Methyl cyclohexane	0	ug/L	20	24.7618	21.2826	124	106	70 - 130	15.1	18
Methyl t-Butyl Ether	0	ug/L	20	26.247	24.7844	131*	124*	69 - 115	5.73	20
4-Methyl-2-Pentanone(MIBK)	0	ug/L	100	105.984	88.0123	106	88	71 - 146	18.5	16
Methylene Chloride	0	ug/L	20	25.951	22.5265	130*	113	76 - 121	14.1	17
Naphthalene	0	ug/L	20	20.1991	15.081	101	75.4	56 - 134	29	40
n-Propylbenzene	0	ug/L	20	24.0902	22.1252	120	111	74 - 122	8.5	20
Styrene	0	ug/L	20	22.8882	20.925	114	105	79 - 123	8.96	16
1,1,1,2-Tetrachloroethane	0	ug/L	20	21.125	18.2731	106	91.4	78 - 121	14.5	16
1,1,2,2-Tetrachloroethane	0	ug/L	20	24.241	21.2923	121	106	74 - 135	13	16
Tetrachloroethene	0	ug/L	20	22.5502	19.1832	113	95.9	72 - 124	16.1	38
Toluene	0	ug/L	20	22.8833	19.2106	114	96.1	80 - 125	17.5	20
Total Xylenes	0	ug/L	60	67.8186	56.921	113	94.9	79 - 125	17.5	35
1,2,3-Trichlorobenzene	0	ug/L	20	21.4723	18.6894	107	93.4	61 - 126	13.9	36
1,2,4-Trichlorobenzene	0	ug/L	20	18.4428	12.2091	92.2	61*	67 - 123	40.7	22
1,1,1-Trichloroethane	0	ug/L	20	28.947	24.4972	145*	122	66 - 130	16.7	20
1,1,2-Trichloroethane	0	ug/L	20	22.681	19.8591	113	99.3	82 - 126	13.3	15
Trichloroethene	0	ug/L	20	26.3052	22.9772	132*	115	77 - 124	13.5	18
Trichlorofluoromethane	0	ug/L	20	32.0532	31.1831	160*	156*	38 - 123	2.75	23
1,2,3-Trichloropropane	0	ug/L	20	23.6383	22.0343	118	110	75 - 132	7.02	19
1,2,4-Trimethylbenzene	0	ug/L	20	22.1885	20.1106	111	101	76 - 125	9.82	24
Vinyl Acetate	0	ug/L	20	21.7339	20.7266	109	104	58 - 136	4.74	17
Vinyl Chloride	0	ug/L	20	31.9316	30.3272	160*	152*	27 - 138	5.15	40
o-Xylene	0	ug/L	20	21.9473	19.0906	110	95.5	79 - 124	13.9	19
mp-Xylene	0	ug/L	40	45.8714	37.8305	115	94.6	79 - 125	19.2	21
1,2-Dichloroethane-d4 (S)	110	%				110	109	62 - 133		
4-Bromofluorobenzene (S)	107	%				107	114	79 - 114		
Dibromofluoromethane (S)	107	%				107	108	78 - 116		
Toluene-d8 (S)	95.4	%				95.4	92.4	76 - 127		

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

QC Batch: VOMS/52385 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 8260B

Associated Lab Samples: 3058438020, 3058438021, 3058438022, 3058438023

METHOD BLANK: 3015219

Parameter	Blank Result	Units	Reporting Limit
Acetone	ND	ug/L	10.0
tert-Amyl methyl ether	ND	ug/L	1.0
Benzene	ND	ug/L	1.0
Bromobenzene	ND	ug/L	1.0
Bromochloromethane	ND	ug/L	1.0
Bromodichloromethane	ND	ug/L	1.0
Bromoform	ND	ug/L	1.0
Bromomethane	ND	ug/L	1.0
2-Butanone	ND	ug/L	10.0
tert-Butyl Alcohol	ND	ug/L	10.0
n-Butylbenzene	ND	ug/L	2.0
tert-Butylbenzene	ND	ug/L	2.0
sec-Butylbenzene	ND	ug/L	1.0
Carbon Disulfide	ND	ug/L	1.0
Carbon Tetrachloride	ND	ug/L	1.0
Chlorobenzene	ND	ug/L	1.0
Chlorodibromomethane	ND	ug/L	1.0
Chloroethane	ND	ug/L	1.0
2-Chloroethylvinyl ether	ND	ug/L	2.0
Chloroform	ND	ug/L	1.0
Chloromethane	ND	ug/L	1.0
o-Chlorotoluene	ND	ug/L	1.0
p-Chlorotoluene	ND	ug/L	1.0
Cyclohexane	ND	ug/L	1.0
1,2-Dibromo-3-chloropropane	ND	ug/L	7.0
1,2-Dibromoethane	ND	ug/L	1.0
Dibromomethane	ND	ug/L	1.0
1,2-Dichlorobenzene	ND	ug/L	1.0
1,3-Dichlorobenzene	ND	ug/L	1.0
1,4-Dichlorobenzene	ND	ug/L	1.0
Dichlorodifluoromethane	ND	ug/L	1.0
1,1-Dichloroethane	ND	ug/L	1.0
1,2-Dichloroethane	ND	ug/L	1.0
1,1-Dichloroethene	ND	ug/L	1.0
1,2-Dichloroethene, Total	ND	ug/L	2.0
cis-1,2-Dichloroethene	ND	ug/L	1.0
trans-1,2-Dichloroethene	ND	ug/L	1.0

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

1,3-Dichloropropane	ND	ug/L	1.0
2,2-Dichloropropane	ND	ug/L	1.0
1,2-Dichloropropane	ND	ug/L	1.0
cis-1,3-Dichloropropene	ND	ug/L	1.0
trans-1,3-Dichloropropene	ND	ug/L	1.0
1,3-Dichloropropene, Total	ND	ug/L	2.0
Diisopropyl ether	ND	ug/L	1.0
Ethyl tert-butyl ether	ND	ug/L	1.0
Ethylbenzene	ND	ug/L	1.0
Freon 113	ND	ug/L	1.0
Hexachlorobutadiene	ND	ug/L	5.0
2-Hexanone	ND	ug/L	5.0
Isopropylbenzene	ND	ug/L	1.0
p-Isopropyltoluene	ND	ug/L	1.0
Methyl acetate	ND	ug/L	2.0
Methyl cyclohexane	ND	ug/L	1.0
Methyl t-Butyl Ether	ND	ug/L	1.0
4-Methyl-2-Pentanone(MIBK)	ND	ug/L	5.0
Methylene Chloride	0.49J	ug/L	1.0
Naphthalene	ND	ug/L	2.0
n-Propylbenzene	ND	ug/L	1.0
Styrene	ND	ug/L	1.0
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0
Tetrachloroethene	ND	ug/L	1.0
Toluene	ND	ug/L	1.0
Total Xylenes	ND	ug/L	3.0
1,2,3-Trichlorobenzene	ND	ug/L	2.0
1,2,4-Trichlorobenzene	ND	ug/L	2.0
1,1,1-Trichloroethane	ND	ug/L	1.0
1,1,2-Trichloroethane	ND	ug/L	1.0
Trichloroethene	ND	ug/L	1.0
Trichlorofluoromethane	ND	ug/L	1.0
1,2,3-Trichloropropane	ND	ug/L	2.0
1,2,4-Trimethylbenzene	ND	ug/L	1.0
Vinyl Acetate	ND	ug/L	5.0
Vinyl Chloride	ND	ug/L	1.0
o-Xylene	ND	ug/L	1.0
mp-Xylene	ND	ug/L	2.0
1,2-Dichloroethane-d4 (S)	108	%	62 - 133
4-Bromofluorobenzene (S)	112	%	79 - 114
Dibromofluoromethane (S)	107	%	78 - 116
Toluene-d8 (S)	106	%	76 - 127

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

LABORATORY CONTROL SAMPLE: 3015220

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acetone	111	ug/L	100	111	40 - 151
tert-Amyl methyl ether	115	ug/L	20	22.9	75 - 121
Benzene	109	ug/L	20	21.8	80 - 124
Bromobenzene	102	ug/L	20	20.4	81 - 119
Bromochloromethane	107	ug/L	20	21.4	73 - 117
Bromodichloromethane	109	ug/L	20	21.7	79 - 126
Bromoform	89.9	ug/L	20	18.0	70 - 123
Bromomethane	91.7	ug/L	20	18.3	45 - 148
2-Butanone	116	ug/L	100	116	50 - 152
tert-Butyl Alcohol	150	ug/L	100	150	17 - 168
n-Butylbenzene	97.4	ug/L	20	19.5	71 - 130
tert-Butylbenzene	110	ug/L	20	22.1	72 - 124
sec-Butylbenzene	108	ug/L	20	21.5	72 - 127
Carbon Disulfide	104	ug/L	20	20.9	57 - 131
Carbon Tetrachloride	117	ug/L	20	23.4	62 - 132
Chlorobenzene	99.6	ug/L	20	19.9	85 - 117
Chlorodibromomethane	93.3	ug/L	20	18.7	77 - 122
Chloroethane	106	ug/L	20	21.2	51 - 142
2-Chloroethylvinyl ether	102	ug/L	20	20.4	1 - 150
Chloroform	108	ug/L	20	21.6	78 - 122
Chloromethane	93.3	ug/L	20	18.7	38 - 156
o-Chlorotoluene	104	ug/L	20	20.8	78 - 126
p-Chlorotoluene	103	ug/L	20	20.6	78 - 125
Cyclohexane	124	ug/L	20	24.8	66 - 130
1,2-Dibromo-3-chloropropane	96.7	ug/L	20	19.3	59 - 133
1,2-Dibromoethane	102	ug/L	20	20.5	80 - 124
Dibromomethane	104	ug/L	20	20.8	81 - 125
1,2-Dichlorobenzene	101	ug/L	20	20.2	82 - 118
1,3-Dichlorobenzene	100	ug/L	20	20.1	81 - 118
1,4-Dichlorobenzene	100	ug/L	20	20.0	81 - 116
Dichlorodifluoromethane	92.5	ug/L	20	18.5	17 - 166
1,1-Dichloroethane	118	ug/L	20	23.5	78 - 124
1,2-Dichloroethane	106	ug/L	20	21.1	70 - 133
1,1-Dichloroethene	127	ug/L	20	25.3	63 - 128
1,2-Dichloroethene, Total	113	ug/L	40	45.3	78 - 125
cis-1,2-Dichloroethene	105	ug/L	20	21.1	78 - 125
trans-1,2-Dichloroethene	121	ug/L	20	24.2	71 - 122
1,3-Dichloropropane	98.8	ug/L	20	19.8	82 - 126
2,2-Dichloropropane	112	ug/L	20	22.5	64 - 129
1,2-Dichloropropane	108	ug/L	20	21.5	81 - 127
cis-1,3-Dichloropropene	103	ug/L	20	20.7	81 - 121
trans-1,3-Dichloropropene	105	ug/L	20	21.1	78 - 126

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

1,3-Dichloropropene, Total	104	ug/L	40	41.8	80 - 123
Diisopropyl ether	111	ug/L	20	22.1	74 - 131
Ethyl tert-butyl ether	112	ug/L	20	22.4	75 - 123
Ethylbenzene	103	ug/L	20	20.6	80 - 124
Freon 113	111	ug/L	20	22.2	50 - 130
Hexachlorobutadiene	93.8	ug/L	20	18.8	55 - 128
2-Hexanone	110	ug/L	100	110	65 - 154
Isopropylbenzene	113	ug/L	20	22.6	73 - 129
p-Isopropyltoluene	103	ug/L	20	20.7	72 - 123
Methyl acetate	118	ug/L	20	23.7	70 - 130
Methyl cyclohexane	101	ug/L	20	20.1	70 - 130
Methyl t-Butyl Ether	111	ug/L	20	22.1	69 - 115
4-Methyl-2-Pentanone(MIBK)	109	ug/L	100	109	71 - 146
Methylene Chloride	106	ug/L	20	21.2	76 - 121
Naphthalene	66	ug/L	20	13.2	56 - 134
n-Propylbenzene	111	ug/L	20	22.1	74 - 122
Styrene	107	ug/L	20	21.4	79 - 123
1,1,1,2-Tetrachloroethane	103	ug/L	20	20.7	78 - 121
1,1,2,2-Tetrachloroethane	103	ug/L	20	20.5	74 - 135
Tetrachloroethene	104	ug/L	20	20.8	72 - 124
Toluene	103	ug/L	20	20.7	80 - 125
Total Xylenes	105	ug/L	60	63.1	79 - 125
1,2,3-Trichlorobenzene	76.2	ug/L	20	15.2	61 - 126
1,2,4-Trichlorobenzene	79.8	ug/L	20	16.0	67 - 123
1,1,1-Trichloroethane	120	ug/L	20	23.9	66 - 130
1,1,2-Trichloroethane	97.4	ug/L	20	19.5	82 - 126
Trichloroethene	105	ug/L	20	20.9	77 - 124
Trichlorofluoromethane	115	ug/L	20	22.9	38 - 123
1,2,3-Trichloropropane	106	ug/L	20	21.1	75 - 132
1,2,4-Trimethylbenzene	108	ug/L	20	21.6	76 - 125
Vinyl Acetate	102	ug/L	20	20.4	58 - 136
Vinyl Chloride	104	ug/L	20	20.9	27 - 138
o-Xylene	105	ug/L	20	20.9	79 - 124
mp-Xylene	105	ug/L	40	42.2	79 - 125
1,2-Dichloroethane-d4 (S)	109	%			62 - 133
4-Bromofluorobenzene (S)	107	%			79 - 114
Dibromofluoromethane (S)	108	%			78 - 116
Toluene-d8 (S)	103	%			76 - 127

MATRIX SPIKE: 3015246 DUPLICATE: 3015247 ORIGINAL: 3058452005

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

Acetone	0	ug/L	100	83.6808	82.5348	83.7	82.5	40 - 151	1.38	40
Benzene	0	ug/L	20	22.7553	21.7059	114	109	80 - 124	4.72	26
Bromochloromethane	0	ug/L	20	21.6863	20.8071	108	104	73 - 117	4.14	19
Bromodichloromethane	0	ug/L	20	22.0429	21.2409	110	106	79 - 126	3.71	16
Bromoform	0	ug/L	20	16.132	15.6182	80.7	78.1	70 - 123	3.24	16
Bromomethane	0	ug/L	20	19.5092	20.407	97.5	102	45 - 148	4.5	26
2-Butanone	0	ug/L	100	98.1045	95.796	98.1	95.8	50 - 152	2.38	16
Carbon Disulfide	0	ug/L	20	21.9966	19.9872	110	99.9	57 - 131	9.57	28
Carbon Tetrachloride	0	ug/L	20	24.5845	23.1737	123	116	62 - 132	5.91	17
Chlorobenzene	0	ug/L	20	20.7661	19.7411	104	98.7	85 - 117	5.06	15
Chlorodibromomethane	0	ug/L	20	18.4323	17.7211	92.2	88.6	77 - 122	3.93	15
Chloroethane	0	ug/L	20	24.4439	26.6941	122	133	51 - 142	8.8	24
Chloroform	0	ug/L	20	22.3574	21.4645	112	107	78 - 122	4.08	16
Chloromethane	.38087	ug/L	20	20.1201	23.7524	98.7	117	38 - 156	16.6	27
1,2-Dibromo-3-chloropropane	0	ug/L	20	15.3546	15.4784	76.8	77.4	59 - 133	.8	26
1,2-Dibromoethane	0	ug/L	20	19.4939	19.1037	97.5	95.5	80 - 124	2.02	19
Dibromomethane	0	ug/L	20	20.7071	20.0253	104	100	81 - 125	3.35	16
1,2-Dichlorobenzene	0	ug/L	20	19.6443	19.367	98.2	96.8	82 - 118	1.42	15
1,4-Dichlorobenzene	0	ug/L	20	19.6846	19.0225	98.4	95.1	81 - 116	3.42	15
1,1-Dichloroethane	.31761	ug/L	20	24.6444	23.5652	122	116	78 - 124	4.48	15
1,2-Dichloroethane	0	ug/L	20	21.7111	20.6293	109	103	70 - 133	5.11	19
1,1-Dichloroethene	0	ug/L	20	26.9769	25.0954	135*	125	63 - 128	7.23	21
cis-1,2-Dichloroethene	3.38939	ug/L	20	25.3375	24.0507	110	103	78 - 125	5.21	21
trans-1,2-Dichloroethene	0	ug/L	20	25.2736	23.3582	126*	117	71 - 122	7.88	22
1,3-Dichloropropane	0	ug/L	20	19.7732	18.9811	98.9	94.9	82 - 126	4.09	15
2,2-Dichloropropane	0	ug/L	20	21.4624	20.2252	107	101	64 - 129	5.94	18
1,2-Dichloropropane	0	ug/L	20	21.9636	21.1089	110	106	81 - 127	3.97	15
cis-1,3-Dichloropropene	0	ug/L	20	20.426	19.6892	102	98.4	81 - 121	3.67	16
trans-1,3-Dichloropropene	0	ug/L	20	20.277	19.6884	101	98.4	78 - 126	2.95	18
Ethylbenzene	0	ug/L	20	21.6912	20.3346	108	102	80 - 124	6.46	19
2-Hexanone	0	ug/L	100	91.52	90.6742	91.5	90.7	65 - 154	.93	17
Methyl t-Butyl Ether	0	ug/L	20	20.7037	20.3845	104	102	69 - 115	1.55	20
4-Methyl-2-Pentanone(MIBK)	0	ug/L	100	96.3875	94.7194	96.4	94.7	71 - 146	1.75	16
Methylene Chloride	0	ug/L	20	21.5284	20.4641	108	102	76 - 121	5.07	17
Styrene	0	ug/L	20	21.6542	20.5888	108	103	79 - 123	5.04	16
1,1,1,2-Tetrachloroethane	0	ug/L	20	21.1524	20.1522	106	101	78 - 121	4.84	16
1,1,2,2-Tetrachloroethane	0	ug/L	20	19.4408	19.0687	97.2	95.3	74 - 135	1.93	16
Tetrachloroethene	0	ug/L	20	21.0143	19.8736	105	99.4	72 - 124	5.58	38
Toluene	0	ug/L	20	21.562	20.4306	108	102	80 - 125	5.39	20
Total Xylenes	0	ug/L	60	65.5495	61.7197	109	103	79 - 125	6.02	35
1,1,1-Trichloroethane	0	ug/L	20	24.4006	23.2908	122	116	66 - 130	4.65	20
1,1,2-Trichloroethane	0	ug/L	20	20.0138	19.2589	100	96.3	82 - 126	3.84	15
Trichloroethene	2.76226	ug/L	20	24.5174	23.3712	109	103	77 - 124	4.79	18
Trichlorofluoromethane	0	ug/L	20	26.4322	29.8587	132*	149*	38 - 123	12.2	23
1,2,3-Trichloropropane	0	ug/L	20	19.29	18.9386	96.5	94.7	75 - 132	1.84	19
Vinyl Acetate	0	ug/L	20	17.153	17.2975	85.8	86.5	58 - 136	.84	17

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

Vinyl Chloride	0	ug/L	20	23.4722	26.7534	117	134	27 - 138	13.1	40
o-Xylene	0	ug/L	20	21.4293	20.3052	107	102	79 - 124	5.39	19
mp-Xylene	0	ug/L	40	44.1202	41.4145	110	104	79 - 125	6.33	21
1,2-Dichloroethane-d4 (S)	103	%				103	103	62 - 133		
4-Bromofluorobenzene (S)	104	%				104	106	79 - 114		
Dibromofluoromethane (S)	108	%				108	109	78 - 116		
Toluene-d8 (S)	103	%				103	102	76 - 127		

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

QC Batch: VOMS/52411 **Analysis Method:** SW846 8260B

QC Batch Method: SW846 8260B

Associated Lab Samples: 3058438004

METHOD BLANK: 3016011

Parameter	Blank Result	Units	Reporting Limit
Acetone	ND	ug/L	10.0
tert-Amyl methyl ether	ND	ug/L	1.0
Benzene	ND	ug/L	1.0
Bromobenzene	ND	ug/L	1.0
Bromochloromethane	ND	ug/L	1.0
Bromodichloromethane	ND	ug/L	1.0
Bromoform	ND	ug/L	1.0
Bromomethane	ND	ug/L	1.0
2-Butanone	ND	ug/L	10.0
tert-Butyl Alcohol	ND	ug/L	10.0
n-Butylbenzene	ND	ug/L	2.0
tert-Butylbenzene	ND	ug/L	2.0
sec-Butylbenzene	ND	ug/L	1.0
Carbon Disulfide	ND	ug/L	1.0
Carbon Tetrachloride	ND	ug/L	1.0
Chlorobenzene	ND	ug/L	1.0
Chlorodibromomethane	ND	ug/L	1.0
Chloroethane	ND	ug/L	1.0
2-Chloroethylvinyl ether	ND	ug/L	2.0
Chloroform	ND	ug/L	1.0
Chloromethane	ND	ug/L	1.0
o-Chlorotoluene	ND	ug/L	1.0
p-Chlorotoluene	ND	ug/L	1.0
Cyclohexane	ND	ug/L	1.0
1,2-Dibromo-3-chloropropane	ND	ug/L	7.0
1,2-Dibromoethane	ND	ug/L	1.0
Dibromomethane	ND	ug/L	1.0
1,2-Dichlorobenzene	ND	ug/L	1.0
1,3-Dichlorobenzene	ND	ug/L	1.0
1,4-Dichlorobenzene	ND	ug/L	1.0
Dichlorodifluoromethane	ND	ug/L	1.0
1,1-Dichloroethane	ND	ug/L	1.0
1,2-Dichloroethane	ND	ug/L	1.0
1,1-Dichloroethene	ND	ug/L	1.0
1,2-Dichloroethene, Total	ND	ug/L	2.0
cis-1,2-Dichloroethene	ND	ug/L	1.0
trans-1,2-Dichloroethene	ND	ug/L	1.0

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

1,3-Dichloropropane	ND	ug/L	1.0
2,2-Dichloropropane	ND	ug/L	1.0
1,2-Dichloropropane	ND	ug/L	1.0
cis-1,3-Dichloropropene	ND	ug/L	1.0
trans-1,3-Dichloropropene	ND	ug/L	1.0
1,3-Dichloropropene, Total	ND	ug/L	2.0
Diisopropyl ether	ND	ug/L	1.0
Ethyl tert-butyl ether	ND	ug/L	1.0
Ethylbenzene	ND	ug/L	1.0
Freon 113	ND	ug/L	1.0
Hexachlorobutadiene	ND	ug/L	5.0
2-Hexanone	ND	ug/L	5.0
Isopropylbenzene	ND	ug/L	1.0
p-Isopropyltoluene	ND	ug/L	1.0
Methyl acetate	ND	ug/L	2.0
Methyl cyclohexane	ND	ug/L	1.0
Methyl t-Butyl Ether	ND	ug/L	1.0
4-Methyl-2-Pentanone(MIBK)	ND	ug/L	5.0
Methylene Chloride	ND	ug/L	1.0
Naphthalene	ND	ug/L	2.0
n-Propylbenzene	ND	ug/L	1.0
Styrene	ND	ug/L	1.0
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0
Tetrachloroethene	ND	ug/L	1.0
Toluene	ND	ug/L	1.0
Total Xylenes	ND	ug/L	3.0
1,2,3-Trichlorobenzene	ND	ug/L	2.0
1,2,4-Trichlorobenzene	ND	ug/L	2.0
1,1,1-Trichloroethane	ND	ug/L	1.0
1,1,2-Trichloroethane	ND	ug/L	1.0
Trichloroethene	ND	ug/L	1.0
Trichlorofluoromethane	ND	ug/L	1.0
1,2,3-Trichloropropane	ND	ug/L	2.0
1,2,4-Trimethylbenzene	ND	ug/L	1.0
Vinyl Acetate	ND	ug/L	5.0
Vinyl Chloride	ND	ug/L	1.0
o-Xylene	ND	ug/L	1.0
mp-Xylene	ND	ug/L	2.0
1,2-Dichloroethane-d4 (S)	103	%	62 - 133
4-Bromofluorobenzene (S)	114	%	79 - 114
Dibromofluoromethane (S)	102	%	78 - 116
Toluene-d8 (S)	105	%	76 - 127

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

LABORATORY CONTROL SAMPLE: 3016012

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acetone	110	ug/L	100	110	40 - 151
tert-Amyl methyl ether	118	ug/L	20	23.7	75 - 121
Benzene	111	ug/L	20	22.1	80 - 124
Bromobenzene	108	ug/L	20	21.6	81 - 119
Bromochloromethane	111	ug/L	20	22.3	73 - 117
Bromodichloromethane	106	ug/L	20	21.3	79 - 126
Bromoform	90	ug/L	20	18.0	70 - 123
Bromomethane	108	ug/L	20	21.7	45 - 148
2-Butanone	115	ug/L	100	115	50 - 152
tert-Butyl Alcohol	136	ug/L	100	136	17 - 168
n-Butylbenzene	103	ug/L	20	20.5	71 - 130
tert-Butylbenzene	116	ug/L	20	23.1	72 - 124
sec-Butylbenzene	113	ug/L	20	22.6	72 - 127
Carbon Disulfide	109	ug/L	20	21.9	57 - 131
Carbon Tetrachloride	122	ug/L	20	24.4	62 - 132
Chlorobenzene	104	ug/L	20	20.7	85 - 117
Chlorodibromomethane	89.2	ug/L	20	17.8	77 - 122
Chloroethane	99.7	ug/L	20	19.9	51 - 142
2-Chloroethylvinyl ether	87.2	ug/L	20	17.4	1 - 150
Chloroform	107	ug/L	20	21.4	78 - 122
Chloromethane	105	ug/L	20	20.9	38 - 156
o-Chlorotoluene	110	ug/L	20	21.9	78 - 126
p-Chlorotoluene	110	ug/L	20	22.1	78 - 125
Cyclohexane	123	ug/L	20	24.7	66 - 130
1,2-Dibromo-3-chloropropane	93.5	ug/L	20	18.7	59 - 133
1,2-Dibromoethane	105	ug/L	20	21.0	80 - 124
Dibromomethane	106	ug/L	20	21.2	81 - 125
1,2-Dichlorobenzene	109	ug/L	20	21.7	82 - 118
1,3-Dichlorobenzene	106	ug/L	20	21.1	81 - 118
1,4-Dichlorobenzene	104	ug/L	20	20.7	81 - 116
Dichlorodifluoromethane	99.9	ug/L	20	20.0	17 - 166
1,1-Dichloroethane	118	ug/L	20	23.7	78 - 124
1,2-Dichloroethane	106	ug/L	20	21.1	70 - 133
1,1-Dichloroethene	126	ug/L	20	25.2	63 - 128
1,2-Dichloroethene, Total	116	ug/L	40	46.2	78 - 125
cis-1,2-Dichloroethene	107	ug/L	20	21.4	78 - 125
trans-1,2-Dichloroethene	124*	ug/L	20	24.8	71 - 122
1,3-Dichloropropane	103	ug/L	20	20.5	82 - 126
2,2-Dichloropropane	125	ug/L	20	25.1	64 - 129
1,2-Dichloropropane	108	ug/L	20	21.5	81 - 127
cis-1,3-Dichloropropene	111	ug/L	20	22.1	81 - 121
trans-1,3-Dichloropropene	110	ug/L	20	22.0	78 - 126

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

1,3-Dichloropropene, Total	110	ug/L	40	44.1	80 - 123
Diisopropyl ether	113	ug/L	20	22.5	74 - 131
Ethyl tert-butyl ether	114	ug/L	20	22.8	75 - 123
Ethylbenzene	106	ug/L	20	21.3	80 - 124
Freon 113	115	ug/L	20	23.0	50 - 130
Hexachlorobutadiene	116	ug/L	20	23.2	55 - 128
2-Hexanone	108	ug/L	100	108	65 - 154
Isopropylbenzene	117	ug/L	20	23.4	73 - 129
p-Isopropyltoluene	108	ug/L	20	21.5	72 - 123
Methyl acetate	121	ug/L	20	24.1	70 - 130
Methyl cyclohexane	104	ug/L	20	20.8	70 - 130
Methyl t-Butyl Ether	113	ug/L	20	22.5	69 - 115
4-Methyl-2-Pentanone(MIBK)	116	ug/L	100	116	71 - 146
Methylene Chloride	110	ug/L	20	22.0	76 - 121
Naphthalene	72.8	ug/L	20	14.6	56 - 134
n-Propylbenzene	116	ug/L	20	23.2	74 - 122
Styrene	112	ug/L	20	22.4	79 - 123
1,1,1,2-Tetrachloroethane	108	ug/L	20	21.7	78 - 121
1,1,2,2-Tetrachloroethane	104	ug/L	20	20.9	74 - 135
Tetrachloroethene	107	ug/L	20	21.4	72 - 124
Toluene	109	ug/L	20	21.8	80 - 125
Total Xylenes	110	ug/L	60	66.0	79 - 125
1,2,3-Trichlorobenzene	87.3	ug/L	20	17.5	61 - 126
1,2,4-Trichlorobenzene	90.1	ug/L	20	18.0	67 - 123
1,1,1-Trichloroethane	120	ug/L	20	24.1	66 - 130
1,1,2-Trichloroethane	103	ug/L	20	20.5	82 - 126
Trichloroethene	106	ug/L	20	21.1	77 - 124
Trichlorofluoromethane	112	ug/L	20	22.3	38 - 123
1,2,3-Trichloropropane	110	ug/L	20	21.9	75 - 132
1,2,4-Trimethylbenzene	113	ug/L	20	22.7	76 - 125
Vinyl Acetate	115	ug/L	20	23.0	58 - 136
Vinyl Chloride	114	ug/L	20	22.9	27 - 138
o-Xylene	110	ug/L	20	22.0	79 - 124
mp-Xylene	110	ug/L	40	44.0	79 - 125
1,2-Dichloroethane-d4 (S)	104	%			62 - 133
4-Bromofluorobenzene (S)	110	%			79 - 114
Dibromofluoromethane (S)	102	%			78 - 116
Toluene-d8 (S)	101	%			76 - 127

MATRIX SPIKE: 3016150 DUPLICATE: 3016151 ORIGINAL: 3058848011

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD

QUALITY CONTROL DATA

Workorder: 3058438 LM MRC Sept SWs

Benzene	1.91222	ug/L	20	23.9599	23.6626	110	109	80 - 124	1.25	26
1,1-Dichloroethane	.76802	ug/L	20	24.0471	23.7714	116	115	78 - 124	1.15	15
cis-1,2-Dichloroethene	6.90916	ug/L	20	28.037	27.609	106	103	78 - 125	1.54	21
1,2-Dichloropropane	.4808	ug/L	20	22.0706	21.5246	108	105	81 - 127	2.5	15
Methylene Chloride	0	ug/L	20	20.8329	20.7276	104	104	76 - 121	.51	17
Tetrachloroethene	3.61765	ug/L	20	24.7311	23.6799	106	100	72 - 124	4.34	38
Trichloroethene	1.76594	ug/L	20	23.4832	23.1585	109	107	77 - 124	1.39	18
Vinyl Chloride	1.31941	ug/L	20	25.6772	25.0108	122	118	27 - 138	2.63	40
1,2-Dichloroethane-d4 (S)	100	%				100	100	62 - 133		
4-Bromofluorobenzene (S)	107	%				107	107	79 - 114		
Dibromofluoromethane (S)	102	%				102	103	78 - 116		
Toluene-d8 (S)	101	%				101	99.2	76 - 127		

QUALITY CONTROL DATA QUALIFIERS

Workorder: 3058438 LM MRC Sept SWs

QUALITY CONTROL PARAMETER QUALIFIERS

Lab ID	#	Sample Type	Analytical Method	Analyte
3014199	1	Lab Control Standard	SW846 8260B	trans-1,2-Dichloroethene
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte trans-1,2-Dichloroethene. The % Recovery was reported as 123 and the control limits were 71 to 122.				
3014591	2	Lab Control Standard	SW846 8260B	Methyl acetate
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl acetate. The % Recovery was reported as 131 and the control limits were 70 to 130.				
3014591	3	Lab Control Standard	SW846 8260B	n-Butylbenzene
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte n-Butylbenzene. The % Recovery was reported as 69.3 and the control limits were 71 to 130.				
3014591	4	Lab Control Standard	SW846 8260B	Methyl t-Butyl Ether
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte Methyl t-Butyl Ether. The % Recovery was reported as 117 and the control limits were 69 to 115.				
3016012	5	Lab Control Standard	SW846 8260B	trans-1,2-Dichloroethene
The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte trans-1,2-Dichloroethene. The % Recovery was reported as 124 and the control limits were 71 to 122.				

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 3058438 LM MRC Sept SWs

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
3058438001	MRC-SW1A-091619	SW846 3510C	EXTR/57824	8270 SIM	SVMS/34064
3058438002	MRC-SW2A-091619	SW846 3510C	EXTR/57824	8270 SIM	SVMS/34064
3058438003	MRC-SW17A-091619	SW846 3510C	EXTR/57824	8270 SIM	SVMS/34064
3058438004	MRC-SW6AS-091619	SW846 3510C	EXTR/57824	8270 SIM	SVMS/34064
3058438005	MRC-SW6bS-091619	SW846 3510C	EXTR/57824	8270 SIM	SVMS/34064
3058438006	MRC-SW8BS-091619	SW846 3510C	EXTR/57824	8270 SIM	SVMS/34064
3058438007	MRC-SW8A-S-091619	SW846 3510C	EXTR/57824	8270 SIM	SVMS/34064
3058438008	MRC-SW8A-S-DUP-091619	SW846 3510C	EXTR/57824	8270 SIM	SVMS/34064
3058438008	MRC-SW8A-S-DUP-091619			SW846 8260B	VOMS/52367
3058438001	MRC-SW1A-091619			SW846 8260B	VOMS/52370
3058438002	MRC-SW2A-091619			SW846 8260B	VOMS/52370
3058438003	MRC-SW17A-091619			SW846 8260B	VOMS/52370
3058438005	MRC-SW6bS-091619			SW846 8260B	VOMS/52370
3058438006	MRC-SW8BS-091619			SW846 8260B	VOMS/52370
3058438007	MRC-SW8A-S-091619			SW846 8260B	VOMS/52370
3058438009	MRC-SW9A-S-091619			SW846 8260B	VOMS/52370
3058438010	MRC-SW9B-S-091619			SW846 8260B	VOMS/52370
3058438011	MRC-SW5A1-S-091619			SW846 8260B	VOMS/52370
3058438012	MRC-SW5A2-S-091619			SW846 8260B	VOMS/52370
3058438013	MRC-SW5B-S-091619			SW846 8260B	VOMS/52370
3058438014	MRC-SW7A-S-091619			SW846 8260B	VOMS/52370
3058438015	MRC-SW7B-S-091619			SW846 8260B	VOMS/52370
3058438016	MRC-SW18A-S-091619			SW846 8260B	VOMS/52370
3058438017	MRC-SW11A-S-091619			SW846 8260B	VOMS/52370
3058438018	MRC-SW11B-S-091619			SW846 8260B	VOMS/52370
3058438019	MRC-SW12A-S-091619			SW846 8260B	VOMS/52370
3058438020	MRC-SW13A-S-091619			SW846 8260B	VOMS/52385
3058438021	MRC-SW15A-S-091619			SW846 8260B	VOMS/52385
3058438022	MRC-SW16A-S-091619			SW846 8260B	VOMS/52385

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 3058438 LM MRC Sept SWs

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
3058438023	TB-091619			SW846 8260B	VOMS/52385
3058438004	MRC-SW6AS-091619			SW846 8260B	VOMS/52411

301 Fulling Mill Road
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

30584438

1 of 3

Client Name: AECOM
Address: 12420 Milestone Center Drive Germantown, MD 20876
Contact: Ravi Damera
Phone#: 301-674-3199
Project Name/#: LM MRC Sept SWS
Bill To: Ravi Damera

TAT: [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required: Approved?
Email? [X] -Y ravi.damera@aecom.com
Fax? [ ] -Y No.:

	Container Type	CG	AG								
	Container Size	40mL	1L								
	Preservative	HCl	—								

Lab)
W.O. Temp: 0 °C Therm ID: 403
Analyst Initials: SMS
Courier/Tracking #:
Purchase Order #:

ANALYSES/METHOD REQUESTED

	Sample Description/Location (as it will appear on the lab report)	Date Collected mm/dd/yy	Time hh:mm	*G or C	**Matrix	VOCs 8260C	1,4-Dioxane 8270D SIM								Sample/COC Comments
						Enter Number of Containers Per Sample or Field Results Below.									
1	MRC-SW1A-091619	09-16-19	1630	G	SW	2	2								SW = surface water
2	MRC-SW2A-091619		1605			2	2								
3	MRC-SW17A-091619		0855			2	2								
4	MRC-SW6A-S-091619		1120			2	2								
5	MRC-SW6B-S-091619		1135			2	2								
6	MRC-SW8B-S-091619		1300			2	2								
7	MRC-SW8A-S-091619		1200			6	6								ex V for MS/MSD
8	MRC-SW8A-S-QR-091619		1210			2	2								duplicate
9	MRC-SW9A-S-091619		1045			2									
10	MRC-SW9B-S-091619	↓	1100	↓	↓	2									

ALS Field Services: [ ] Pickup [ ] Labor
[ ] Composite Sampling [ ] Rental Equipment
Other:

SAMPLED BY (Please Print): Antonio Zarrelli

Sampler Comments: email results to nadun.tuvantzis@aecom.com & Holly.Braun@aecom.com

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature] / AECOM	9-17-19	1430	2 [signature]	9/17	1430
3 [signature]	9/17	1930	4		
5			6 [signature]	9/17/19	2255
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE/DOD
Special Processing: [ ] USACE
Reportable to PADEP? Yes [ ] No [X] PWSID #
Sample Disposal: Lab [X] Special [ ]
EDDS: Format Type- EQuIS & .csv
State Samples Collected In: [ ] NY [ ] NJ [ ] PA [X] MD [ ] other

* G=Grab; C=Composite
**Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS SHIPPING ADDRESS: 301 Fulling Mill Road, Middletown, PA 17057

Rev 04/19

301 Fulling Mill Road
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 3058438 2 of 3
ALS Quote #:

Client Name: AECOM
Address: 12420 Milestone Center Drive. Germantown, MD 20876
Contact: Ravi Damera
Phone#: 301-674-3199
Project Name/#: LM MRC Sept SWS
Bill To: Ravi. Damera
TAT: [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required: Approved?
Email? [X] Y ravi.damera@aecom.com
Fax? [ ] Y No.:

Receipt Information (completed by Receiving Lab)
W.O. Temp: 0°C Therm ID: 403
Analyst Initials: JD
Courier/Tracking #:
Purchase Order #:
Project Comments:

ALS Field Services: ☐ Pickup ☐ Labor ☐ Composite Sampling ☐ Rental Equipment
Other:

ANALYSES/METHOD REQUESTED

	Sample Description/Location (as it will appear on the lab report)	Date Collected mm/dd/yy	Time hh:mm	*G or C	**Matrix	Container Type	Container Size	Preservative	VOCs 8260C	Enter Number of Containers Per Sample or Field Results Below.	Sample/COC Comments
1	MRC-SWSA1-S-091619	09/16/19	1550	G	SW	CG	40mL	HCl	2		SW = surface water
2	MRC-SWSA2-S-091619		1535						2		
3	MRC-SW5B-S-091619		1520						2		
4	MRC-SW7A-S-091619		1015						2		
5	MRC-SW7B-S-091619		1030						2		
6	MRC-SW18A-S-091619		1500						2		
7	MRC-SW11A-S-091619		1405						2		
8	MRC-SW11B-S-091619		1415						2		
9	MRC-SW2A-S-091619		1430						2		
10	MRC-SW13A-S-091619	↓	1450	↓	↓				2		

SAMPLED BY (Please Print): Antonio Zorrelli

Sampler Comments: email results to molly.braun@aecom.com & raoum.tauntzis@aecom.com

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 AECOM	9-17-19	1430	2	9/17	1430
3	9/17	1515	4		
5			6	9/17/19	2255
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE/DOD
Special Processing: USACE [ ]
Reportable to PADEP? Yes [ ] No [X]
PWSID #
Sample Disposal: Lab [X] Special [ ]
EDDS: Format Type- EQuIS & .CSV
State Samples Collected In: [ ] NY [ ] NJ [ ] PA [X] MD [ ] other

* G=Grab; C=Composite
** Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS SHIPPING ADDRESS: 301 Fulling Mill Road, Middletown, PA 17057

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F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 3058438 — 3 of 3
ALS Quote #:

Client Name: AECOM
Address: 12420 Milestone Center Drive, Germantown, MD 20876
Contact: Ravi Dimera
Phone#: 301-674-3199
Project Name/#: LM MRC Sept SWS
Bill To: Ravi Dimera
TAT: [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required: Approved?
Email? [X]-Y ravi.dimera@aecom.com
Fax? [ ]-Y No.:

Receipt Information (completed by Receiving Lab)
W.O. Temp: 0°C Therm ID: 403
Analyst Initials: 205
Courier/Tracking #:
Purchase Order #:
Project Comments:

ALS Field Services: □ Pickup □ Labor □ Composite Sampling □ Rental Equipment
Other:

	Sample Description/Location (as it will appear on the lab report)	Date Collected mm/dd/yy	Time hh:mm	*G or C	**Matrix	Container Type	Container Size	Preservative	VOCs 8260C	Sample/COC Comments
						CG	40mL	HCl		
1	MRC-SW15A-S-091619	9/16/19	1350	G	SW				2	SW = Surface water
2	MRC-SW16A-S-091619	9/16/19	1335	G	SW				2	
3	TB-091619	NA	NA	G	WQ				2	WQ = water quality
4										
5										
6										
7										
8										
9										
10										

Enter Number of Containers Per Sample or Field Results Below.

SAMPLED BY (Please Print): Antonio Zarelli

Sampler Comments: email results to holly.brown@aecom.com & naoum.tsountzis@aecom.com

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 AECOM	9-17-19	1430	2	9/17	1430
3	9/17	1530	4		
5			6	9/17/19	2255
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE/DOD
Special Processing: USACE [ ]
Reportable to PADEP? Yes [ ] No [X]
PWSID #
Sample Disposal: Lab [X] Special [ ]
EDDS: Format Type- EQUIS4.CSV
State Samples Collected In: [ ] NY [ ] NJ [ ] PA [X] MD [ ] other

* G=Grab; C=Composite
**Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS SHIPPING ADDRESS: 301 Fulling Mill Road, Middletown, PA 17057

Rev 04/19

301 Fulling Mill Road
Middletown, PA 17057
P: (717) 944-5541
F: (717) 944-1430

Condition of Sample Receipt Form

Client:	Work Order #:	Initials:	Date:
AECOM	3058438	QU	9/18/19

1. Were airbills / tracking numbers present and recorded?	(NONE)	YES	NO
Tracking number:			
2. Are Custody Seals on shipping containers intact?	NONE	(YES)	NO
3. Are Custody Seals on sample containers intact?	(NONE)	YES	NO
4. Is there a COC (Chain-of-Custody) present?		(YES)	NO
5. Are the COC and bottle labels complete, legible and in agreement?		(YES)	NO
5a. Does the COC contain sample locations?		(YES)	NO
5b. Does the COC contain date and time of sample collection for all samples?		(YES)	NO
5c. Does the COC contain sample collectors name?		(YES)	NO
5d. Does the COC note the type(s) of preservation for all bottles?		(YES)	NO
5e. Does the COC note the number of bottles submitted for each sample?		(YES)	NO
5f. Does the COC note the type of sample, composite or grab?		(YES)	NO
5g. Does the COC note the matrix of the sample(s)?		(YES)	NO
6. Are all aqueous samples requiring preservation preserved correctly?	N/A	(YES)	NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?		(YES)	NO
8. Are all samples within holding times for the requested analyses?		(YES)	NO
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.)		(YES)	NO
10. Did we receive trip blanks (applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)?	N/A	(YES)	NO
11. Were the samples received on ice?		(YES)	NO
12. Were sample temperatures measured at 0.0-6.0°C		(YES)	NO
13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below		YES	(NO)
13a. Are the samples required for SDWA compliance reporting?	(N/A)	YES	NO
13b. Did the client provide a SDWA PWS ID#?	(N/A)	YES	NO
13c. Are all aqueous unpreserved SDWA samples pH 5-9?	(N/A)	YES	NO
13d. Did the client provide the SDWA sample location ID/Description?	(N/A)	YES	NO
13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?	(N/A)	YES	NO

Cooler #:								
Temperature (°C):	0°C							
Thermometer ID:	403							
Radiological (µCi):								

COMMENTS (Required for all NO responses above and any sample non-conformance):

Rev. 4/29/2019

APPENDIX E

Recalculations and Performance Evaluation Results

Appendix E
TA-Savannah Results Recalculation, February 2019
Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland

Sample ID:	MRC-SW40-021419-T
Analysis Date & Time:	2/20/2019 23:59
Dilution:	1
Initial Volume (mL):	1015
Final Volume (mL):	1

Target Compound	Reported Concentration (ug/L):	MDL	RL	Calculated Concetration (ug/L)
Dichlorobiphenyls	0.016	0.0053	0.099	0.0158
Trichlorobiphenyls*	ND	0.013	0.20	0.0149
Tetrachlorobiphenyls	0.017	0.013	0.19	0.01704

Target Analytes	Response	Reported On-Column (mg/L)	Calculated On Column (mg/L)
Dichlorobiphenyls	2084	0.016	0.0160
Trichlorobiphenyls*	NA	NA	0.0152
Tetrachlorobiphenyls	1137	0.0173	0.01730

Internal Standards	Response	On-Column (mg/L)
d10-phenanthrene	155071	0.75
d12-chrysene	166894	0.75

Internal Standards	Std 1		Std 2		Std 3		Std 4		Std 5		Std 6			
	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc		
d10-phenanthrene	163560	0.75	154963	0.75	141912	0.75	165277	0.75	151688	0.75	164834	0.75		
d12-chrysene	137427	0.75	120282	0.75	125185	0.75	157383	0.75	140705	0.75	166505	0.75		
Target Analytes	Injected Conc:	0.05	Injected Conc:	0.1	Injected Conc:	0.5	Injected Conc:	1	Injected Conc:	2	Injected Conc:	5	RRF Average	RSD (%)
	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L		
Dichlorobiphenyls	5634		10649		48537		112170		214973		599778			
Reported RF	0.6149		0.664		0.5816		0.5345		0.5729		0.5403			
Calculated RF	0.6149		0.6640		0.5816		0.5345		0.5729		0.5403		0.5847	8.2%
	Injected Conc:	0.05	Injected Conc:	0.1	Injected Conc:	0.5	Injected Conc:	1	Injected Conc:	2	Injected Conc:	5		
	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L		
Trichlorobiphenyls	3987		7502		35031		81047		154555		441580			
Reported RF	0.4352		0.4678		0.4198		0.3862		0.4119		0.3978			
Calculated RF	0.4352		0.4678		0.4198		0.3862		0.4119		0.3978		0.4198	6.8%
	Injected Conc:	0.1	Injected Conc:	0.2	Injected Conc:	1	Injected Conc:	2	Injected Conc:	4	Injected Conc:	10		
	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L		
Tetrachlorobiphenyls	5574		10606		50081		113059		216849		615833			
Reported RF	0.3042		0.3307		0.3		0.2694		0.289		0.2774			
Calculated RF	0.3042		0.3307		0.3000		0.2694		0.2890		0.2774		0.2951	7.3%

Notes:

* Trichlorobiphenyls detection was not reported because each individual congener response was less than the MDL (0.00577 ug/L; 0.00446 ug/L; 0.00494 ug/L). Calculated On-column concentrations were provided by a TestAmerica analyst

MDL - method detection limit
mg/L - milligrams per liter
mL - milliliters
RF - response factor
RL - reporting limit
RRF - relative response factor
RSD - relative standard deviation
ug/L - micrograms per liter

Sample ID:	MRC-SW7A-S-021419-A-DUP
Analysis Date & Time:	2/22/2019 0:30
Dilution:	1
Initial Volume (mL):	1060
Final Volume (mL):	0.5

Target Compound	Reported Concentration (ug/L):	MDL	RL	Calculated Concetration (ug/L)
Dichlorobiphenyls	0.0052	0.0023	0.0047	0.0052

Target Analytes	Response	Reported On-Column (mg/L)	Calculated On-Column (mg/L)
Dichlorobiphenyls	2313	0.11	0.011

Internal Standards	Response	On-Column (mg/L)
d10-phenanthrene	341561	0.75
d12-chrysene	255937	0.75

Internal Standards	Std 1		Std 2		Std 3		Std 4		Std 5		Std 6		Std 7			
	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc		
d10-phenanthrene	333223	0.75	331954	0.75	303818	0.75	306820	0.75	291048	0.75	280609	0.75	285136	0.75		
d12-chrysene	231191	0.75	231294	0.75	212429	0.75	212029	0.75	206113	0.75	206682	0.75	217072	0.75		
Target Analytes	Injected Conc:	0.01	Injected Conc:	0.02	Injected Conc:	0.05	Injected Conc:	0.1	Injected Conc:	0.25	Injected Conc:	0.5	Injected Conc:	1	RRF Average	RSD (%)
	Response	Conc. (mg/L)	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L		
Dichlorobiphenyls	2169	0.011	4266	0.021	9307	0.051	18573	0.102	44821	0.253	82075	0.463	159104	0.854		
Reported RF	0.7036		0.6917		0.6572		0.657		0.6524		0.5957		0.5497			
Calculated	0.7036		0.6917		0.6572		0.6570		0.6524		0.5957		0.5497		0.6439	8.37933%

Notes:
MDL - method detection limit
mg/L - milligrams per liter
mL - milliliters
RF - response factor
RL - reporting limit
RRF - relative response factor
RSD - relative standard deviation
ug/L - micrograms per liter

Sample ID:	MRC-SW8A-S-021419-A
Analysis Date & Time:	2/22/2019 1:28
Dilution:	1
Initial Volume (mL):	1060
Final Volume (mL):	0.5

Target Compound	Reported Concentration (ug/L):	MDL	RL	Calculated Concetration (ug/L)
Dichlorobiphenyls	0.0066	0.0023	0.0047	0.0066

Target Analytes	Response	Reported On-Column (mg/L)	Calculated On-Column (mg/L)
Dichlorobiphenyls	3030	0.014	0.014

Internal Standards	Response	On-Column (mg/L)
d10-phenanthrene	343715	0.75
d12-chrysene	258551	0.75

Internal Standards	Std 1		Std 2		Std 3		Std 4		Std 5		Std 6		Std 7			
	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc		
d10-phenanthrene	333223	0.75	331954	0.75	303818	0.75	306820	0.75	291048	0.75	280609	0.75	285136	0.75		
d12-chrysene	231191	0.75	231294	0.75	212429	0.75	212029	0.75	206113	0.75	206682	0.75	217072	0.75		
Target Analytes	Injected Conc:	0.01	Injected Conc:	0.02	Injected Conc:	0.05	Injected Conc:	0.1	Injected Conc:	0.25	Injected Conc:	0.5	Injected Conc:	1	RRF Average	RSD (%)
	Response	Conc. (mg/L)	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L		
Dichlorobiphenyls	2169	0.011	4266	0.021	9307	0.051	18573	0.102	44821	0.253	82075	0.463	159104	0.854		
Reported RF	0.7036		0.6917		0.6572		0.657		0.6524		0.5957		0.5497			
Calculated	0.7036		0.6917		0.6572		0.6570		0.6524		0.5957		0.5497		0.6439	8.37933%

Notes:
MDL - method detection limit
mg/L - milligrams per liter
mL - milliliters
RF - response factor
RL - reporting limit
RRF - relative response factor
RSD - relative standard deviation
ug/L - micrograms per liter

Sample ID:	FB-SW-021419-A
Analysis Date & Time:	2/21/2019 17:57
Dilution:	1
Initial Volume (mL):	1060
Final Volume (mL):	0.5

Target Compound	Reported Concentration (ug/L):	MDL	RL	Calculated Concetration (ug/L)
Dichlorobiphenyls	ND	0.0023	0.0047	0.0009

Target Analytes	Response	Reported On-Column (mg/L)	Calculated On-Column (mg/L)
Dichlorobiphenyls	391	0.002	0.002

Internal Standards	Response	On-Column (mg/L)
d10-phenanthrene	330231	0.75
d12-chrysene	262000	0.75

Internal Standards	Std 1		Std 2		Std 3		Std 4		Std 5		Std 6		Std 7			
	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc		
d10-phenanthrene	333223	0.75	331954	0.75	303818	0.75	306820	0.75	291048	0.75	280609	0.75	285136	0.75		
d12-chrysene	231191	0.75	231294	0.75	212429	0.75	212029	0.75	206113	0.75	206682	0.75	217072	0.75		
Target Analytes	Injected Conc:	0.01	Injected Conc:	0.02	Injected Conc:	0.05	Injected Conc:	0.1	Injected Conc:	0.25	Injected Conc:	0.5	Injected Conc:	1	RRF Average	RSD (%)
	Response	Conc. (mg/L)	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L		
Dichlorobiphenyls	2169	0.011	4266	0.021	9307	0.051	18573	0.102	44821	0.253	82075	0.463	159104	0.854		
Reported RF	0.7036		0.6917		0.6572		0.657		0.6524		0.5957		0.5497			
Calculated	0.7036		0.6917		0.6572		0.6570		0.6524		0.5957		0.5497		0.6439	8.37933%

Notes:
MDL - method detection limit
mg/L - milligrams per liter
mL - milliliters
RF - response factor
RL - reporting limit
RRF - relative response factor
RSD - relative standard deviation
ug/L - micrograms per liter

Sample ID:	MRC-SW5A1-S-021419-A
Analysis Date & Time:	2/22/2019 2:25
Dilution:	1
Initial Volume (mL):	1060
Final Volume (mL):	0.5

Target Compound	Reported Concentration (ug/L):	MDL	RL	Calculated Concetration (ug/L)
Dichlorobiphenyls	0.0042	0.0023	0.0047	0.0042

Target Analytes	Response	Reported On-Column (mg/L)	Calculated On-Column (mg/L)
Dichlorobiphenyls	1984	0.009	0.009

Internal Standards	Response	On-Column (mg/L)
d10-phenanthrene	346419	0.75
d12-chrysene	257868	0.75

Internal Standards	Std 1		Std 2		Std 3		Std 4		Std 5		Std 6		Std 7			
	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc		
d10-phenanthrene	333223	0.75	331954	0.75	303818	0.75	306820	0.75	291048	0.75	280609	0.75	285136	0.75		
d12-chrysene	231191	0.75	231294	0.75	212429	0.75	212029	0.75	206113	0.75	206682	0.75	217072	0.75		
Target Analytes	Injected Conc:	0.01	Injected Conc:	0.02	Injected Conc:	0.05	Injected Conc:	0.1	Injected Conc:	0.25	Injected Conc:	0.5	Injected Conc:	1	RRF Average	RSD (%)
	Response	Conc. (mg/L)	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L		
Dichlorobiphenyls	2169	0.011	4266	0.021	9307	0.051	18573	0.102	44821	0.253	82075	0.463	159104	0.854		
Reported RF	0.7036		0.6917		0.6572		0.657		0.6524		0.5957		0.5497			
Calculated	0.7036		0.6917		0.6572		0.6570		0.6524		0.5957		0.5497		0.6439	8.37933%

Notes:

MDL - method detection limit
mg/L - milligrams per liter
mL - milliliters
RF - response factor
RL - reporting limit
RRF - relative response factor
RSD - relative standard deviation
ug/L - micrograms per liter

Sample ID:	MRC-SW5A2-S-021419-A
Analysis Date & Time:	2/22/2019 3:22
Dilution:	1
Initial Volume (mL):	1060
Final Volume (mL):	0.5

Target Compound	Reported Concentration (ug/L):	MDL	RL	Calculated Concetration (ug/L)
Dichlorobiphenyls	0.0042	0.0023	0.0047	0.0042

Target Analytes	Response	Reported On-Column (mg/L)	Calculated On-Column (mg/L)
Dichlorobiphenyls	2110	0.009	0.009

Internal Standards	Response	On-Column (mg/L)
d10-phenanthrene	357266	0.75
d12-chrysene	271443	0.75

Internal Standards	Std 1		Std 2		Std 3		Std 4		Std 5		Std 6		Std 7			
	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc		
d10-phenanthrene	333223	0.75	331954	0.75	303818	0.75	306820	0.75	291048	0.75	280609	0.75	285136	0.75		
d12-chrysene	231191	0.75	231294	0.75	212429	0.75	212029	0.75	206113	0.75	206682	0.75	217072	0.75		
Target Analytes	Injected Conc:	0.01	Injected Conc:	0.02	Injected Conc:	0.05	Injected Conc:	0.1	Injected Conc:	0.25	Injected Conc:	0.5	Injected Conc:	1	RRF Average	RSD (%)
	Response	Conc. (mg/L)	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L		
Dichlorobiphenyls	2169	0.011	4266	0.021	9307	0.051	18573	0.102	44821	0.253	82075	0.463	159104	0.854		
Reported RF	0.7036		0.6917		0.6572		0.657		0.6524		0.5957		0.5497			
Calculated	0.7036		0.6917		0.6572		0.6570		0.6524		0.5957		0.5497		0.6439	8.37933%

Notes:
MDL - method detection limit
mg/L - milligrams per liter
mL - milliliters
RF - response factor
RL - reporting limit
RRF - relative response factor
RSD - relative standard deviation
ug/L - micrograms per liter

Sample ID:	MRC-SW13A-S-021419-A
Analysis Date & Time:	2/22/2019 4:19
Dilution:	1
Initial Volume (mL):	1060
Final Volume (mL):	0.5

Target Compound	Reported Concentration (ug/L):	MDL	RL	Calculated Concetration (ug/L)
Dichlorobiphenyls	0.0047	0.0023	0.0047	0.0047

Target Analytes	Response	Reported On-Column (mg/L)	Calculated On-Column (mg/L)
Dichlorobiphenyls	2043	0.01	0.01

Internal Standards	Response	On-Column (mg/L)
d10-phenanthrene	318651	0.75
d12-chrysene	249786	0.75

Internal Standards	Std 1		Std 2		Std 3		Std 4		Std 5		Std 6		Std 7			
	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc		
d10-phenanthrene	333223	0.75	331954	0.75	303818	0.75	306820	0.75	291048	0.75	280609	0.75	285136	0.75		
d12-chrysene	231191	0.75	231294	0.75	212429	0.75	212029	0.75	206113	0.75	206682	0.75	217072	0.75		
Target Analytes	Injected Conc:	0.01	Injected Conc:	0.02	Injected Conc:	0.05	Injected Conc:	0.1	Injected Conc:	0.25	Injected Conc:	0.5	Injected Conc:	1	RRF Average	RSD (%)
	Response	Conc. (mg/L)	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L		
Dichlorobiphenyls	2169	0.011	4266	0.021	9307	0.051	18573	0.102	44821	0.253	82075	0.463	159104	0.854		
Reported RF	0.7036		0.6917		0.6572		0.657		0.6524		0.5957		0.5497			
Calculated	0.7036		0.6917		0.6572		0.6570		0.6524		0.5957		0.5497		0.6439	8.37933%

Notes:

MDL - method detection limit
mg/L - milligrams per liter
mL - milliliters
RF - response factor
RL - reporting limit
RRF - relative response factor
RSD - relative standard deviation
ug/L - micrograms per liter

Sample ID:	MRC-SW8B-S-021419-A
Analysis Date & Time:	2/22/2019 5:16
Dilution:	1
Initial Volume (mL):	1020
Final Volume (mL):	0.5

Target Compound	Reported Concentration (ug/L):	MDL	RL	Calculated Concetration (ug/L)
Dichlorobiphenyls	0.0064	0.0023	0.0047	0.0064

Target Analytes	Response	Reported On-Column (mg/L)	Calculated On-Column (mg/L)
Dichlorobiphenyls	2727	0.013	0.013

Internal Standards	Response	On-Column (mg/L)
d10-phenanthrene	331454	0.75
d12-chrysene	252055	0.75

Internal Standards	Std 1		Std 2		Std 3		Std 4		Std 5		Std 6		Std 7			
	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc		
d10-phenanthrene	333223	0.75	331954	0.75	303818	0.75	306820	0.75	291048	0.75	280609	0.75	285136	0.75		
d12-chrysene	231191	0.75	231294	0.75	212429	0.75	212029	0.75	206113	0.75	206682	0.75	217072	0.75		
Target Analytes	Injected Conc:	0.01	Injected Conc:	0.02	Injected Conc:	0.05	Injected Conc:	0.1	Injected Conc:	0.25	Injected Conc:	0.5	Injected Conc:	1	RRF Average	RSD (%)
	Response	Conc. (mg/L)	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L		
Dichlorobiphenyls	2169	0.011	4266	0.021	9307	0.051	18573	0.102	44821	0.253	82075	0.463	159104	0.854		
Reported RF	0.7036		0.6917		0.6572		0.657		0.6524		0.5957		0.5497			
Calculated	0.7036		0.6917		0.6572		0.6570		0.6524		0.5957		0.5497		0.6439	8.37933%

Notes:
MDL - method detection limit
mg/L - milligrams per liter
mL - milliliters
RF - response factor
RL - reporting limit
RRF - relative response factor
RSD - relative standard deviation
ug/L - micrograms per liter

Sample ID:	MRC-SW15A-S-021419-A
Analysis Date & Time:	2/22/2019 6:14
Dilution:	1
Initial Volume (mL):	1040
Final Volume (mL):	0.5

Target Compound	Reported Concentration (ug/L):	MDL	RL	Calculated Concetration (ug/L)
Dichlorobiphenyls	0.0043	0.0023	0.0047	0.0043

Target Analytes	Response	Reported On-Column (mg/L)	Calculated On-Column (mg/L)
Dichlorobiphenyls	2083	0.009	0.009

Internal Standards	Response	On-Column (mg/L)
d10-phenanthrene	345753	0.75
d12-chrysene	266279	0.75

Internal Standards	Std 1		Std 2		Std 3		Std 4		Std 5		Std 6		Std 7			
	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc		
d10-phenanthrene	333223	0.75	331954	0.75	303818	0.75	306820	0.75	291048	0.75	280609	0.75	285136	0.75		
d12-chrysene	231191	0.75	231294	0.75	212429	0.75	212029	0.75	206113	0.75	206682	0.75	217072	0.75		
Target Analytes	Injected Conc:	0.01	Injected Conc:	0.02	Injected Conc:	0.05	Injected Conc:	0.1	Injected Conc:	0.25	Injected Conc:	0.5	Injected Conc:	1	RRF Average	RSD (%)
	Response	Conc. (mg/L)	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L		
Dichlorobiphenyls	2169	0.011	4266	0.021	9307	0.051	18573	0.102	44821	0.253	82075	0.463	159104	0.854		
Reported RF	0.7036		0.6917		0.6572		0.657		0.6524		0.5957		0.5497			
Calculated	0.7036		0.6917		0.6572		0.6570		0.6524		0.5957		0.5497		0.6439	8.37933%

Notes:

MDL - method detection limit
mg/L - milligrams per liter
mL - milliliters
RF - response factor
RL - reporting limit
RRF - relative response factor
RSD - relative standard deviation
ug/L - micrograms per liter

Sample ID:	MRC-SW9A-S-021419-A
Analysis Date & Time:	2/22/2019 7:11
Dilution:	1
Initial Volume (mL):	1040
Final Volume (mL):	0.5

Target Compound	Reported Concentration (ug/L):	MDL	RL	Calculated Concetration (ug/L)
Dichlorobiphenyls	0.0087	0.0023	0.0048	0.0087

Target Analytes	Response	Reported On-Column (mg/L)	Calculated On-Column (mg/L)
Dichlorobiphenyls	4411	0.018	0.018

Internal Standards	Response	On-Column (mg/L)
d10-phenanthrene	362064	0.75
d12-chrysene	286901	0.75

Internal Standards	Std 1		Std 2		Std 3		Std 4		Std 5		Std 6		Std 7			
	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc		
d10-phenanthrene	333223	0.75	331954	0.75	303818	0.75	306820	0.75	291048	0.75	280609	0.75	285136	0.75		
d12-chrysene	231191	0.75	231294	0.75	212429	0.75	212029	0.75	206113	0.75	206682	0.75	217072	0.75		
Target Analytes	Injected Conc:	0.01	Injected Conc:	0.02	Injected Conc:	0.05	Injected Conc:	0.1	Injected Conc:	0.25	Injected Conc:	0.5	Injected Conc:	1	RRF Average	RSD (%)
	Response	Conc. (mg/L)	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L		
Dichlorobiphenyls	2169	0.011	4266	0.021	9307	0.051	18573	0.102	44821	0.253	82075	0.463	159104	0.854		
Reported RF	0.7036		0.6917		0.6572		0.657		0.6524		0.5957		0.5497			
Calculated	0.7036		0.6917		0.6572		0.6570		0.6524		0.5957		0.5497		0.6439	8.37933%

Notes:
MDL - method detection limit
mg/L - milligrams per liter
mL - milliliters
RF - response factor
RL - reporting limit
RRF - relative response factor
RSD - relative standard deviation
ug/L - micrograms per liter

Sample ID:	EB-Tube 1-021419-A
Analysis Date & Time:	2/21/2019 19:24
Dilution:	1
Initial Volume (mL):	1020
Final Volume (mL):	0.5

Target Compound	Reported Concentration (ug/L):	MDL	RL	Calculated Concetration (ug/L)
Dichlorobiphenyls	ND	0.0023	0.0049	0.0010

Target Analytes	Response	Reported On-Column (mg/L)	Calculated On-Column (mg/L)
Dichlorobiphenyls	339	0.002	0.002

Internal Standards	Response	On-Column (mg/L)
d10-phenanthrene	312927	0.75
d12-chrysene	252061	0.75

Internal Standards	Std 1		Std 2		Std 3		Std 4		Std 5		Std 6		Std 7			
	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc		
d10-phenanthrene	333223	0.75	331954	0.75	303818	0.75	306820	0.75	291048	0.75	280609	0.75	285136	0.75		
d12-chrysene	231191	0.75	231294	0.75	212429	0.75	212029	0.75	206113	0.75	206682	0.75	217072	0.75		
Target Analytes	Injected Conc:	0.01	Injected Conc:	0.02	Injected Conc:	0.05	Injected Conc:	0.1	Injected Conc:	0.25	Injected Conc:	0.5	Injected Conc:	1	RRF Average	RSD (%)
	Response	Conc. (mg/L)	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L		
Dichlorobiphenyls	2169	0.011	4266	0.021	9307	0.051	18573	0.102	44821	0.253	82075	0.463	159104	0.854		
Reported RF	0.7036		0.6917		0.6572		0.657		0.6524		0.5957		0.5497			
Calculated	0.7036		0.6917		0.6572		0.6570		0.6524		0.5957		0.5497		0.6439	8.37933%

Notes:

MDL - method detection limit
mg/L - milligrams per liter
mL - milliliters
RF - response factor
RL - reporting limit
RRF - relative response factor
RSD - relative standard deviation
ug/L - micrograms per liter

Sample ID:	MRC-SW31-021419-A
Analysis Date & Time:	2/21/2019 19:53
Dilution:	1
Initial Volume (mL):	1060
Final Volume (mL):	0.5

Target Compound	Reported Concentration (ug/L):	MDL	RL	Calculated Concetration (ug/L)
Dichlorobiphenyls	ND	0.0023	0.0047	0.0009

Target Analytes	Response	Reported On-Column (mg/L)	Calculated On-Column (mg/L)
Dichlorobiphenyls	362	0.002	0.002

Internal Standards	Response	On-Column (mg/L)
d10-phenanthrene	332735	0.75
d12-chrysene	264283	0.75

Internal Standards	Std 1		Std 2		Std 3		Std 4		Std 5		Std 6		Std 7			
	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc		
d10-phenanthrene	333223	0.75	331954	0.75	303818	0.75	306820	0.75	291048	0.75	280609	0.75	285136	0.75		
d12-chrysene	231191	0.75	231294	0.75	212429	0.75	212029	0.75	206113	0.75	206682	0.75	217072	0.75		
Target Analytes	Injected Conc:	0.01	Injected Conc:	0.02	Injected Conc:	0.05	Injected Conc:	0.1	Injected Conc:	0.25	Injected Conc:	0.5	Injected Conc:	1	RRF Average	RSD (%)
	Response	Conc. (mg/L)	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L		
Dichlorobiphenyls	2169	0.011	4266	0.021	9307	0.051	18573	0.102	44821	0.253	82075	0.463	159104	0.854		
Reported RF	0.7036		0.6917		0.6572		0.657		0.6524		0.5957		0.5497			
Calculated	0.7036		0.6917		0.6572		0.6570		0.6524		0.5957		0.5497		0.6439	8.37933%

Notes:

MDL - method detection limit
mg/L - milligrams per liter
mL - milliliters
RF - response factor
RL - reporting limit
RRF - relative response factor
RSD - relative standard deviation
ug/L - micrograms per liter

Sample ID:	MRC-SW7A-S-021419-A
Analysis Date & Time:	2/22/2019 8:09
Dilution:	1
Initial Volume (mL):	1060
Final Volume (mL):	0.5

Target Compound	Reported Concentration (ug/L):	MDL	RL	Calculated Concetration (ug/L)
Dichlorobiphenyls	ND	0.0023	0.0047	0.0019

Target Analytes	Response	Reported On-Column (mg/L)	Calculated On-Column (mg/L)
Dichlorobiphenyls	761	0.004	0.004

Internal Standards	Response	On-Column (mg/L)
d10-phenanthrene	321241	0.75
d12-chrysene	253095	0.75

Internal Standards	Std 1		Std 2		Std 3		Std 4		Std 5		Std 6		Std 7			
	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc		
d10-phenanthrene	333223	0.75	331954	0.75	303818	0.75	306820	0.75	291048	0.75	280609	0.75	285136	0.75		
d12-chrysene	231191	0.75	231294	0.75	212429	0.75	212029	0.75	206113	0.75	206682	0.75	217072	0.75		
Target Analytes	Injected Conc:	0.01	Injected Conc:	0.02	Injected Conc:	0.05	Injected Conc:	0.1	Injected Conc:	0.25	Injected Conc:	0.5	Injected Conc:	1	RRF Average	RSD (%)
	Response	Conc. (mg/L)	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L		
Dichlorobiphenyls	2169	0.011	4266	0.021	9307	0.051	18573	0.102	44821	0.253	82075	0.463	159104	0.854		
Reported RF	0.7036		0.6917		0.6572		0.657		0.6524		0.5957		0.5497			
Calculated	0.7036		0.6917		0.6572		0.6570		0.6524		0.5957		0.5497		0.6439	8.37933%

Notes:
MDL - method detection limit
mg/L - milligrams per liter
mL - milliliters
RF - response factor
RL - reporting limit
RRF - relative response factor
RSD - relative standard deviation
ug/L - micrograms per liter

Sample ID:	MRC-SW40-S-021419-A	*Reanalysis*
Analysis Date & Time:	2/21/2019 20:22	3/20/2019 15:24
Dilution:	1	1
Initial Volume (mL):	1040	1060
Final Volume (mL):	0.5	0.5

Target Compound	Reported Concentration (ug/L):	MDL	RL	Calculated Concetration (ug/L)
Dichlorobiphenyls	0.026	0.0023	0.0048	0.0260
Monochlorobiphenyls	0.026	0.0027	0.005	0.0264
Tetrachlorobiphenyls	0.049	0.003	0.0096	0.0490
Trichlorobiphenyls	0.019	0.0011	0.0048	0.0188

Target Analytes	Response	Reported On-Column (mg/L)	Calculated On-Column (mg/L)
Dichlorobiphenyls	11163	0.054	0.054
Monochlorobiphenyls	17245	0.055	0.055
Tetrachlorobiphenyls	9555	0.102	0.102
Trichlorobiphenyls	5449	0.039	0.039

Internal Standards	Response	On-Column (mg/L)
d10-phenanthrene	315698	0.75
d12-chrysene	239548	0.75

Reanalysis

Target Compound	Reported Concentration (ug/L):	MDL	RL	Calculated Concetration (ug/L)
Dichlorobiphenyls	0.012	0.0023	0.0047	0.0123
Monochlorobiphenyls	0.025	0.0027	0.005	0.0245
Tetrachlorobiphenyls	0.042	0.003	0.0094	0.0415
Trichlorobiphenyls	0.016	0.0011	0.0047	0.0156

Target Analytes	Response	Reported On-Column (mg/L)	Calculated On-Column (mg/L)
Dichlorobiphenyls	5468	0.026	0.026
Monochlorobiphenyls	16569	0.052	0.052
Tetrachlorobiphenyls	8421	0.088	0.088
Trichlorobiphenyls	4757	0.033	0.033

Internal Standards	Response	On-Column (mg/L)
d10-phenanthrene	300000	0.75
d12-chrysene	245138	0.75

Internal Standards	Std 1		Std 2		Std 3		Std 4		Std 5		Std 6		Std 7			
	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc	Response	Injected Conc		
d10-phenanthrene	333223	0.75	331954	0.75	303818	0.75	306820	0.75	291048	0.75	280609	0.75	285136	0.75		
d12-chrysene	231191	0.75	231294	0.75	212429	0.75	212029	0.75	206113	0.75	206682	0.75	217072	0.75		
Target Analytes	Injected Conc:	0.01	Injected Conc:	0.02	Injected Conc:	0.05	Injected Conc:	0.1	Injected Conc:	0.25	Injected Conc:	0.5	Injected Conc:	1	RRF Average	RSD (%)
	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L		
Monochlorobiphenyls	3250	0.011	6501	0.022	14739	0.053	28203	0.102	67098	0.25	125829	0.467	234657	0.829		
Reported RF	1.054		1.054		1.041		0.9976		0.9766		0.9132		0.8108			
Calculated RF	1.0543		1.0540		1.0407		0.9976		0.9766		0.9132		0.8108		0.9782	9.15283%
	Injected Conc:	0.01	Injected Conc:	0.02	Injected Conc:	0.05	Injected Conc:	0.1	Injected Conc:	0.25	Injected Conc:	0.5	Injected Conc:	1		
	Response	Conc. (mg/L)	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L		
Dichlorobiphenyls	2169	0.011	4266	0.021	9307	0.051	18573	0.102	44821	0.253	82075	0.463	159104	0.854		
Reported RF	0.7036		0.6917		0.6572		0.657		0.6524		0.5957		0.5497			
Calculated	0.7036		0.6917		0.6572		0.6570		0.6524		0.5957		0.5497		0.6439	8.37933%
	Injected Conc:	0.01	Injected Conc:	0.02	Injected Conc:	0.05	Injected Conc:	0.1	Injected Conc:	0.25	Injected Conc:	0.5	Injected Conc:	1		
	Response	Conc. (mg/L)	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L		
Trichlorobiphenyls	1497	0.011	2888	0.021	6234	0.05	11994	0.097	29934	0.248	57505	0.476	115526	0.91		
Reported RF	0.4856		0.4682		0.4402		0.4243		0.4357		0.4173		0.3992			
Calculated	0.4856		0.4682		0.4402		0.4243		0.4357		0.4173		0.3992		0.4386	6.78551%
	Injected Conc:	0.02	Injected Conc:	0.04	Injected Conc:	0.1	Injected Conc:	0.2	Injected Conc:	0.5	Injected Conc:	1	Injected Conc:	2		
	Response	Conc. (mg/L)	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L	Response	mg/L		
Tetrachlorbiphenyls	1847	0.02	3872	0.043	8658	0.104	17005	0.205	39224	0.487	76631	0.95	151012	1.782		
Reported RF	0.2996		0.3139		0.3057		0.3008		0.2855		0.2781		0.2609			
Calculated	0.2996		0.3139		0.3057		0.3008		0.2855		0.2781		0.2609		0.2920	6.26030%

Notes:
MDL - method detection limit
mg/L - milligrams per liter
mL - milliliters
RF - response factor
RL - reporting limit
RRF - relative response factor
RSD - relative standard deviation
ug/L - micrograms per liter

Appendix **E**

TA-Savannah Performance Evaluation Sample Results**, February 2019**

Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland

MRC-SW40-S-021419-T	True [1] (ug/L)	Measured (ug/L)	Lab Qualifier	MDL	RL	Percent Recovery (%)	Control Limit[2] (%)
Dichlorobiphenyls	0.013	0.016	J	0.0053	0.099	123%	40-150%
Monochlorobiphenyls	0.014	ND	U	0.0055	0.099	0%	40-150%
Tetrachlorobiphenyls	0.023	0.017	J	0.013	0.20	74%	40-150%
Trichlorobiphenyls	0.013	ND	U	0.0064	0.099	0%	40-150%

1: Phenova provided concentrations on Certificate of Analysis

2: Control limits provided by Phenova

Abbreviations

MDL: method detection limit

RL: reporting limit

ug/L: micrograms per liter

Lab Qualifier Definitions

U - Non-detect

J - Estimate Detection

Appendix **E**
ALS-Rochester Performance Evaluation Sample Results**, February 2019**
Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland

MRC-SW40-S-021419-A	True[1] (ug/L)	Measured (ug/L)	Lab Qualifier	MDL	RL	Percent Recovery (%)	Control Limit[2] (%)
Dichlorobiphenyls	0.013	0.026		0.0023	0.0048	200%	40-150%
Monochlorobiphenyls	0.014	0.026		0.0027	0.0048	186%	40-150%
Tetrachlorobiphenyls	0.023	0.049		0.0030	0.0096	213%	40-150%
Trichlorobiphenyls	0.013	0.019		0.0011	0.0048	146%	40-150%

MRC-SW40-S-021419-A (Reanalysis)	True[1] (ug/L)	Measured (ug/L)	Lab Qualifier	MDL	RL	Percent Recovery (%)	Control Limit[2] (%)
Dichlorobiphenyls	0.013	0.012		0.0023	0.0047	92%	40-150%
Monochlorobiphenyls	0.014	0.025		0.0027	0.0047	179%	40-150%
Tetrachlorobiphenyls	0.023	0.042		0.0030	0.0094	183%	40-150%
Trichlorobiphenyls	0.013	0.016		0.0011	0.0047	123%	40-150%

1: Phenova provided concentrations on Certificate of Analysis
2: Control limits provided by Phenova

Abbreviations
MDL: method detection limit
RL: reporting limit
ug/L: micrograms per liter

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Custom Congener Homologs, AECOM — *Lot# 23948-001*

NELAC Analyte Code	Analyte	Certified Value ng/L
NA	Total Monochlorobiphenyl Congeners	14.0
NA	Total Dichlorobiphenyl Congeners	13.0
NA	Total Trichlorobiphenyl Congeners	13.0
NA	Total Tetrachlorobiphenyl Congeners	23.0

Certified Values = "100% true concentration" of each analyte as determined from gravimetric measurements made during standard manufacture.

Provided as a spiking concentrate requiring a 1mL to 1L spike performed by client

Approved by: FW

Date: 3/19

Reviewed By: THG

Date: 3/19