

**DARK HEAD COVE INTERIM SURFACE WATER
POLYCHLORINATED BIPHENYL
TECHNICAL MEMORANDUM
LOCKHEED MARTIN CORPORATION,
MIDDLE RIVER COMPLEX
2323 EASTERN BOULEVARD, MIDDLE RIVER, MD**

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ACRONYMS AND ABBREVIATIONS

AECOM	AECOM Technical Services, Inc.
AVA	Automated Validation Assistant
ALS-Rochester	ALS Environmental in Rochester, New York
CLP	Contract Laboratory Program
MDL(s)	method detection limit(s)
MRC	Middle River Complex
ug/L	micrograms per liter
PCB(s)	polychlorinated biphenyl(s)
QA/QC	Quality Assurance/Quality Control
QC	Quality Control
TA-Savannah	TestAmerica Laboratories, Inc. in Savannah, Georgia
USEPA	United States Environmental Protection Agency

EXECUTIVE SUMMARY

On behalf of Lockheed Martin Corporation, AECOM Technical Services, Inc., has prepared this technical memorandum documenting the February 2019 interim surface water sampling at the Lockheed Martin Middle River Complex in Middle River, Maryland. On February 14th, 2019, AECOM Technical Services, Inc., collected surface water samples and various quality control samples as part of the investigation into the causation of multiple polychlorinated biphenyl detections reported in the April 2018 surface water. Analytical data collected in previous years were mostly non-detect for PCBs 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 in Rochester, New York).

To further evaluate the reported 2018 surface water polychlorinated biphenyl detections, Lockheed Martin Corporation proposed two action items in a proposal submitted to Maryland Department of the Environment in December 2018. These action items were to:

- (1) Perform a laboratory comparison study on existing data between the 2018 laboratory (ALS Environmental) and the previous laboratory (TestAmerica Laboratories, Inc.). A detailed review of the 2016, 2017, and 2018 existing laboratory data packages for Dark Head Cove surface water samples was to be conducted, and
- (2) Perform an Interim Surface Water Sampling and Quality Assurance/Quality Control study to determine if laboratory or field conditions caused the polychlorinated biphenyl detections in the April 2018 surface water samples. Laboratory split samples were to be collected as a set of co-located field samples at eight of the Dark Head Cove locations. Laboratory split samples were to be collected at a rate of 100% for polychlorinated biphenyl homolog analysis.

This proposal was approved by the Maryland Department of the Environment on December 24, 2018. The purpose of this technical memorandum is to describe the results of the interim surface water sampling and present the findings of the quality assurance/quality control study.

During the interim surface water sampling, field samples were collected from eight (8) sample locations and submitted to the subcontracted laboratories. Quality control samples along with these field samples, which included one (1) field duplicate, two (2) trip blanks, one (1) performance evaluation sample, two (2) equipment blanks, and two (2) field blanks. All of these field samples and quality control samples were collected as split samples and sent to both subcontracted laboratories. Two (2) 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.

Findings from the 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.
- 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-¹³C₁₂ 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 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 C).

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. 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.

SECTION 1 INTRODUCTION

Total polychlorinated biphenyls (PCBs), attributed to the dichlorobiphenyl homolog group, were detected in samples from all 14 of the Dark Head Cove surface water sampling locations during the April 2018 event. Surface water total PCB concentrations ranged from 0.0019 to 0.0066 micrograms per liter ($\mu\text{g/L}$). In comparison, reported detections of total PCBs were identified at just two locations during the 2016 to 2017 surface water sampling events, in samples MRC-SW6B-061316 (total pentachlorobiphenyls at 0.036 $\mu\text{g/L}$) and MRC-SW5A-091217 (total tetrachlorobiphenyls at 0.014 $\mu\text{g/L}$). To further evaluate the reported 2018 surface water polychlorinated biphenyl detections, Lockheed Martin Corporation proposed two action items in a proposal submitted to Maryland Department of the Environment in December 2018. These action items were to:

- (1) Perform a laboratory comparison study on existing data between the 2018 laboratory, ALS Environmental in Rochester, New York, (ALS-Rochester), and the previous laboratory, TestAmerica Laboratories, Inc., in Savannah, Georgia (TA-Savannah). A detailed review of the 2016, 2017, and 2018 existing laboratory data packages for Dark Head Cove surface water samples was to be conducted, and
- (2) Perform an Interim Surface Water Sampling and Quality Assurance/Quality Control (QA/QC) study to determine if laboratory or field conditions caused the polychlorinated biphenyl detections in the April 2018 surface water samples. Laboratory split samples were to be collected as a set of co-located field samples at eight of the Dark Head Cove locations. Laboratory split samples were to be collected at a rate of 100% for polychlorinated biphenyl homolog analysis.

This proposal was approved by the Maryland Department of the Environment on December 24, 2018. The purpose of this technical memorandum is to describe the results and present the findings of the interim surface water sampling event. The results of the interim surface water laboratory split samples allow for a direct comparison between ALS-Rochester and TA-Savannah to further evaluate the validity of the 2018 surface water sample total PCB detections. The laboratory comparison study will be submitted to Maryland Department of the Environment under separate cover.

The 2019 interim surface water sample collection and data validation were conducted by AECOM Technical Services Inc., while sample analysis of polychlorinated biphenyl homologs was performed by ALS-Rochester and TA-Savannah. Both laboratories referenced United States Environmental Protection Agency Method 680 Determination of Pesticides and PCBs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry (November 1985), provided valid method detection limit studies, and followed their standard operating procedure. During the interim surface water sampling, a total of fifteen (15) field samples were collected and submitted as laboratory split samples, including eight (8) investigative surface water samples (Figure 1), one (1) field duplicate, one (1) performance evaluation sample, one (1) field blank, two (2) equipment rinsates, and two (2) trip blanks.

The objective of the February 2019 interim surface water sampling and QA/QC study is to confirm the surface water sample detections reported for total dichlorobiphenyls in April 2018 by ALS-Rochester via comparison of laboratory split surface water sample results between ALS-Rochester and TA-Savannah. Additional QC samples were added to the interim surface water sampling in order to evaluate blank contamination and analytical accuracy, including field blanks, equipment rinsates, trip blanks, certified bottleware, matrix spike pairs, field duplicates, and performance evaluation samples. The different levels of laboratory sensitivities and/or field/laboratory interferences were hypothesized by AECOM Technical Services, Inc., to be the reason for the April 2018 estimated detections of total dichlorobiphenyls which were not present in previous surface water data from Dark Head Cove. This technical memorandum is organized as follows:

- Section 1—Introduction
- Section 2—Investigative Approach and Methodology
- Section 3—Analytical Results and Conclusions
- Section 4—References

SECTION 2

INVESTIGATION APPROACH AND METHODOLOGY

The review performed by AECOM Technical Services, Inc., (AECOM) in this study includes elements of data quality, chromatographic interpretation, result quantitation, and recalculation. During the data quality review, AECOM encountered minor QC anomalies, but found that all data, from both laboratories, was usable as reported based on the laboratory procedures documented in the laboratory reports.

2.1 SURFACE WATER SAMPLING

All samples were collected February 14th, 2019, in Dark Head Cove onboard a small vessel with dedicated, disposable tubing, using a peristaltic pump set at a depth of one foot and a purge rate of approximately 500 milliliters per minute. Sampling methods are described in the *2018-2020 Groundwater and Surface Water Monitoring Work Plan* (AECOM, 2017). Investigative surface water samples were collected as co-located laboratory splits from eight locations, in addition to one field duplicate and one matrix spike pair.

As part of the QA/QC study, an extended list of QC samples were collected and submitted as laboratory splits during the interim surface water sampling. The list of QC samples included laboratory-blind PCB trip blanks, field blanks, equipment rinsates, and laboratory-blind performance evaluation 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.

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- *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 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 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 performance evaluation samples were prepared offsite by AECOM and labeled consistently with investigative surface water sample nomenclature in order to remain laboratory-blind.

2.2 HOMOLOG ANALYTICAL DATA REVIEW

The review of ALS-Rochester's and the previous laboratory, TA-Savannah's, homolog data performed included a review of data quality with result recalculation and a thorough chromatographic review. The purpose of the review was to verify the detected surface water sample results reported for total dichlorobiphenyls and investigate the possibility of additional PCB homolog responses present in the chromatograms which were less than the method detection limit, and therefore reported as non-detect.

2.2.1 Data Validation

The AECOM project chemist team performed data validation on 100% of the surface water samples, performance evaluation samples, and field QC samples. The validation was performed to meet United States Environmental Protection Agency USEPA Region III Organic Level II based on the specifics of the analytical methods referenced and qualified according to the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic (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 AECOM project chemist team performed the initial review of the data using the AECOM Automated Validation Assistant (AVA) electronic data management tool that compiles batch-level QC data submitted with the laboratory deliverables and identifies anomalies for verification and qualification by the data reviewer. The AVA tool provides the information 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 this process included 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, as well as strict control of data management permissions. The AECOM AVA tool then evaluates and validates the workbooks. The specific data elements that were reviewed include:

- Holding times and sample preservation
- Blanks (method, trip, field, and equipment rinsates)
- Matrix spike and/or matrix spike duplicate results
- Laboratory control sample/laboratory control sample duplicate results
- Surrogate spike results
- Field duplicates
- Laboratory duplicates
- Sensitivity

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

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

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

The data validation reports are included in Appendix A.

2.2.2 Chromatographic Review

Chromatograms were reviewed visually using the associated calibrations, internal standards, and labeled surrogates. As part of the review, chromatograms with suspected PCB homolog peaks, as well as chromatograms with additional or unidentifiable peaks required further interpretation by a laboratory analyst. AECOM chemists do not have direct access to all the resources of the laboratory analysts and rely heavily on visually identifying possible homolog peaks in the chromatograms. Laboratory analysts are able to more definitively confirm the findings of the AECOM chemists, and provide insight into the analytical factors contributing to the nature of the chromatographic responses. Due to reported non-detects of known PCB homolog concentrations in the performance evaluation sample analyzed by TA, further interpretation and identification of unidentified peaks was requested. The requested interpretation was focused on identifying PCB homolog responses in the chromatogram which were less than the method detection limits (MDL) and therefore reported as non-detect.

2.2.3 Manual Results Recalculation

AECOM manually recalculated all on-column results integrated by the laboratory in 100% of the investigative surface water samples in this study. The calculations were confirmatory calculations and were performed in accordance with a USEPA Region III Organic Level II (formerly M-3) according to the USEPA CLP National Functional Guidelines for Organic Superfund Methods Data Review (USEPA, 2017), with equations from USEPA Method 680 (USEPA, 1985) and the laboratory SOPs.

Calculations were performed for any analyte that was identified and integrated in the raw data of each sample, even if that analyte displayed a response which would have a calculated concentration less than the MDL. In those instances, calculations would determine if the laboratory correctly reported those results as non-detect. The specific values calculated for each integrated analyte include response factors for each calibration standard, average response

factors for the calibration, RSD for the calibration, on-column concentration, and reportable concentration.

2.2.4 Field and Laboratory Blank Results

During the 2018 sampling, there was a question of possible false positives for the surface water locations due to field blank detections encountered. As a result, field blanks, equipment blanks, and lab-blind trip blanks were collected along with the surface water investigative field samples, and we also requested both laboratories analyze a storage bottle blank by lot. 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.

SECTION 3

ANALYTICAL RESULTS AND CONCLUSIONS

3.1 ANALYTICAL RESULTS

As discussed in the previous laboratory data comparison technical memorandum, during the review of analytical sensitivity, it was found that ALS-Rochester was able to achieve method detection limits up to nine times lower than those of TA-Savannah for all homolog groups. Specifically, ALS-Rochester's method detection limit for dichlorobiphenyls of 0.0016 micrograms per liter ($\mu\text{g/L}$) was three times lower than that of TA-Savannah (0.0054 $\mu\text{g/L}$).

TA-Savannah reported non-detects in all eight investigative sample locations and ALS-Rochester reported detected results for dichlorobiphenyls in all eight investigative sample locations.

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 ($\mu\text{g/L}$) during the April 2018 event. The February 2019 event displayed similar detections, ranging from 0.0042 to 0.0087 $\mu\text{g/L}$ (Table 2). Both data sets were presented by ALS-Rochester. The laboratory reports are included in Appendix D.

3.2 CONCLUSIONS

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 B.

TA-Savannah reported low recoveries for laboratory-blind performance evaluation sample results for monochlorobiphenyls and trichlorobiphenyls, possibly due to the relatively lower concentrations of the performance evaluation 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.

SECTION 4 REFERENCES

AECOM Technical Services, Inc. (AECOM), 2017. *2018-2020 Groundwater and Surface Water Monitoring Work Plan, Lockheed Martin Corporation, Middle River Complex, 2323 Eastern Boulevard, Middle River, Maryland*. Prepared by AECOM Technical Services, Inc., Germantown, Maryland, for Lockheed Martin Corporation, Bethesda, Maryland. December.

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FIGURES

Figure 1—February 2019 Interim Surface Water Sampling in Dark Head Cove

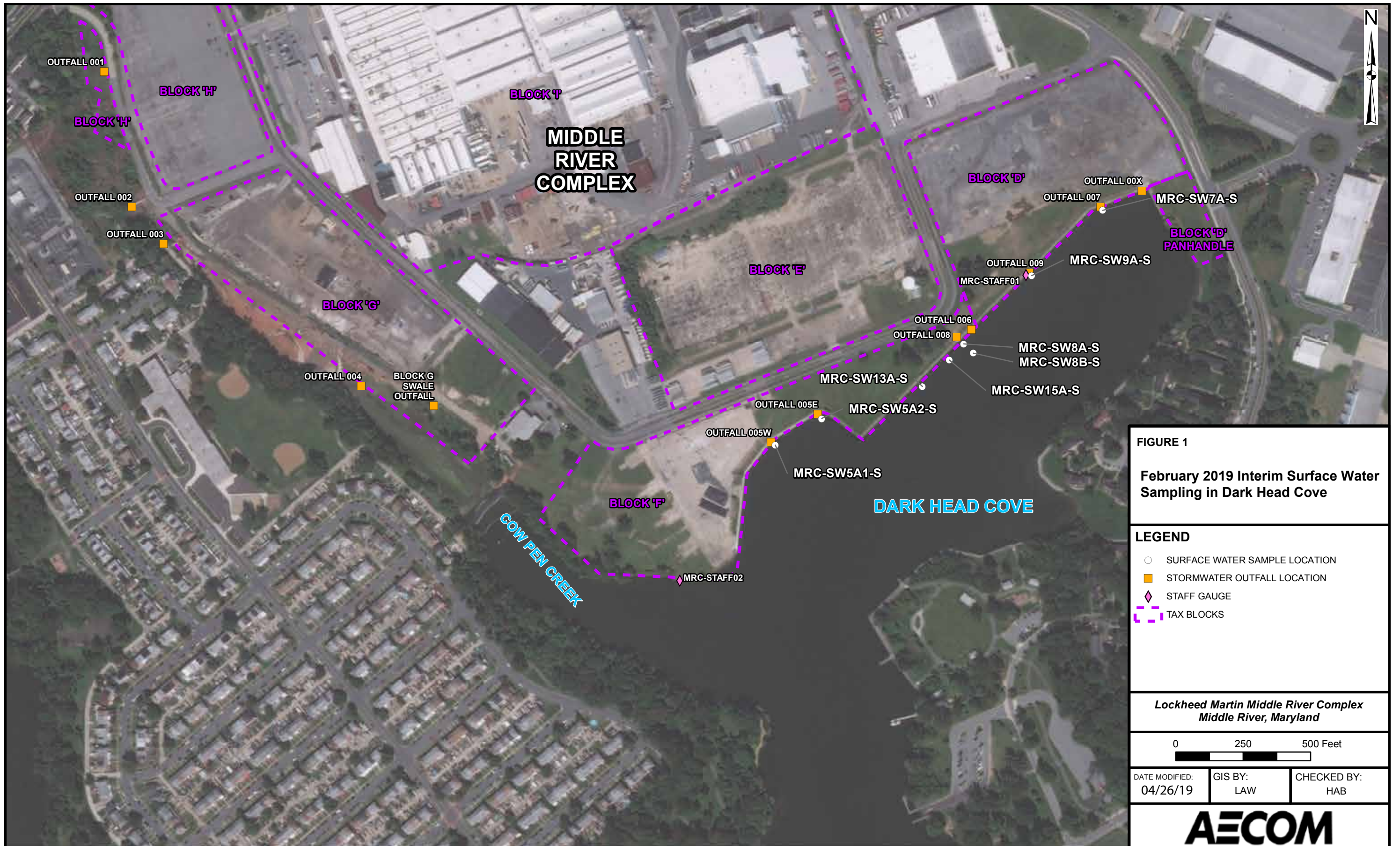
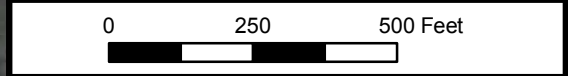


FIGURE 1
February 2019 Interim Surface Water Sampling in Dark Head Cove

LEGEND

	SURFACE WATER SAMPLE LOCATION
	STORMWATER OUTFALL LOCATION
	STAFF GAUGE
	TAX BLOCKS

Lockheed Martin Middle River Complex
Middle River, Maryland



DATE MODIFIED: 04/26/19	GIS BY: LAW	CHECKED BY: HAB
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TABLES

Table 1—Summary of Detections

Table 2—Analytical Data Summary

TABLE 1
Summary of Detections

Table 1: Summary of Detections
Loackheed Martin Corporation, Middle River Complex, Middle River, Maryland
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Well Location ID	Dichlorobiphenyl Concentration (µg/L)
MRC-SW13A-S	0.0047
MRC-SW15A-S	0.0043
MRC-SW5A1-S	0.0042
MRC-SW5A2-S	0.0042
MRC-SW7A*-S	0.0052
MRC-SW8A-S	0.0066
MRC-SW8B-S	0.0064
MRC-SW9A-S	0.0087

*Result detected in duplicate, parent sample was non-detect

µg/L = micrograms per liter

TABLE 2
Analytical Data Summary

Table 2: Analytical Data Summary
Loackheed Martin Corporation, Middle River Complex, Middle River, Maryland
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Homolog Group (-chlorobiphenyl concentrations in µg/L)

Location	Field Sample ID	Sample Type	Mono-	Di-	Tri-	Tetra-	Penta-	Hexa-	Hepta-	Octa-	Nona-	Deca-
MRC-SW13A-S	MRC-SW13A-S-021419-A	Field Sample	< 0.0027	0.0047	< 0.0011	< 0.0030	< 0.0016	< 0.0027	< 0.0041	< 0.0048	< 0.0074	< 0.011
	MRC-SW13A-S-021419-T		< 0.098	< 0.098	< 0.098	< 0.20	< 0.20	< 0.20	< 0.29	< 0.29	< 0.49	< 0.49
MRC-SW15A-S	MRC-SW15A-S-021419-A	Field Sample	< 0.0027	0.0043	< 0.0011	< 0.0030	< 0.0016	< 0.0027	< 0.0041	< 0.0048	< 0.0074	< 0.011
	MRC-SW15A-S-021419-T		< 0.098	< 0.098	< 0.098	< 0.20	< 0.20	< 0.20	< 0.29	< 0.29	< 0.49	< 0.49
MRC-SW5A1-S	MRC-SW5A1-S-021419-A	Field Sample	< 0.0027	0.0042	< 0.0011	< 0.0030	< 0.0016	< 0.0027	< 0.0041	< 0.0048	< 0.0074	< 0.011
	MRC-SW5A1-S-021419-T		< 0.097	< 0.097	< 0.097	< 0.19	< 0.19	< 0.19	< 0.29	< 0.29	< 0.49	< 0.49
MRC-SW5A2-S	MRC-SW5A2-S-021419-A	Field Sample	< 0.0027	0.0042	< 0.0011	< 0.0030	< 0.0016	< 0.0027	< 0.0041	< 0.0048	< 0.0074	< 0.011
	MRC-SW5A2-S-021419-T		< 0.098	< 0.098	< 0.098	< 0.20	< 0.20	< 0.20	< 0.29	< 0.29	< 0.49	< 0.49
MRC-SW7A-S	MRC-SW7A-S-021419-A	Field	< 0.0027	< 0.0023	< 0.0011	< 0.0030	< 0.0016	< 0.0027	< 0.0041	< 0.0048	< 0.0074	< 0.011
	MRC-SW7A-S-021419-T	Sample	< 0.096	< 0.096	< 0.096	< 0.19	< 0.19	< 0.19	< 0.29	< 0.29	< 0.48	< 0.48
	MRC-SW7A-S-021419-A-DUP	Field	< 0.0027	0.0052	< 0.0011	< 0.0030	< 0.0016	< 0.0027	< 0.0041	< 0.0048	< 0.0074	< 0.011
	MRC-SW7A-S-021419-T-DUP	Duplicate	< 0.096	< 0.096	< 0.096	< 0.19	< 0.19	< 0.19	< 0.29	< 0.29	< 0.48	< 0.48
MRC-SW8A-S	MRC-SW8A-S-021419-A	Field Sample	< 0.0027	0.0066	< 0.0011	< 0.0030	< 0.0016	< 0.0027	< 0.0041	< 0.0048	< 0.0074	< 0.011
	MRC-SW8A-S-021419-T		< 0.098	< 0.098	< 0.098	< 0.20	< 0.20	< 0.20	< 0.29	< 0.29	< 0.49	< 0.49
MRC-SW8B-S	MRC-SW8B-S-021419-A	Field Sample	< 0.0027	0.0064	< 0.0011	< 0.0030	< 0.0016	< 0.0027	< 0.0041	< 0.0048	< 0.0074	< 0.011
	MRC-SW8B-S-021419-T		< 0.099	< 0.099	< 0.099	< 0.20	< 0.20	< 0.20	< 0.30	< 0.30	< 0.50	< 0.50
MRC-SW9A-S	MRC-SW9A-S-021419-A	Field Sample	< 0.0027	0.0087	< 0.0011	< 0.0030	< 0.0016	< 0.0027	< 0.0041	< 0.0048	< 0.0074	< 0.011
	MRC-SW9A-S-021419-T		< 0.099	< 0.099	< 0.099	< 0.20	< 0.20	< 0.20	< 0.30	< 0.30	< 0.49	< 0.49
QC	Lot Bottle Blank-A	Lot Bottle Blank	< 0.00059	< 0.0016	< 0.0022	< 0.0023	< 0.0043	< 0.0047	< 0.0090	< 0.0099	< 0.0088	< 0.012
	Lot Bottle Blank-T		< 0.099	< 0.099	< 0.099	< 0.20	< 0.20	< 0.20	< 0.30	< 0.30	< 0.49	< 0.49
QC	MRC-SW30-021419-A	Trip Blank	< 0.0027	< 0.0023	< 0.0011	< 0.0030	< 0.0016	< 0.0027	< 0.0041	< 0.0048	< 0.0074	< 0.011
	MRC-SW30-021419-T		< 0.096	< 0.096	< 0.096	< 0.19	< 0.19	< 0.19	< 0.29	< 0.29	< 0.48	< 0.48
QC	MRC-SW31-021419-A	Trip Blank	< 0.0027	< 0.0023	< 0.0011	< 0.0030	< 0.0016	< 0.0027	< 0.0041	< 0.0048	< 0.0074	< 0.011
	MRC-SW31-021419-T		< 0.097	< 0.097	< 0.097	< 0.19	< 0.19	< 0.19	< 0.29	< 0.29	< 0.48	< 0.48
QC	MRC-SW32-021419-T	Trip Blank*	< 0.096	< 0.096	< 0.096	< 0.19	< 0.19	< 0.19	< 0.29	< 0.29	< 0.48	< 0.48
QC	MRC-SW33-021419-T	Trip Blank*	< 0.096	< 0.096	< 0.096	< 0.19	< 0.19	< 0.19	< 0.29	< 0.29	< 0.48	< 0.48
QC	MRC-SW40-S-021419-A	PE Sample	0.026	0.026	0.019	0.049	< 0.0016	< 0.0027	< 0.0041	< 0.0048	< 0.0074	< 0.011
	MRC-SW40-021419-T		< 0.099	0.016	< 0.099	0.017	< 0.20	< 0.20	< 0.30	< 0.30	< 0.49	< 0.49
QC	EB-TUBE 1-021419-A	Equipment Blank	< 0.0027	< 0.0023	< 0.0011	< 0.0030	< 0.0016	< 0.0027	< 0.0041	< 0.0048	< 0.0074	< 0.011
	EB-TUBE1-021419-T		< 0.097	< 0.097	< 0.097	< 0.19	< 0.19	< 0.19	< 0.29	< 0.29	< 0.48	< 0.48
QC	EB-TUBE 2-021419-A	Equipment Blank	< 0.0027	< 0.0023	< 0.0011	< 0.0030	< 0.0016	< 0.0027	< 0.0041	< 0.0048	< 0.0074	< 0.011
	EB-TUBE1-021419-T		< 0.097	< 0.097	< 0.097	< 0.19	< 0.19	< 0.19	< 0.29	< 0.29	< 0.48	< 0.48
QC	FB-SW-021419-A	Field Blank	< 0.0027	< 0.0023	< 0.0011	< 0.0030	< 0.0016	< 0.0027	< 0.0041	< 0.0048	< 0.0074	< 0.011
	FB-SW-021419-T		< 0.097	< 0.097	< 0.097	< 0.19	< 0.19	< 0.19	< 0.29	< 0.29	< 0.49	< 0.49

Bold indicates a detection

-A indicates results reported by ALS-Rochester

-T indicates results reported by TA-Savannah

* Two extra trip blanks were provided by TA-Savannah and were submitted for analysis to the laboratory

µg/L = micrograms per liter

< = non-detect, less than the listed reporting limit

APPENDICES

Appendix A—Data Validation Reports

Appendix B—Result Recalculations

Appendix C—Performance Evaluation Sample Results

Appendix D—Laboratory Reports

APPENDIX A
Data Validation Reports

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



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03/29/2019



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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-¹³C₁₂ 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]

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



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IV.	Qualified Field Sample Results	9

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 $\pm 20\%$ 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]

APPENDIX B
Result Recalculations

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ALS Rochester Results Recalculation
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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 Concentration (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		RRF Average	RSD (%)
	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

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ALS Rochester Results Recalculation
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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 Concentration (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		RRF Average	RSD (%)
	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

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ALS Rochester Results Recalculation
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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 Concentration (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
	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	

RRF Average	RSD (%)
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

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ALS Rochester Results Recalculation
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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 Concentration (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		RRF Average	RSD (%)
	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

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ALS Rochester Results Recalculation
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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 Concentration (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		RRF Average	RSD (%)
	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

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ALS Rochester Results Recalculation
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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 Concentration (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
	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	

RRF Average	RSD (%)
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

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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 Concentration (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		RRF Average	RSD (%)
	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

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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 Concentration (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
	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	

RRF Average	RSD (%)
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

Appendix B
ALS Rochester Results Recalculation
Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland
Page 9 of 13

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 Concentration (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
	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	

RRF Average	RSD (%)
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

Appendix B
ALS Rochester Results Recalculation
Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland
Page 10 of 13

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 Concentration (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		RRF Average	RSD (%)
	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

Appendix B
ALS Rochester Results Recalculation
Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland
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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 Concentration (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		RRF Average	RSD (%)
	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

Appendix B
ALS Rochester Results Recalculation
Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland
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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 Concentration (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
	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	

RRF Average	RSD (%)
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

Appendix B
ALS Rochester Results Recalculation
Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland
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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 Concentration (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

Target Compound	Reported Concentration (ug/L):	MDL	RL	Calculated Concentration (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	0.9782	9.15283%
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			
Dichlorobiphenyls	2169	0.011	4266	0.021	9307	0.051	18573	0.102	44821	0.253	82075	0.463	159104	0.854	0.6439	8.37933%
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			
Trichlorobiphenyls	1497	0.011	2888	0.021	6234	0.05	11994	0.097	29934	0.248	57505	0.476	115526	0.91	0.4386	6.78551%
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			
Tetrachlorobiphenyls	1847	0.02	3872	0.043	8658	0.104	17005	0.205	39224	0.487	76631	0.95	151012	1.782	0.2920	6.26030%
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			

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 C
Performance Evaluation Sample Results

Appendix C
 TA-Savannah Performance Evaluation Sample Results
 Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland
 Page 1 of 1

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 C
 ALS-Rochester Performance Evaluation Sample Results
 Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland
 Page 1 of 1

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

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

Reviewed By: THG

Date: 3/19

Date: 3/19

APPENDIX D
Laboratory Reports



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

A handwritten signature in black ink that reads "Eddie T. Barnett".

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

The test results in this report meet NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted. Results pertain only to samples listed in this report. This report may not be reproduced, except in full, without the written approval of the laboratory. Questions should be directed to the person who signed this report.

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

TestAmerica Laboratories, Inc.

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Definitions/Glossary

APPENDIX D Laboratory Reports

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.
α	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 3.5° C, 3.5° C, 3.8° C and 3.9° 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

APPENDIX D - Laboratory Reports

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

APPENDIX B Laboratory Reports

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-164605-1

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

Date Collected: 02/14/19 11:07

Date Received: 02/15/19 07:30

Lab Sample ID: 680-164605-1

Matrix: Water

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

Date Collected: 02/14/19 11:24

Date Received: 02/15/19 07:30

Lab Sample ID: 680-164605-2

Matrix: Water

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

Date Collected: 02/14/19 11:44

Date Received: 02/15/19 07:30

Lab Sample ID: 680-164605-3

Matrix: Water

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

TestAmerica Savannah

Client Sample Results

APPENDIX B Laboratory Reports

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 Sample Results

APPENDIX B Laboratory Reports

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 Results

APPENDIX B Laboratory Reports

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-164605-1

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

APPENDIX B Laboratory Reports

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 Results

APPENDIX B Laboratory Reports

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-164605-1

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

APPENDIX B Laboratory Reports

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

APPENDIX D - Laboratory Reports

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

APPENDIX B Laboratory Reports

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

QC Sample Results

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-164605-1

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

Lab Sample ID: MB 680-558724/18-A
Matrix: Water
Analysis Batch: 559058

Client Sample ID: Method Blank
Prep Type: Total/NA
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
Matrix: Water
Analysis Batch: 559058

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 558724

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%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
Matrix: Water
Analysis Batch: 559058

Client Sample ID: MRC-SW7A-S-021419-T
Prep Type: Total/NA
Prep Batch: 558724

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%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

QC Sample Results

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: 680-164605-9 MS

Matrix: Water

Analysis Batch: 559058

Client Sample ID: MRC-SW7A-S-021419-T

Prep Type: Total/NA

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	%Recovery	MS Qualifier	MS Limits							
Decachlorobiphenyl-13C12	65		25 - 113							

Lab Sample ID: 680-164605-9 MSD

Matrix: Water

Analysis Batch: 559058

Client Sample ID: MRC-SW7A-S-021419-T

Prep Type: Total/NA

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	%Recovery	MSD Qualifier	MSD Limits								
Decachlorobiphenyl-13C12	61		25 - 113								

Lab Sample ID: MB 680-559624/3-A

Matrix: Water

Analysis Batch: 559821

Client Sample ID: Method Blank

Prep Type: Total/NA

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	%Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac				
Decachlorobiphenyl-13C12	65		25 - 113	02/26/19 13:54	02/27/19 16:20	1				

QC Sample Results

APPENDIX D - Laboratory Reports

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
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%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
%Rec.

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	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

APPENDIX D Laboratory Reports

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

APPENDIX D Laboratory Reports

Client: AECOM

TestAmerica Job ID: 680-164605-1

Project/Site: MRC Surface Water Sampling

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: 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

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: 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

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: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-164605-1

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

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

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

APPENDIX B - Laboratory Reports

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

APPENDIX D - Laboratory Reports

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

APPENDIX D - Laboratory Reports

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

APPENDIX D - Laboratory Reports
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

APPENDIX D - Laboratory Reports
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

APPENDIX D - Laboratory Reports
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		

APPENDIX D - Laboratory Reports
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

APPENDIX D - Laboratory Reports
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

APPENDIX D - Laboratory Reports
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

APPENDIX D - Laboratory Reports
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

APPENDIX D - Laboratory Reports
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

APPENDIX D - Laboratory Reports
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

REAGENT TRACEABILITY SUMMARY
APPENDIX D - Laboratory Reports

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
.SM-680istd_00045	10/13/19	10/13/18	Hexane, Lot 135581	10 mL	Chrys-12_00030	125 uL	Phenanthrene-d10	0.75 ug/mL
..Chrys-12_00030	10/13/19		ultra, Lot cs-2540		Phenan-d10_00038	250 uL	Chrysene-d12	25 ug/mL
..Phenan-d10_00038	10/13/19		ultra, Lot CM-4742				Phenanthrene-d10	25 ug/mL
680cal3ICV_00054	10/13/19	10/13/18	Hexane, Lot K29E01	2 mL	680conCALa_00037	40 uL	Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	1000 ug/mL
							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				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				Decachlorobiphenyl-13C12	40 ug/mL
.PCB RTmixa_00030	10/13/19		AccuStandard, Lot 215031484				Nonachlorobiphenyl	200 ug/mL
680isomerCall_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				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

REAGENT TRACEABILITY SUMMARY
APPENDIX D - Laboratory Reports

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							

REAGENT TRACEABILITY SUMMARY
APPENDIX D - Laboratory Reports

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

REAGENT TRACEABILITY SUMMARY
APPENDIX D - Laboratory Reports

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
680isomerCa15_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

REAGENT TRACEABILITY SUMMARY
APPENDIX D - Laboratory Reports

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
..Chrys-12_00030	10/13/19		ultra, Lot cs-2540		Phenan-d10_00038	250 uL	Phenanthrene-d10	25 ug/mL
..Phenan-d10_00038	10/13/19		ultra, Lot CM-4742		(Purchased Reagent)		Chrysene-d12	2000 ug/mL
					(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
..Chrys-12_00030	10/13/19		ultra, Lot cs-2540		Phenan-d10_00038	250 uL	Phenanthrene-d10	25 ug/mL
..Phenan-d10_00038	10/13/19		ultra, Lot CM-4742		(Purchased Reagent)		Chrysene-d12	2000 ug/mL
					(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

REAGENT TRACEABILITY SUMMARY
APPENDIX D - Laboratory Reports

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

REAGENT TRACEABILITY SUMMARY
APPENDIX D - Laboratory Reports

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



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

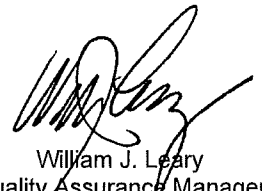
Matrix: hexane

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
Registered
TUV USA, Inc.


William J. Leary
Quality Assurance Manager

Reagent

680conCAL_00154



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

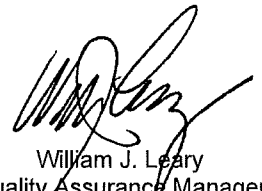
Matrix: hexane

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
Registered
TUV USA, Inc.


William J. Leary
Quality Assurance Manager

Reagent

8270TUNE_00216



110 Benner Circle
 Bellefonte, PA 16823-8812
 Tel: (800)356-1688
 Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis



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:

$$U_{combined\ stressed} = k \sqrt{U_{gravimetric}^2 + U_{homogeneity}^2 + U_{storage\ stability}^2 + U_{shipping\ stability}^2}$$

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



APPENDIX 2 - Laboratory Reports

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.



ISO 9001
Registered
TUV USA, Inc.

John Russo
President

Monica Bourgeois
Director of QA/RA

Reagent

DB (680) SUR_00339



Quality Standards:
ISO Guide 34 • ISO/IEC 17025 • ISO 13485 • cGMP

Product Description: DecaCB (PCB-209) ($^{13}\text{C}_{12}$, 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 ($\mu\text{g/mL}$)	Concentration by Gravimetry ($\mu\text{g/mL}$)	Analyzed Concentration \pm Uncertainty, $k=2$ ($\mu\text{g/mL}$)
DecaCB ($^{13}\text{C}_{12}$, 99%)	209	99.9%	40 \pm 2	40.2	39.6 \pm 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) (¹³C₁₂, 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



10/23

Product Description: DecaCB (PCB-209) ($^{13}\text{C}_{12}$, 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 ($\mu\text{g/mL}$)	Concentration by Gravimetry \pm Uncertainty, (k=2) ($\mu\text{g/mL}$)	Analyzed Concentration \pm Uncertainty, (k=2) ($\mu\text{g/mL}$)
DecaCB ($^{13}\text{C}_{12}$, 99%)	209	99.9%	40.0	40.0 \pm 0.4	40.4 \pm 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/NCSLZ540-1-1994, 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-Barak

Quality Review

Reagent

PCB Elut_00103



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

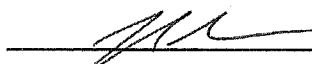
This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

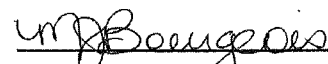
Analyte	CAS#	Analyte Lot	True Value
decachlorobiphenyl (BZ # 209)	002051-24-3	RM01256	100.0 ± 0.5 µg/mL

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

Reagent

PCB RTmix_00013

1/12



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/NCCL 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. Leary
Quality Assurance Manager

Reagent

PCB RTmixa_00030



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

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



Danger 2

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

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



ISO/IEC 17025:2005 - General Requirements for the Competence of Testing and Calibration Laboratories ACLASS Certificate Number 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: $u_m = \sqrt{(u(P))^2 + (u(m))^2 + (u(V))^2}$. 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

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.

Method 680

Polychlorinated Biphenyls (PCBs)
(GC/MS) by Method 680

APPENDIX D - Laboratory Reports
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

13CDCB = Decachlorobiphenyl-13C12

QC LIMITS
25-113

Column to be used to flag recovery values

FORM II 680

APPENDIX D - Laboratory Reports
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

APPENDIX D - Laboratory Reports
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

APPENDIX D - Laboratory Reports
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	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

APPENDIX D - Laboratory Reports
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

APPENDIX D - Laboratory Reports
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	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

APPENDIX D - Laboratory Reports
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

APPENDIX D - Laboratory Reports
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

APPENDIX D - Laboratory Reports
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

APPENDIX D - Laboratory Reports
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

APPENDIX D - Laboratory Reports
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

APPENDIX D - Laboratory Reports
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

APPENDIX D - Laboratory Reports
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

APPENDIX D - Laboratory Reports
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-D UP	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

APPENDIX D - Laboratory Reports
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

APPENDIX D - Laboratory Reports
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-D UP		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

APPENDIX D - Laboratory Reports
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-T		149092	12.38	171530	18.63
CCV 680-559821/13	RE		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

APPENDIX D - Laboratory Reports
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-T RE	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

APPENDIX D - Laboratory Reports
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

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									
240	18.668	18.668	0.0	100	186001	0.7500			s
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

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

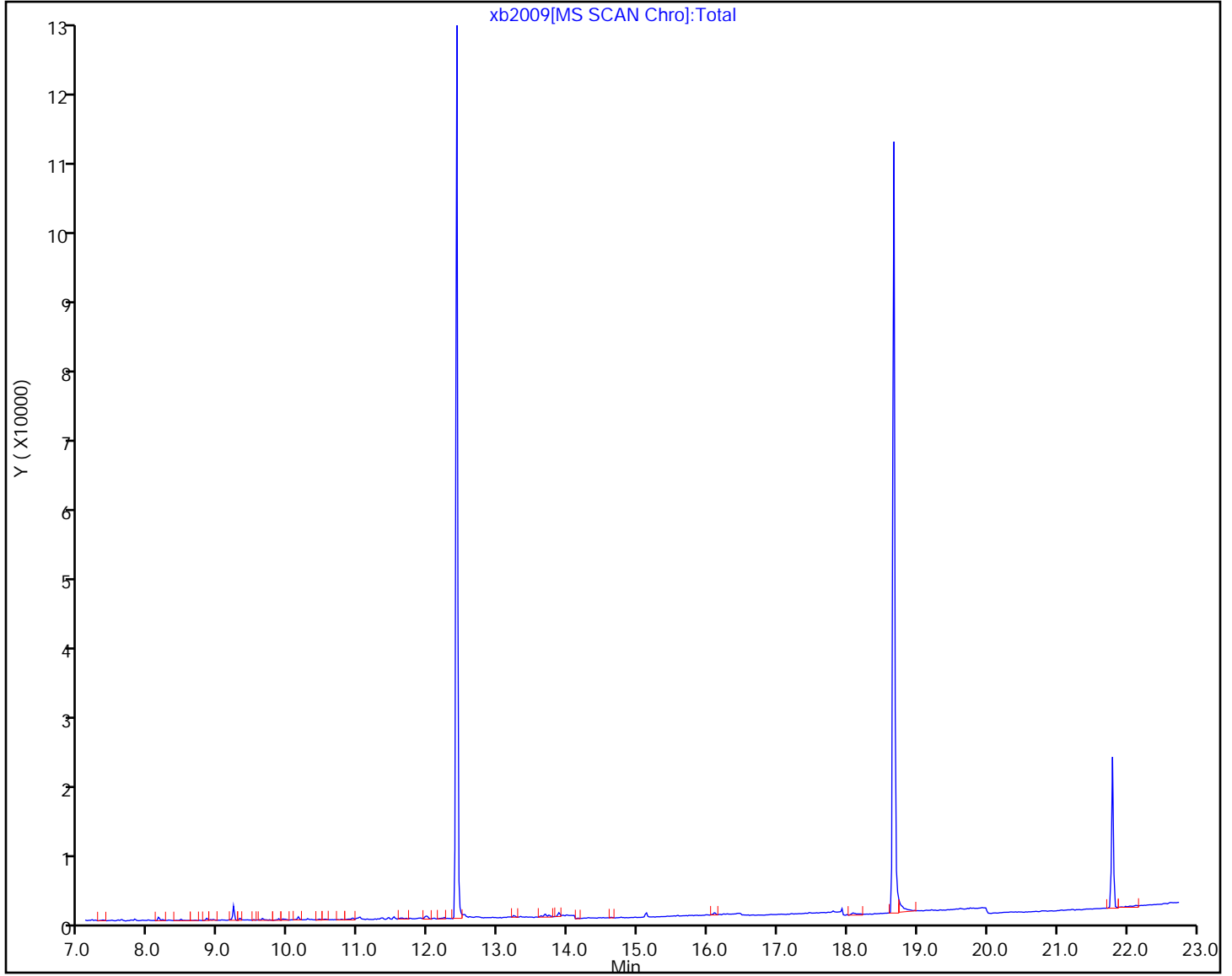
Injection Vol: 2.0 ul

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

APPENDIX D - Laboratory Reports
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

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									
240	18.668	18.668	0.0	100	195828	0.7500			s
241	18.668	18.668	0.0		37655		4.3- 5.9	5.2	
\$ 22 Decachlorobiphenyl-13C12									
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	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

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

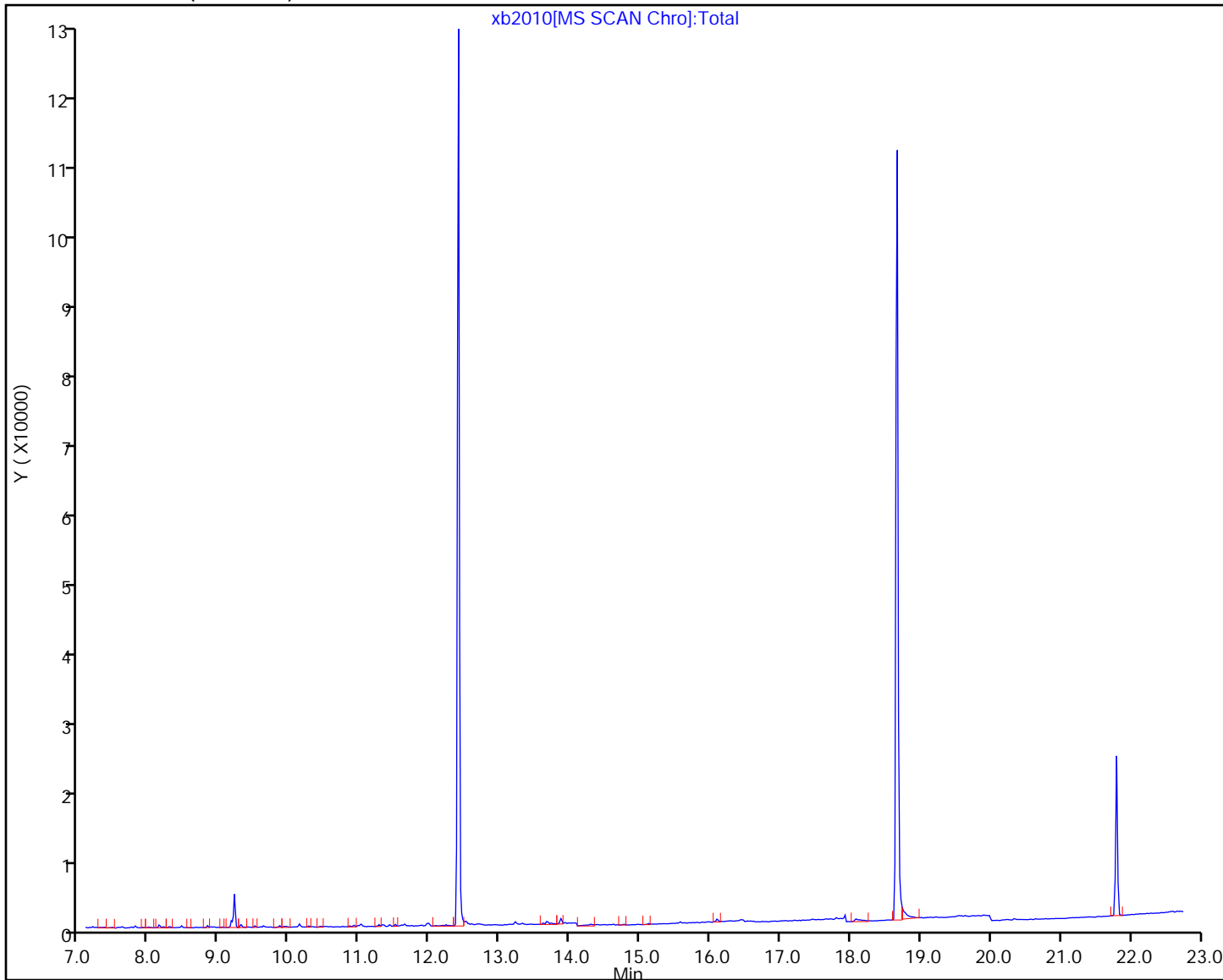
Injection Vol: 2.0 ul

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

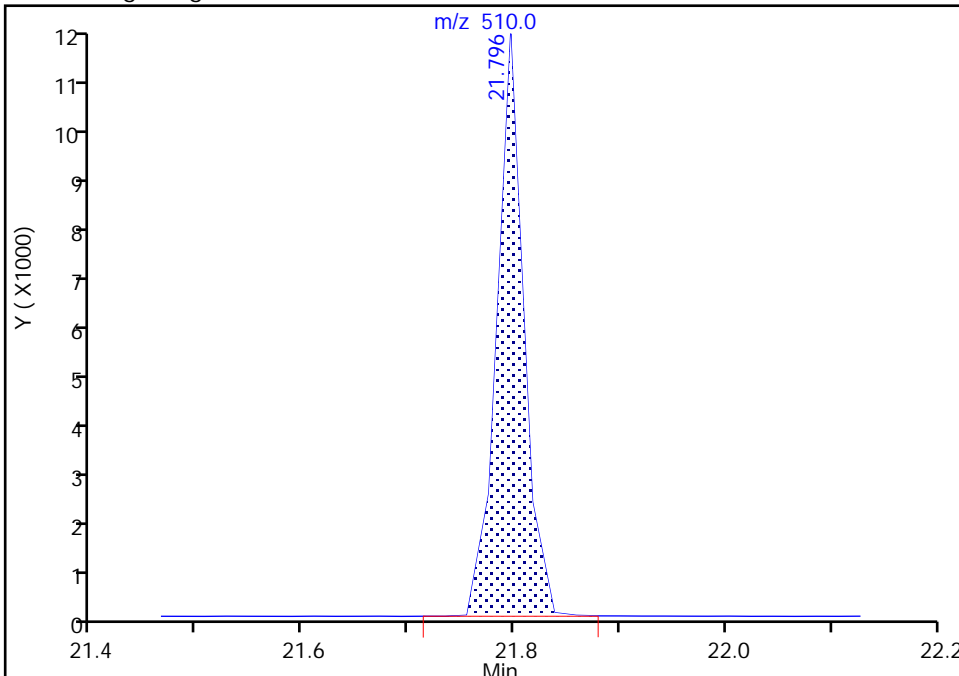
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2010.D
Injection Date: 20-Feb-2019 21:07:30 Instrument ID: CMSX
Lims ID: 680-164605-A-2-A Lab Sample ID: 680-164605-2
Client ID: MRC-SW5A2-S-021419-T
Operator ID: ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

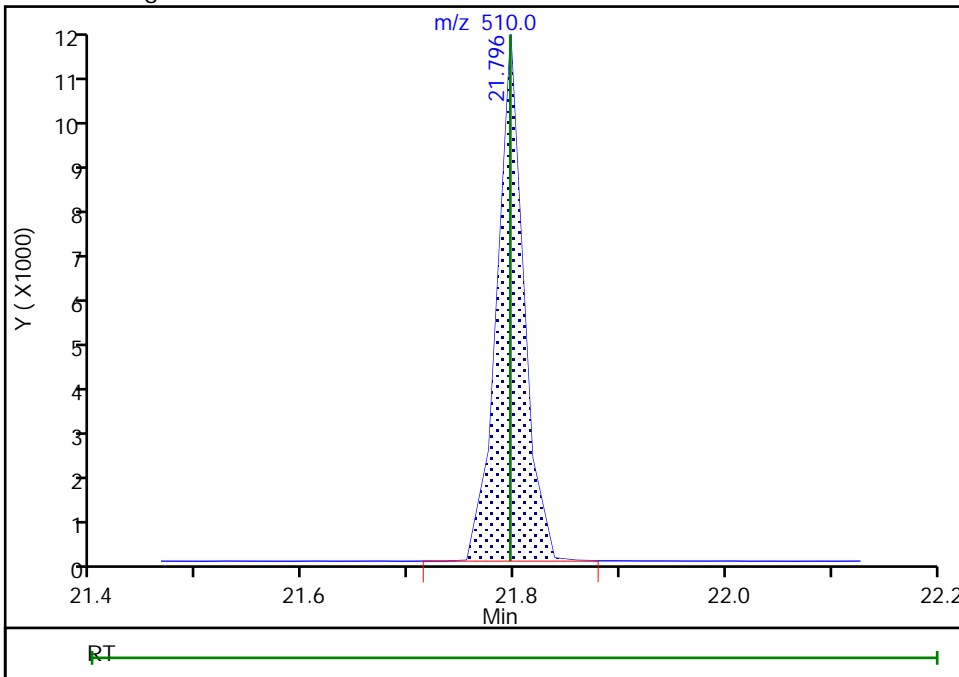
RT: 21.80
Area: 20852
Amount: 1.481868
Amount Units: ug/ml

Processing Integration Results



RT: 21.80
Area: 20852
Amount: 1.481868
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 22-Feb-2019 09:13:41
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

APPENDIX D - Laboratory Reports
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

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									
240	18.668	18.668	0.0	100	177708	0.7500			s
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

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

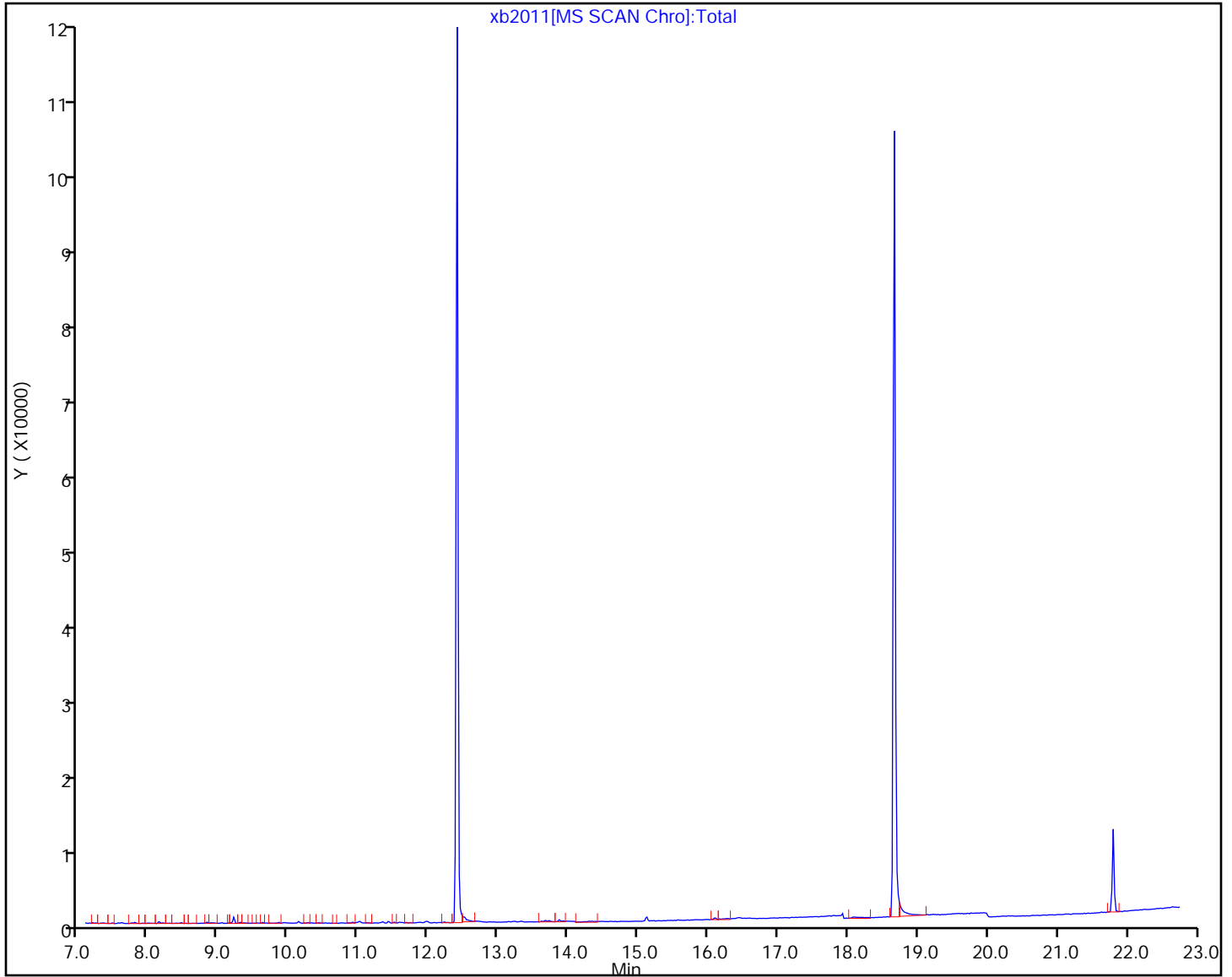
Injection Vol: 2.0 ul

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

APPENDIX D - Laboratory Reports
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

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									
240	18.667	18.668	-0.001	100	188156	0.7500			s
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

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

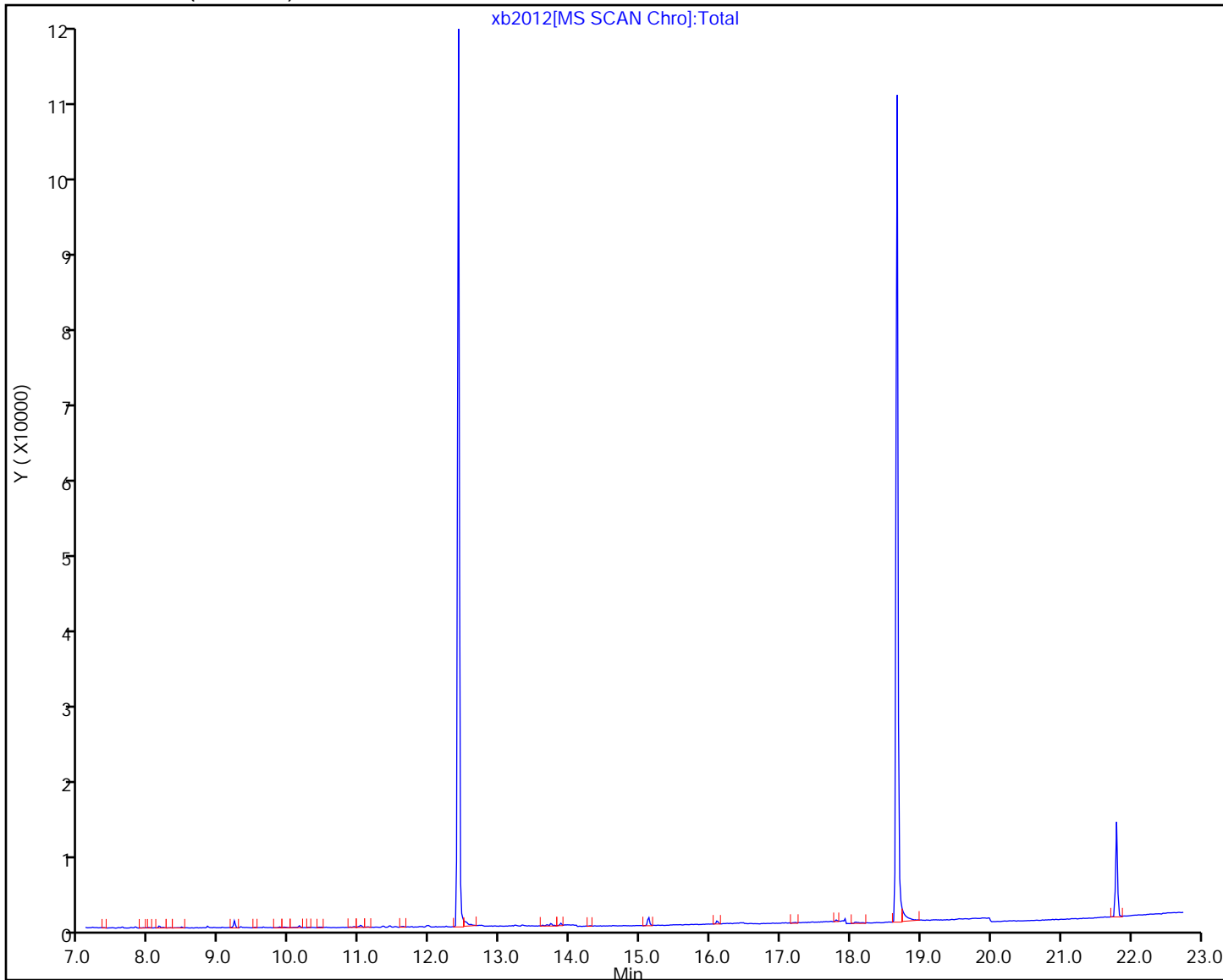
Injection Vol: 2.0 ul

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

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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

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									
240	18.668	18.668	0.0	100	192092	0.7500			s
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

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

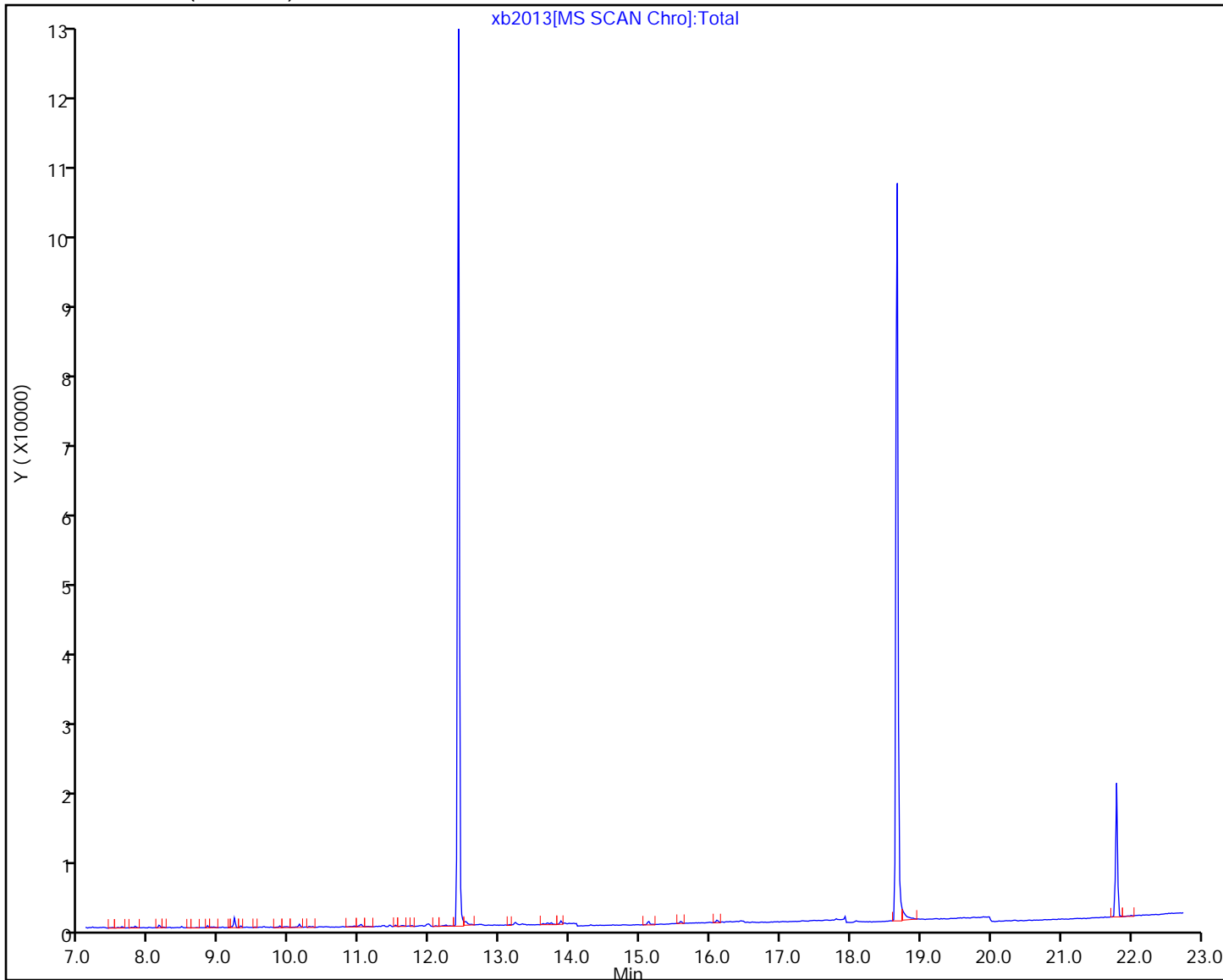
Injection Vol: 2.0 ul

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

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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									
240	18.668	18.668	0.0	100	176166	0.7500			s
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

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

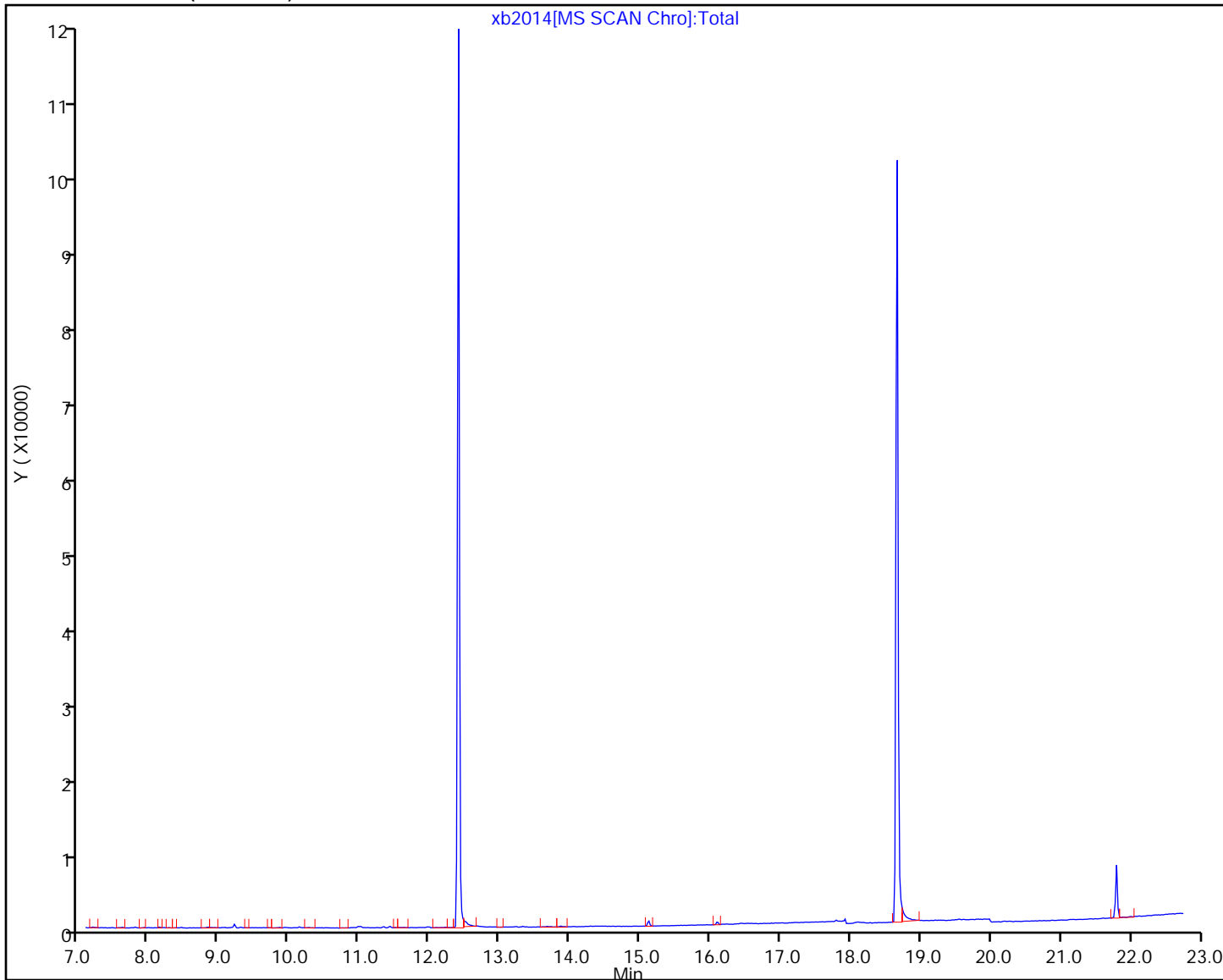
Injection Vol: 2.0 ul

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

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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

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

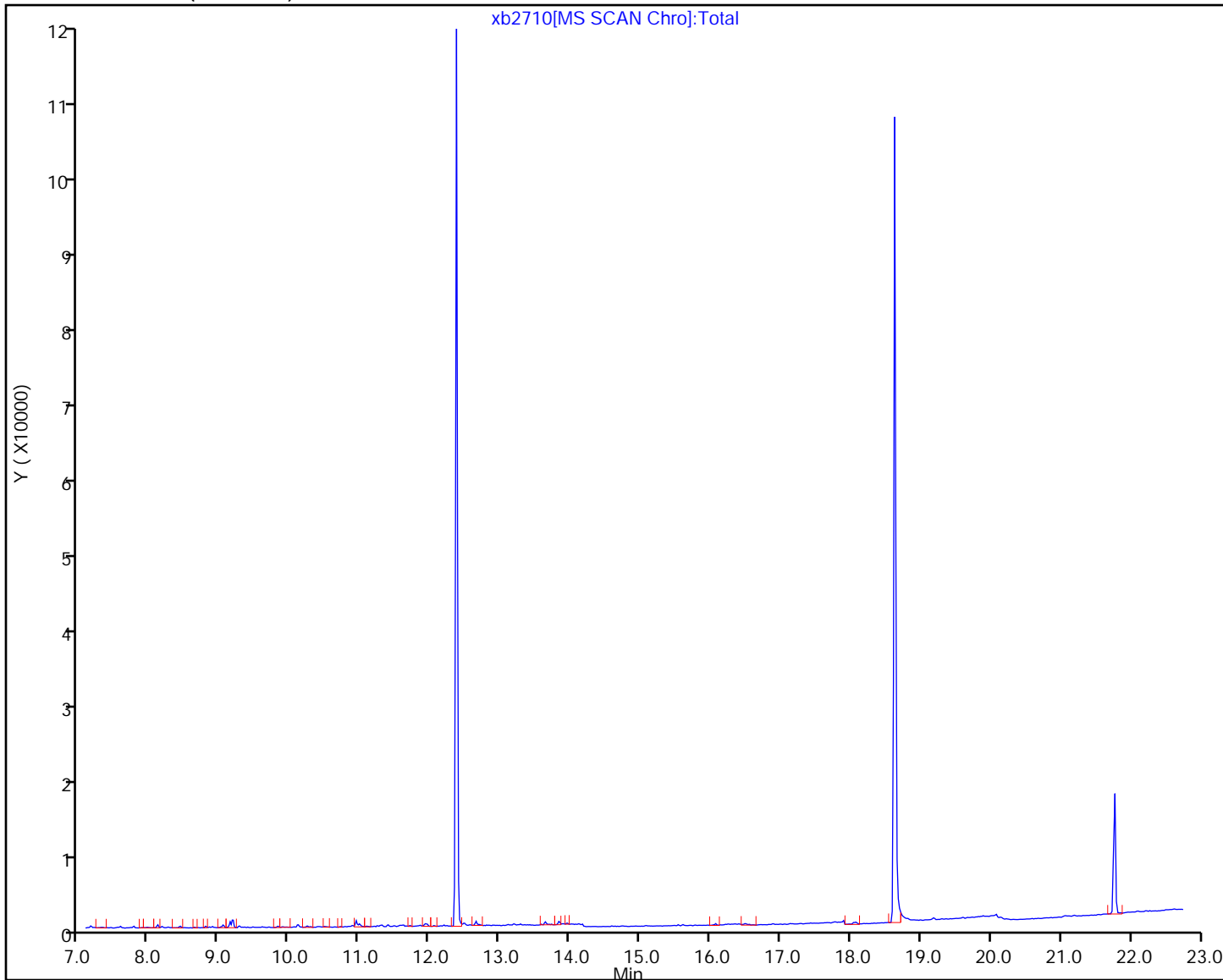
Injection Vol: 2.0 ul

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

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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

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

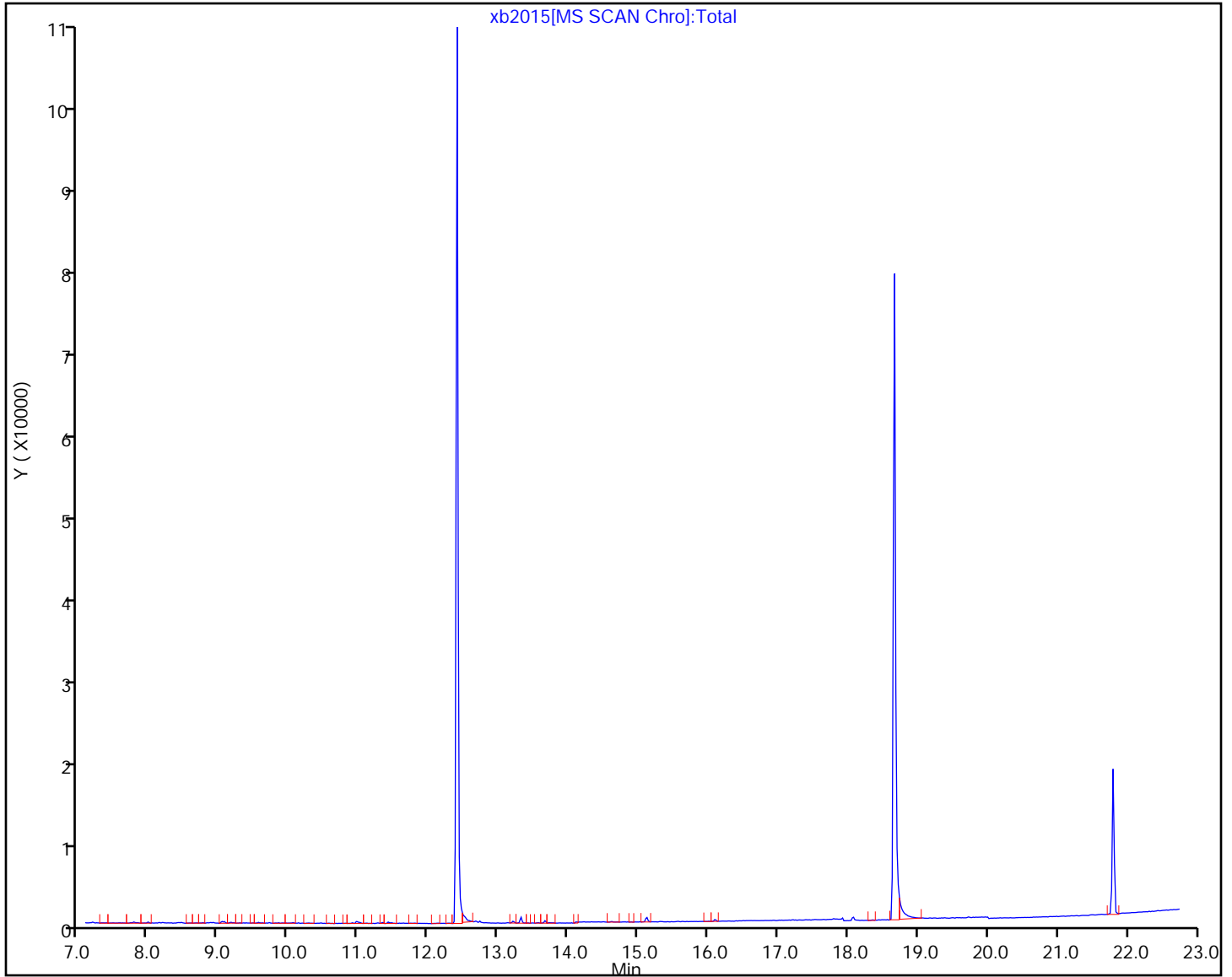
Injection Vol: 2.0 ul

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

APPENDIX D - Laboratory Reports
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\2016.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\0812.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

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

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

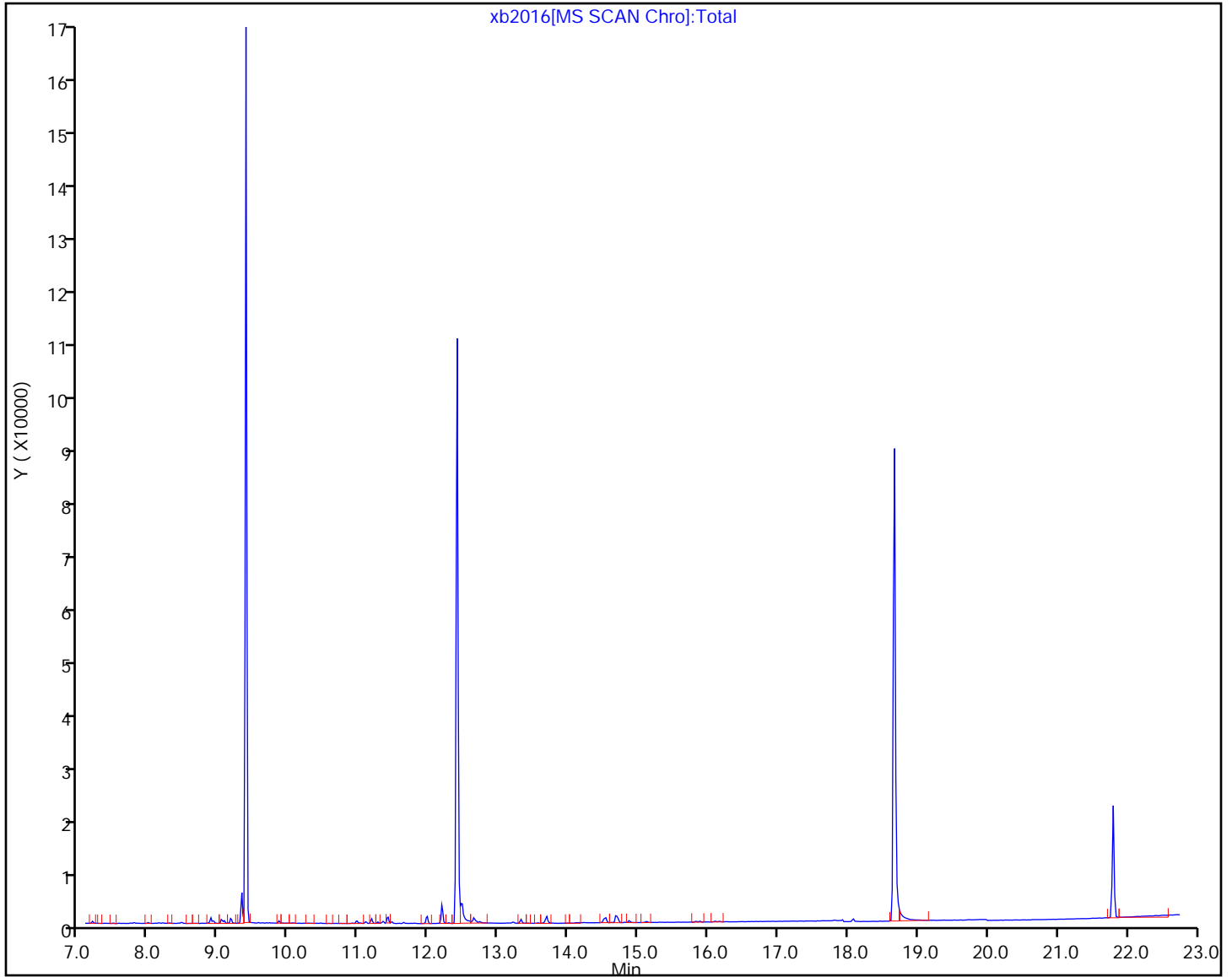
Injection Vol: 2.0 ul

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

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:

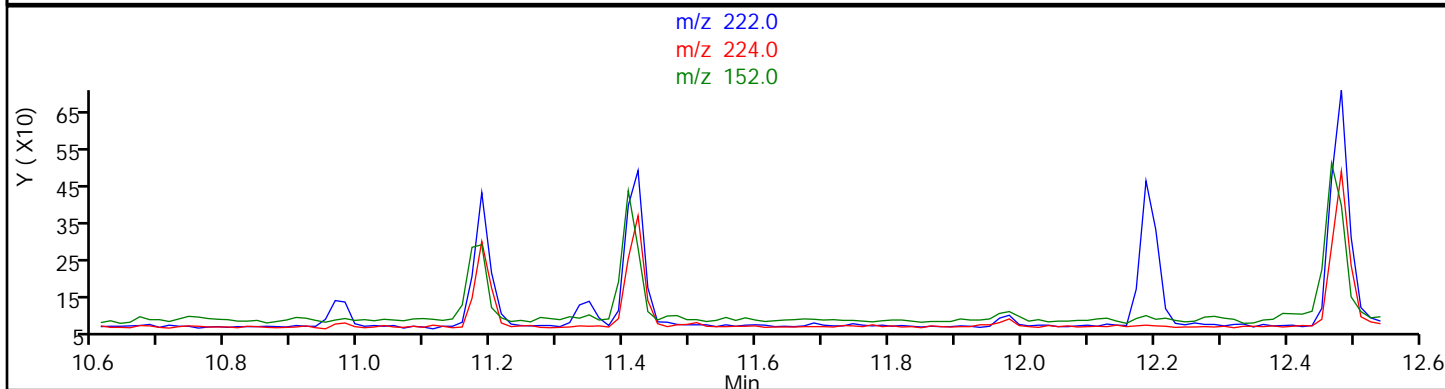
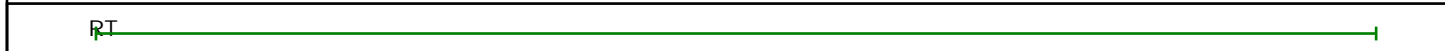
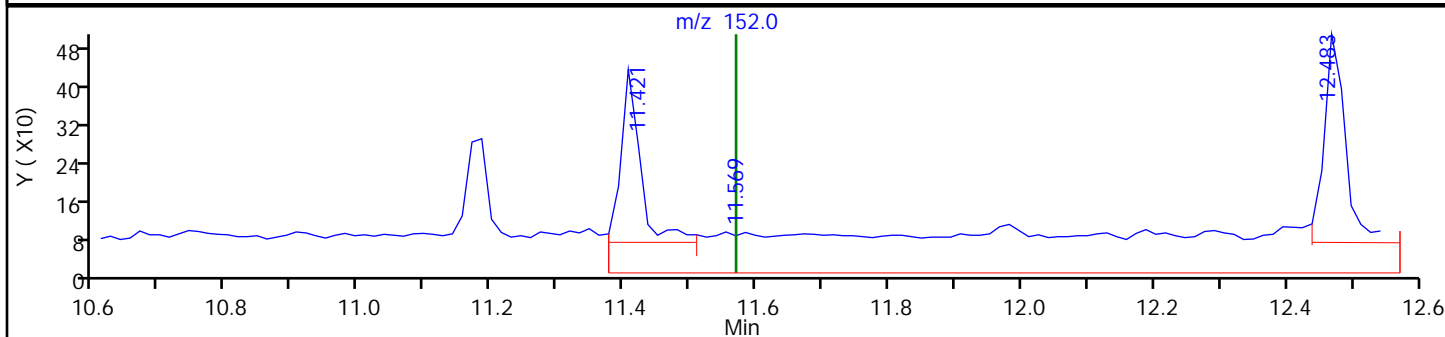
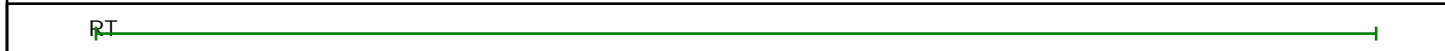
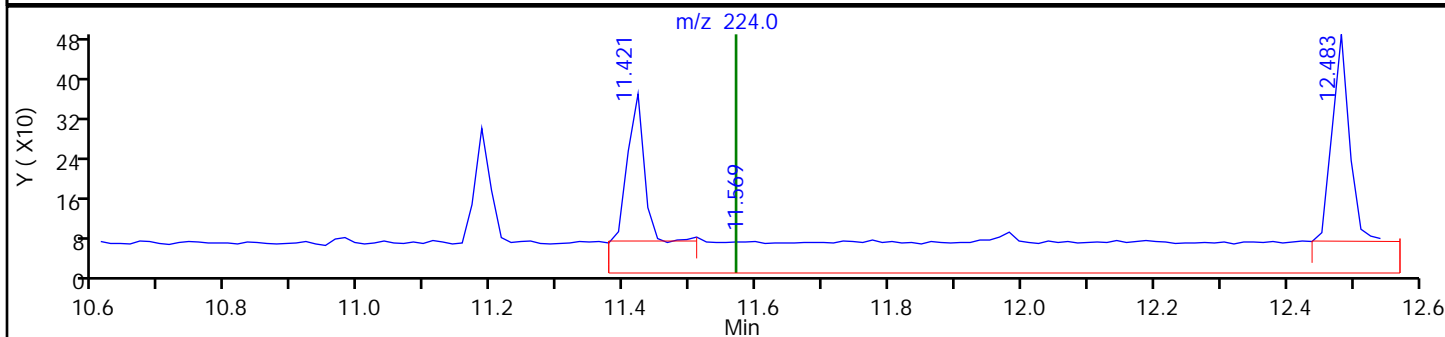
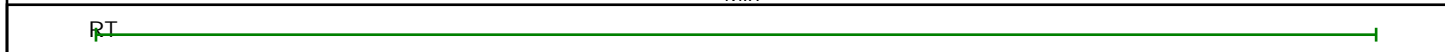
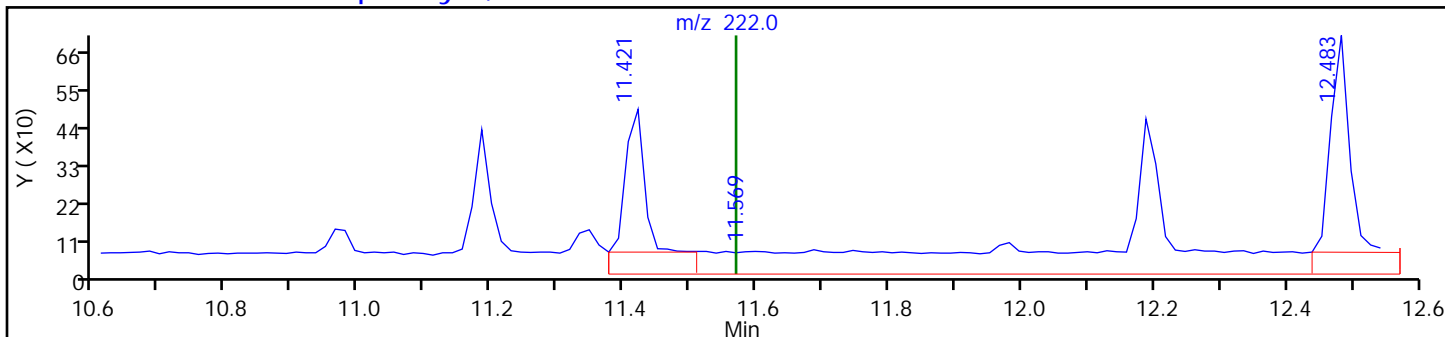
680

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

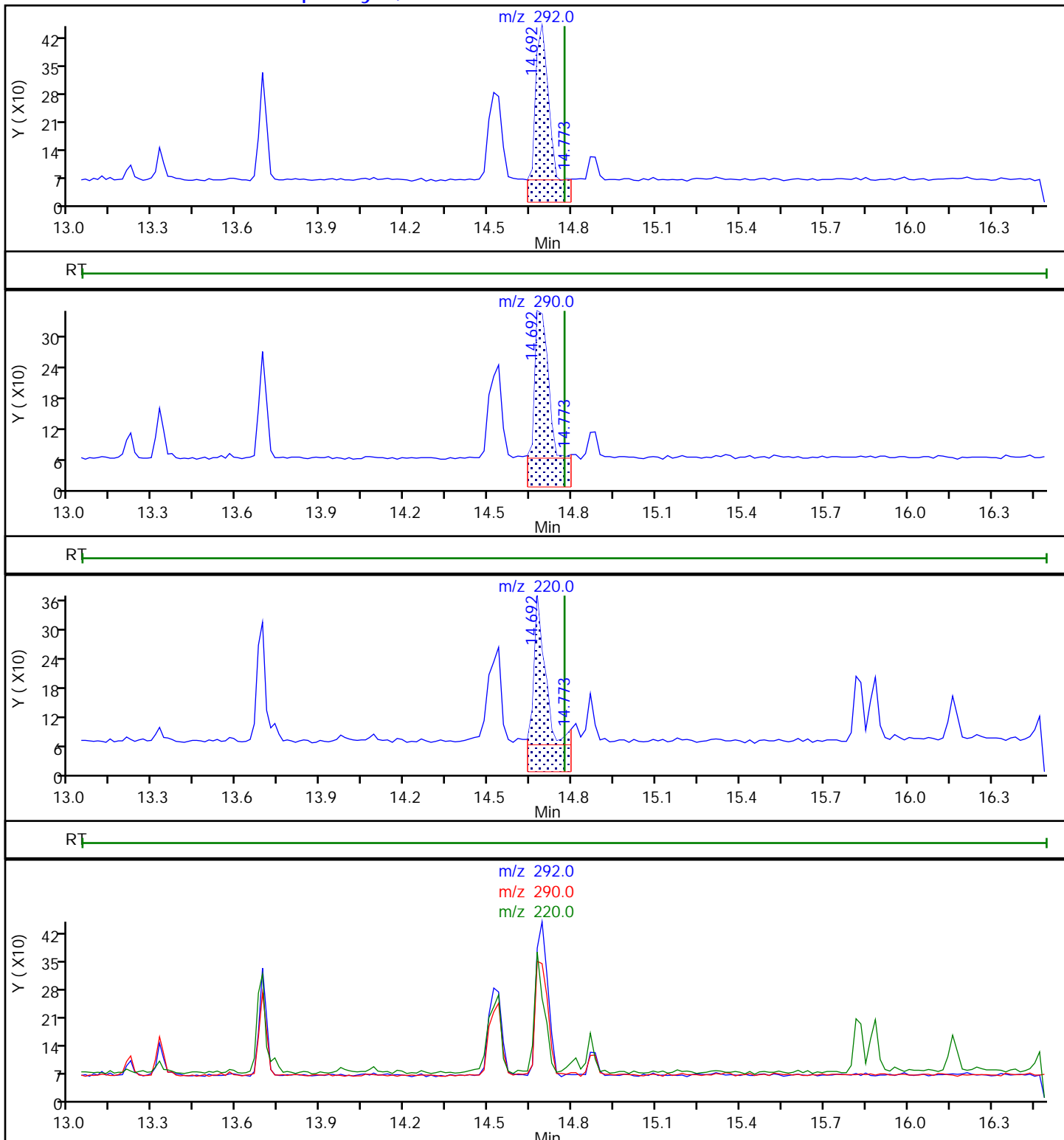
Method: 680\CMSX

Limit Group: 680

Column: HP-5MS (0.25 mm)

Detector: MS SCAN

A 26 Total Tetrachlorobiphenyls, CAS: 26914-33-0



APPENDIX D - Laboratory Reports
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

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									
240	18.668	18.668	0.0	100	190320	0.7500			s
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

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

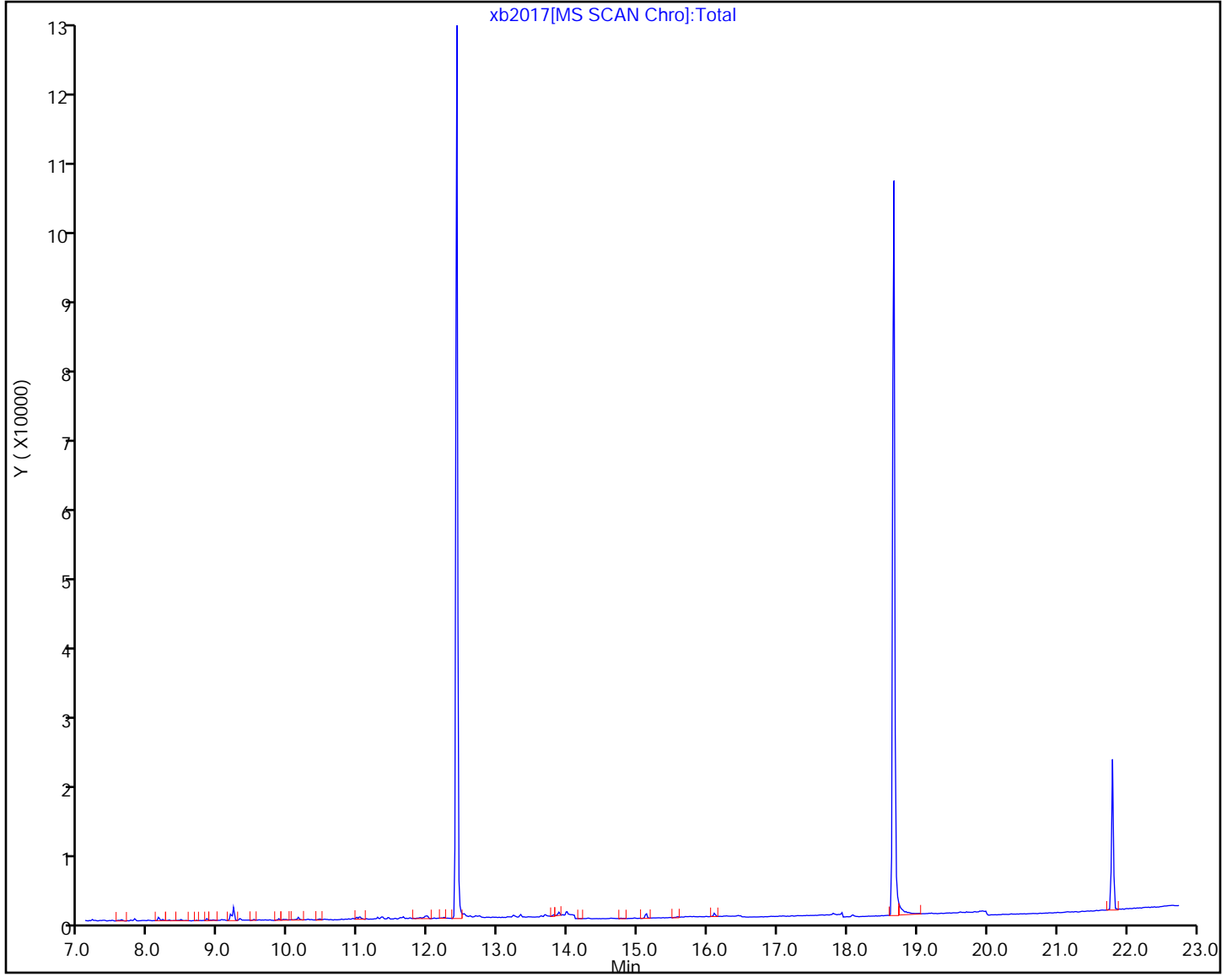
Injection Vol: 2.0 ul

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

APPENDIX D - Laboratory Reports
FORM I
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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
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* 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

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

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

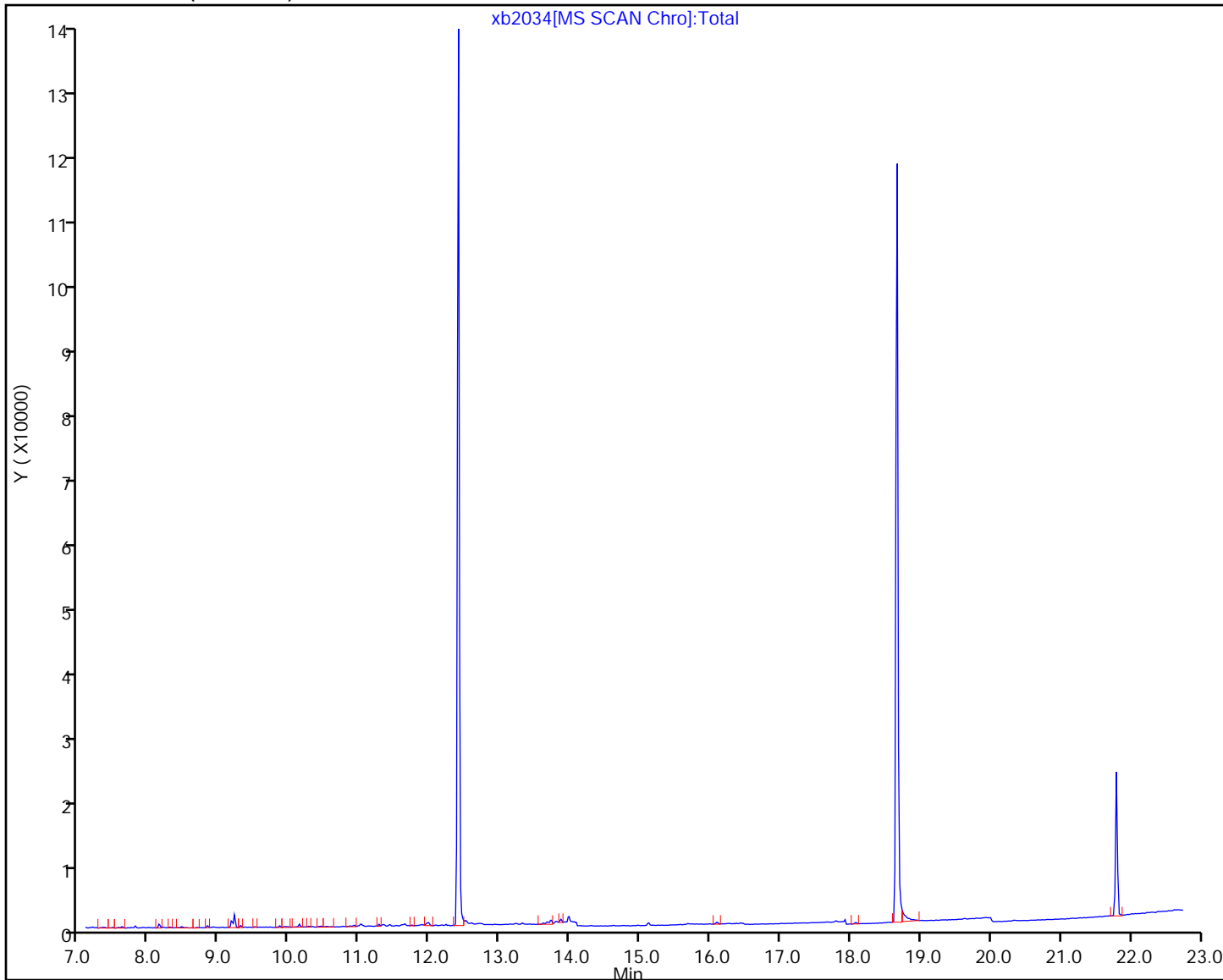
Injection Vol: 2.0 ul

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

APPENDIX D - Laboratory Reports
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\2019.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\20190108.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

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									
240	18.668	18.668	0.0	100	169561	0.7500			s
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

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

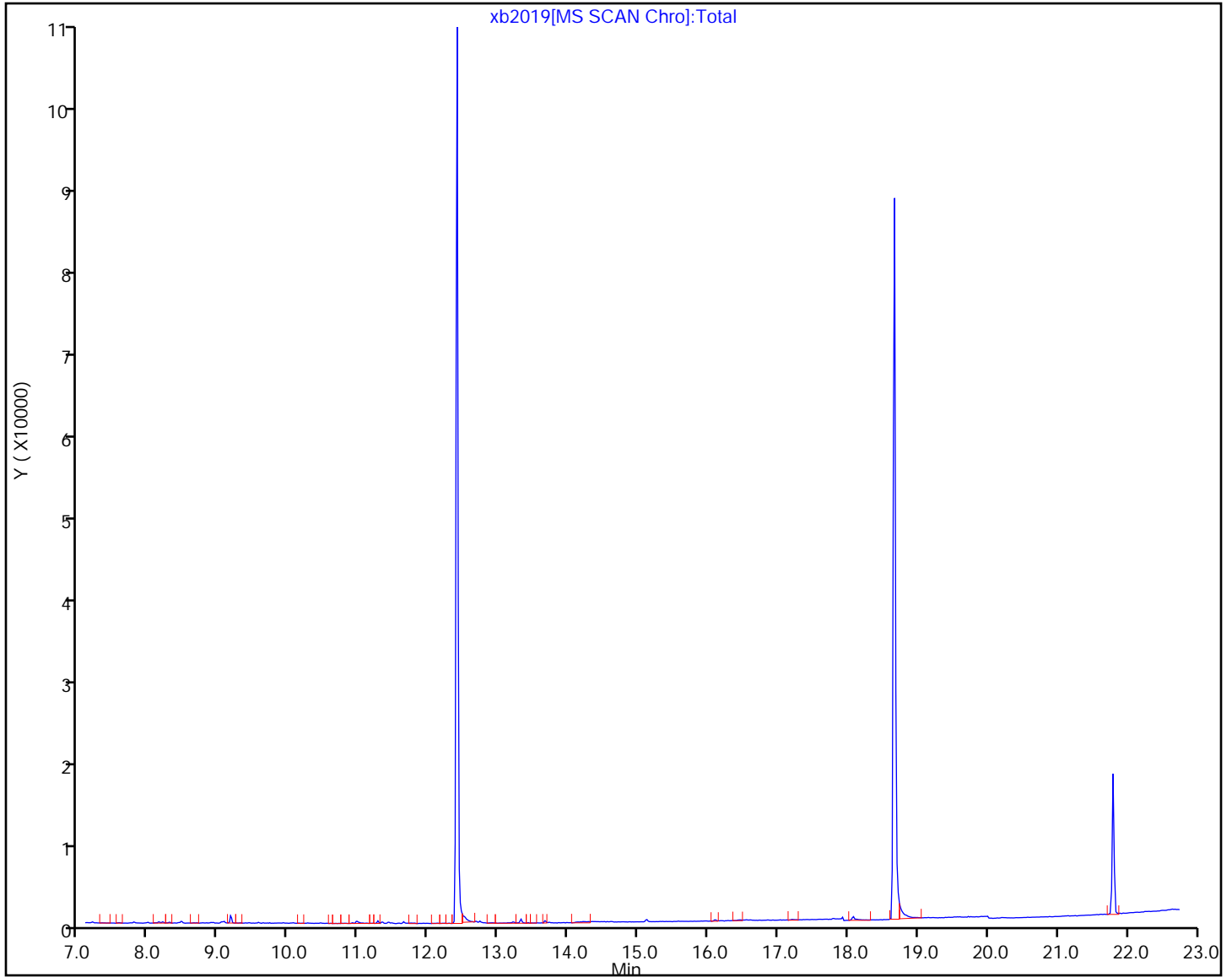
Injection Vol: 2.0 ul

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

APPENDIX D - Laboratory Reports
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									
240	18.668	18.668	0.0	100	200513	0.7500			s
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

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

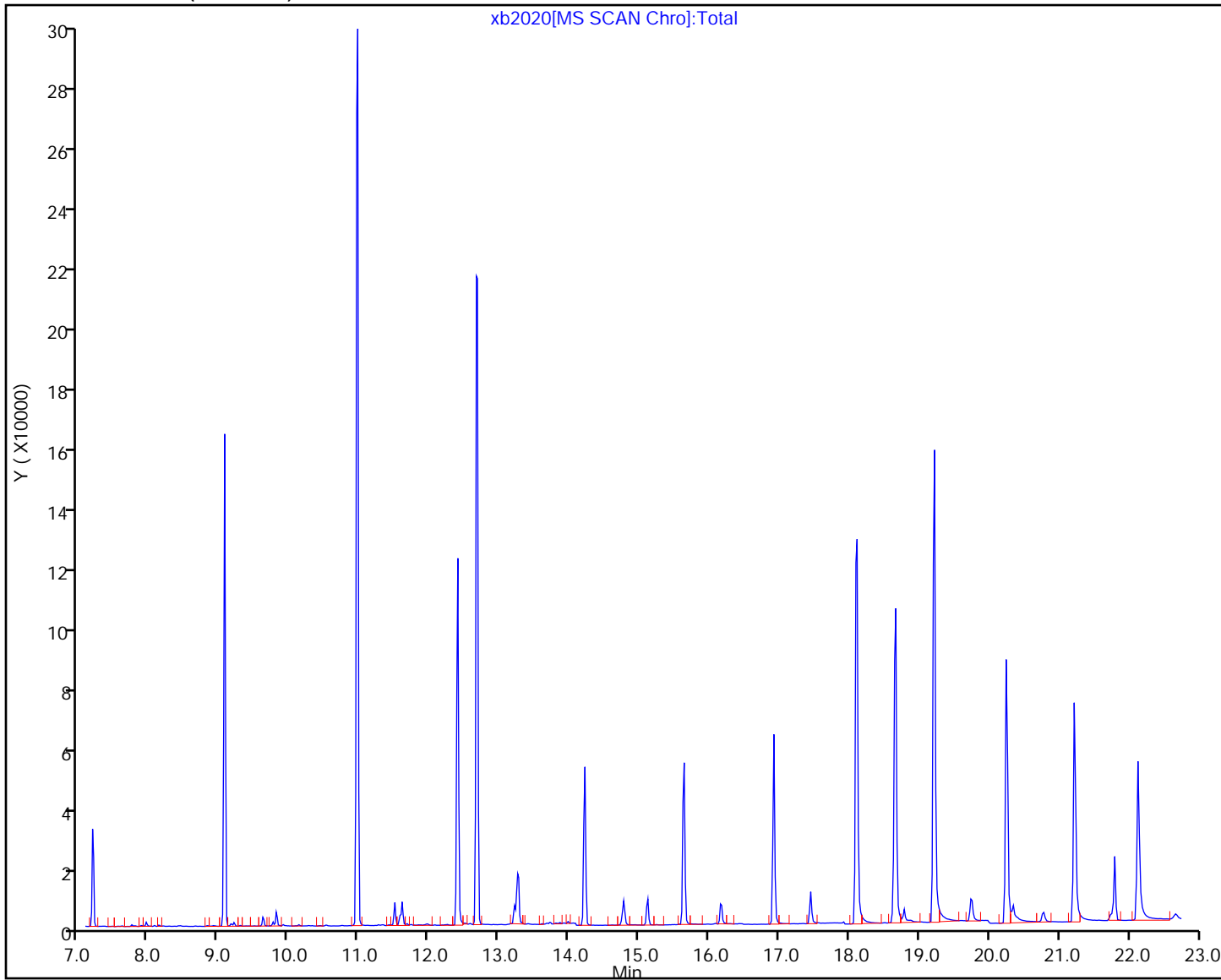
Injection Vol: 2.0 ul

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

APPENDIX D - Laboratory Reports
FORM I
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Lab Name: TestAmerica Savannah Job No.: 680-164605-1
 SDG No.: _____
 Client Sample ID: EB-tubel-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
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* 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
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* 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
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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

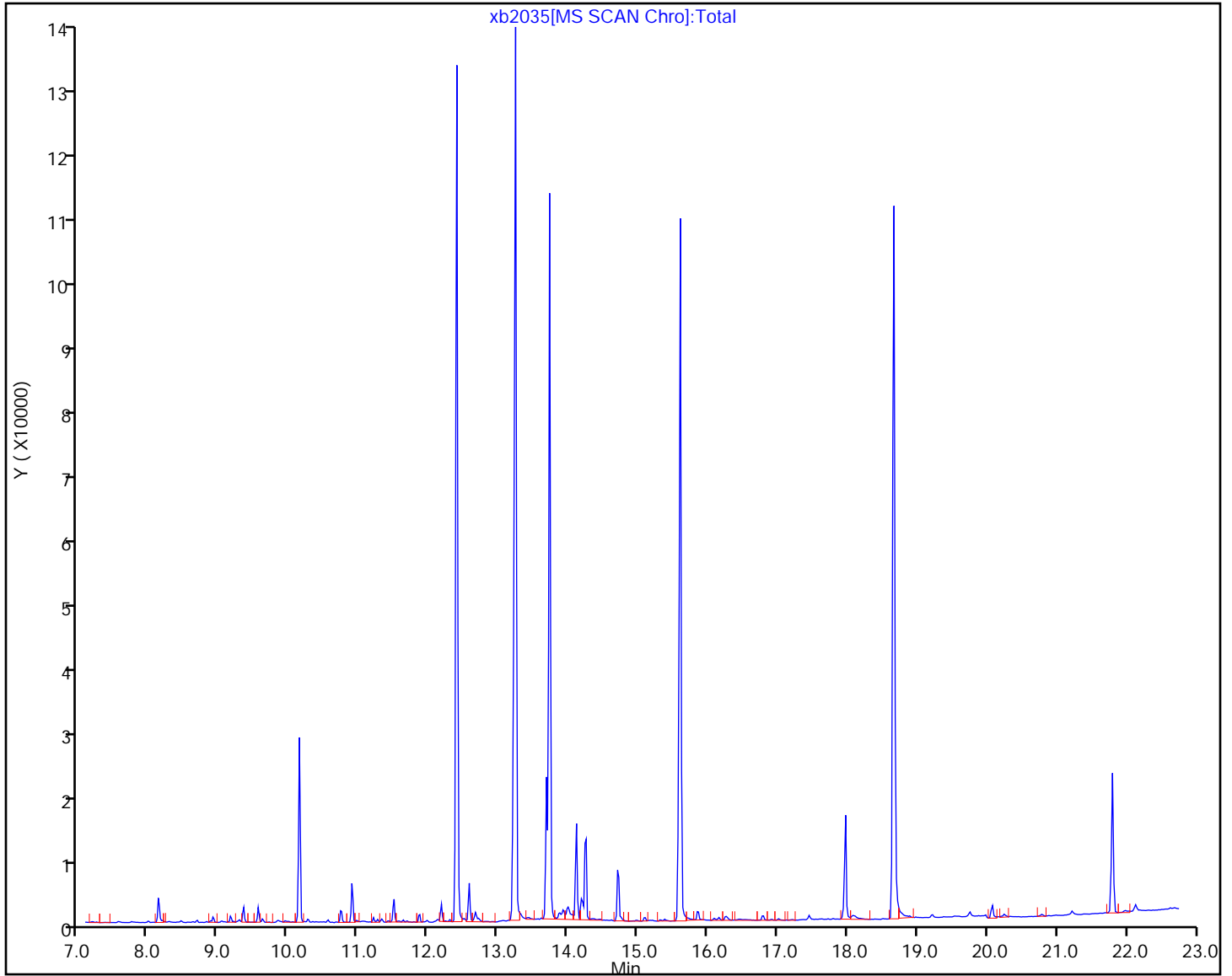
Injection Vol: 2.0 ul

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

APPENDIX D - Laboratory Reports
FORM I
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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

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									
240	18.668	18.668	0.0	100	169969	0.7500			s
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

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

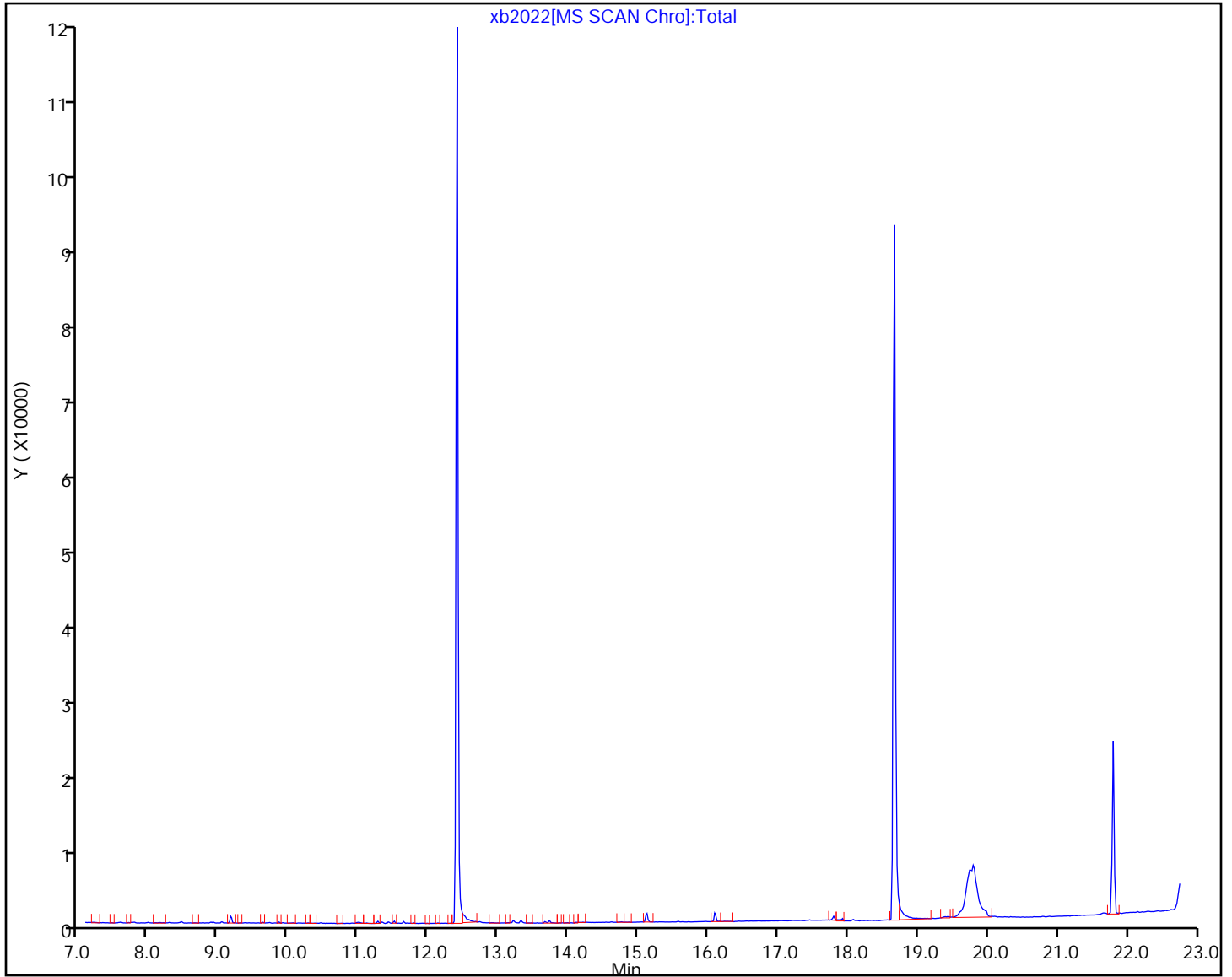
Injection Vol: 2.0 ul

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

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FORM I
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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
------------------	---------------------	-----------	-------------

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

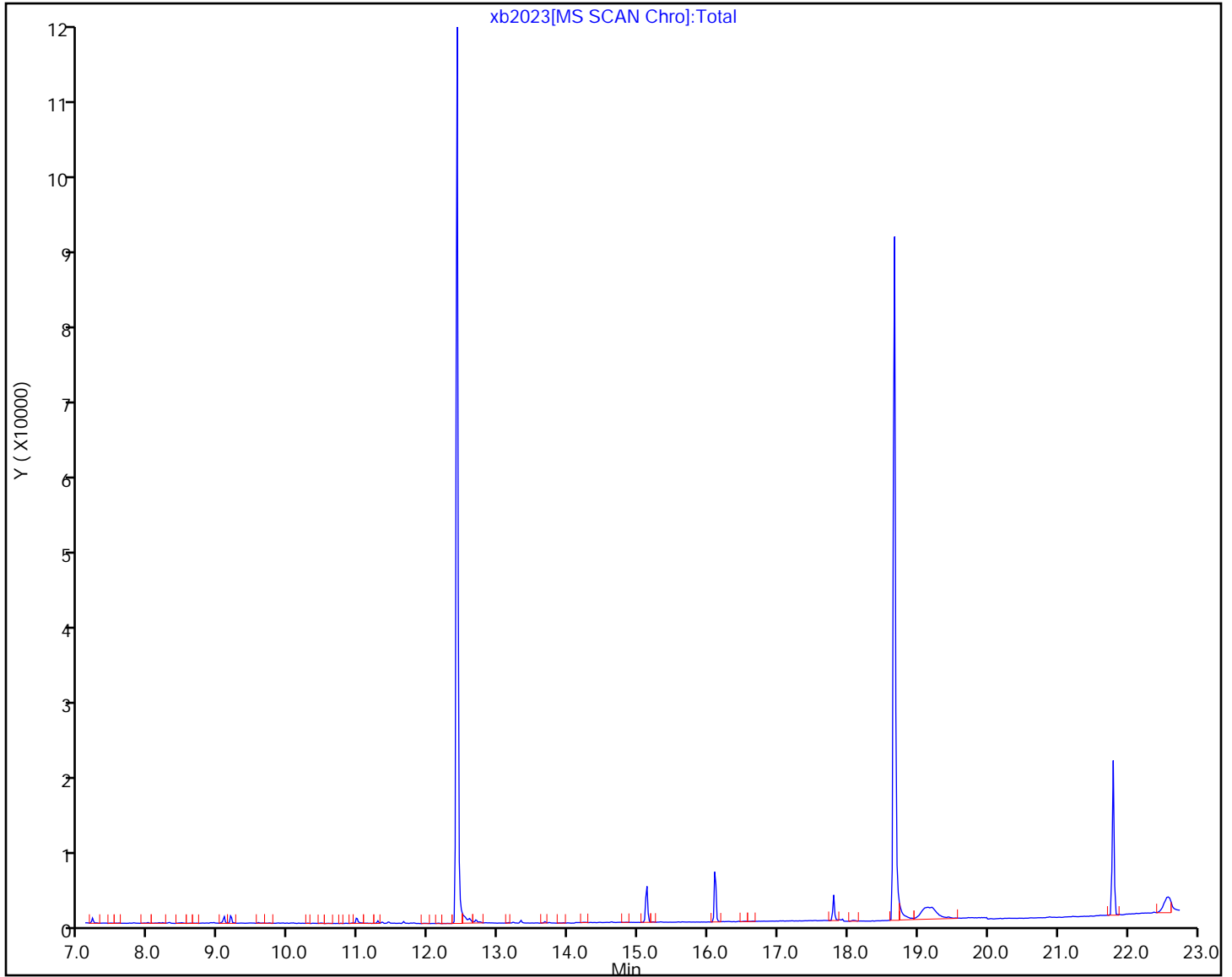
Injection Vol: 2.0 ul

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

APPENDIX D - Laboratory Reports
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									
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	a
* 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

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

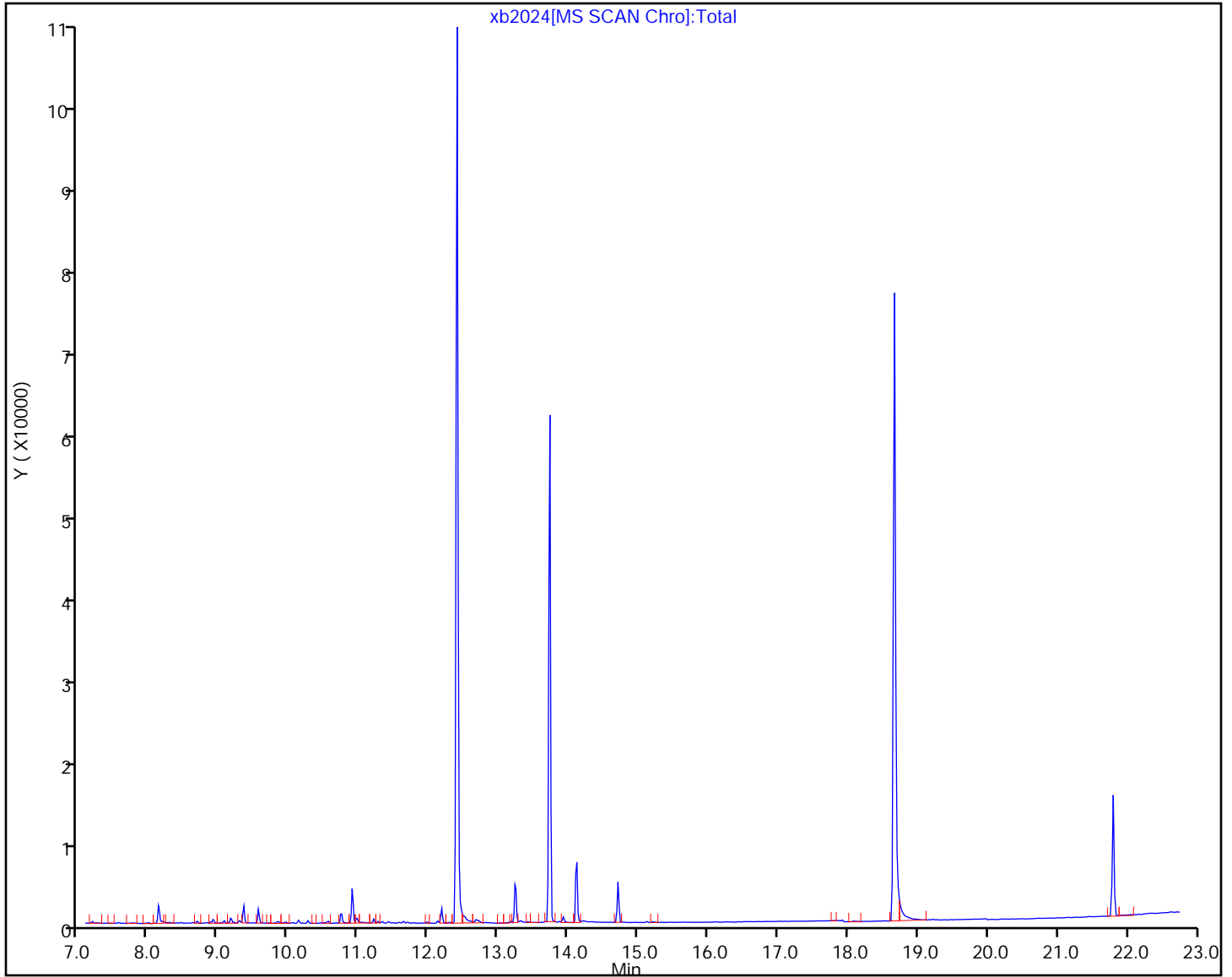
Injection Vol: 2.0 ul

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

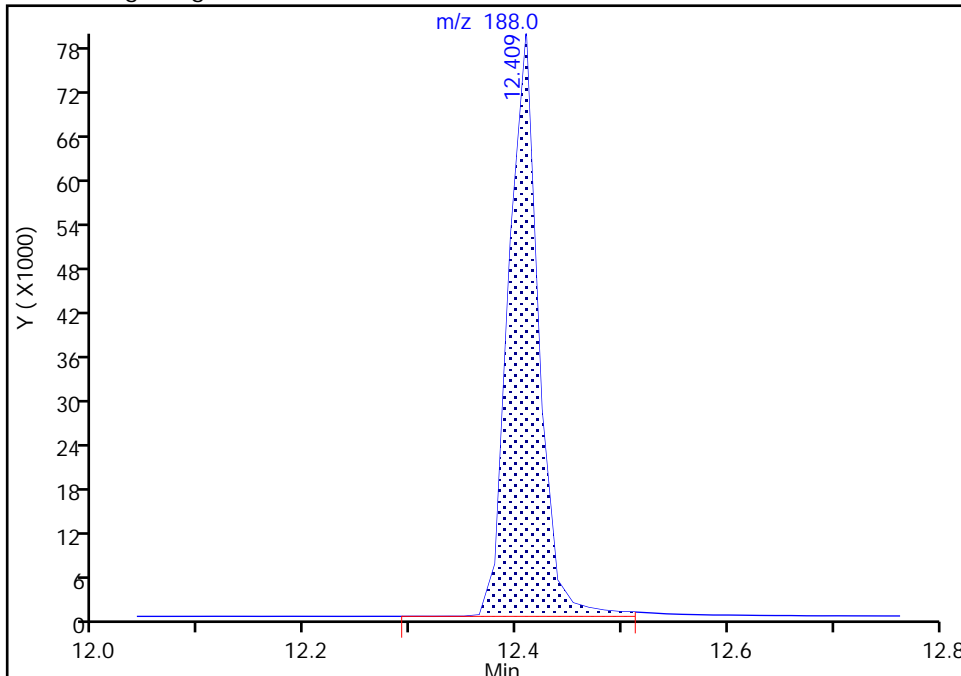
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2024.D
Injection Date: 21-Feb-2019 03:47:30 Instrument ID: CMSX
Lims ID: 680-164605-B-16-A Lab Sample ID: 680-164605-16
Client ID: FB-SW-021419-T
Operator ID: ALS Bottle#: 23 Worklist Smp#: 23
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

* 5 Phenanthrene-d10, CAS: 1517-22-2

Signal: 1

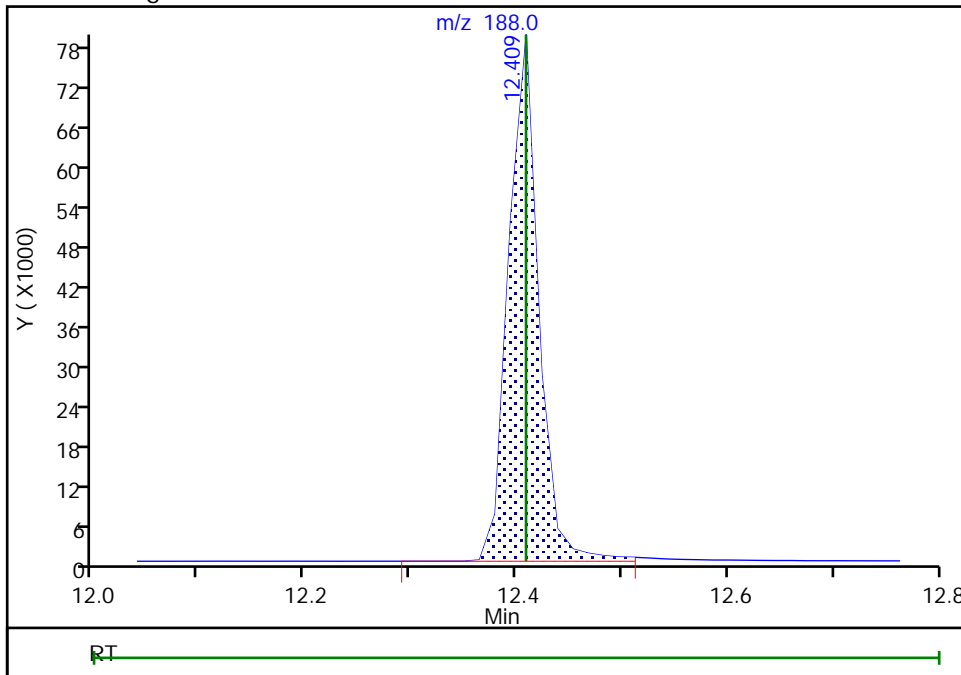
Processing Integration Results

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



APPENDIX D - Laboratory Reports
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

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

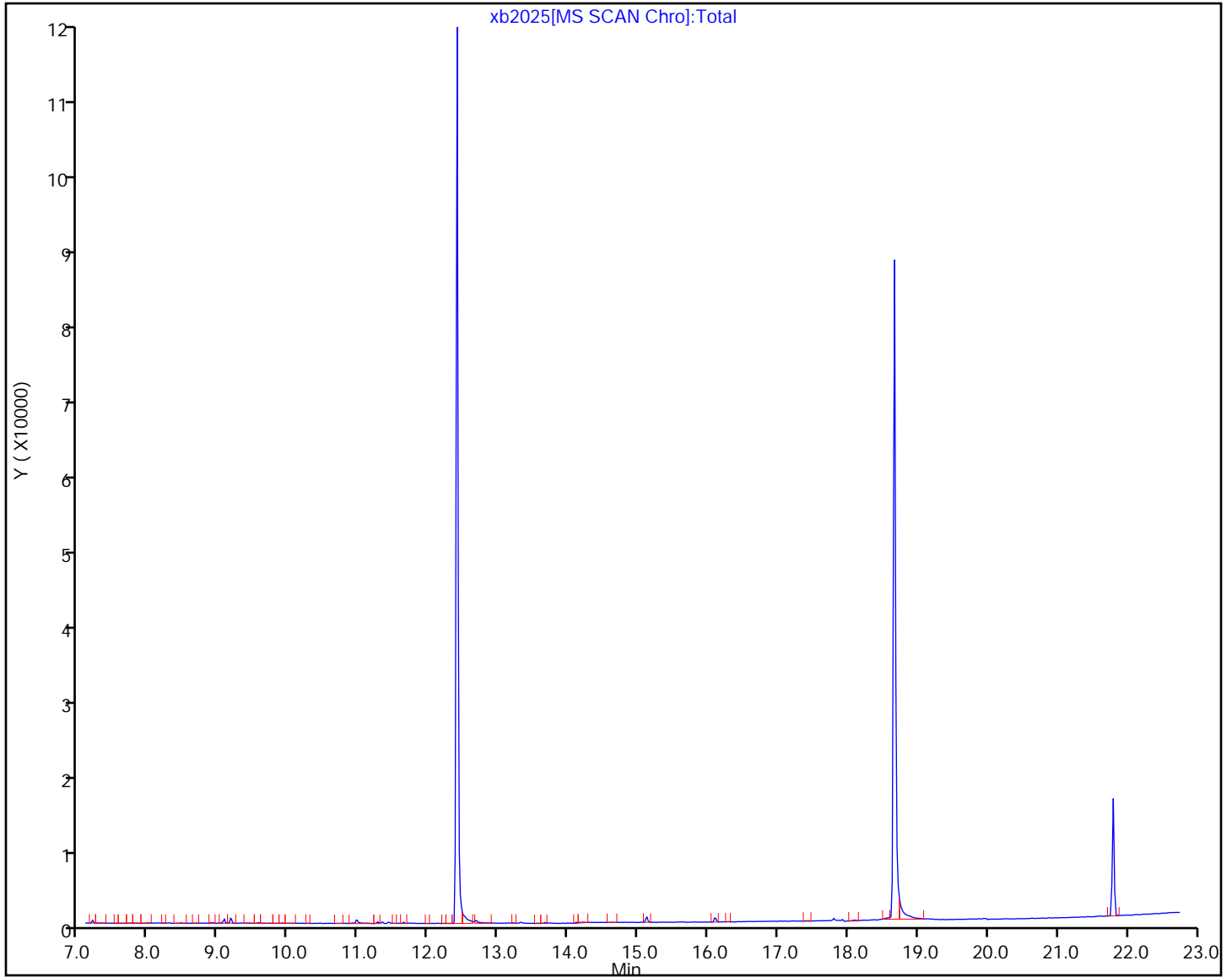
Injection Vol: 2.0 ul

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 APPENDIX D Laboratory Reports 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 APPENDIX D Laboratory Reports 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										
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		a

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										
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										
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		a

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

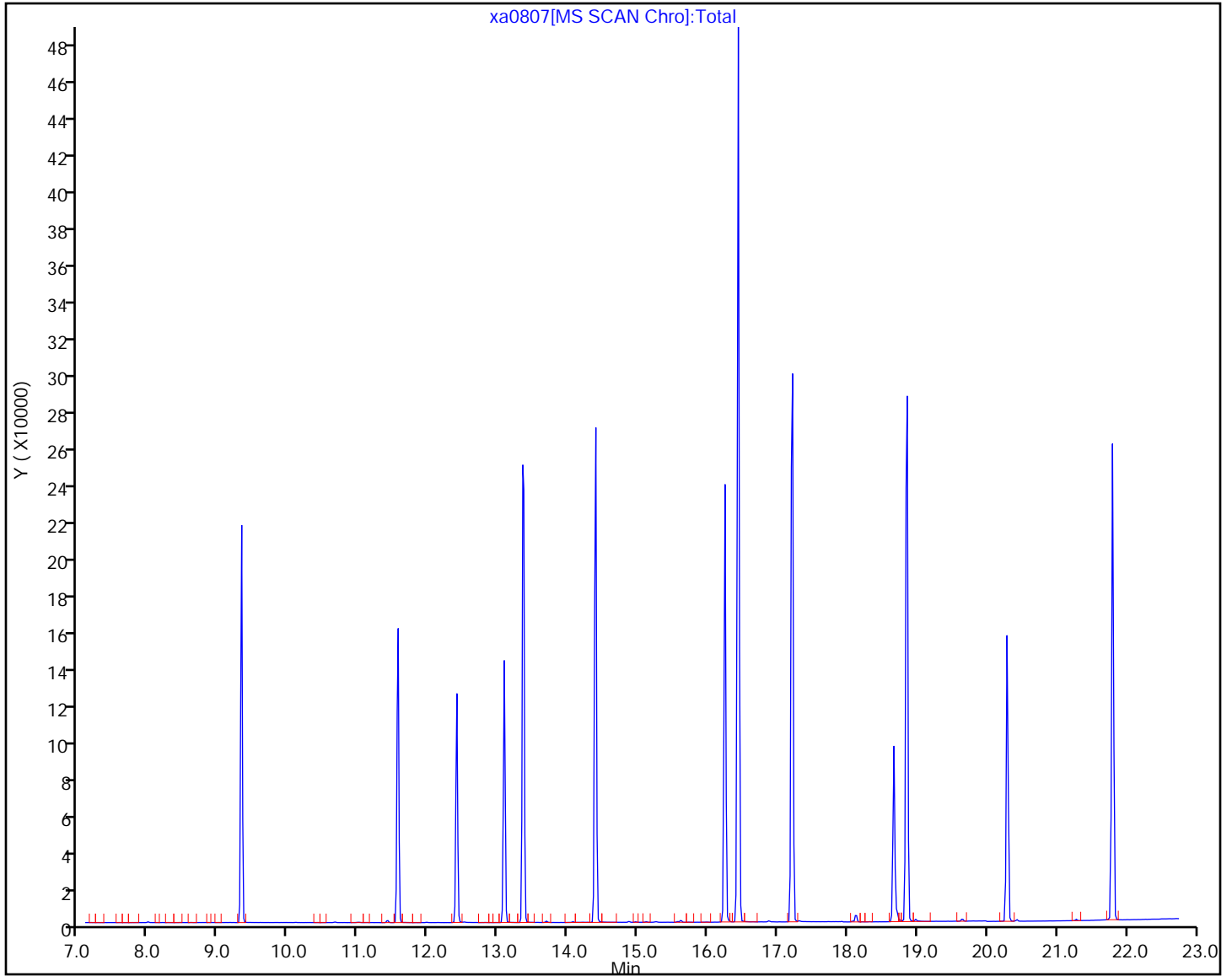
680isomerCal3_00045

Amount Added: 1.00

Units: mL

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:
Injection Vol: 2.0 ul
Method: 680\CMSX
Column: HP-5MS (0.25 mm)

ALS Bottle#: 3 Worklist Smp#: 3
Dil. Factor: 1.0000
Limit Group: 680



TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\1xa0807.D
Injection Date: 08-Jan-2019 15:11:30 Instrument ID: CMSX
Lims ID: icis
Client ID:
Operator ID:
Injection Vol: 2.0 ul
Method: 680\CMSX
Column: HP-5MS (0.25 mm)

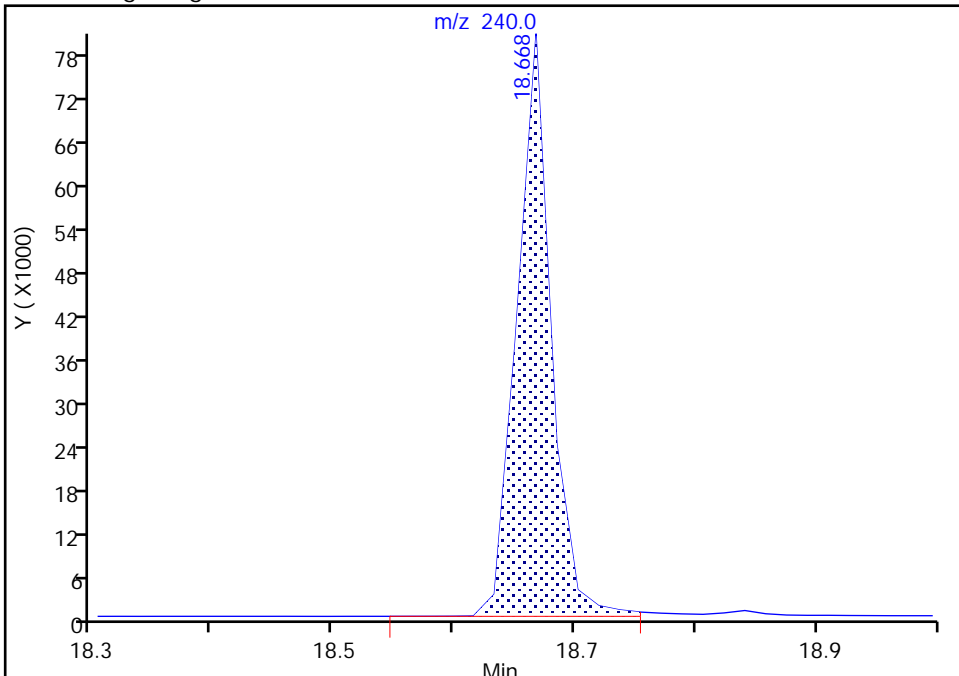
ALS Bottle#: 3 Worklist Smp#: 3
Dil. Factor: 1.0000
Limit Group: 680
Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

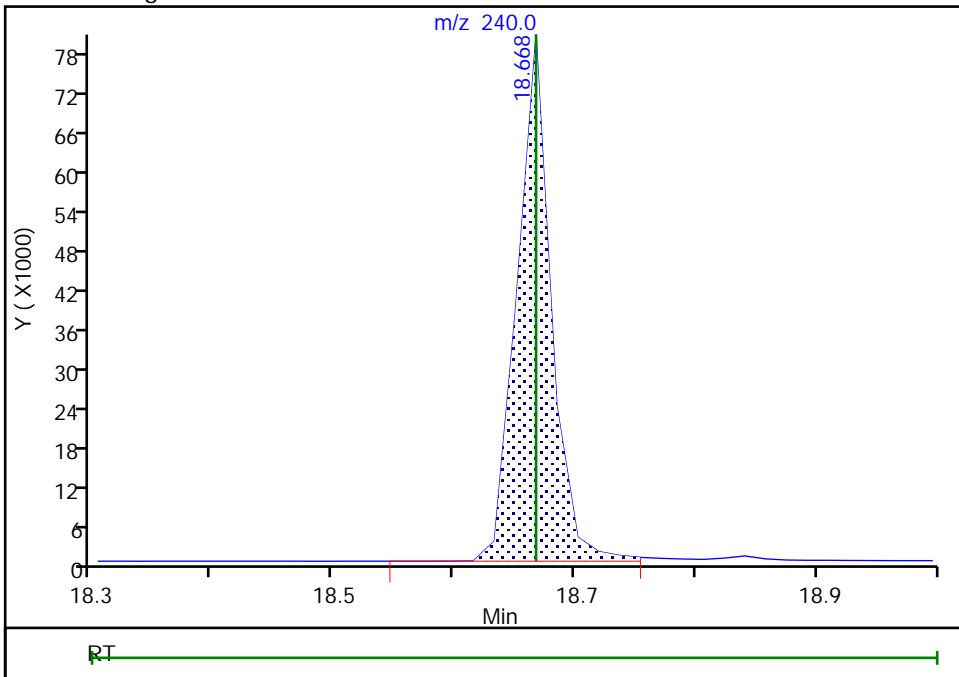
RT: 18.67
Area: 157383
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.67
Area: 157383
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 09-Jan-2019 11:18:51
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

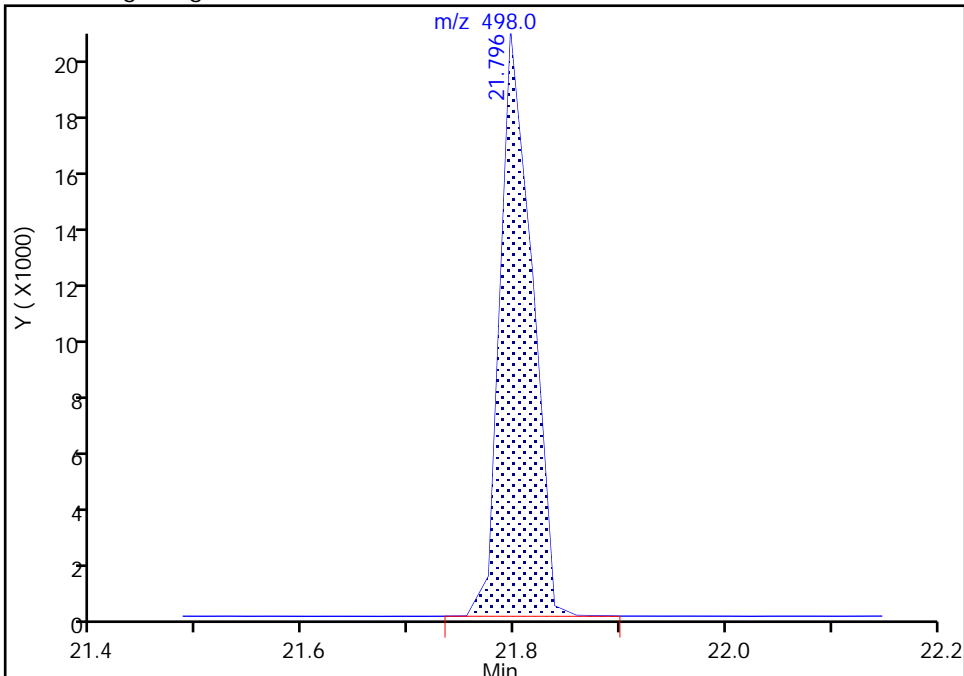
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\1xa0807.D
Injection Date: 08-Jan-2019 15:11:30 Instrument ID: CMSX
Lims ID: icis
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

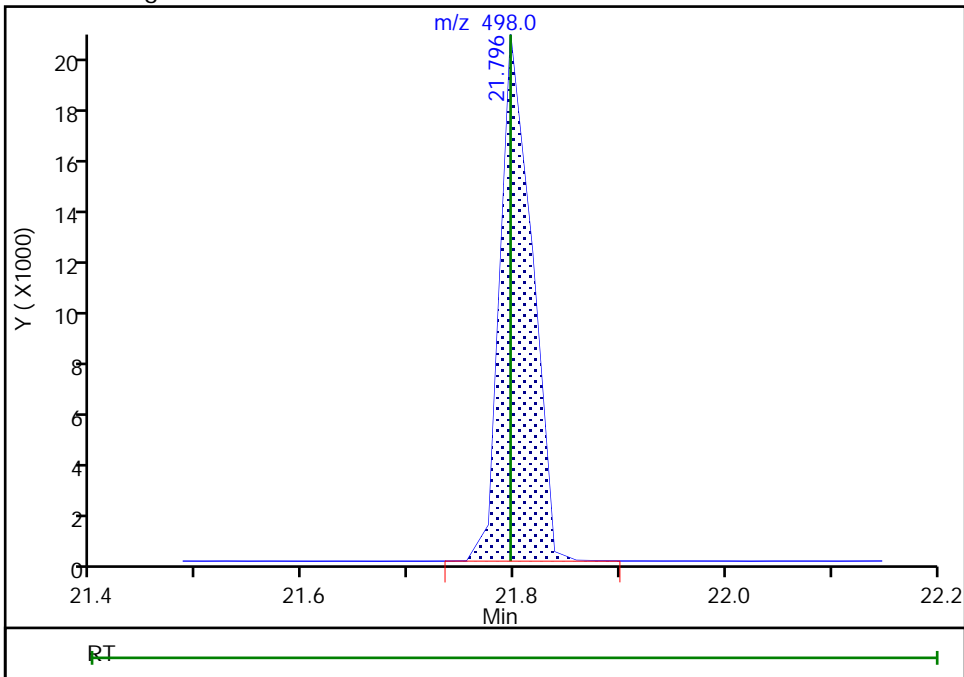
RT: 21.80
Area: 42007
Amount: 5.467694
Amount Units: ug/ml

Processing Integration Results



RT: 21.80
Area: 42007
Amount: 4.770292
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 09-Jan-2019 11:19:17
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

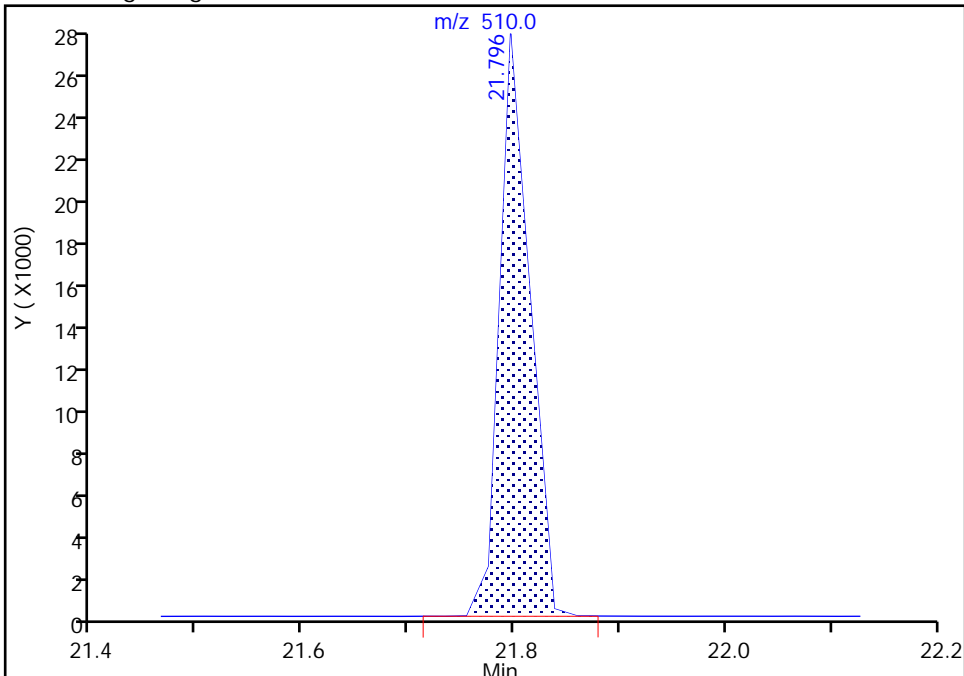
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\1xa0807.D
Injection Date: 08-Jan-2019 15:11:30 Instrument ID: CMSX
Lims ID: icis
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

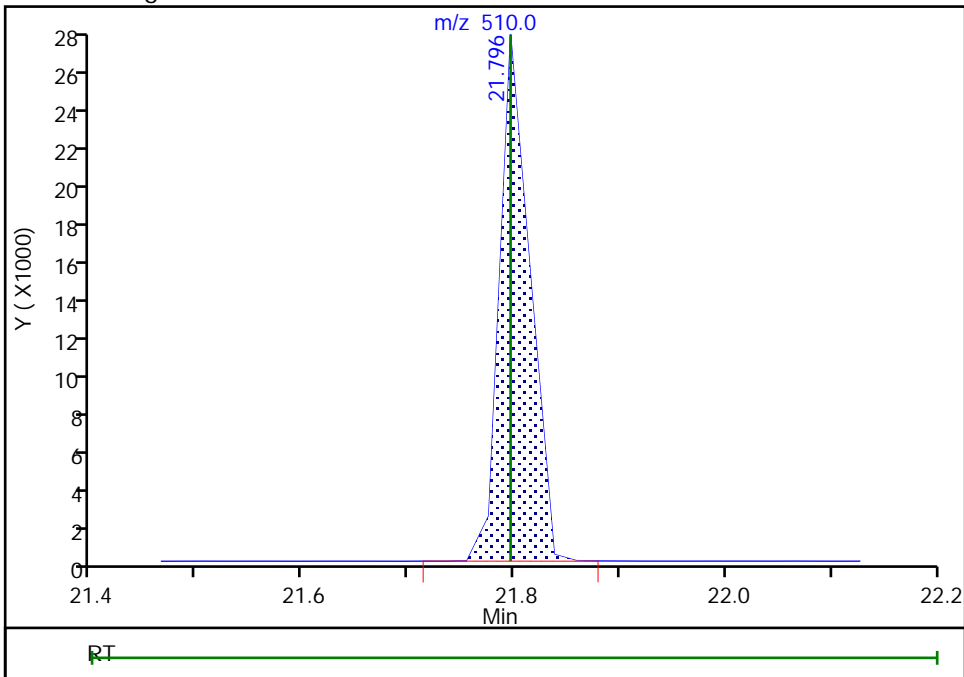
RT: 21.80
Area: 55313
Amount: 5.897112
Amount Units: ug/ml

Processing Integration Results



RT: 21.80
Area: 55313
Amount: 4.891093
Amount Units: ug/ml

Manual Integration Results



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									
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	a

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									
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	a
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									
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	a

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal4_00019

Amount Added: 1.00

Units: mL

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

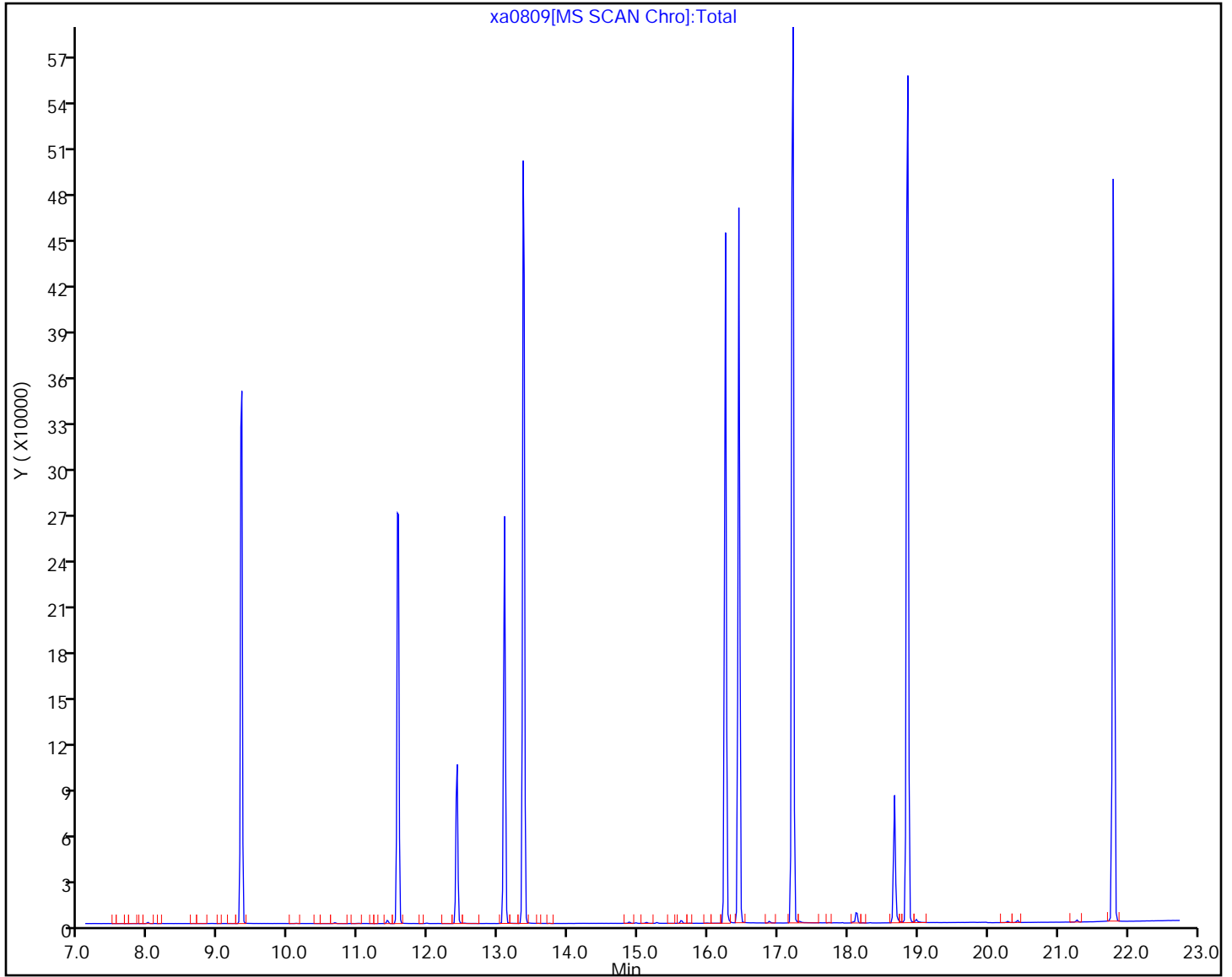
Injection Vol: 2.0 ul

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\1xa0809.D
Injection Date: 08-Jan-2019 16:08:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID:
Injection Vol: 2.0 ul
Method: 680\CMSX
Column: HP-5MS (0.25 mm)

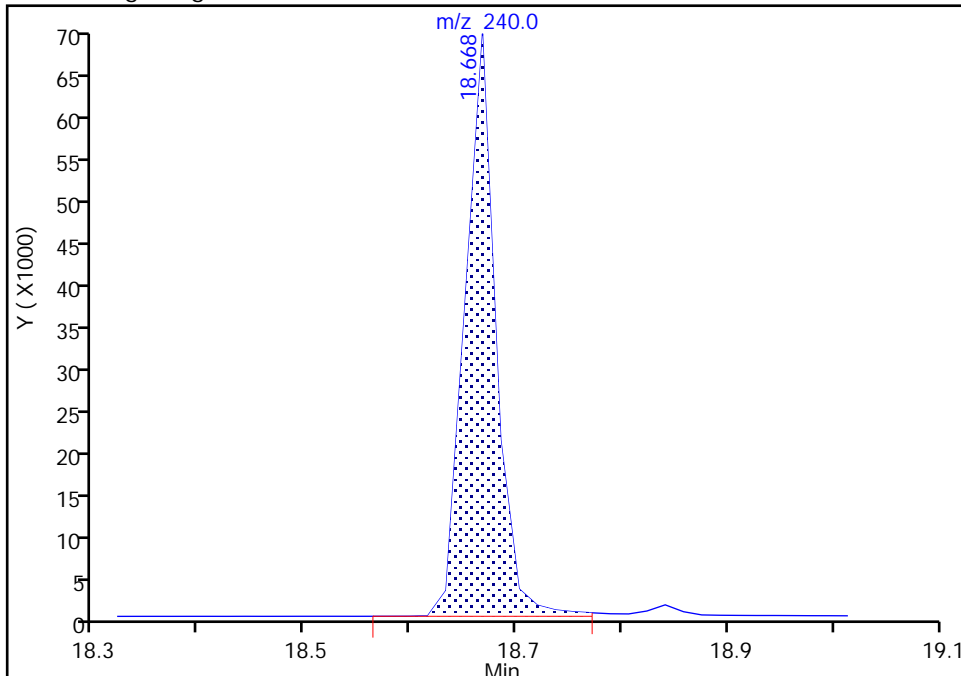
ALS Bottle#: 5 Worklist Smp#: 5
Dil. Factor: 1.0000
Limit Group: 680
Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

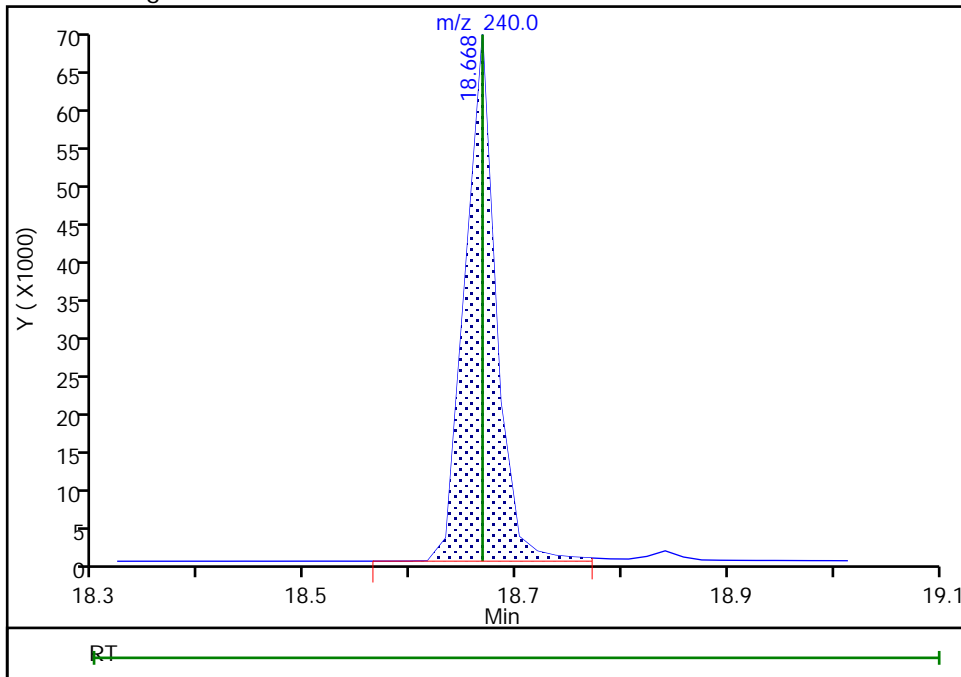
RT: 18.67
Area: 140705
Amount: 1.500000
Amount Units: ug/ml

Processing Integration Results



RT: 18.67
Area: 140705
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



TestAmerica Savannah

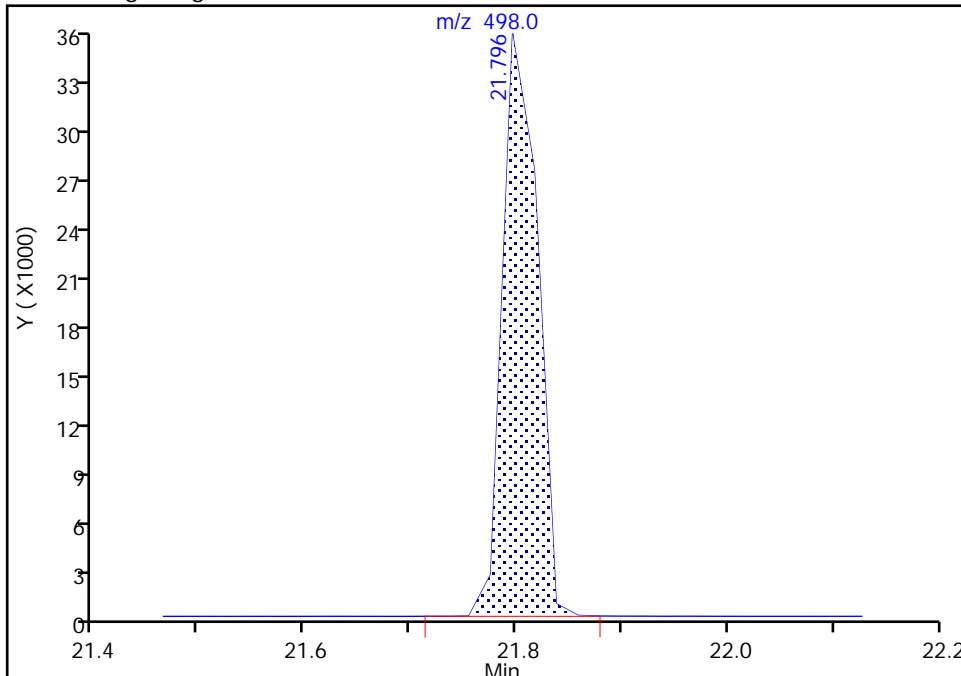
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\1xa0809.D
Injection Date: 08-Jan-2019 16:08:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

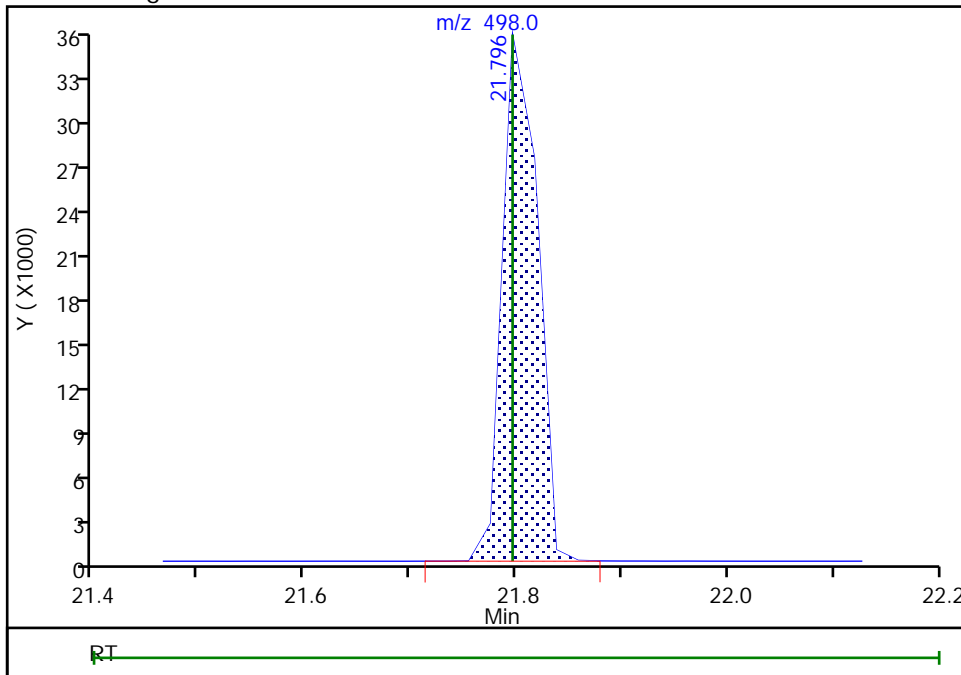
RT: 21.80
Area: 81970
Amount: 11.906460
Amount Units: ug/ml

Processing Integration Results



RT: 21.80
Area: 81970
Amount: 10.411818
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 08-Jan-2019 16:41:22
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

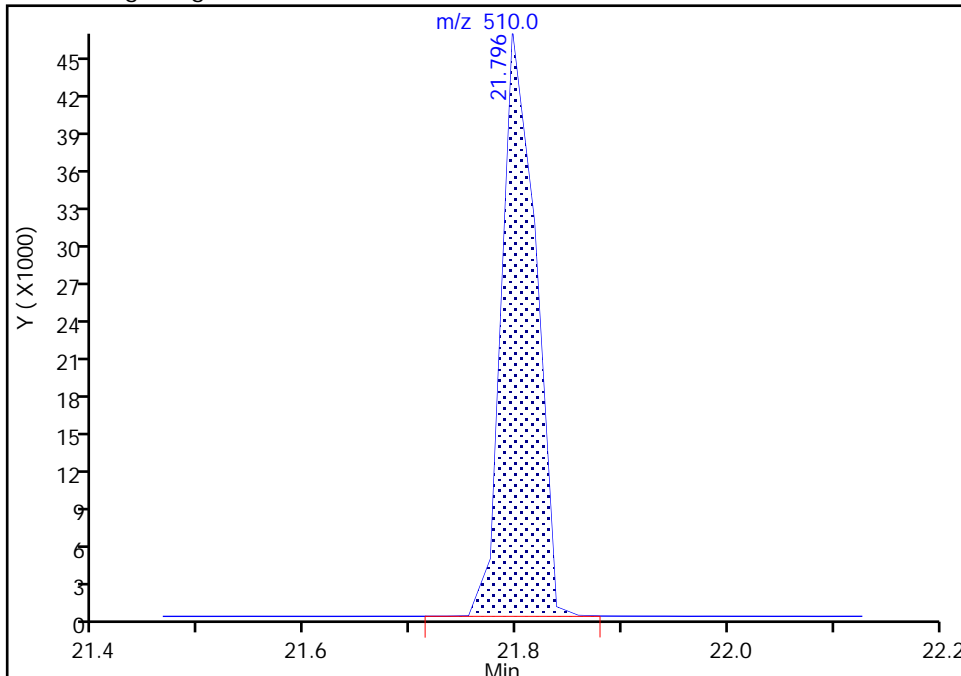
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\1xa0809.D
Injection Date: 08-Jan-2019 16:08:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

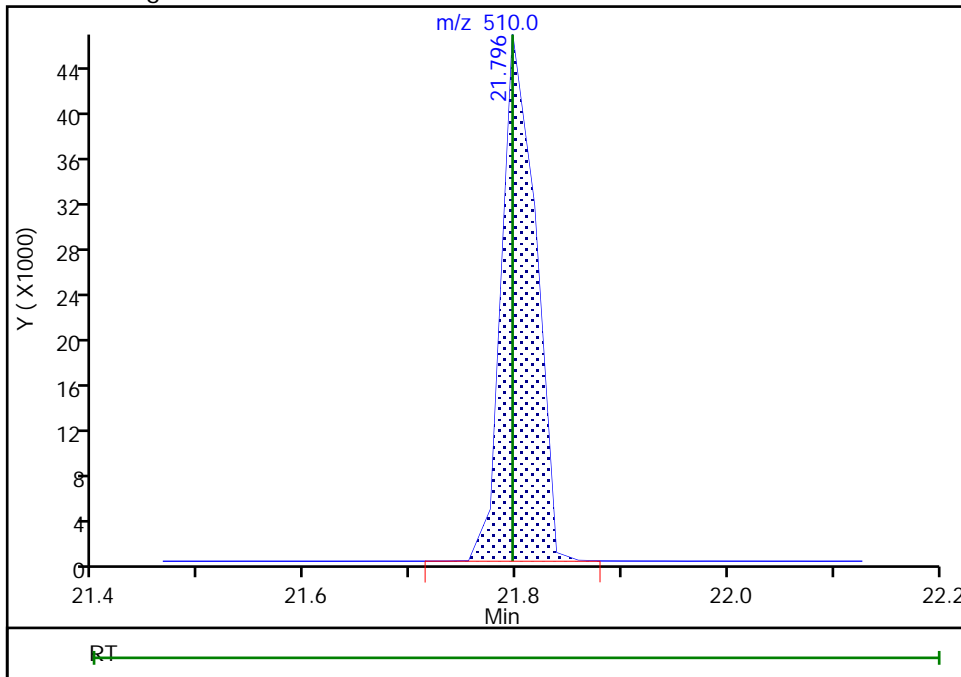
RT: 21.80
Area: 103476
Amount: 12.105034
Amount Units: ug/ml

Processing Integration Results



RT: 21.80
Area: 103476
Amount: 10.234500
Amount Units: ug/ml

Manual Integration Results



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

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

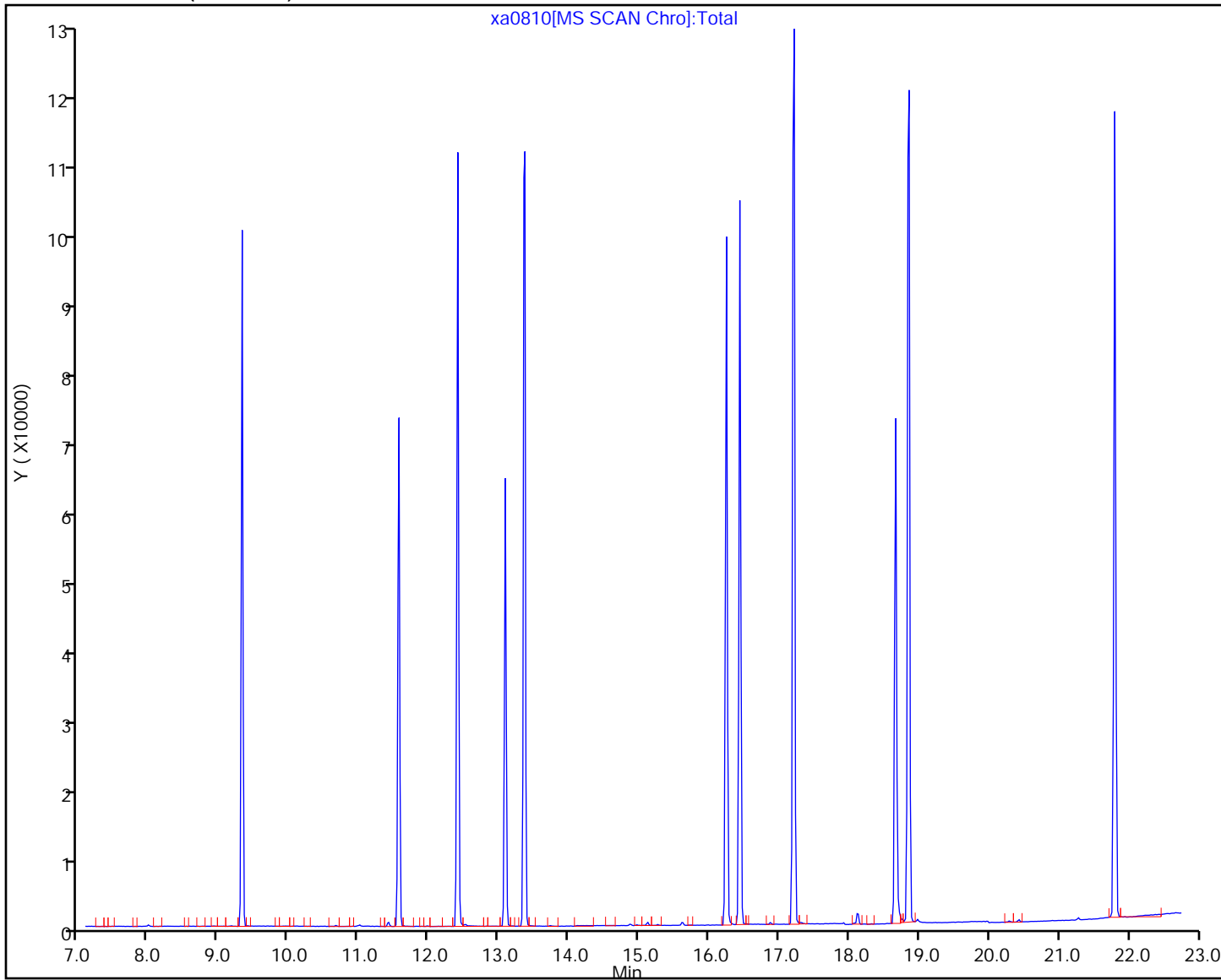
Injection Vol: 2.0 ul

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									
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	a

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									
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	a
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									
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	a

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal1_00021

Amount Added: 1.00

Units: mL

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

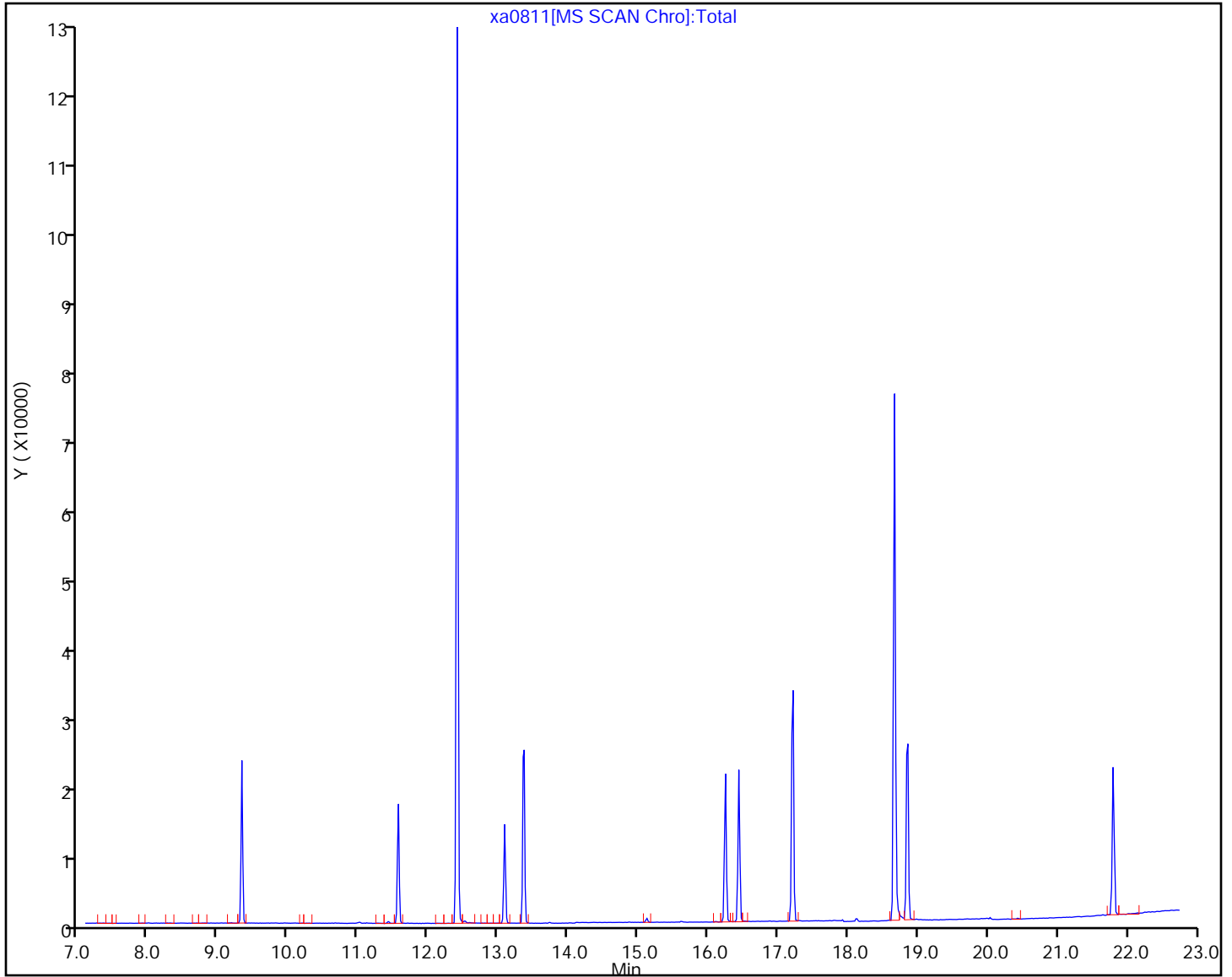
Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 680\CMSX

Limit Group: 680

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

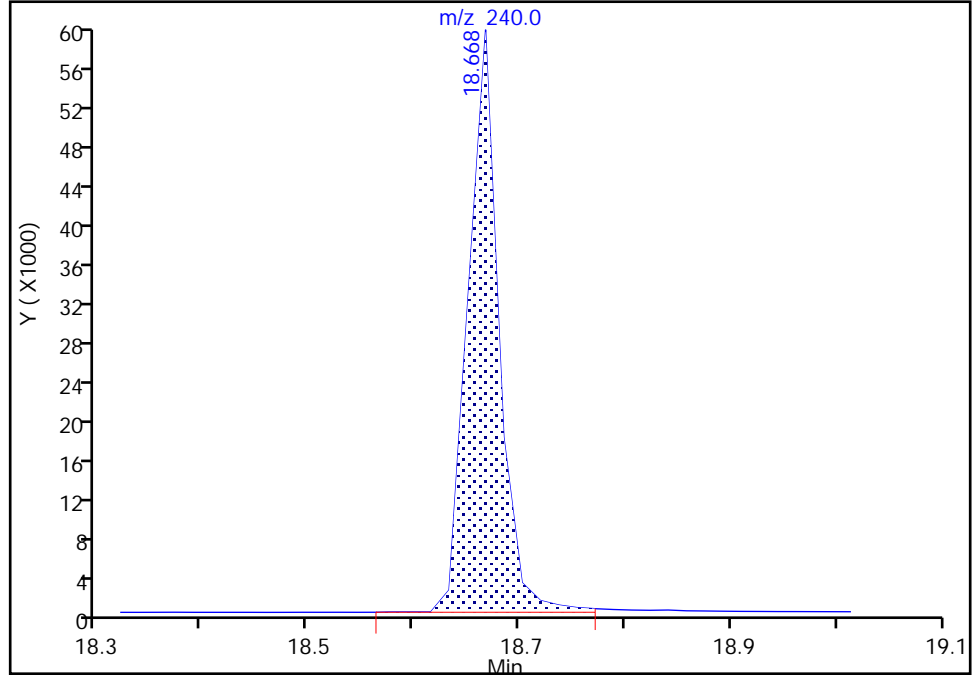
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\1xa0811.D
Injection Date: 08-Jan-2019 17:34:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID:
Injection Vol: 2.0 ul
Method: 680\CMSX
Column: HP-5MS (0.25 mm)

ALS Bottle#: 7 Worklist Smp#: 7
Dil. Factor: 1.0000
Limit Group: 680
Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5
Signal: 1

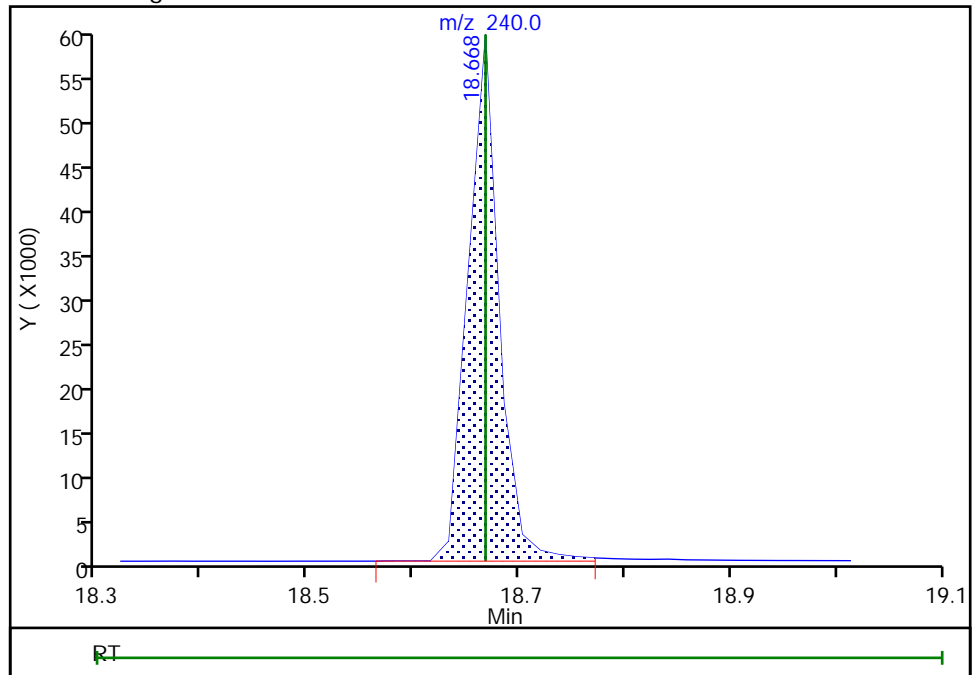
RT: 18.67
Area: 120282
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.67
Area: 120282
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



TestAmerica Savannah

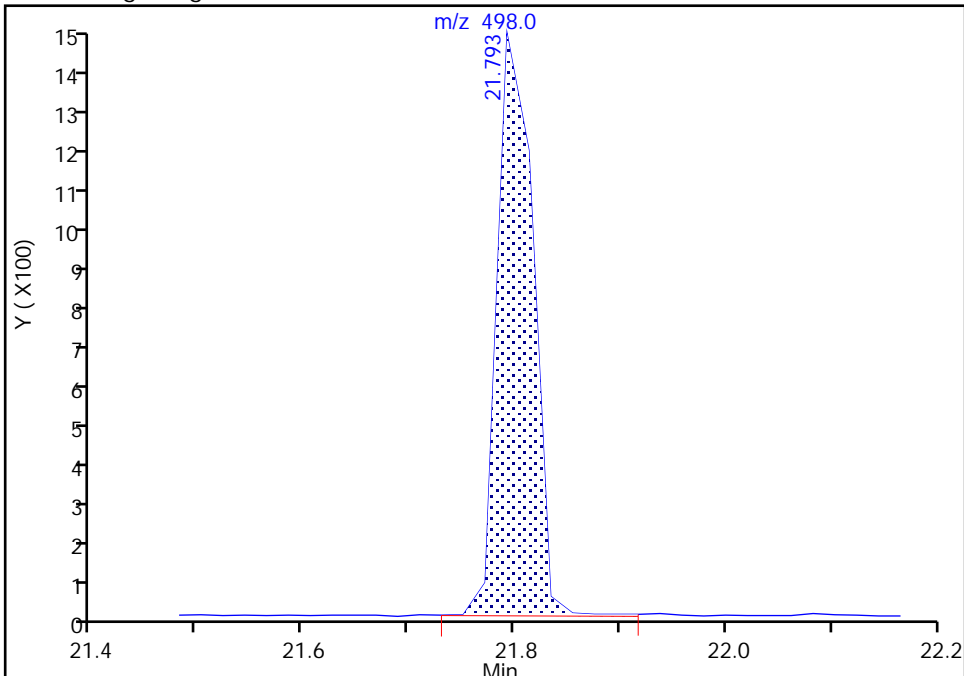
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\1xa0811.D
Injection Date: 08-Jan-2019 17:34:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

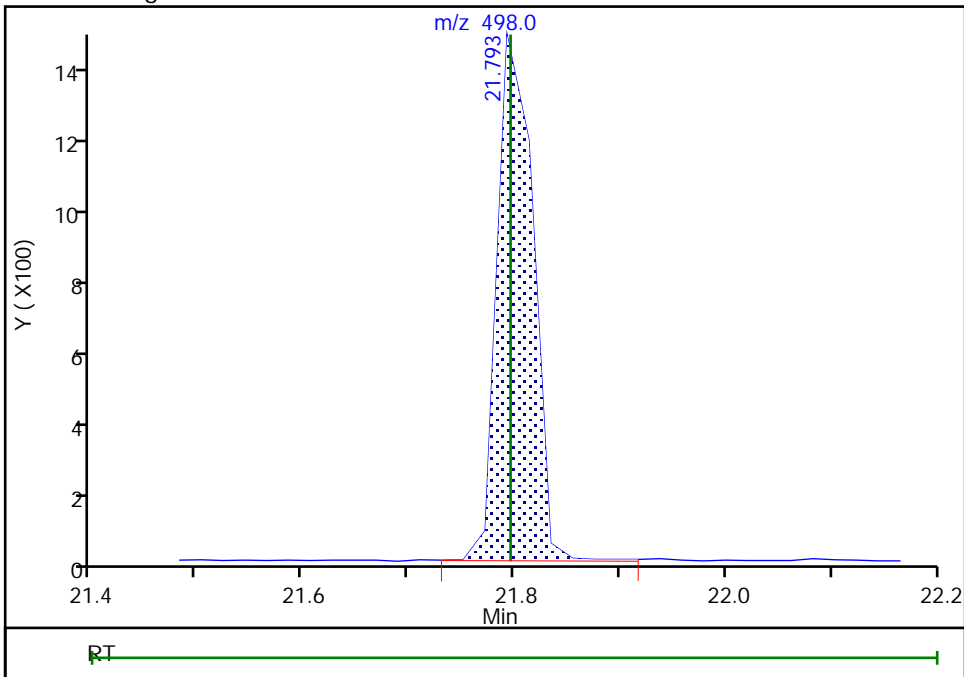
RT: 21.79
Area: 3384
Amount: 0.551220
Amount Units: ug/ml

Processing Integration Results



RT: 21.79
Area: 3384
Amount: 0.502818
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 09-Jan-2019 11:21:49
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

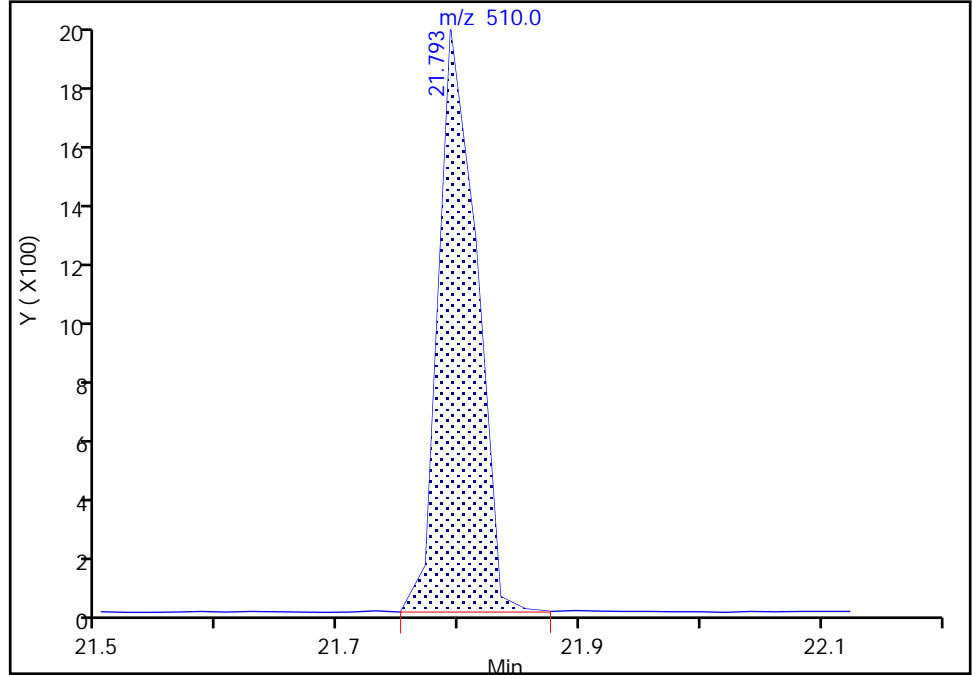
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\xa0811.D
Injection Date: 08-Jan-2019 17:34:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

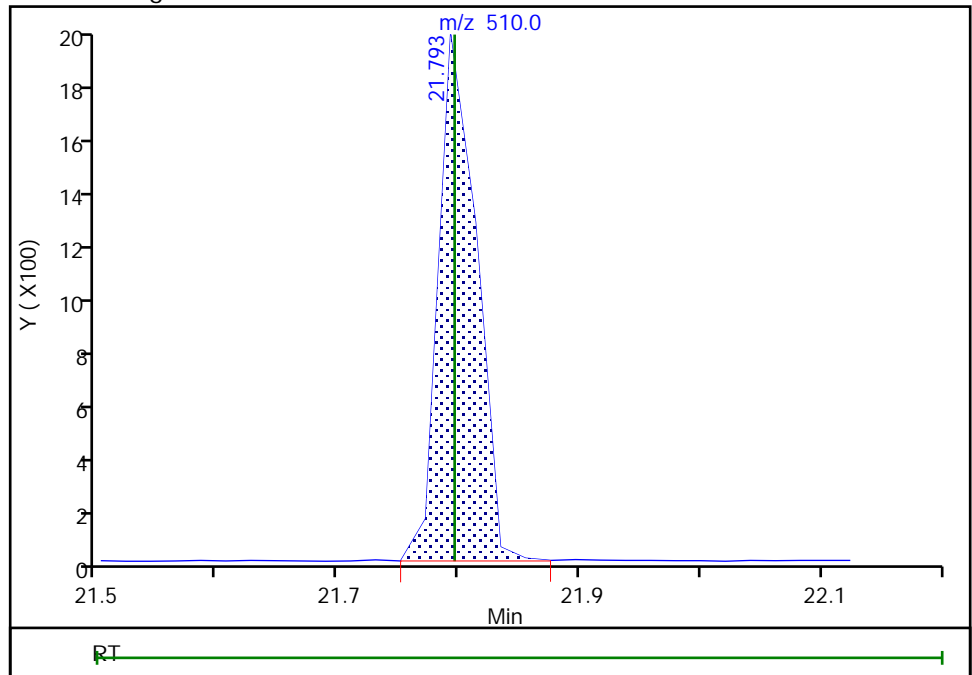
RT: 21.79
Area: 4106
Amount: 0.538028
Amount Units: ug/ml

Processing Integration Results



RT: 21.79
Area: 4106
Amount: 0.475067
Amount Units: ug/ml

Manual Integration Results



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									
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	a

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

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

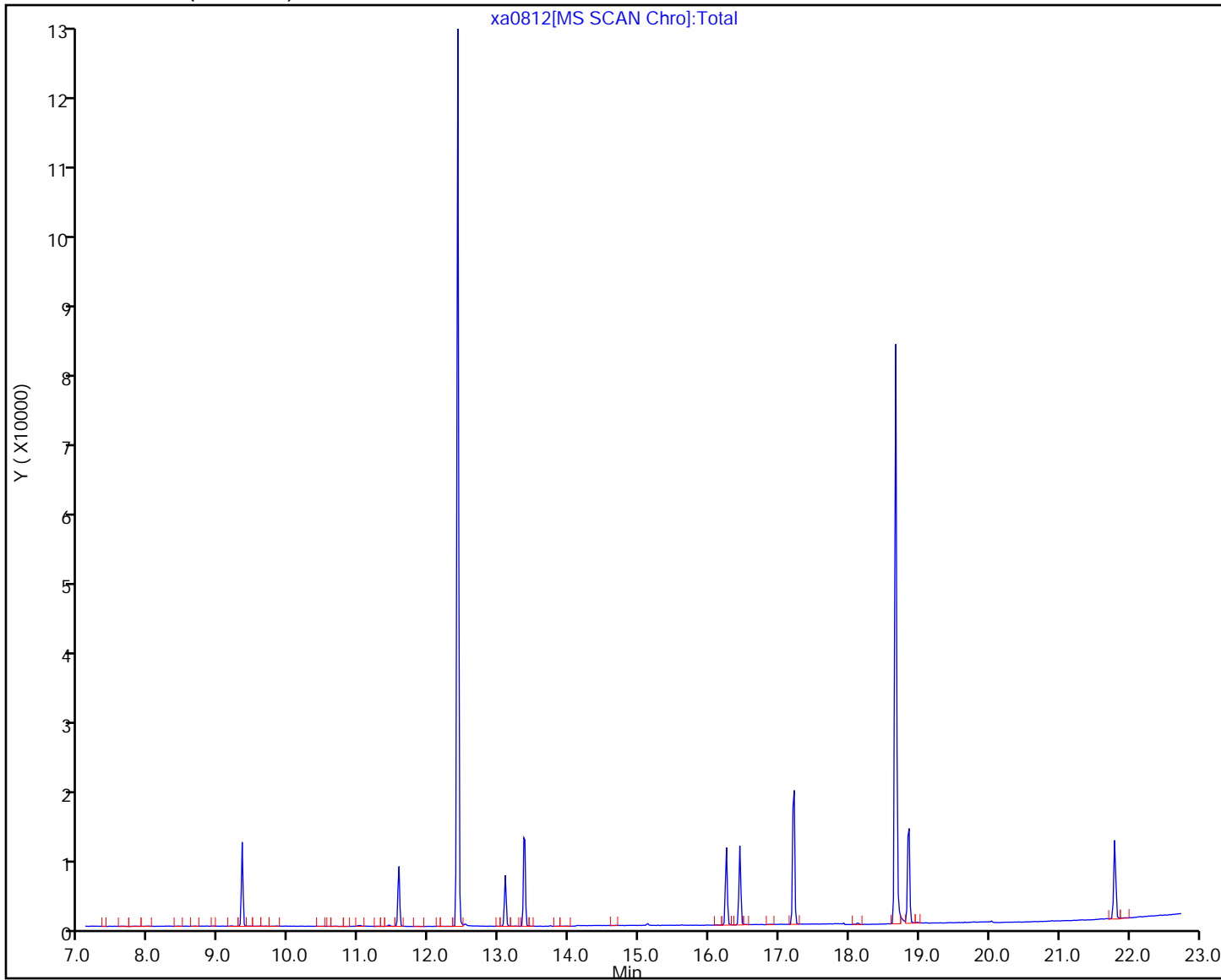
Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 680\CMSX

Limit Group: 680

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

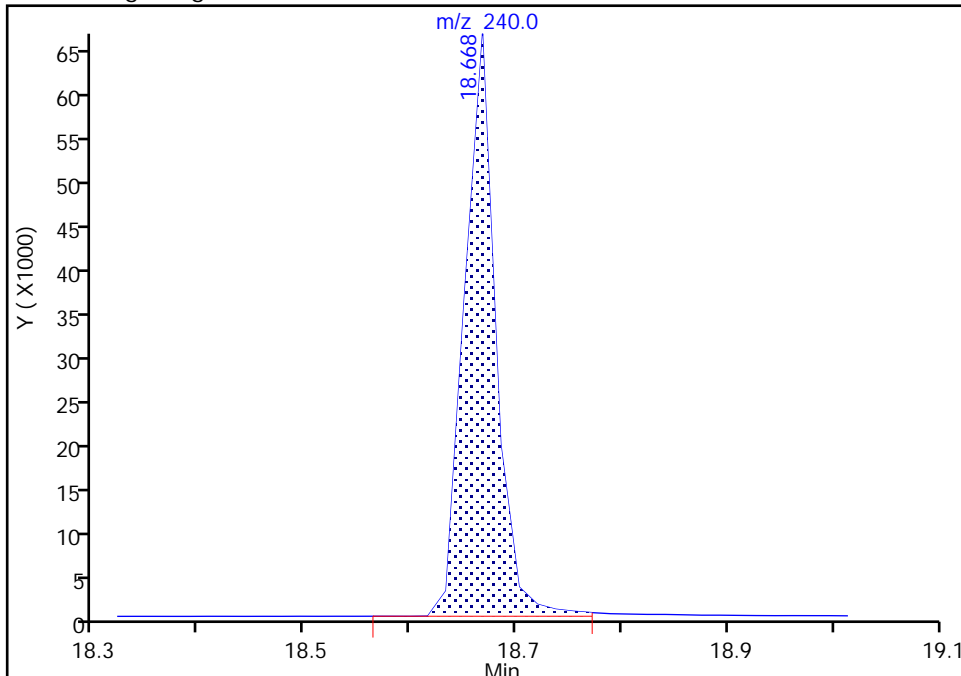
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\1xa0812.D
Injection Date: 08-Jan-2019 18:02:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

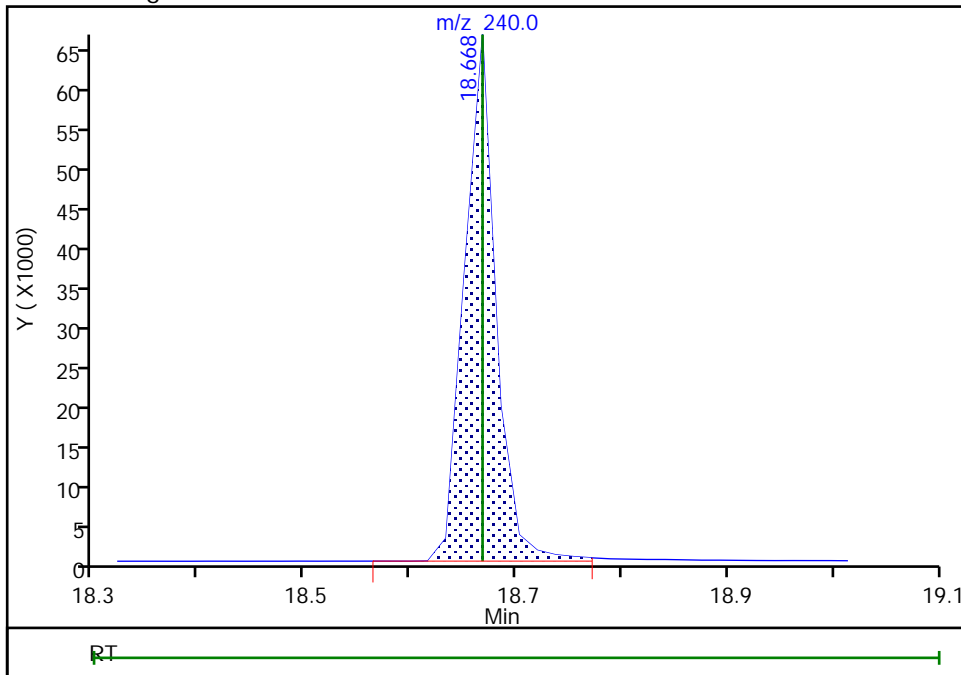
RT: 18.67
Area: 137427
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.67
Area: 137427
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



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									
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	a

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									
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	a
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									
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	a

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680isomerCal5_00020

Amount Added: 1.00

Units: mL

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

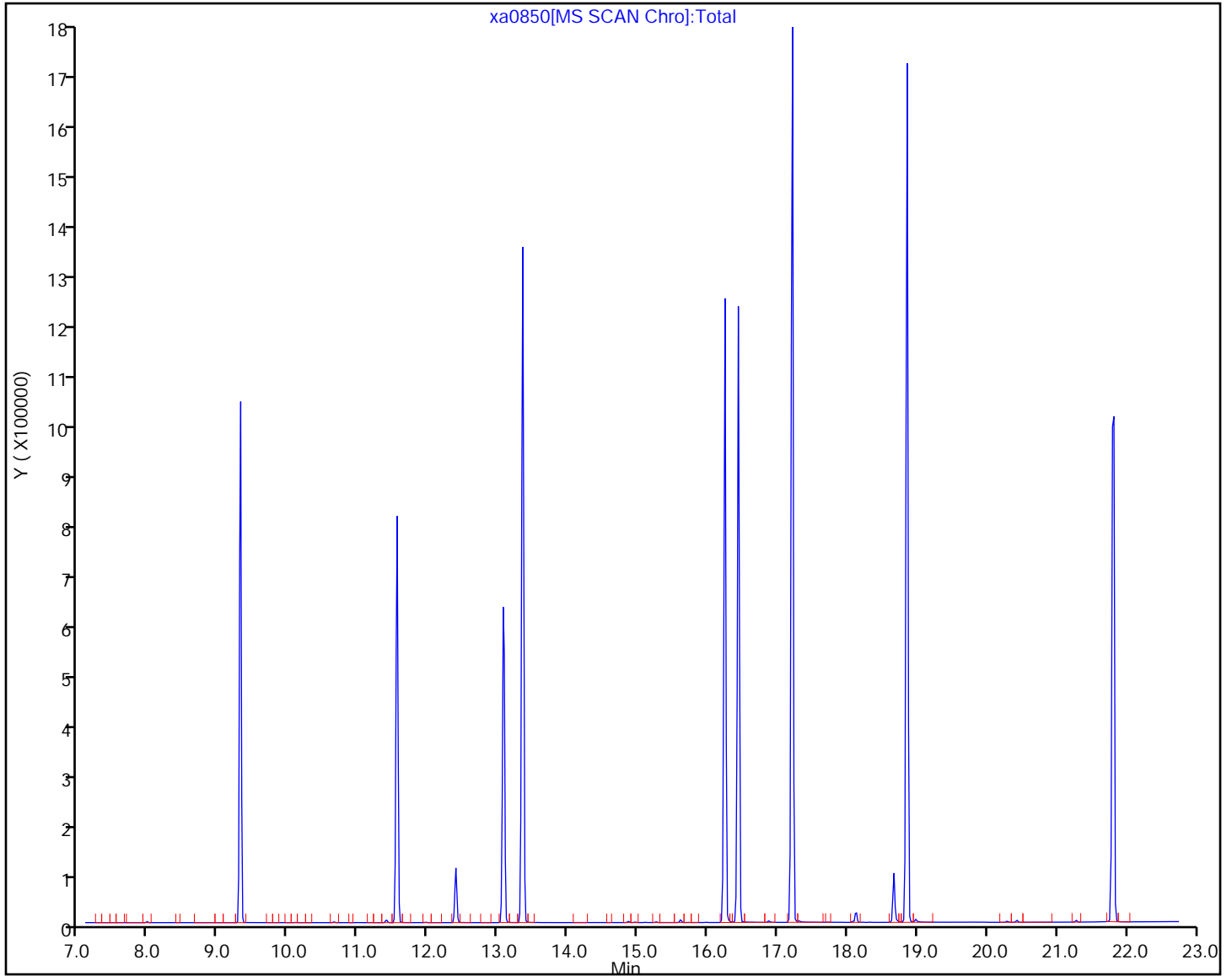
Injection Vol: 2.0 ul

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\1xa0850.D
Injection Date: 08-Jan-2019 17:05:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID:
Injection Vol: 2.0 ul
Method: 680\CMSX
Column: HP-5MS (0.25 mm)

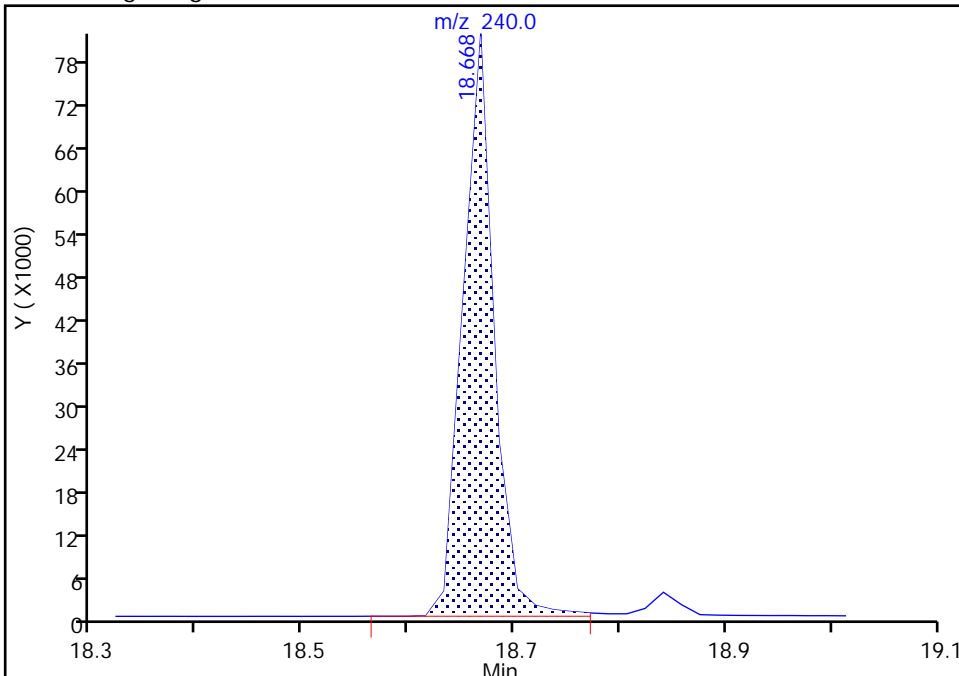
ALS Bottle#: 4 Worklist Smp#: 27
Dil. Factor: 1.0000
Limit Group: 680
Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

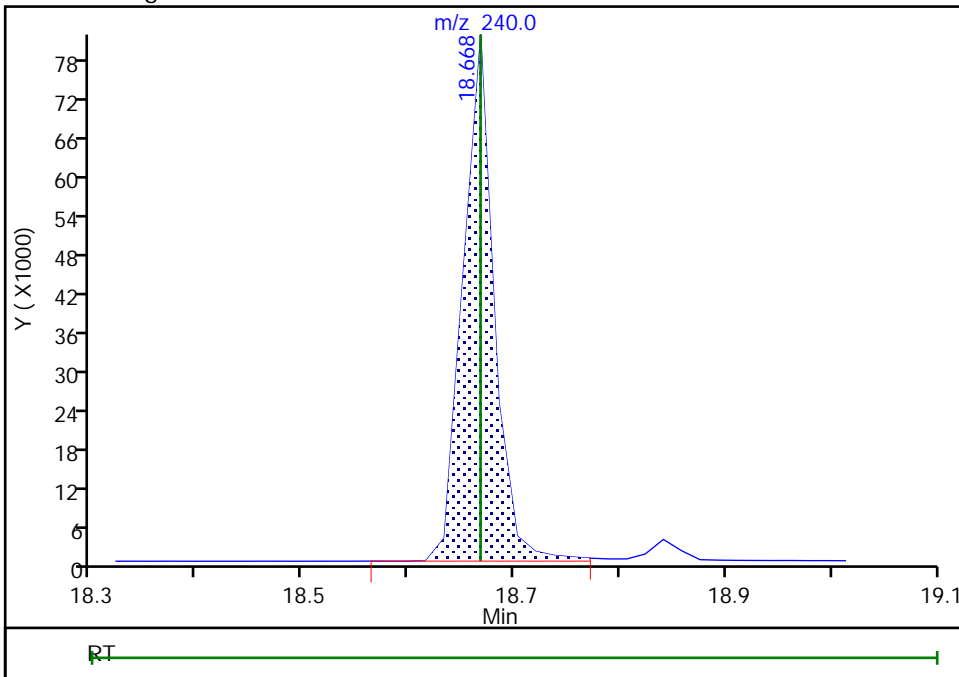
RT: 18.67
Area: 166505
Amount: 1.500000
Amount Units: ug/ml

Processing Integration Results



RT: 18.67
Area: 166505
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 08-Jan-2019 17:37:57
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

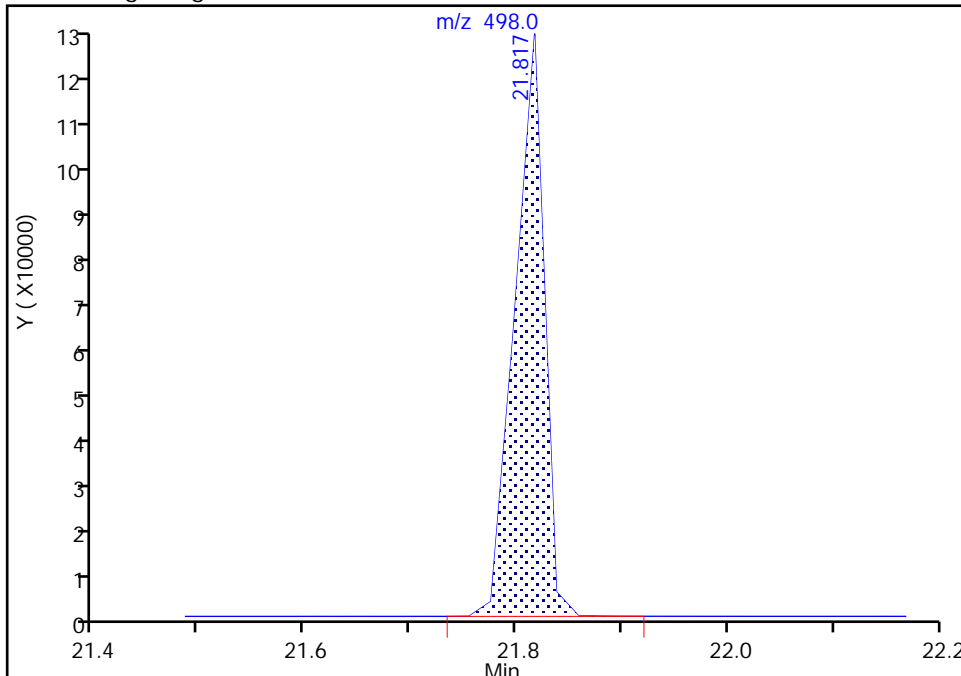
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\1a0850.D
Injection Date: 08-Jan-2019 17:05:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 4 Worklist Smp#: 27
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

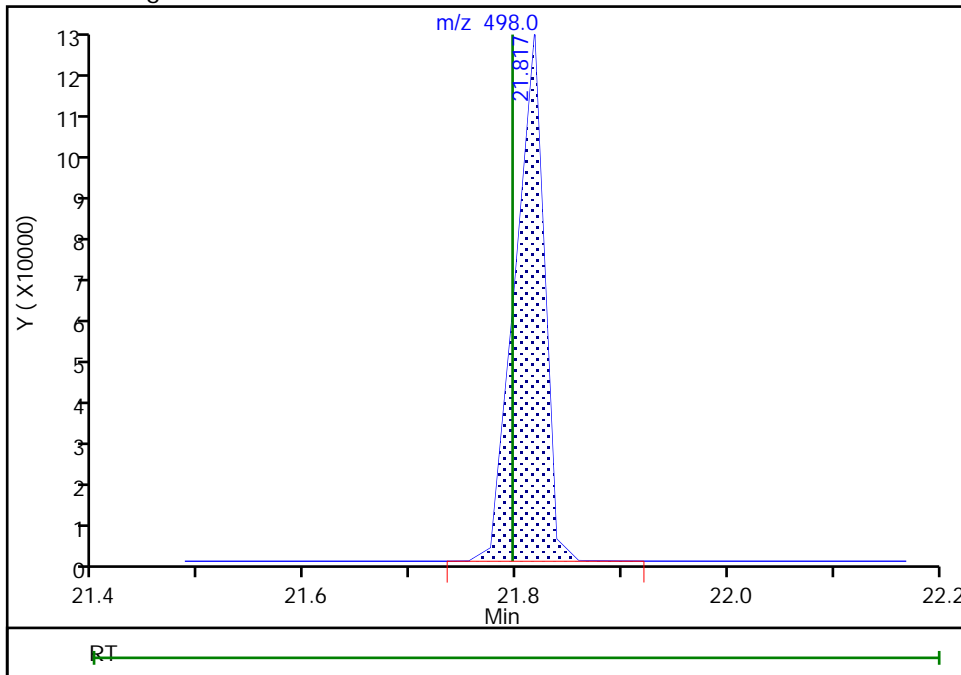
RT: 21.82
Area: 243534
Amount: 29.325950
Amount Units: ug/ml

Processing Integration Results



RT: 21.82
Area: 243534
Amount: 26.140475
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 08-Jan-2019 17:38:16
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

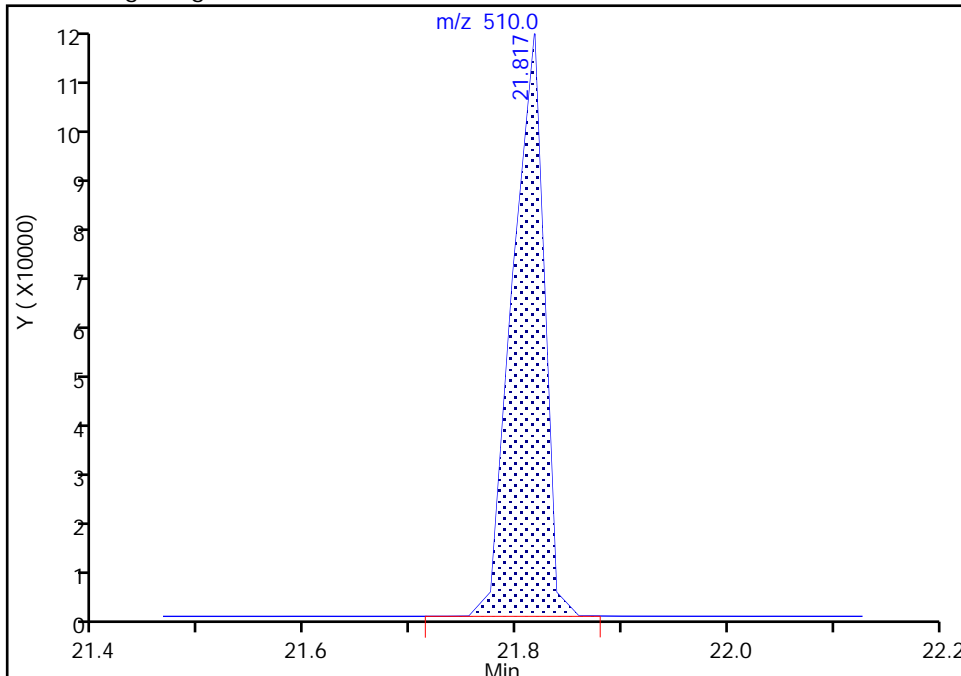
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\1xa0850.D
Injection Date: 08-Jan-2019 17:05:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 4 Worklist Smp#: 27
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

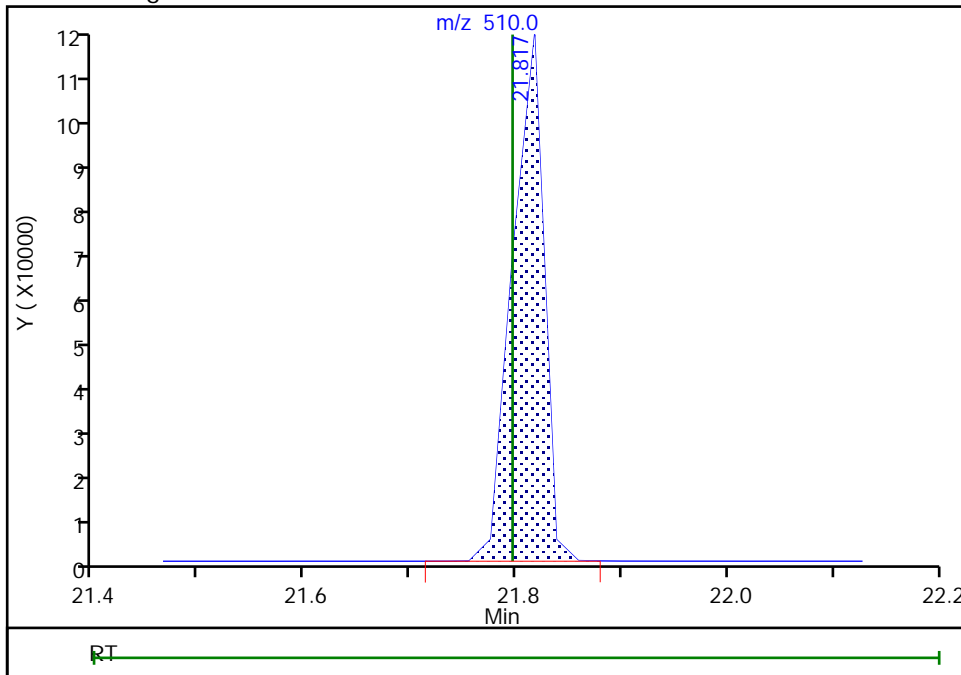
RT: 21.82
Area: 234805
Amount: 21.798888
Amount Units: ug/ml

Processing Integration Results



RT: 21.82
Area: 234805
Amount: 19.625312
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 08-Jan-2019 17:38:19
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

FORM VI
 PCBS BY INTERNAL APPENDIX D Laboratory Reports 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 APPENDIX D Laboratory Reports 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\2504.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\2511.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										
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
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										
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		a
32 DCB Decachlorobiphenyl										
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

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

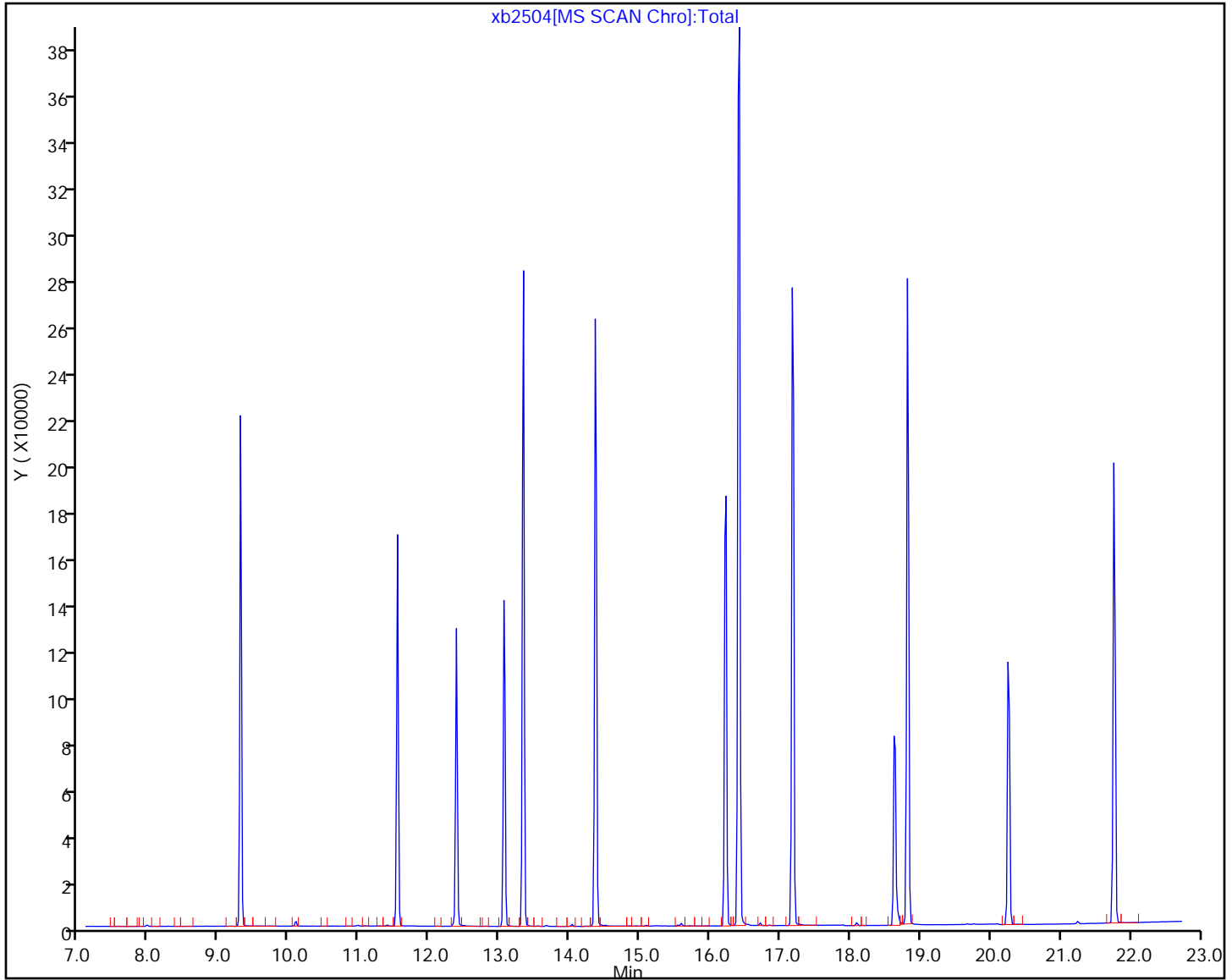
Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 680\CMSX

Limit Group: 680

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

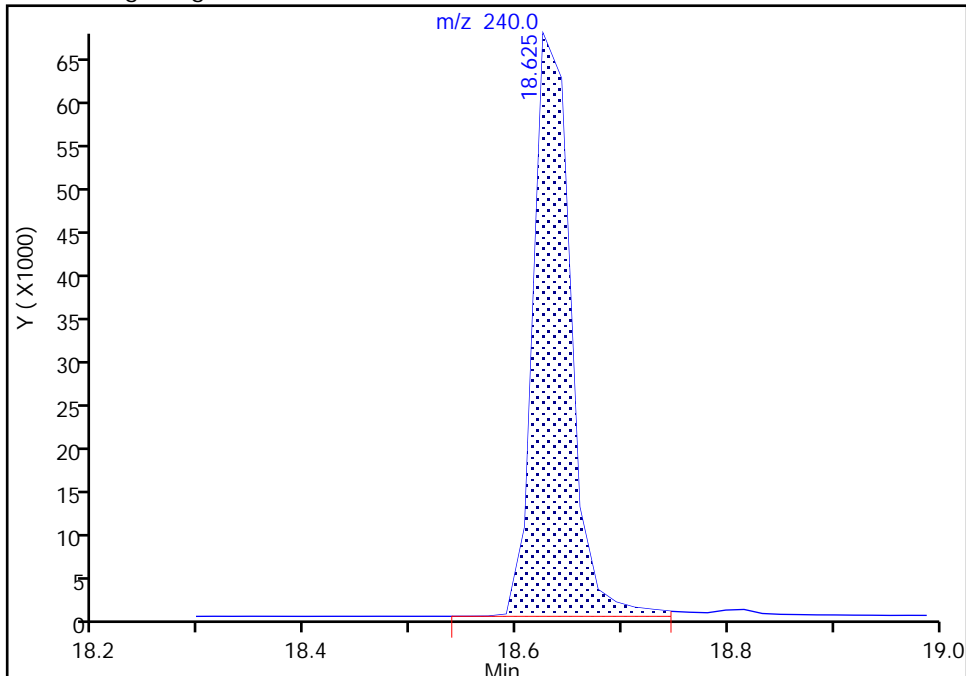
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2504.D
Injection Date: 25-Feb-2019 13:07:30 Instrument ID: CMSX
Lims ID: icis
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

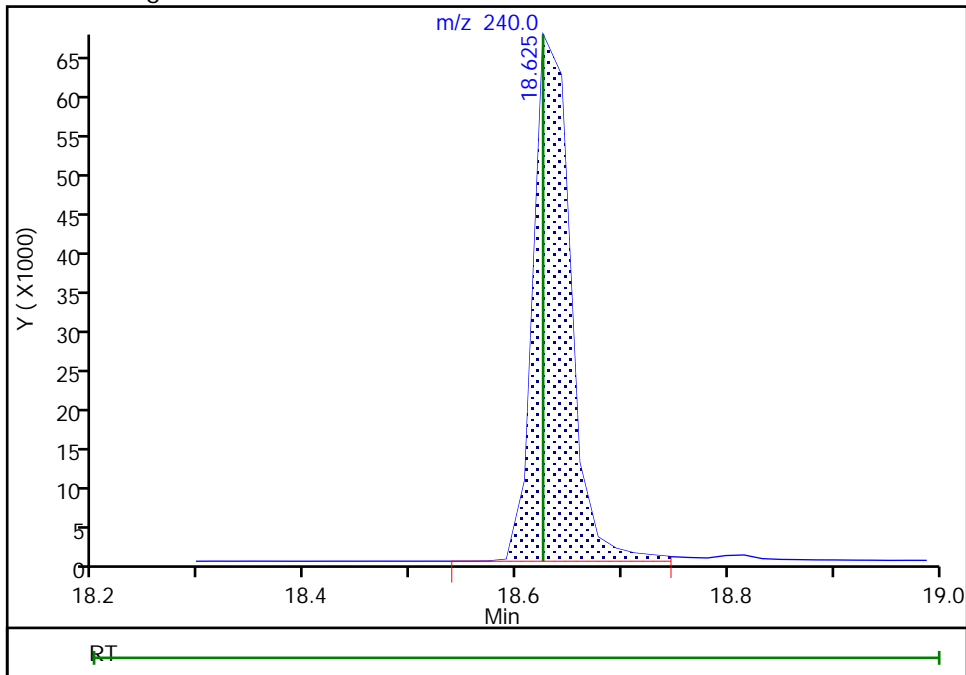
RT: 18.63
Area: 166325
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.63
Area: 166325
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 26-Feb-2019 09:23:28
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

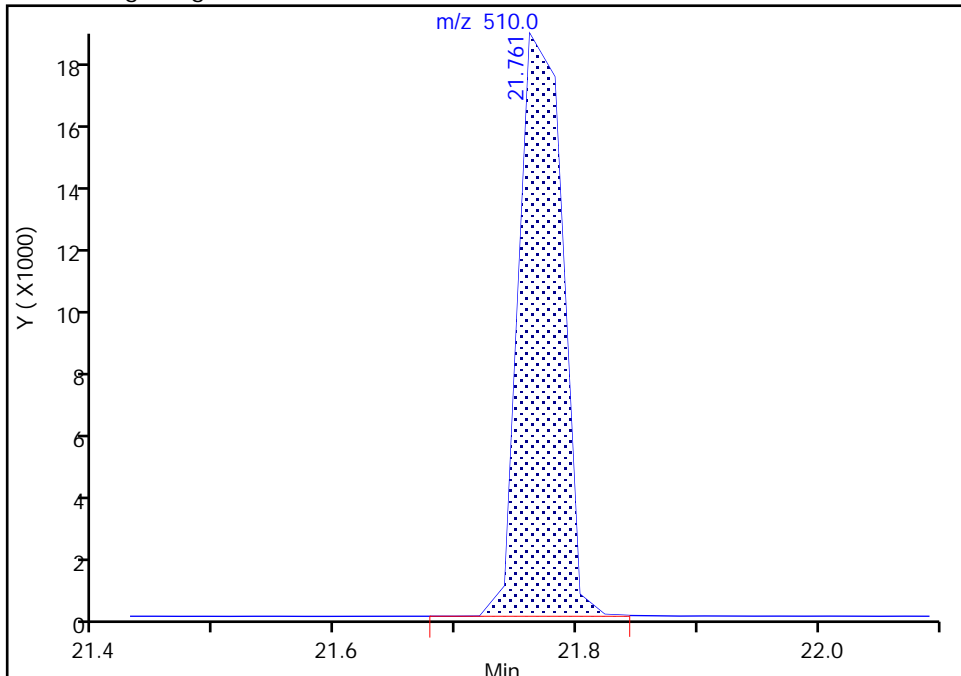
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2504.D
Injection Date: 25-Feb-2019 13:07:30 Instrument ID: CMSX
Lims ID: icis
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

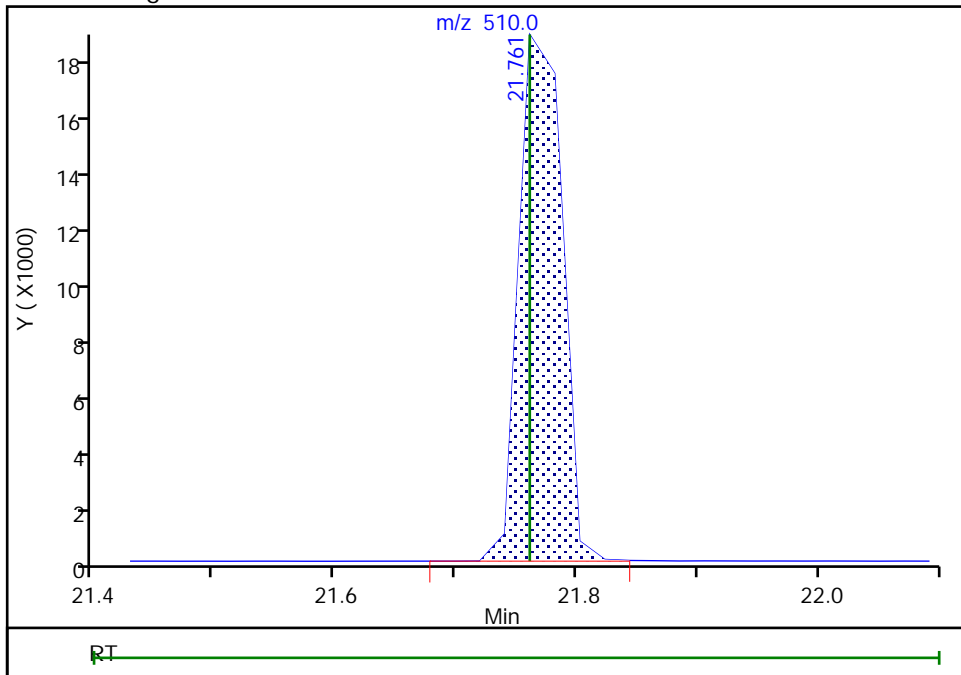
RT: 21.76
Area: 45456
Amount: 4.859618
Amount Units: ug/ml

Processing Integration Results



RT: 21.76
Area: 45456
Amount: 4.859618
Amount Units: ug/ml

Manual Integration Results



TestAmerica Savannah

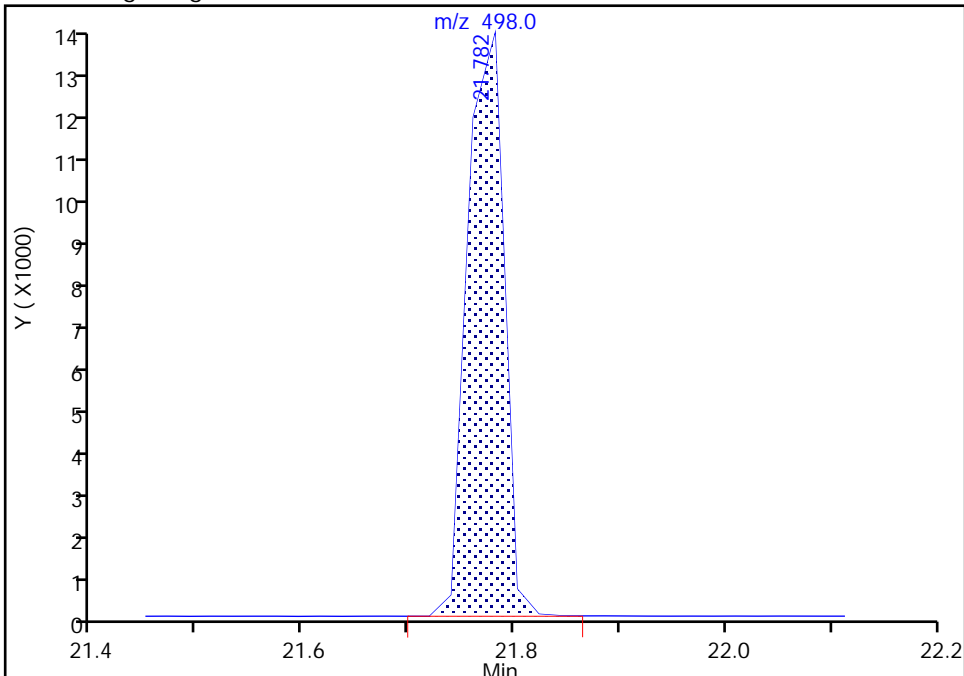
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2504.D
Injection Date: 25-Feb-2019 13:07:30 Instrument ID: CMSX
Lims ID: icis
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

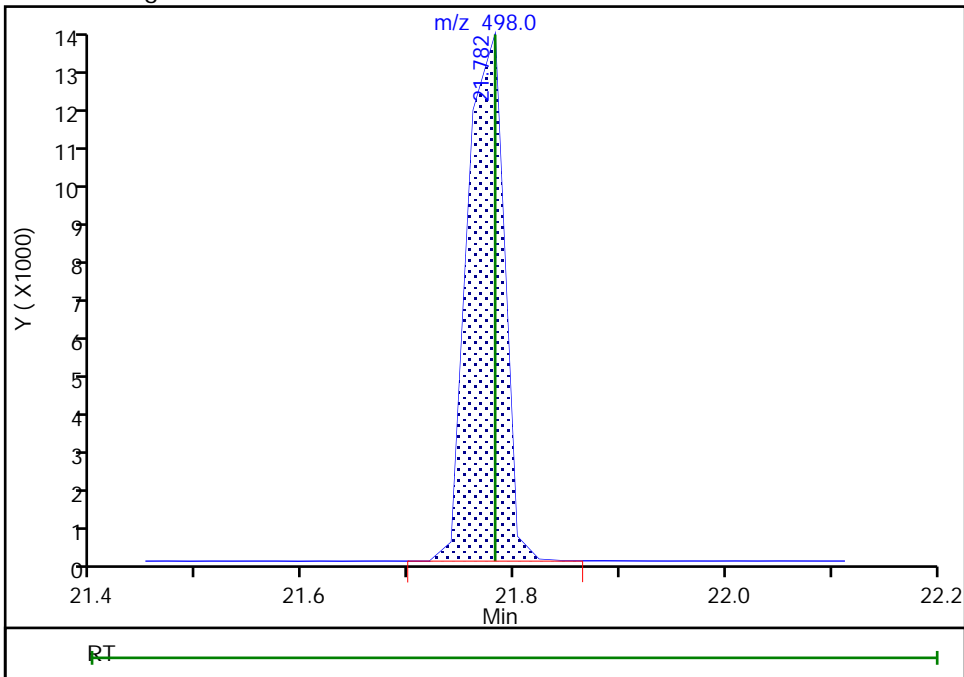
RT: 21.78
Area: 32060
Amount: 4.650010
Amount Units: ug/ml

Processing Integration Results



RT: 21.78
Area: 32060
Amount: 4.650010
Amount Units: ug/ml

Manual Integration Results



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									
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
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									
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	a
32 DCB Decachlorobiphenyl									
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:

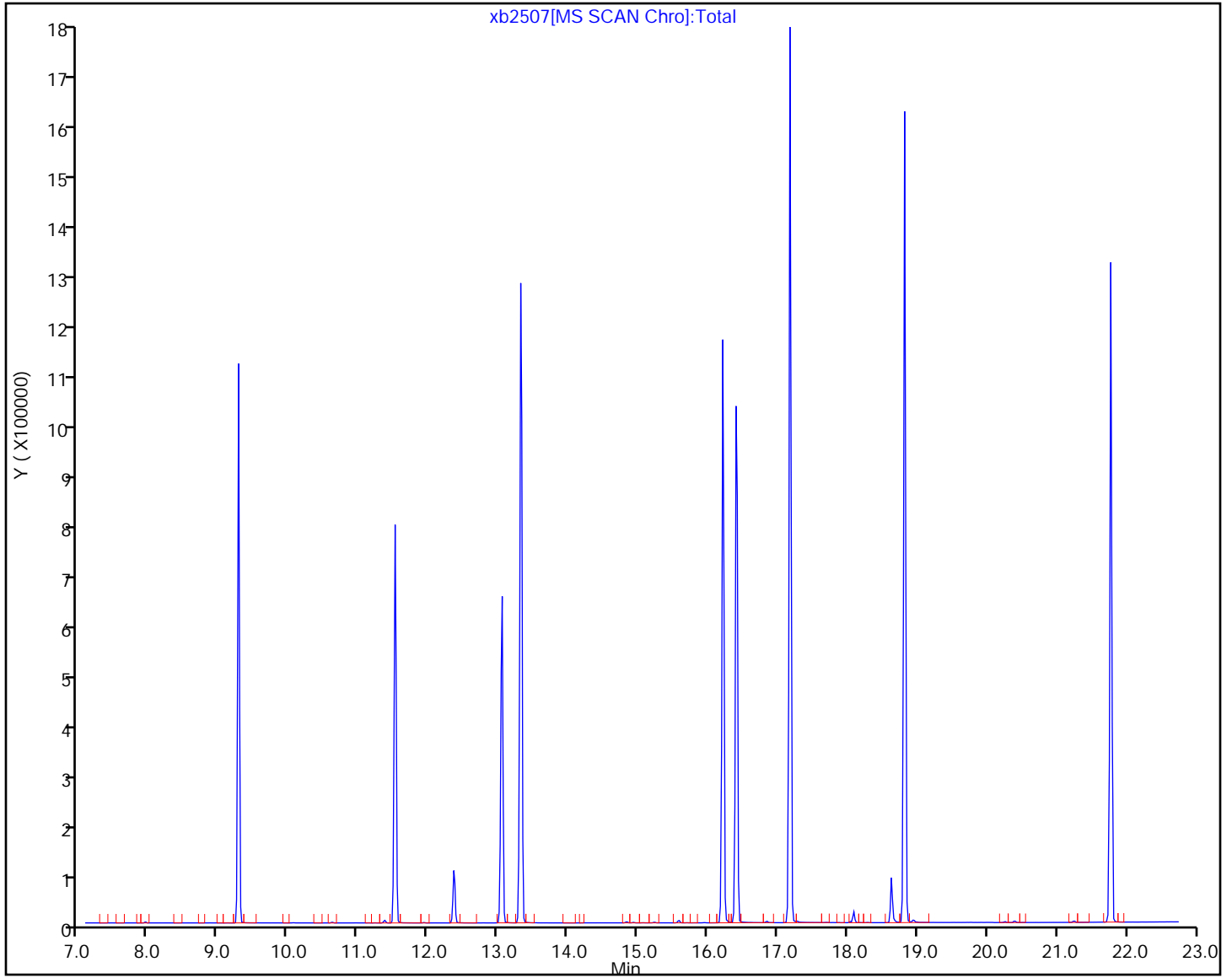
680isomerCal5_00021

Amount Added: 1.00

Units: mL

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:
Injection Vol: 2.0 ul
Method: 680\CMSX
Column: HP-5MS (0.25 mm)

ALS Bottle#: 7 Worklist Smp#: 4
Dil. Factor: 1.0000
Limit Group: 680



TestAmerica Savannah

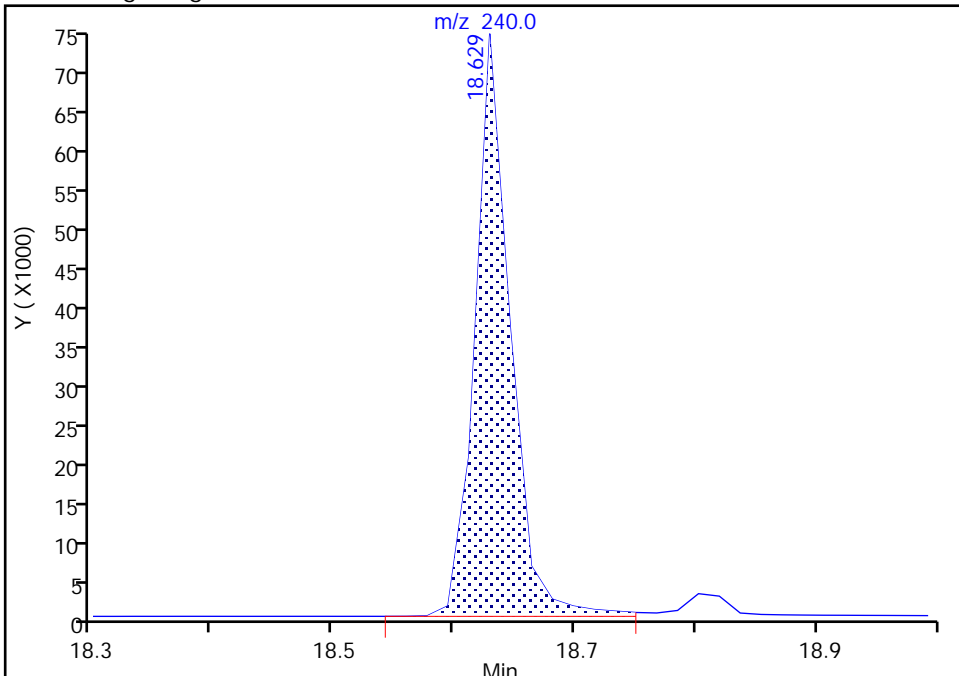
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2507.D
Injection Date: 25-Feb-2019 14:04:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

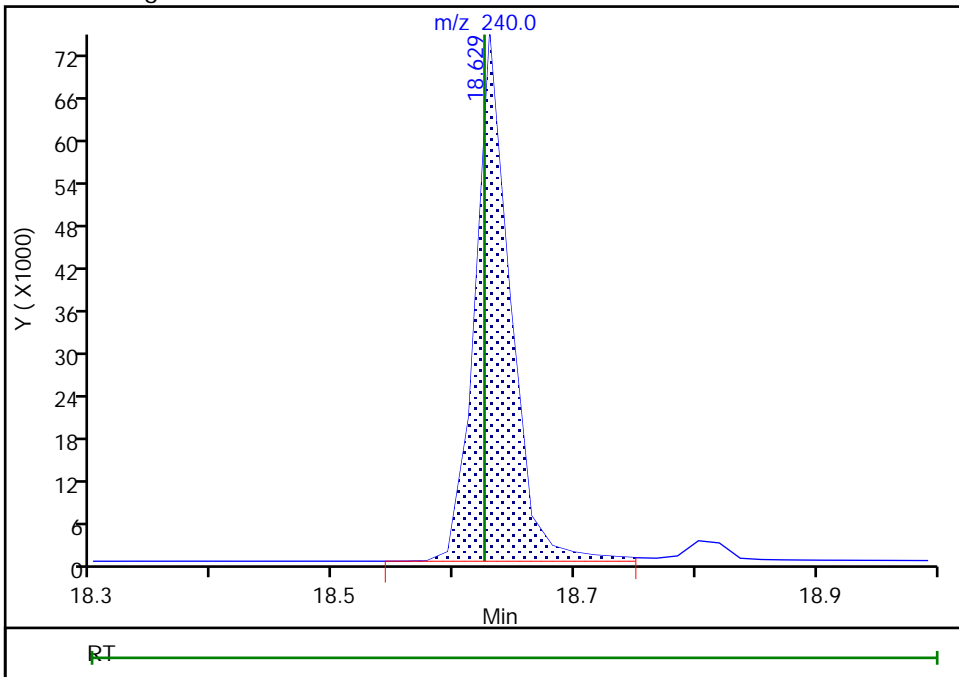
RT: 18.63
Area: 150306
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.63
Area: 150306
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



TestAmerica Savannah

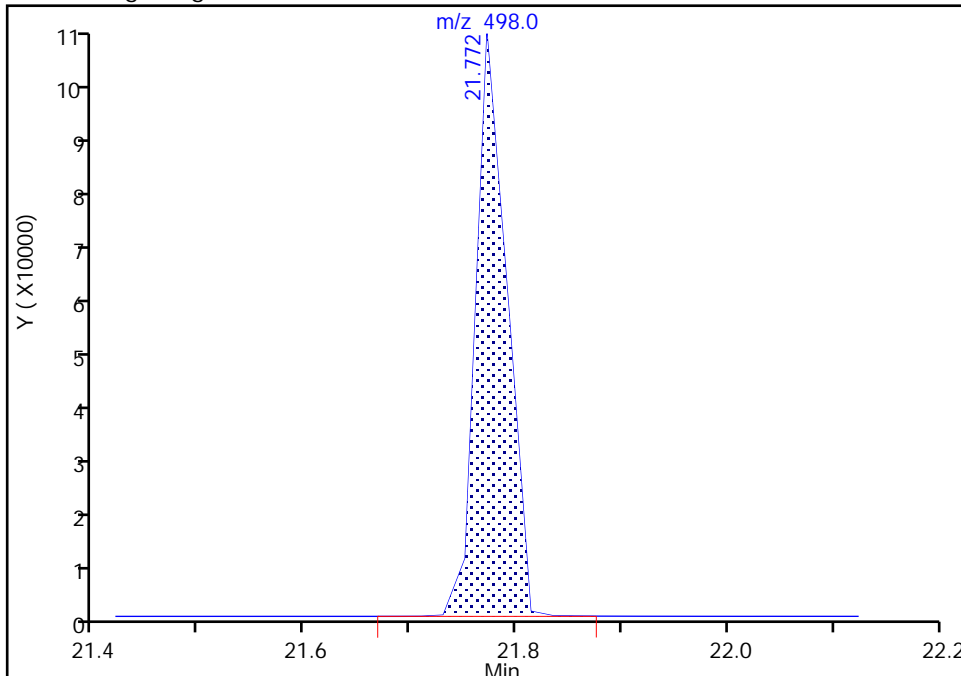
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\2507.D
Injection Date: 25-Feb-2019 14:04:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

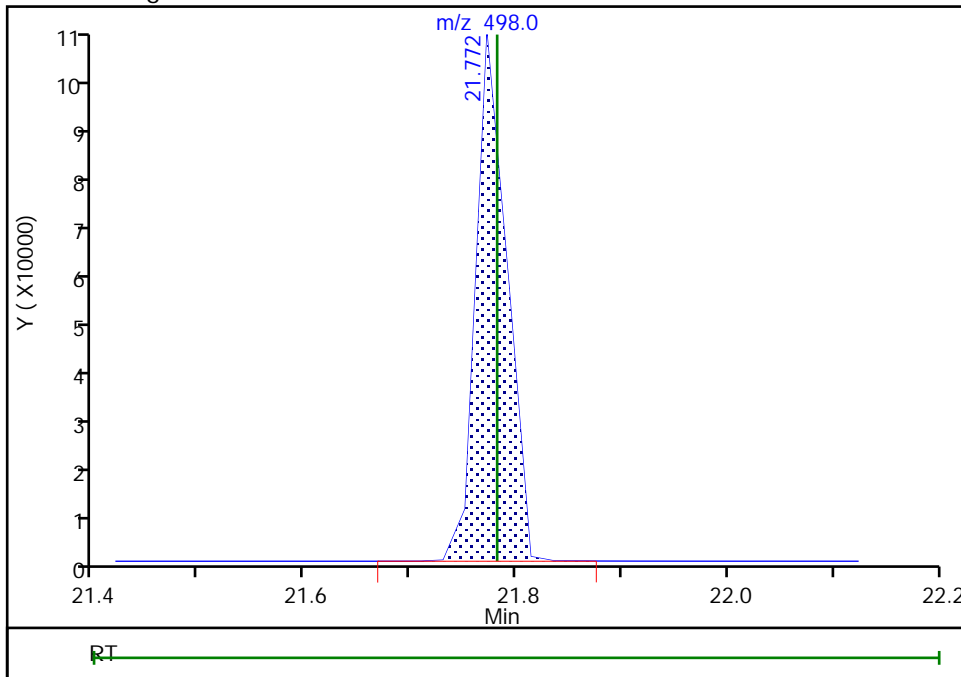
RT: 21.77
Area: 210942
Amount: 33.855918
Amount Units: ug/ml

Processing Integration Results



RT: 21.77
Area: 210942
Amount: 33.855918
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 26-Feb-2019 09:25:32
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

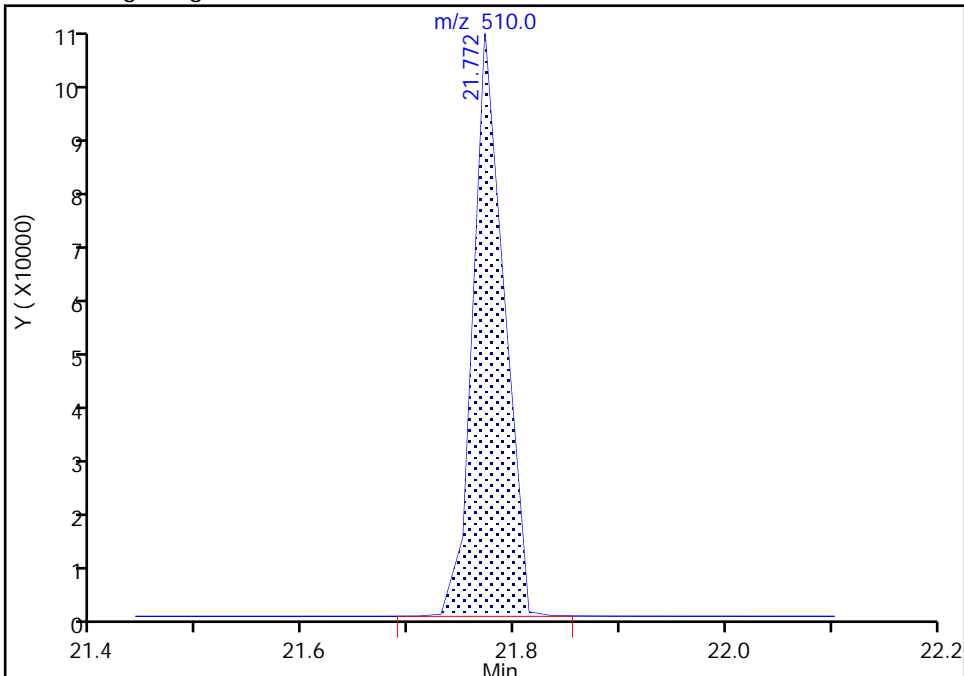
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2507.D
Injection Date: 25-Feb-2019 14:04:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

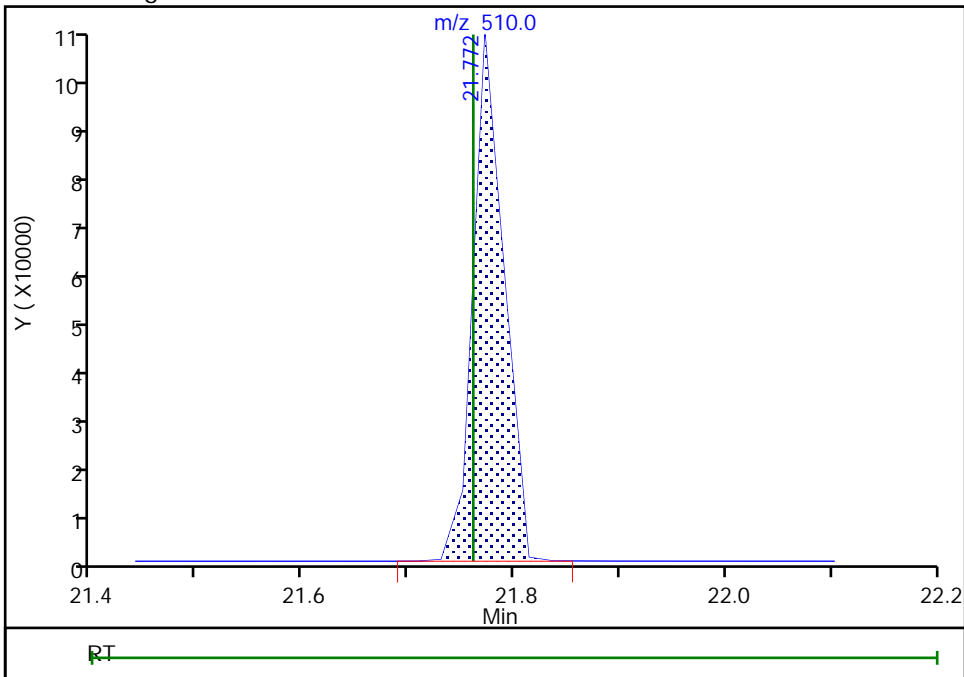
Processing Integration Results

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\2508.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\2511.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									
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
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									
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	a
32 DCB Decachlorobiphenyl									
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	a
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:

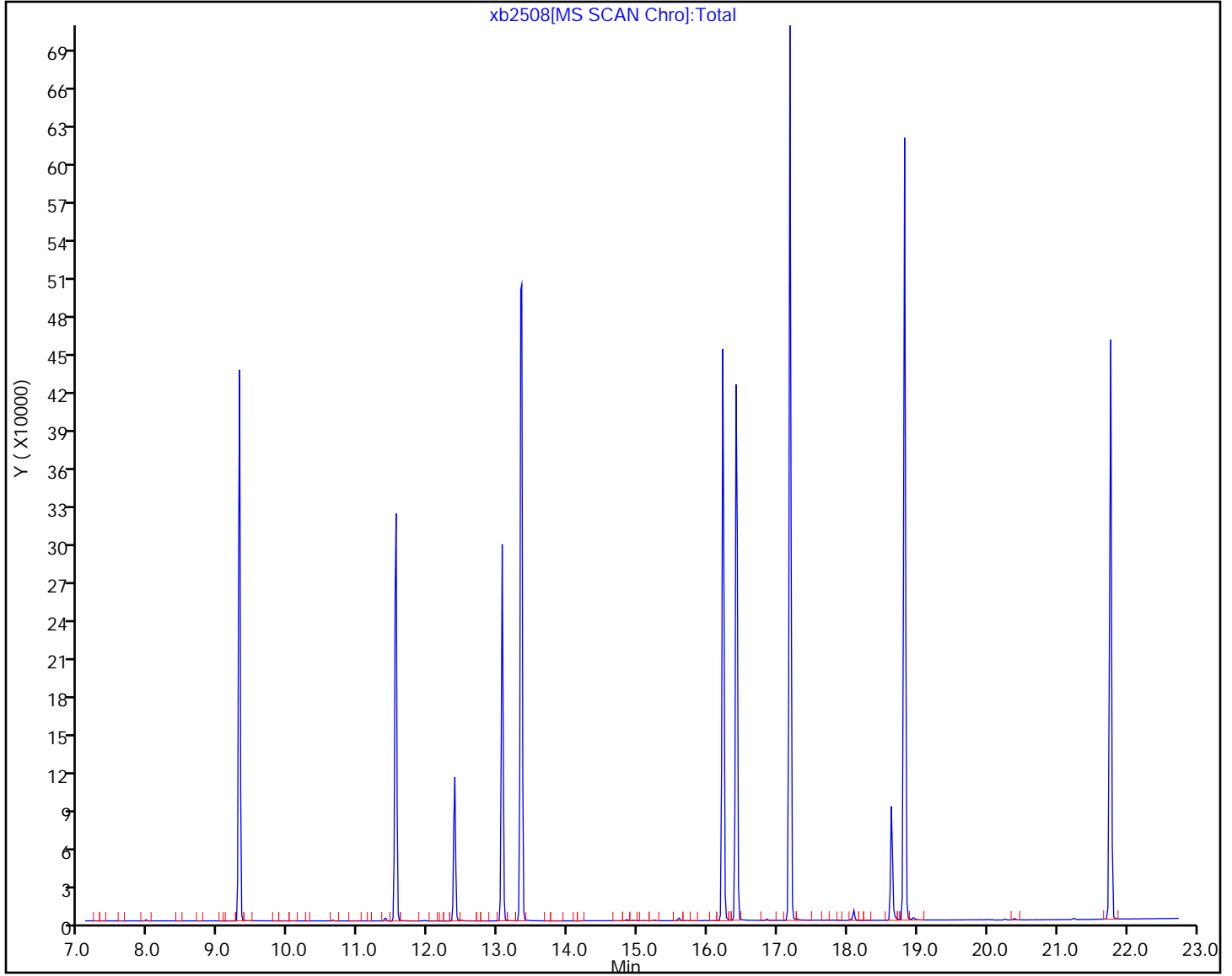
680isomerCal4_00019

Amount Added: 1.00

Units: mL

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:
Injection Vol: 2.0 ul
Method: 680\CMSX
Column: HP-5MS (0.25 mm)

ALS Bottle#: 8 Worklist Smp#: 8
Dil. Factor: 1.0000
Limit Group: 680



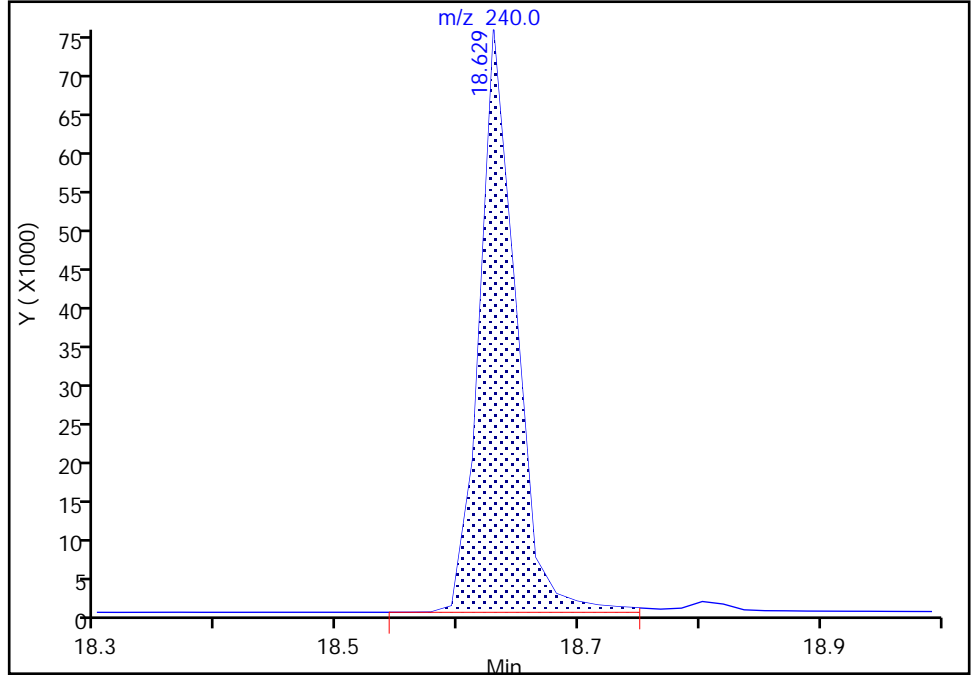
TestAmerica Savannah

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

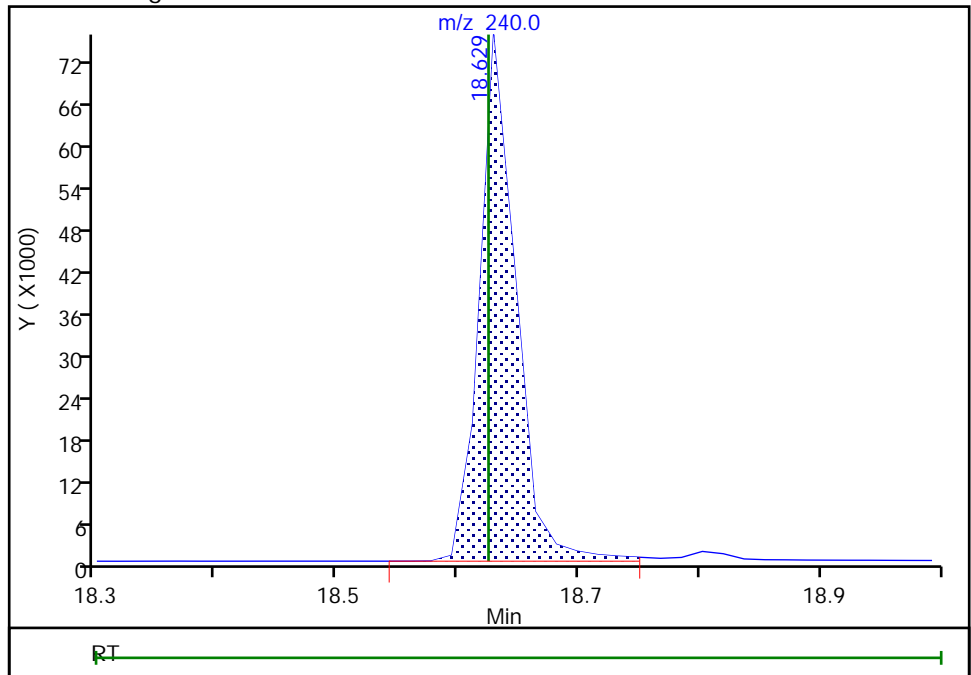
RT: 18.63
Area: 157121
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.63
Area: 157121
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



TestAmerica Savannah

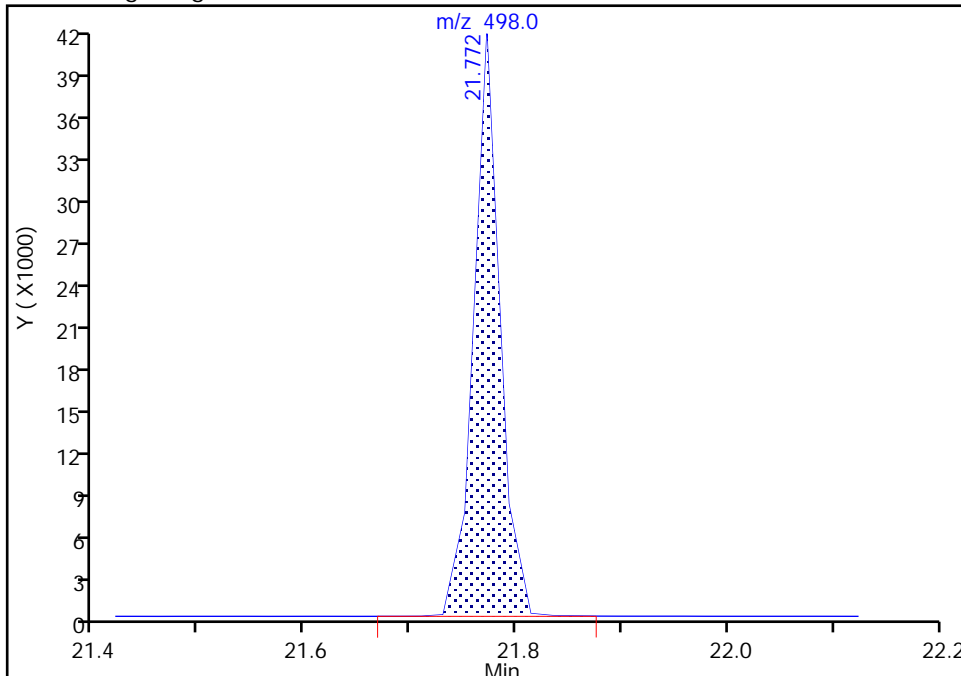
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2508.D
Injection Date: 25-Feb-2019 14:33:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

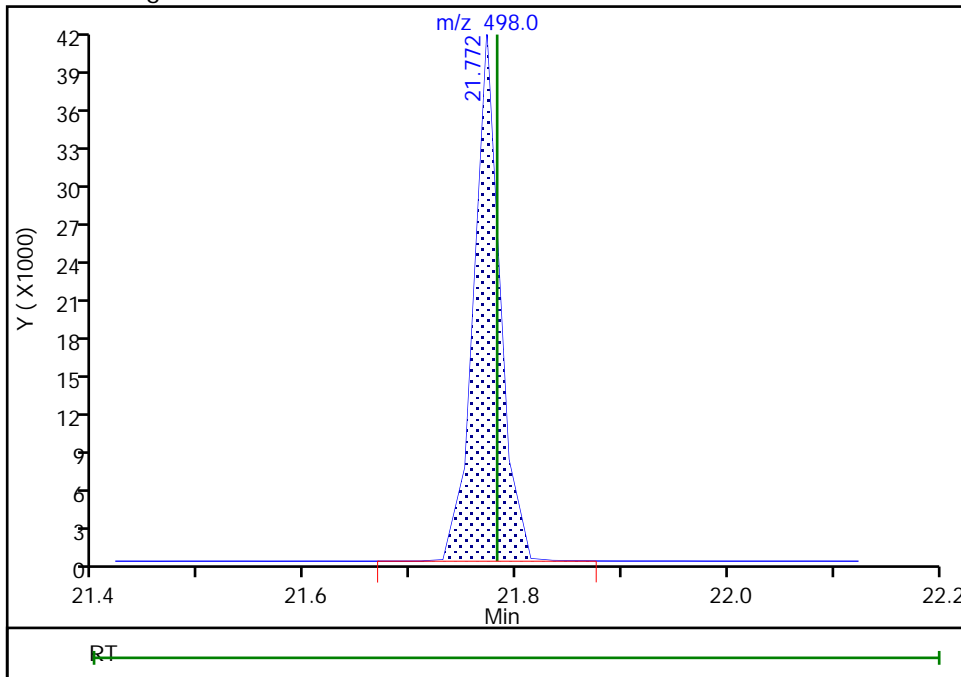
RT: 21.77
Area: 70810
Amount: 10.871969
Amount Units: ug/ml

Processing Integration Results



RT: 21.77
Area: 70810
Amount: 10.871969
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 26-Feb-2019 09:26:35
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

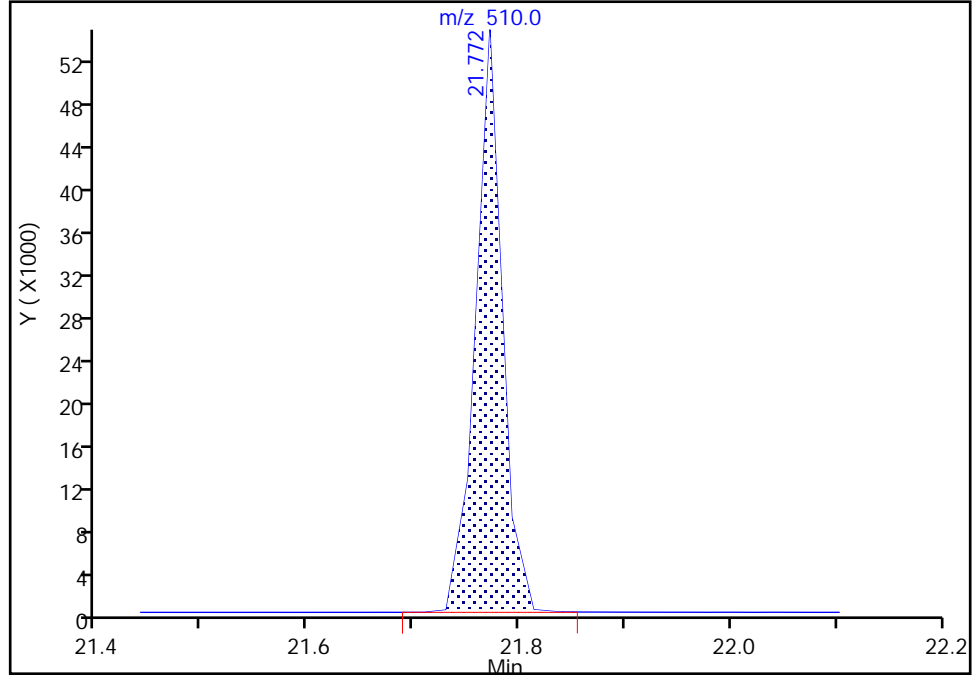
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2508.D
Injection Date: 25-Feb-2019 14:33:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

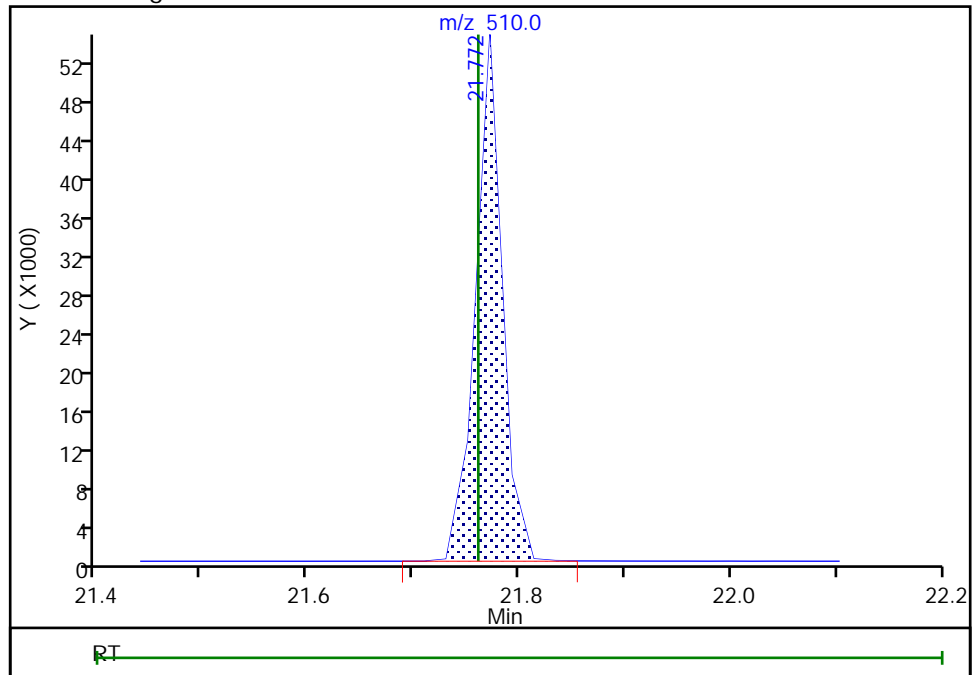
RT: 21.77
Area: 94422
Amount: 10.685808
Amount Units: ug/ml

Processing Integration Results



RT: 21.77
Area: 94422
Amount: 10.685808
Amount Units: ug/ml

Manual Integration Results



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									
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	a
32 DCB Decachlorobiphenyl									
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

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

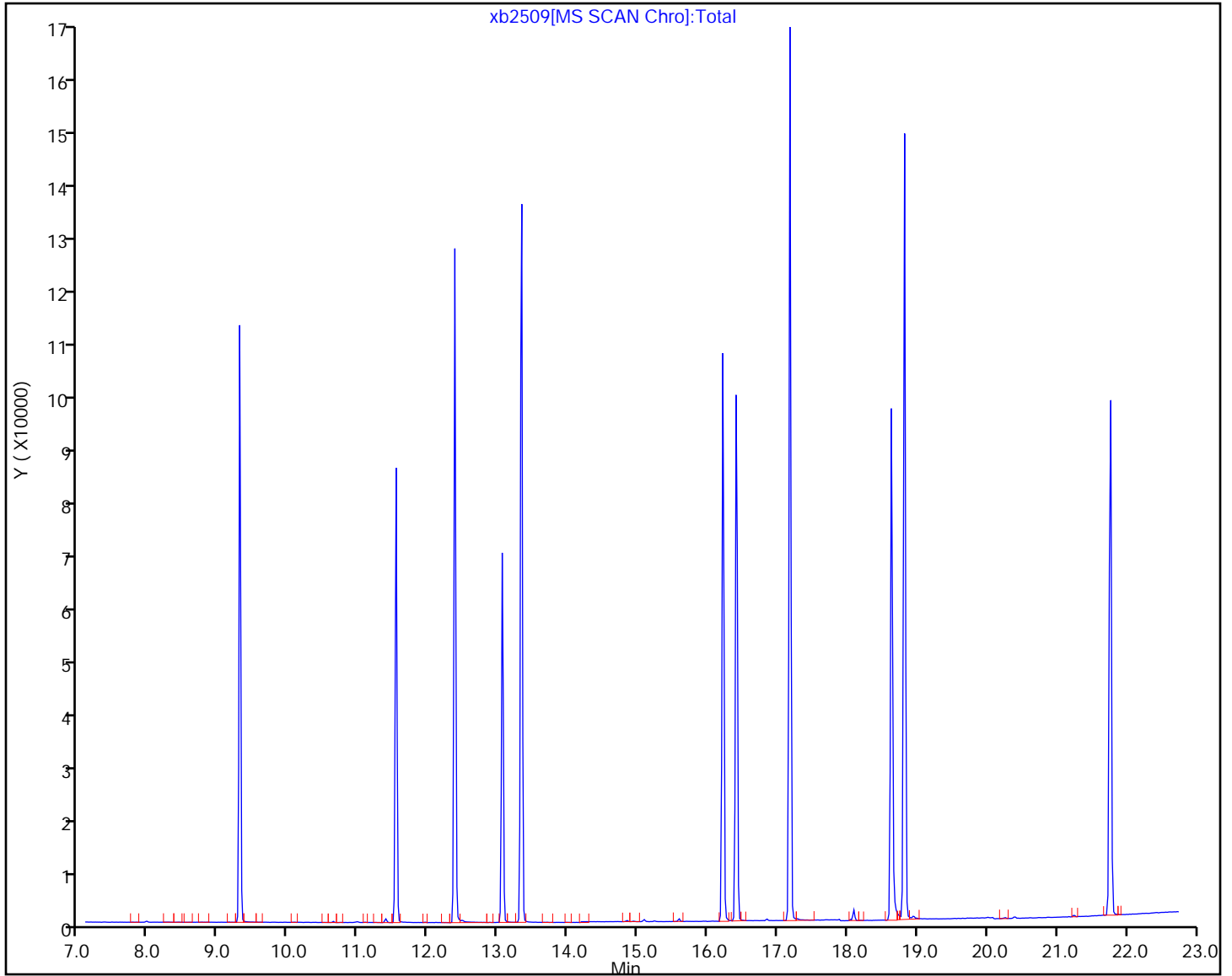
Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 680\CMSX

Limit Group: 680

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

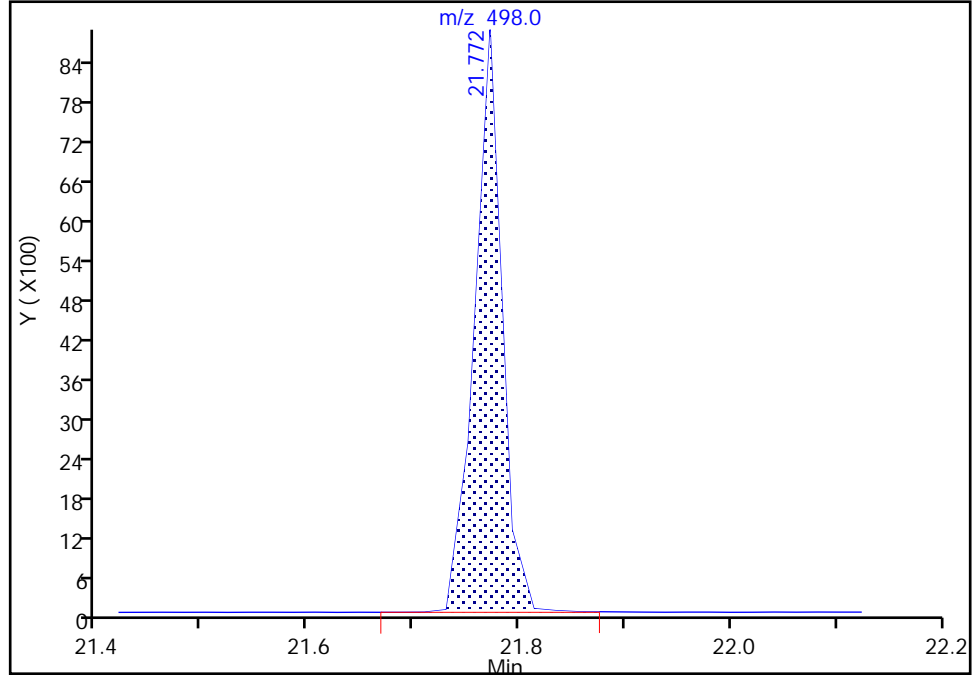
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2509.D
Injection Date: 25-Feb-2019 15:02:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

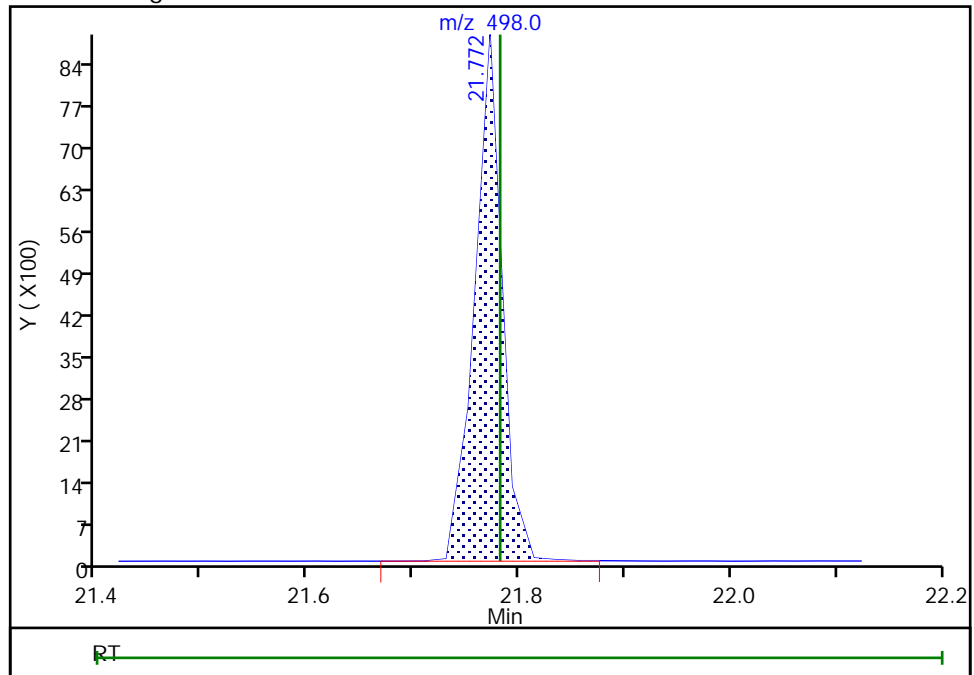
RT: 21.77
Area: 15783
Amount: 2.353651
Amount Units: ug/ml

Processing Integration Results



RT: 21.77
Area: 15783
Amount: 2.353651
Amount Units: ug/ml

Manual Integration Results



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:
Injection Vol: 2.0 ul
Method: 680\CMSX
Column: HP-5MS (0.25 mm)

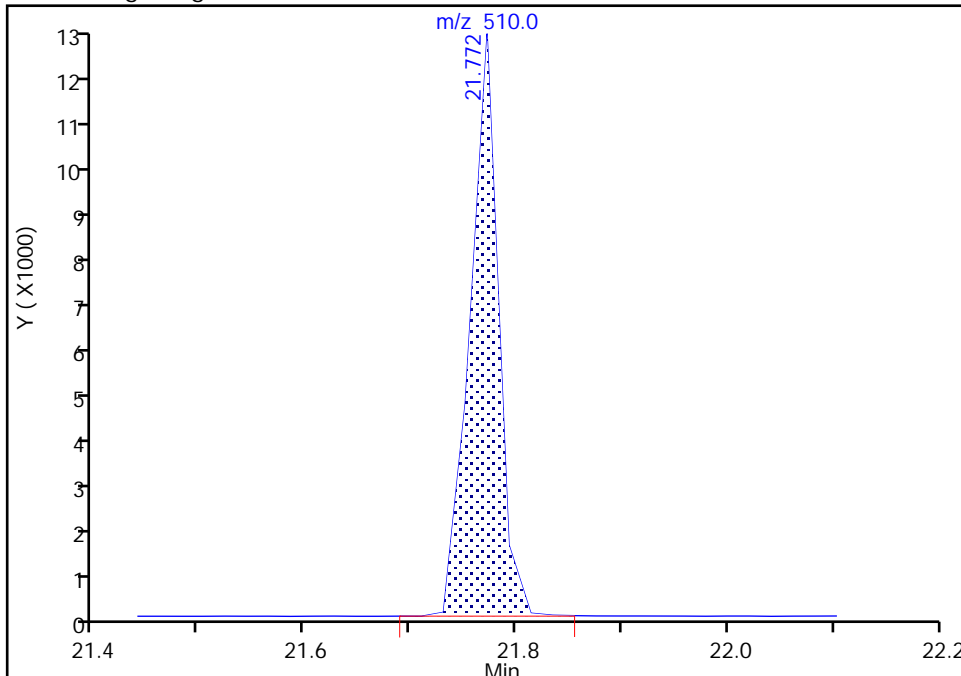
ALS Bottle#: 9 Worklist Smp#: 9
Dil. Factor: 1.0000
Limit Group: 680
Detector MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

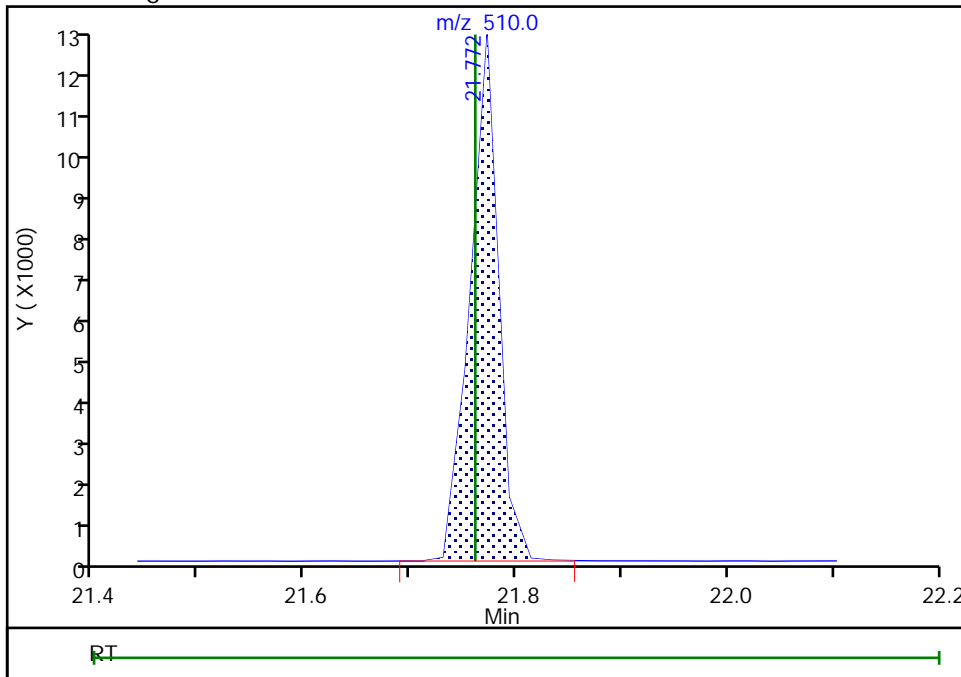
RT: 21.77
Area: 22714
Amount: 2.496702
Amount Units: ug/ml

Processing Integration Results



RT: 21.77
Area: 22714
Amount: 2.496702
Amount Units: ug/ml

Manual Integration Results



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\2510.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\2511.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									
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
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									
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	a
32 DCB Decachlorobiphenyl									
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:

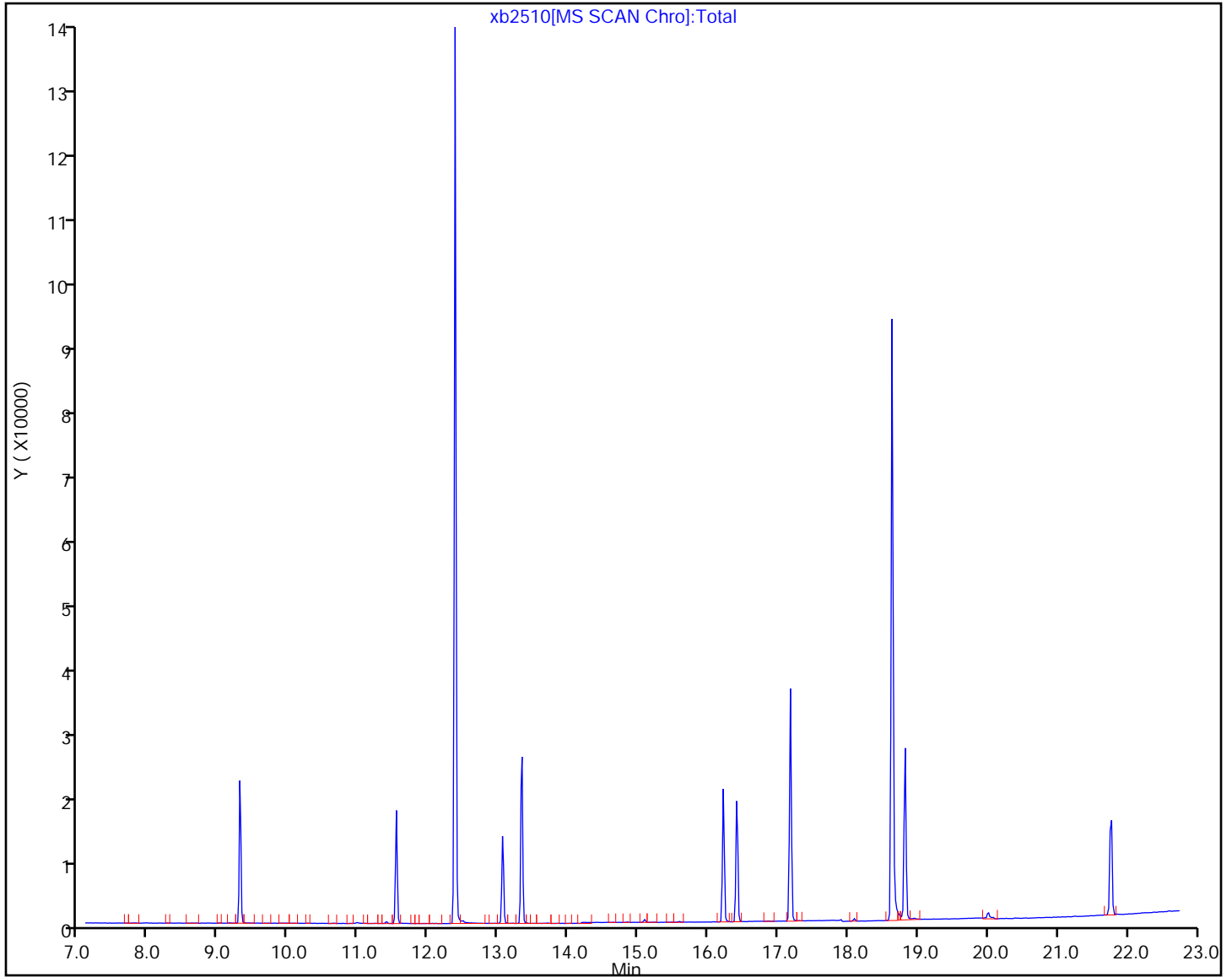
680isomerCal1_00021

Amount Added: 1.00

Units: mL

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:
Injection Vol: 2.0 ul
Method: 680\CMSX
Column: HP-5MS (0.25 mm)

ALS Bottle#: 10 Worklist Smp#: 10
Dil. Factor: 1.0000
Limit Group: 680



TestAmerica Savannah

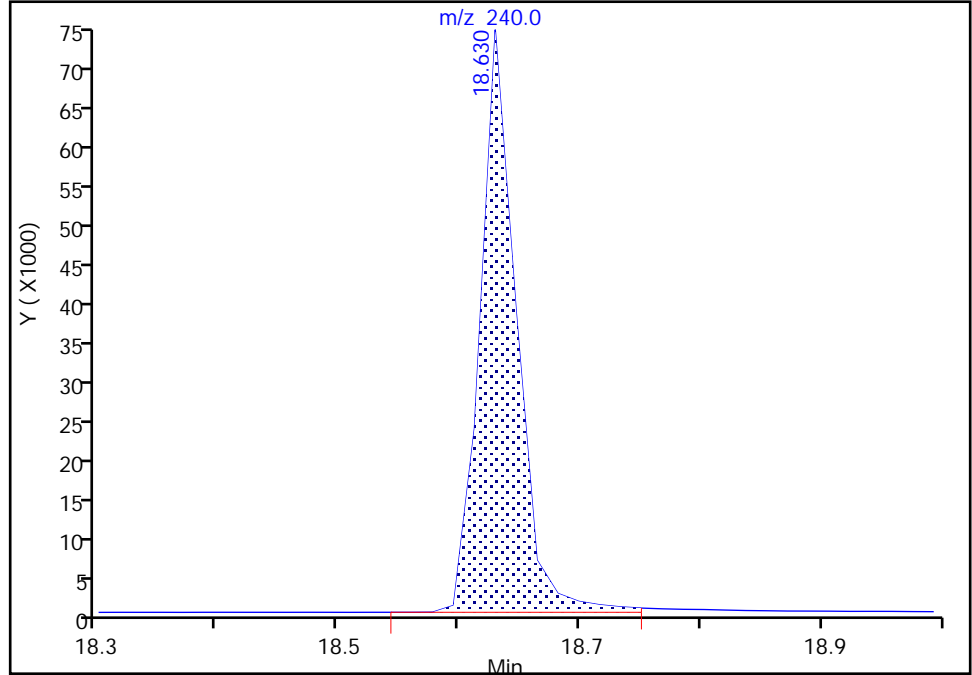
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2510.D
Injection Date: 25-Feb-2019 15:30:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID:
Injection Vol: 2.0 ul
Method: 680\CMSX
Column: HP-5MS (0.25 mm)

ALS Bottle#: 10 Worklist Smp#: 10
Dil. Factor: 1.0000
Limit Group: 680
Detector MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5
Signal: 1

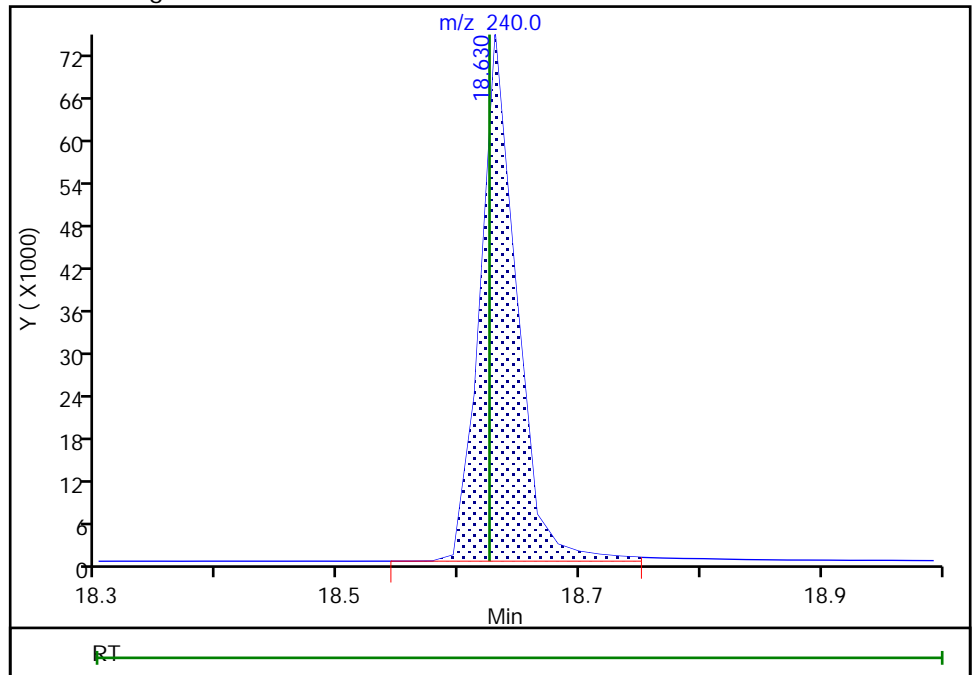
RT: 18.63
Area: 155260
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.63
Area: 155260
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



TestAmerica Savannah

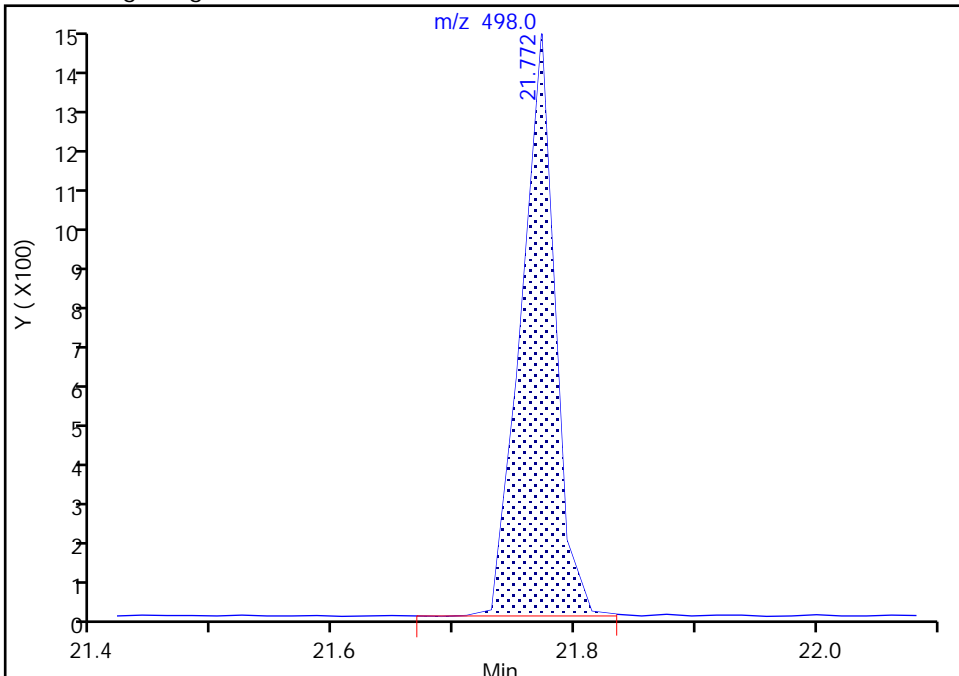
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2510.D
Injection Date: 25-Feb-2019 15:30:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

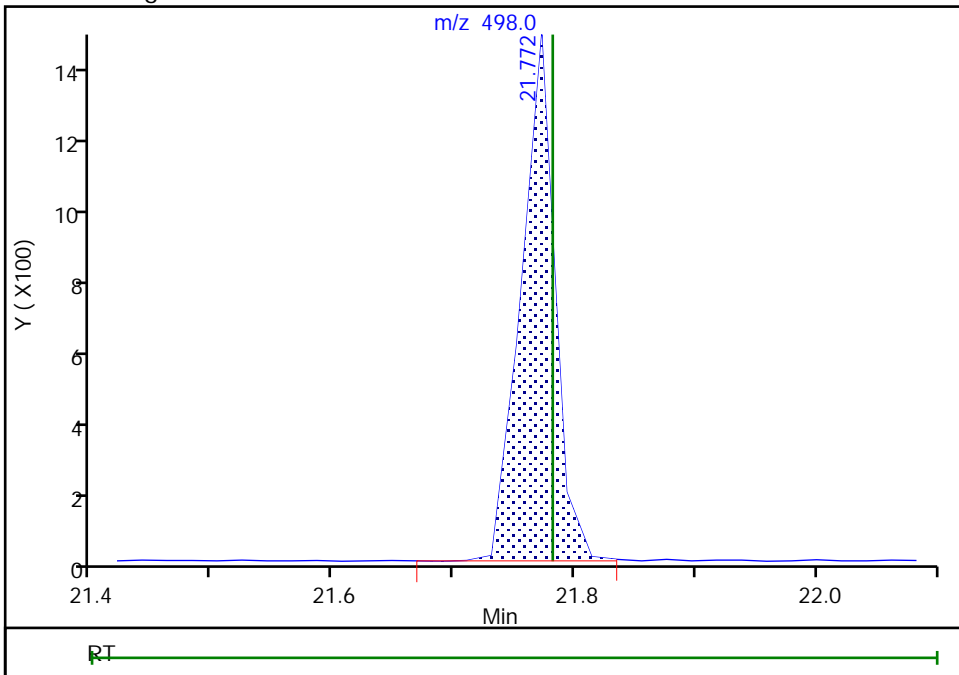
RT: 21.77
Area: 2698
Amount: 0.419209
Amount Units: ug/ml

Processing Integration Results



RT: 21.77
Area: 2698
Amount: 0.419209
Amount Units: ug/ml

Manual Integration Results



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:
Injection Vol: 2.0 ul
Method: 680\CMSX
Column: HP-5MS (0.25 mm)

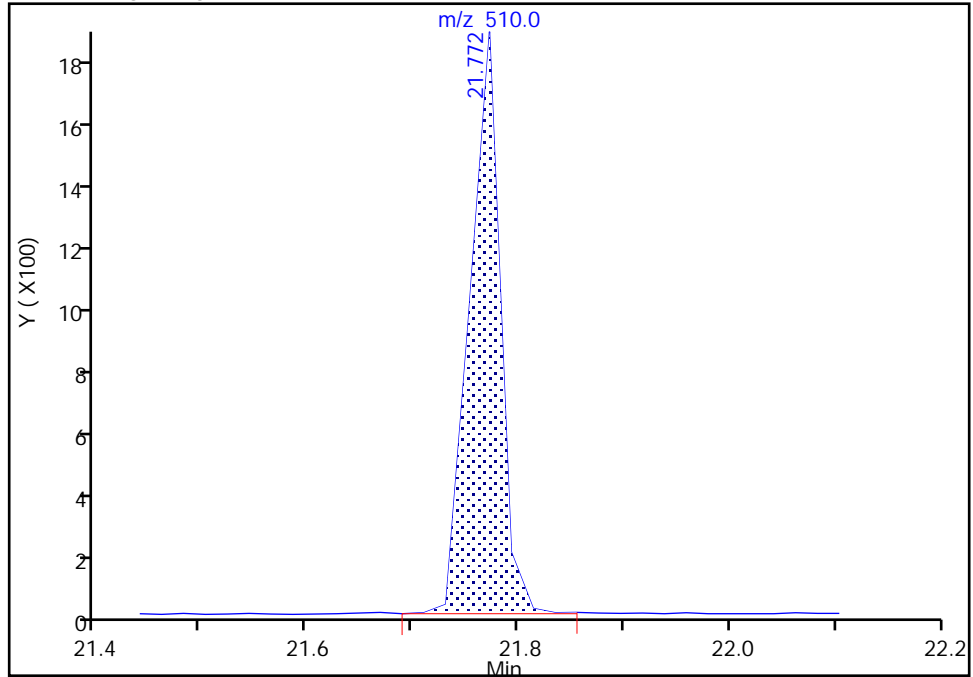
ALS Bottle#: 10 Worklist Smp#: 10
Dil. Factor: 1.0000
Limit Group: 680
Detector MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

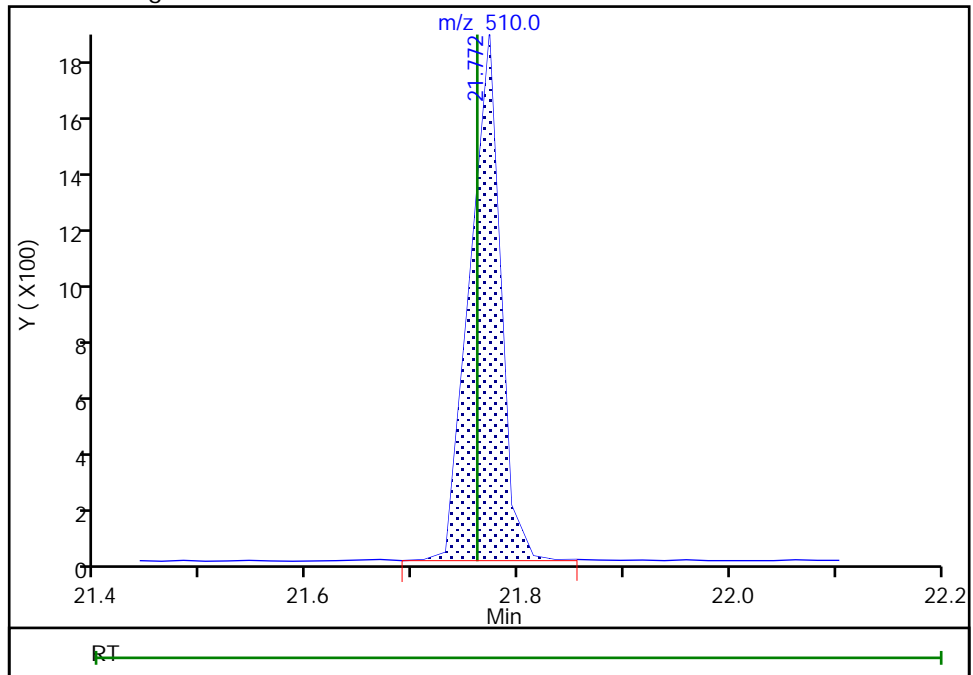
RT: 21.77
Area: 3550
Amount: 0.406572
Amount Units: ug/ml

Processing Integration Results



RT: 21.77
Area: 3550
Amount: 0.406572
Amount Units: ug/ml

Manual Integration Results



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									
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
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									
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	a
32 DCB Decachlorobiphenyl									
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

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

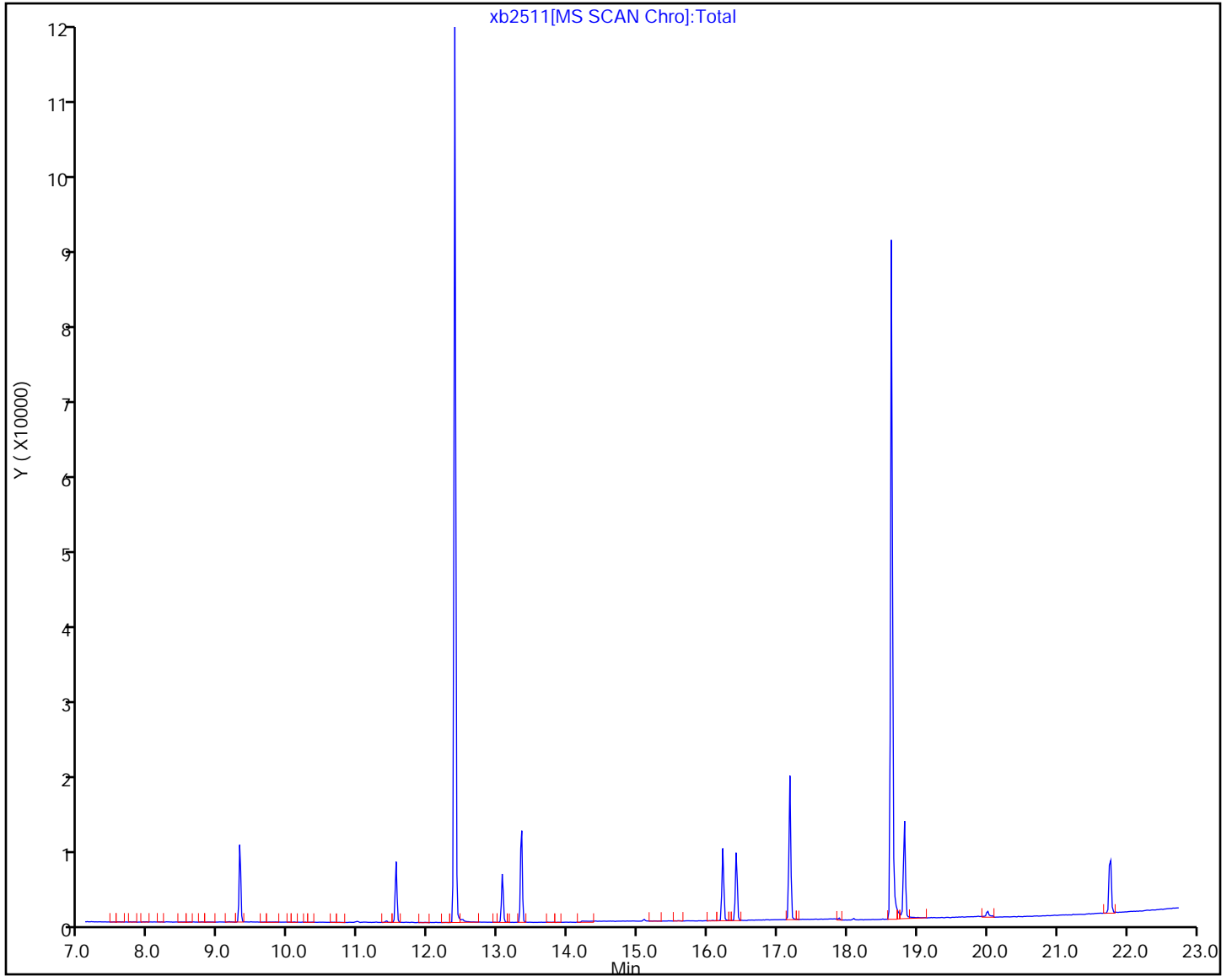
Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 680\CMSX

Limit Group: 680

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

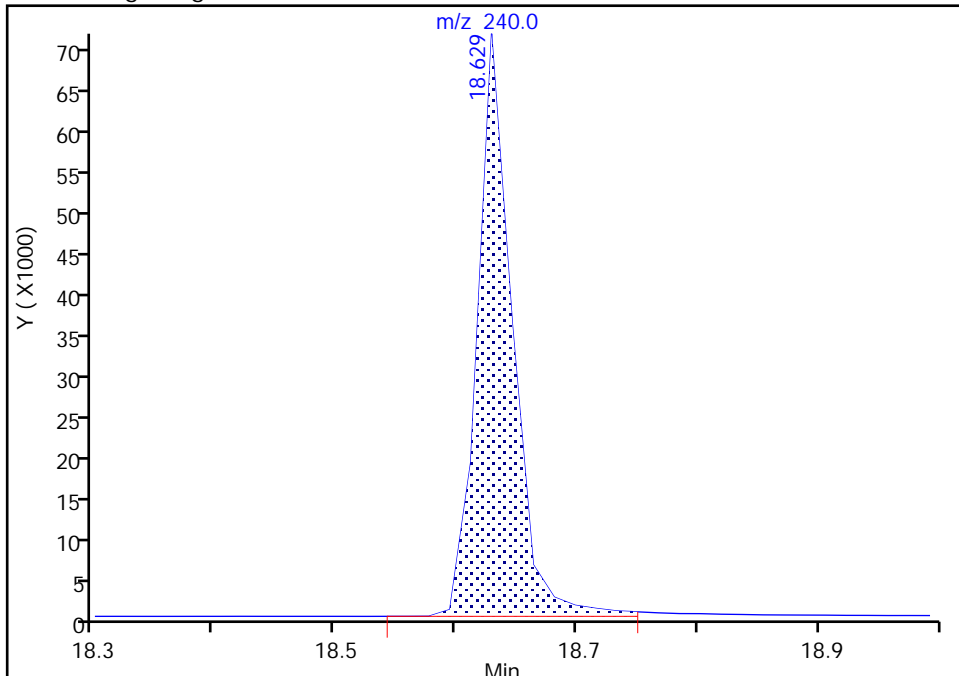
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2511.D
Injection Date: 25-Feb-2019 15:59:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

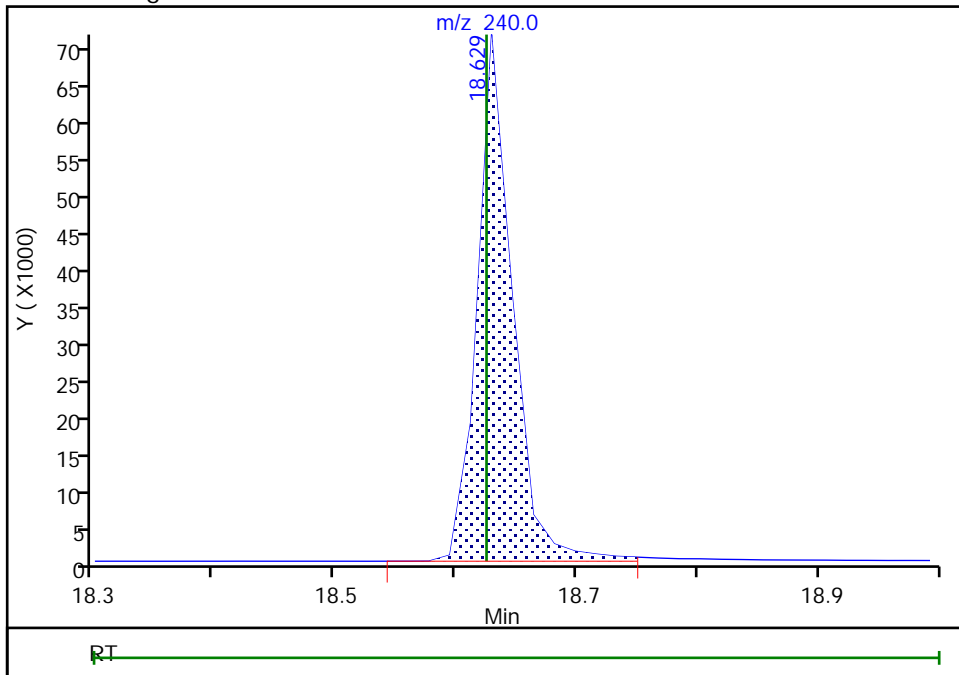
RT: 18.63
Area: 143262
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.63
Area: 143262
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



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:
Injection Vol: 2.0 ul
Method: 680\CMSX
Column: HP-5MS (0.25 mm)

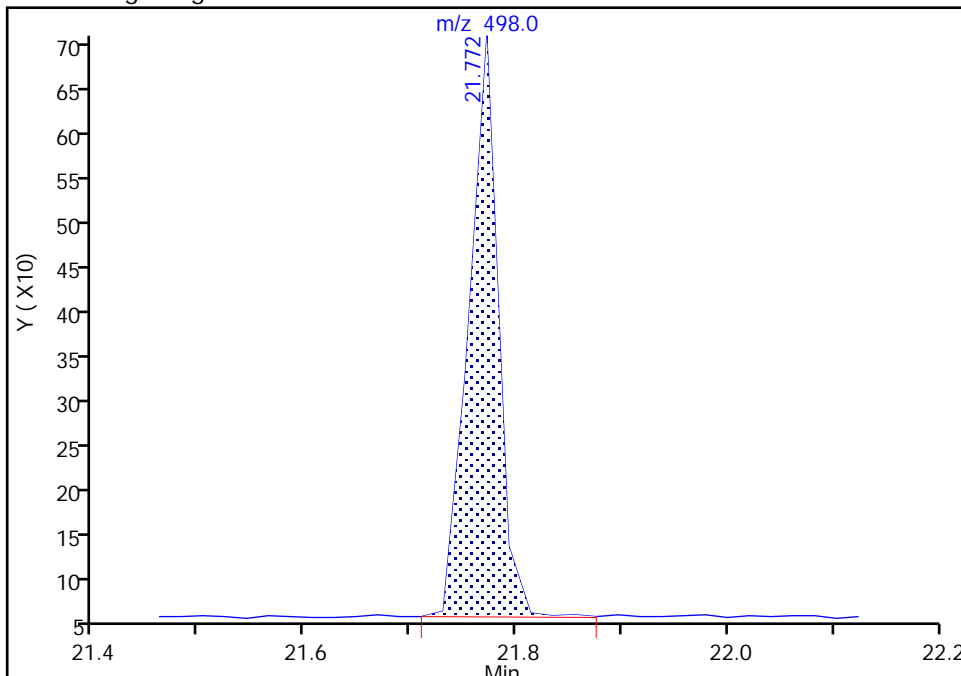
ALS Bottle#: 11 Worklist Smp#: 11
Dil. Factor: 1.0000
Limit Group: 680
Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

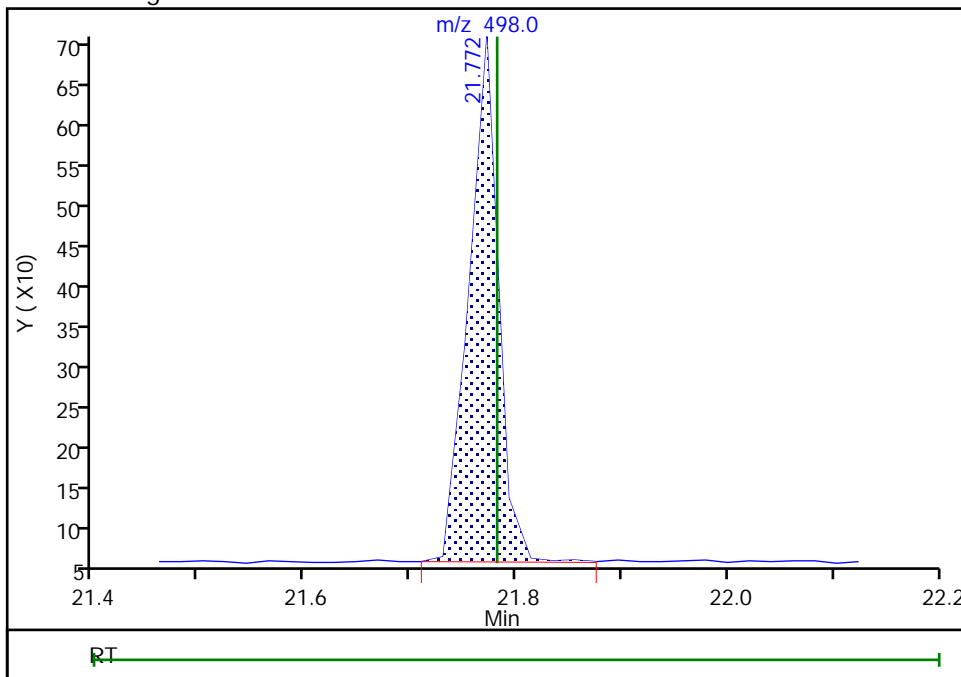
RT: 21.77
Area: 1260
Amount: 0.212172
Amount Units: ug/ml

Processing Integration Results



RT: 21.77
Area: 1260
Amount: 0.212172
Amount Units: ug/ml

Manual Integration Results



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:
Injection Vol: 2.0 ul
Method: 680\CMSX
Column: HP-5MS (0.25 mm)

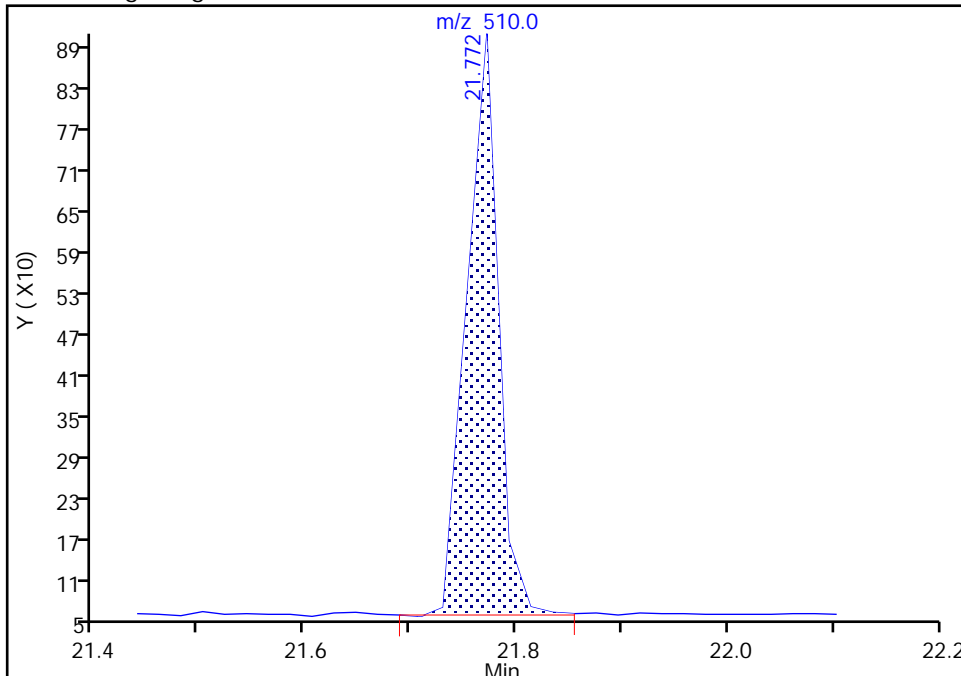
ALS Bottle#: 11 Worklist Smp#: 11
Dil. Factor: 1.0000
Limit Group: 680
Detector MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

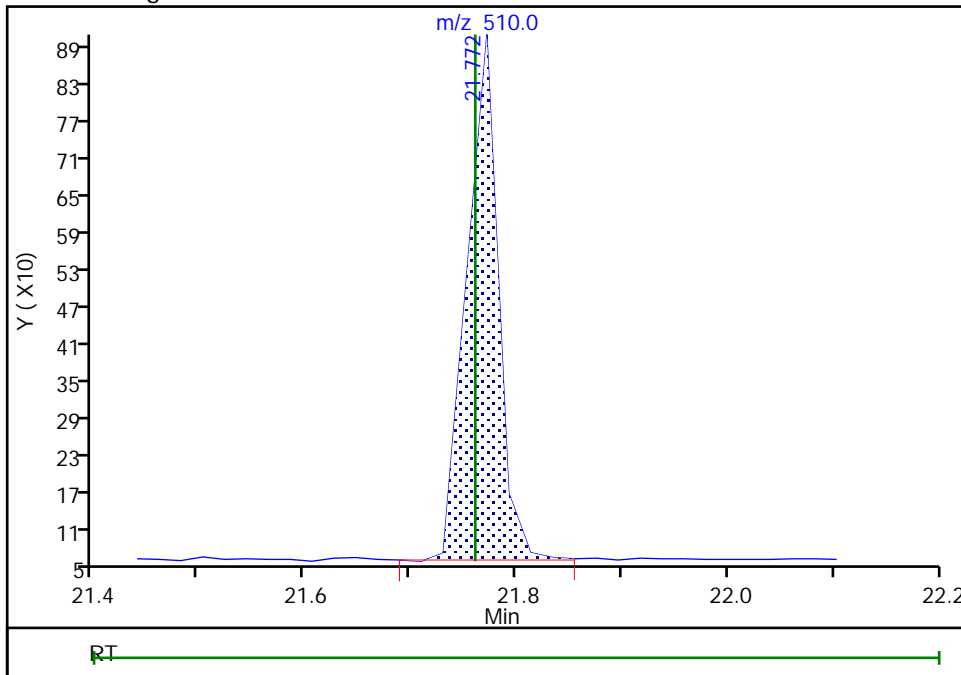
RT: 21.77
Area: 1762
Amount: 0.218697
Amount Units: ug/ml

Processing Integration Results



RT: 21.77
Area: 1762
Amount: 0.218697
Amount Units: ug/ml

Manual Integration Results



APPENDIX D - Laboratory Reports
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									
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
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									
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	a
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									
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	a

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

680cal3ICV_00054

Amount Added: 1.00

Units: mL

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

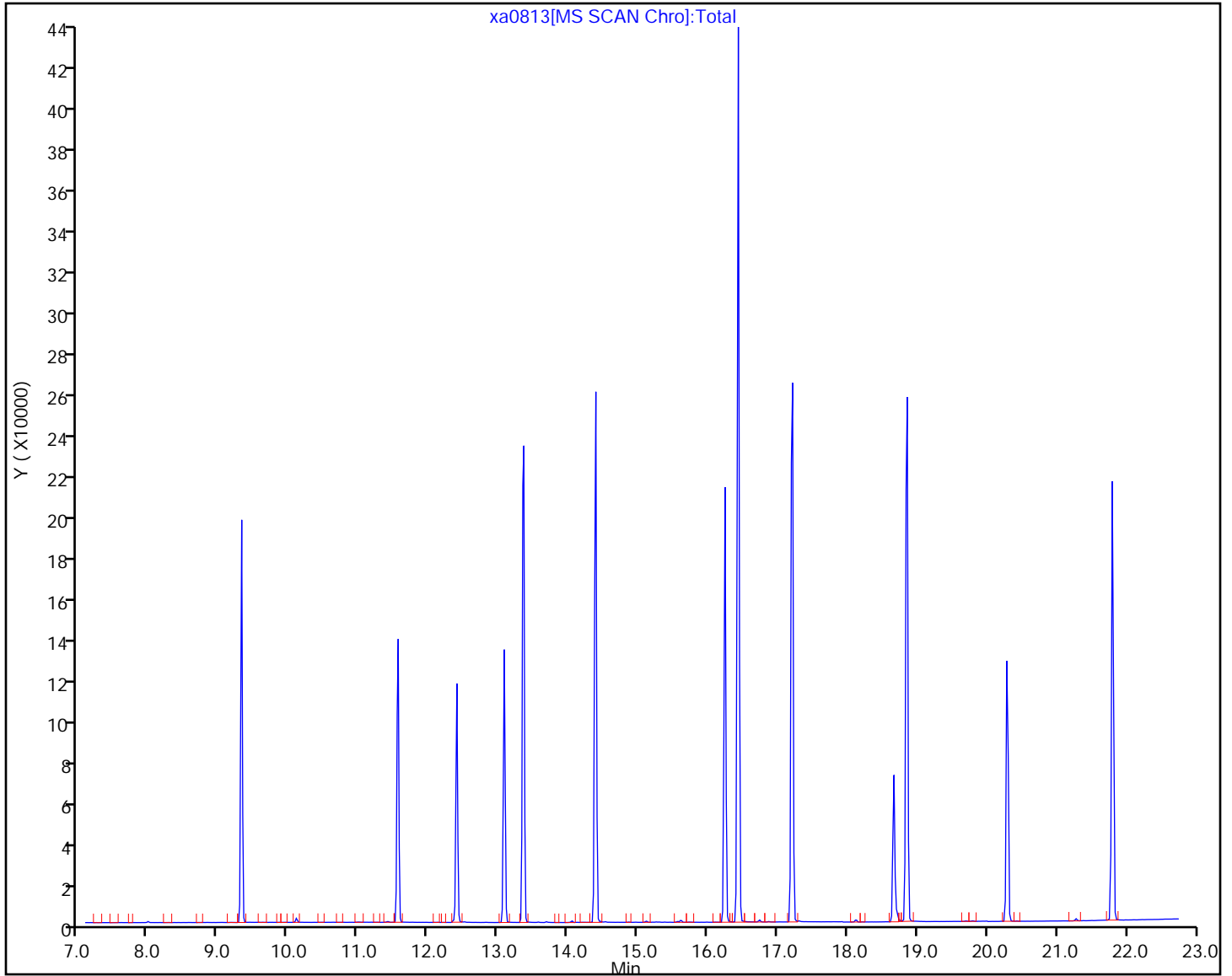
Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 680\CMSX

Limit Group: 680

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

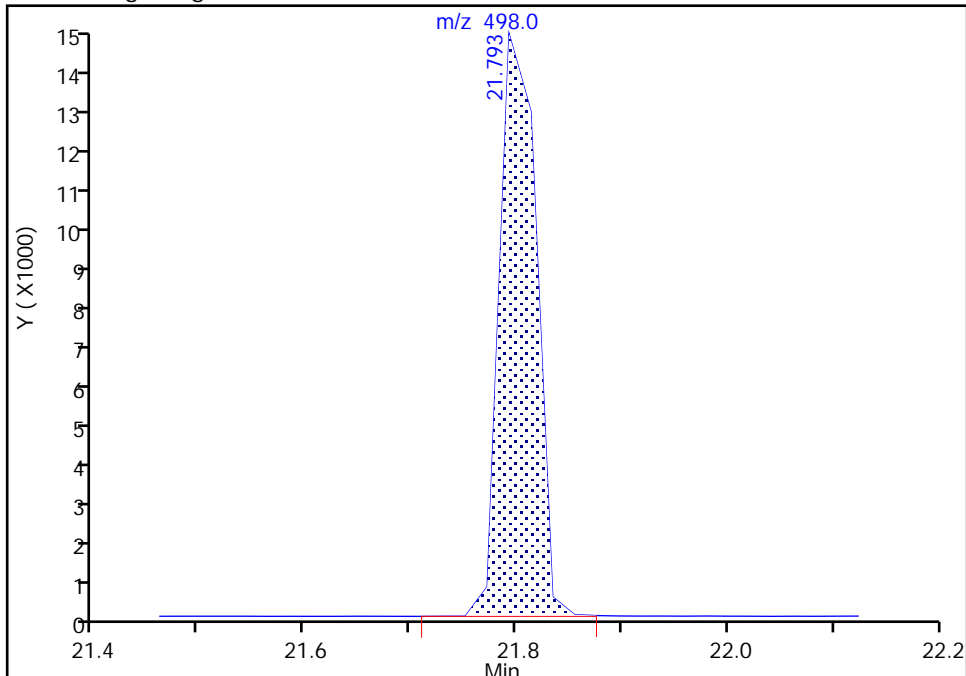
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\1xa0813.D
Injection Date: 08-Jan-2019 18:31:30 Instrument ID: CMSX
Lims ID: icv
Client ID:
Operator ID: ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

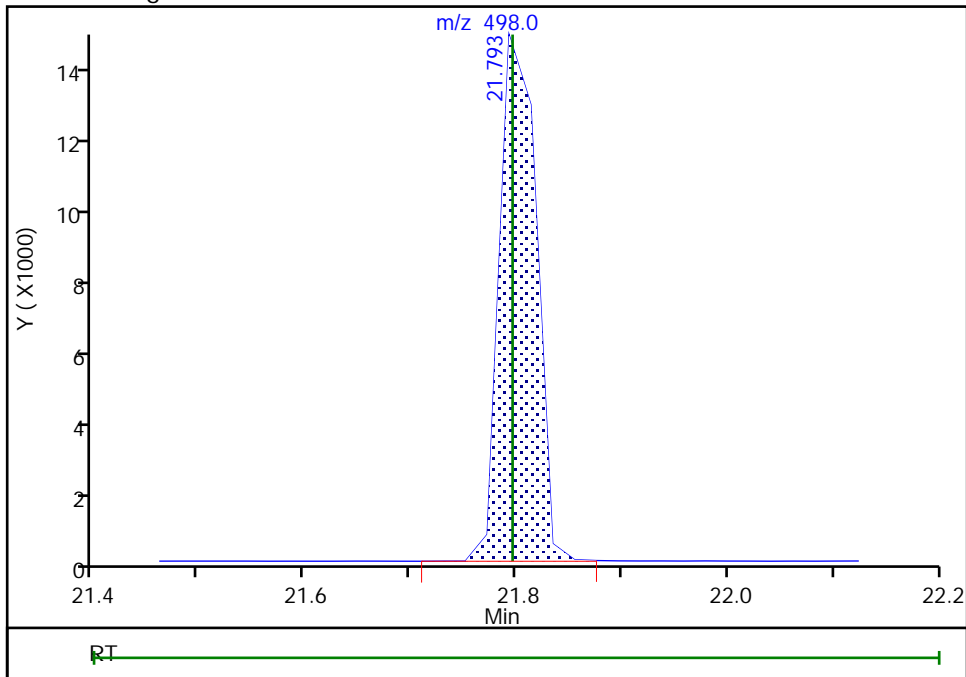
RT: 21.79
Area: 34251
Amount: 9.992983
Amount Units: ug/ml

Processing Integration Results



RT: 21.79
Area: 34251
Amount: 4.996491
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 09-Jan-2019 11:25:53
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

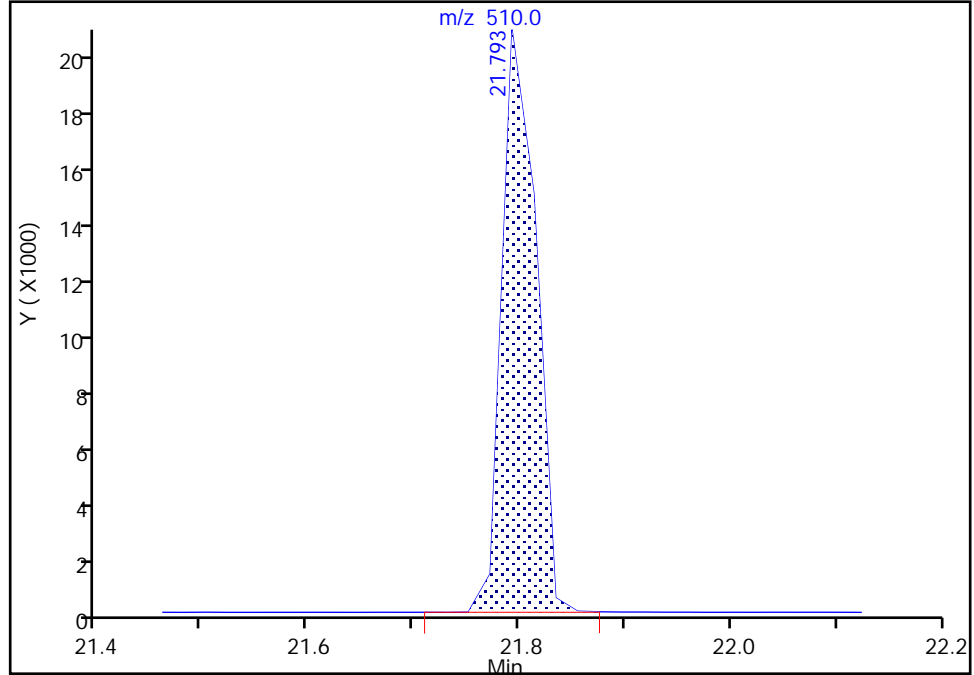
Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\1xa0813.D
Injection Date: 08-Jan-2019 18:31:30 Instrument ID: CMSX
Lims ID: icv
Client ID:
Operator ID: ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

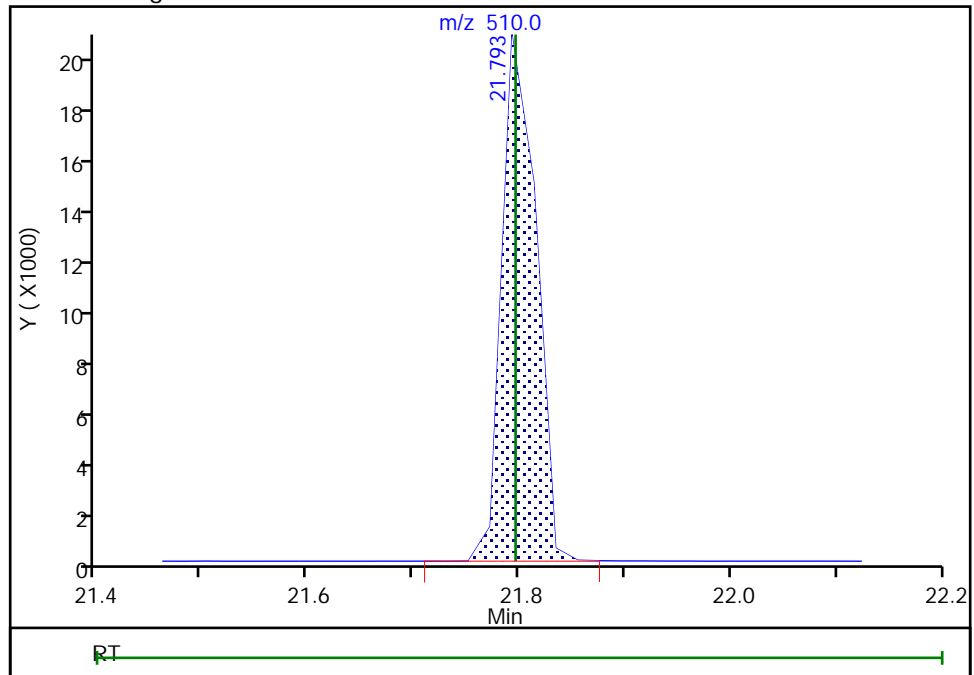
RT: 21.79
Area: 47122
Amount: 10.705352
Amount Units: ug/ml

Processing Integration Results



RT: 21.79
Area: 47122
Amount: 5.352676
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 09-Jan-2019 11:25:55
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

APPENDIX D - Laboratory Reports
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										
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
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:

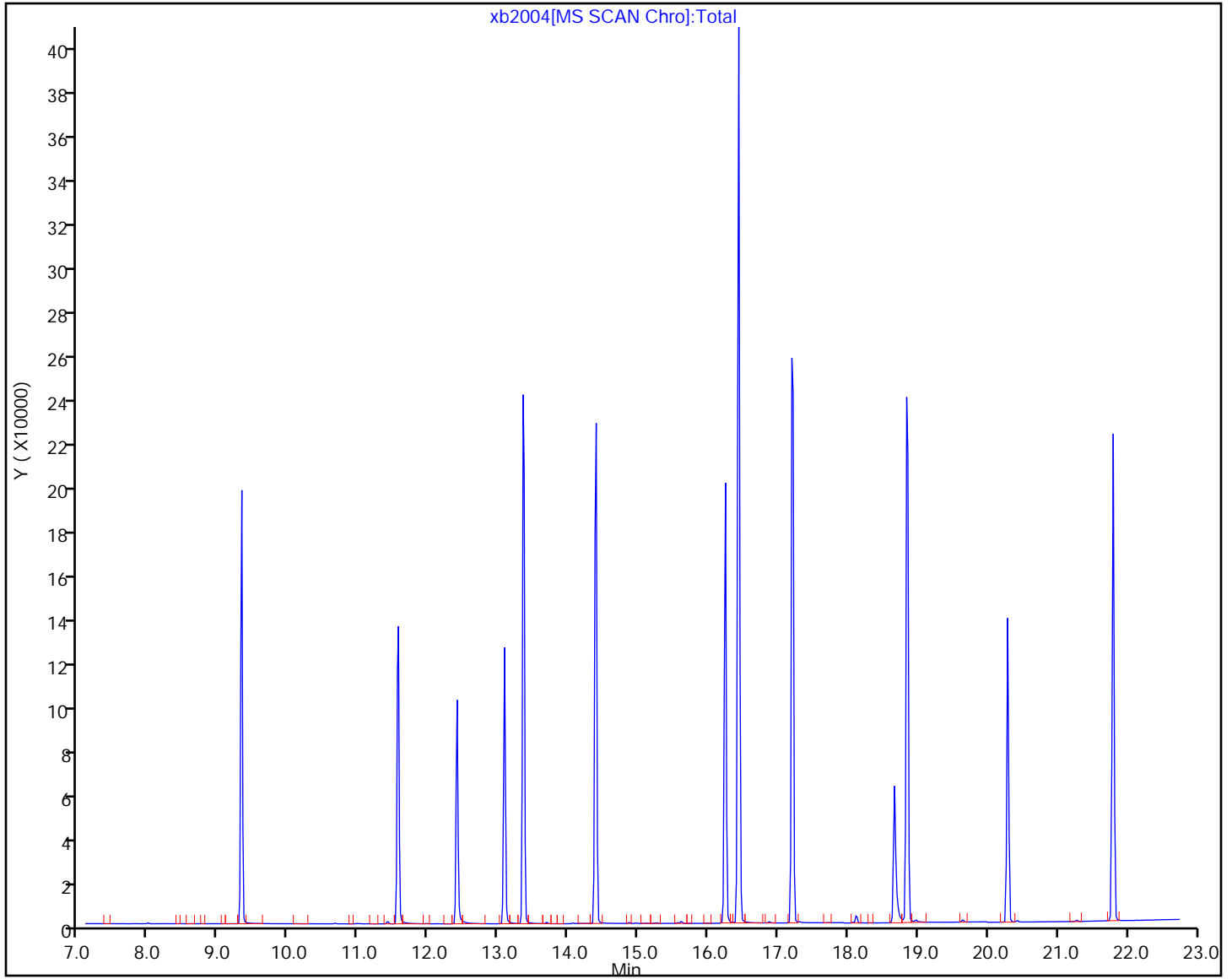
680isomerCal3_00045

Amount Added: 1.00

Units: mL

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:
Injection Vol: 2.0 ul
Method: 680\CMSX
Column: HP-5MS (0.25 mm)

ALS Bottle#: 3 Worklist Smp#: 3
Dil. Factor: 1.0000
Limit Group: 680



TestAmerica Savannah

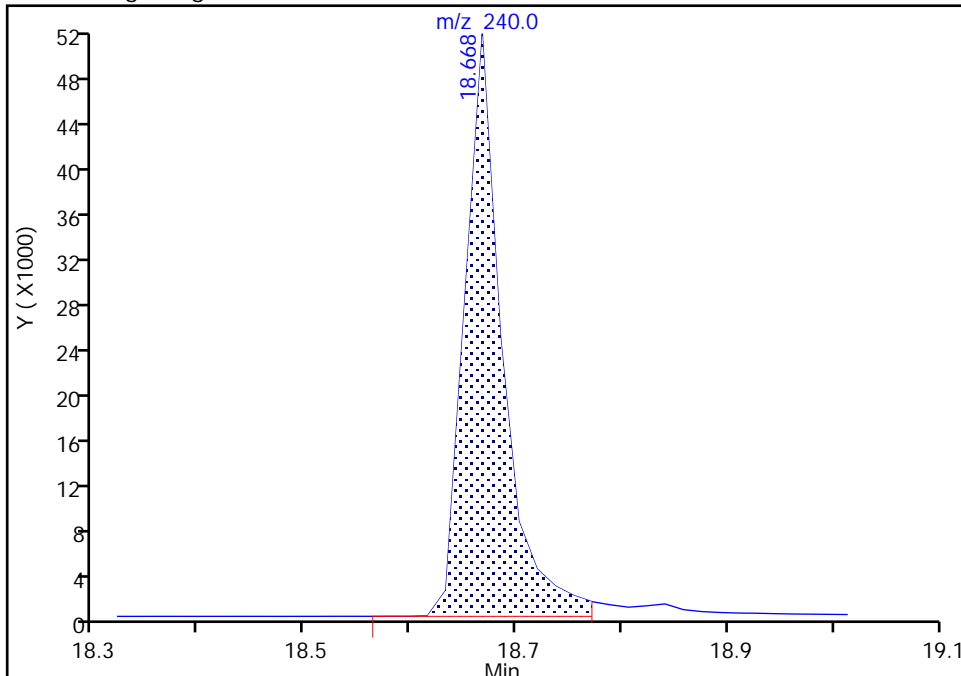
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Injection Date: 20-Feb-2019 18:16:30 Instrument ID: CMSX
Lims ID: ccvis
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

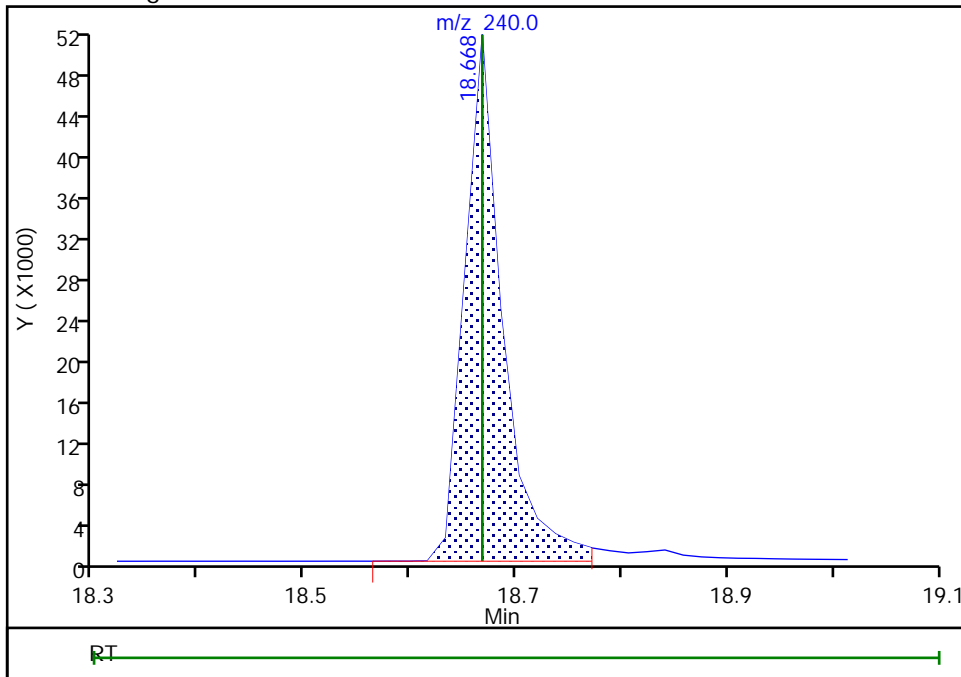
RT: 18.67
Area: 128592
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.67
Area: 128592
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



APPENDIX D - Laboratory Reports
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									
240	18.668	18.668	0.0	100	179773	0.7500			S
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

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

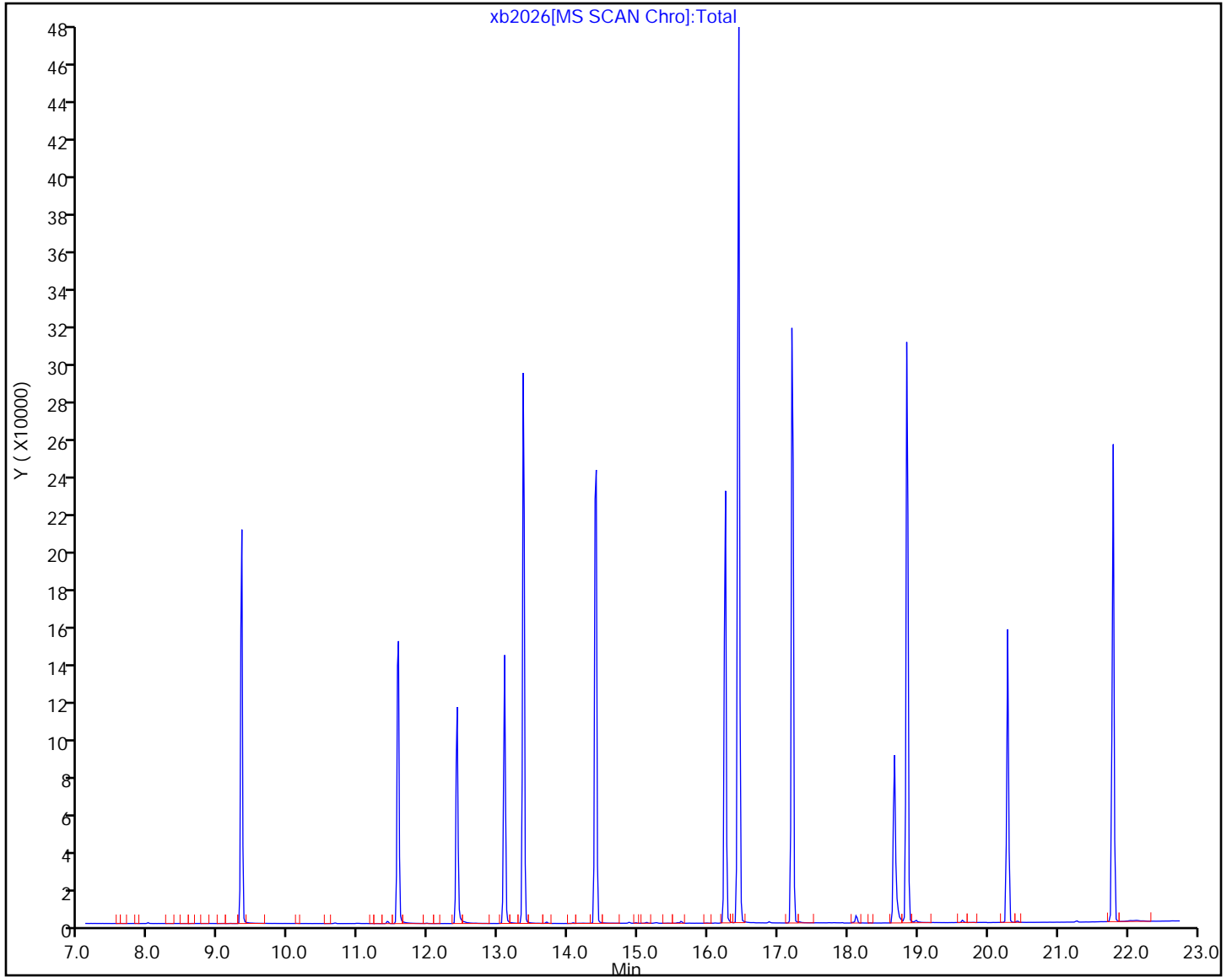
Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 680_CMSX

Limit Group: 680

Column: HP-5MS (0.25 mm)



APPENDIX D - Laboratory Reports
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										
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
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										
464	20.286	18.500	-22.000	66	51332	5.41				a
466	20.286				36378		1.1- 1.5	1.4		a
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:

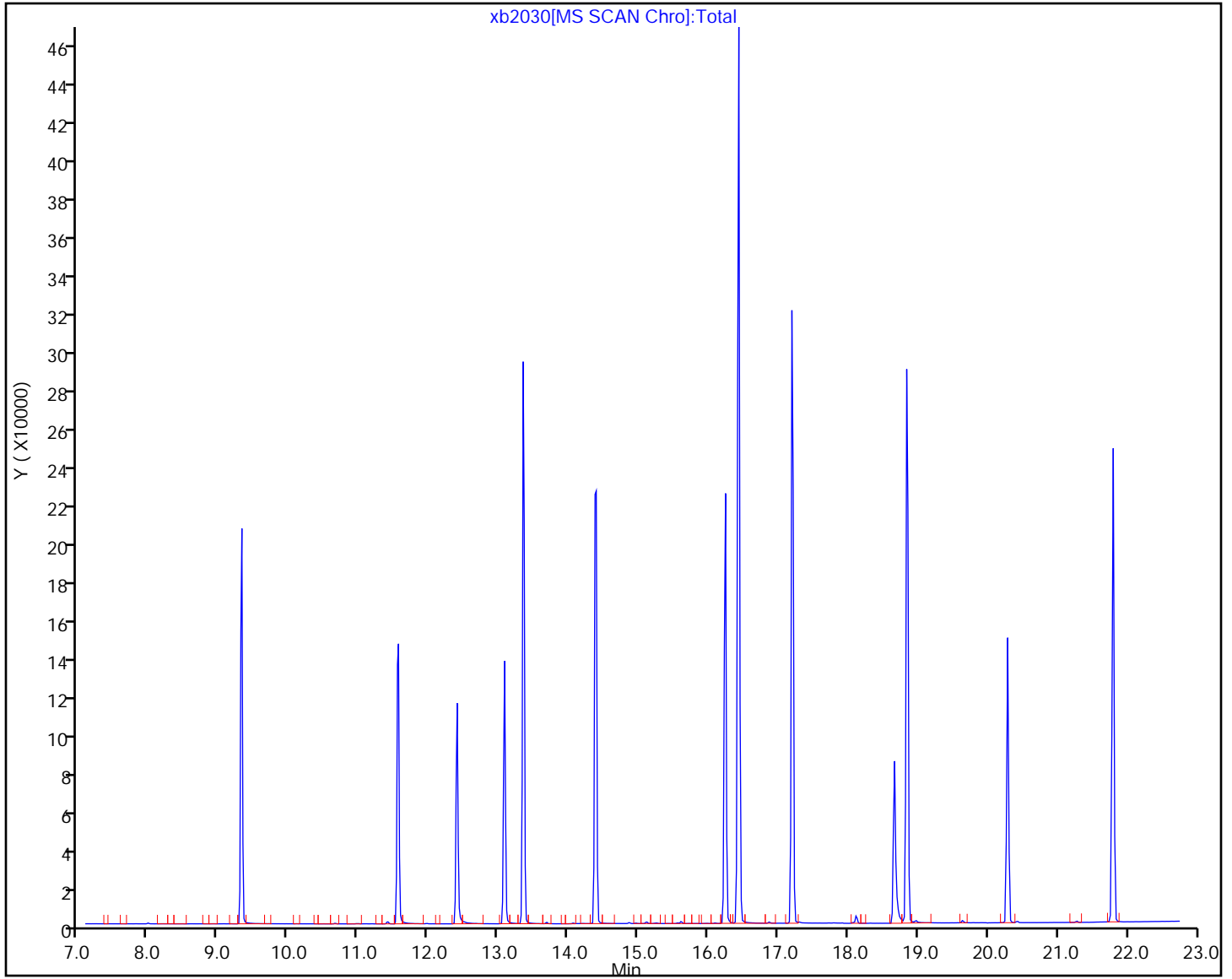
680isomerCal3_00045

Amount Added: 1.00

Units: mL

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:
Injection Vol: 2.0 ul
Method: 680\CMSX
Column: HP-5MS (0.25 mm)

ALS Bottle#: 3 Worklist Smp#: 3
Dil. Factor: 1.0000
Limit Group: 680



TestAmerica Savannah

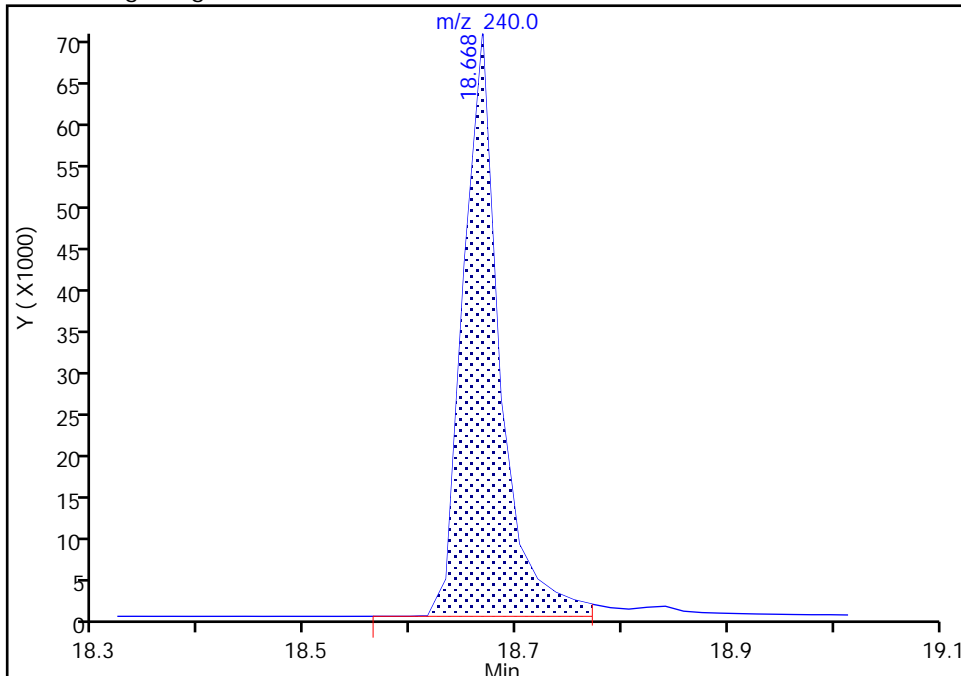
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53932.b\xb2030.D
Injection Date: 21-Feb-2019 06:44:30 Instrument ID: CMSX
Lims ID: ccvis
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

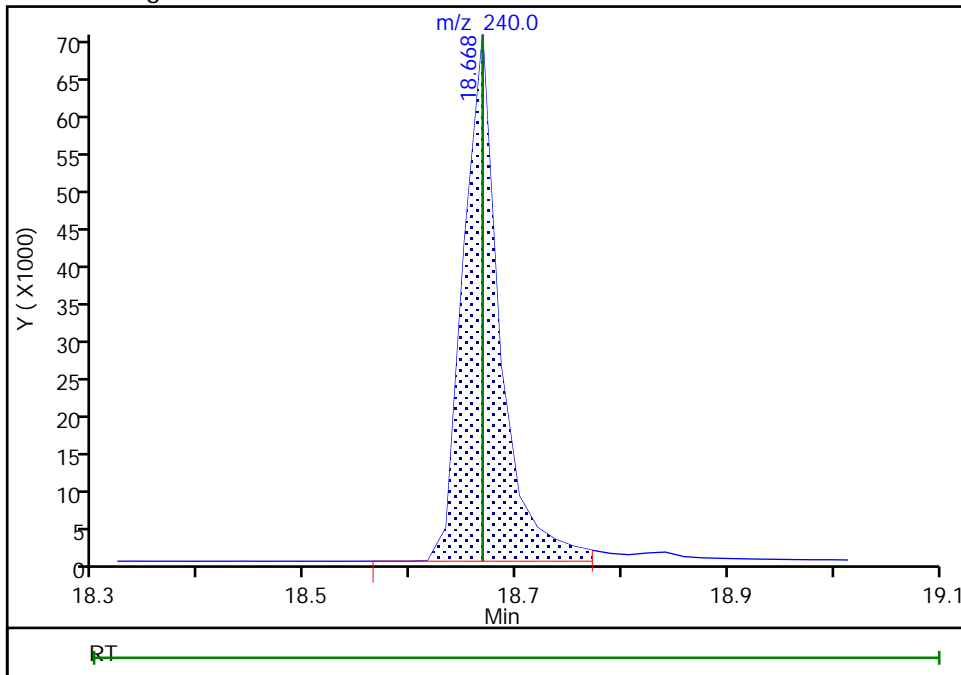
RT: 18.67
Area: 169663
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.67
Area: 169663
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



APPENDIX D - Laboratory Reports
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\2051.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\20812.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									
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	a
32 DCB Decachlorobiphenyl									
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	a
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:

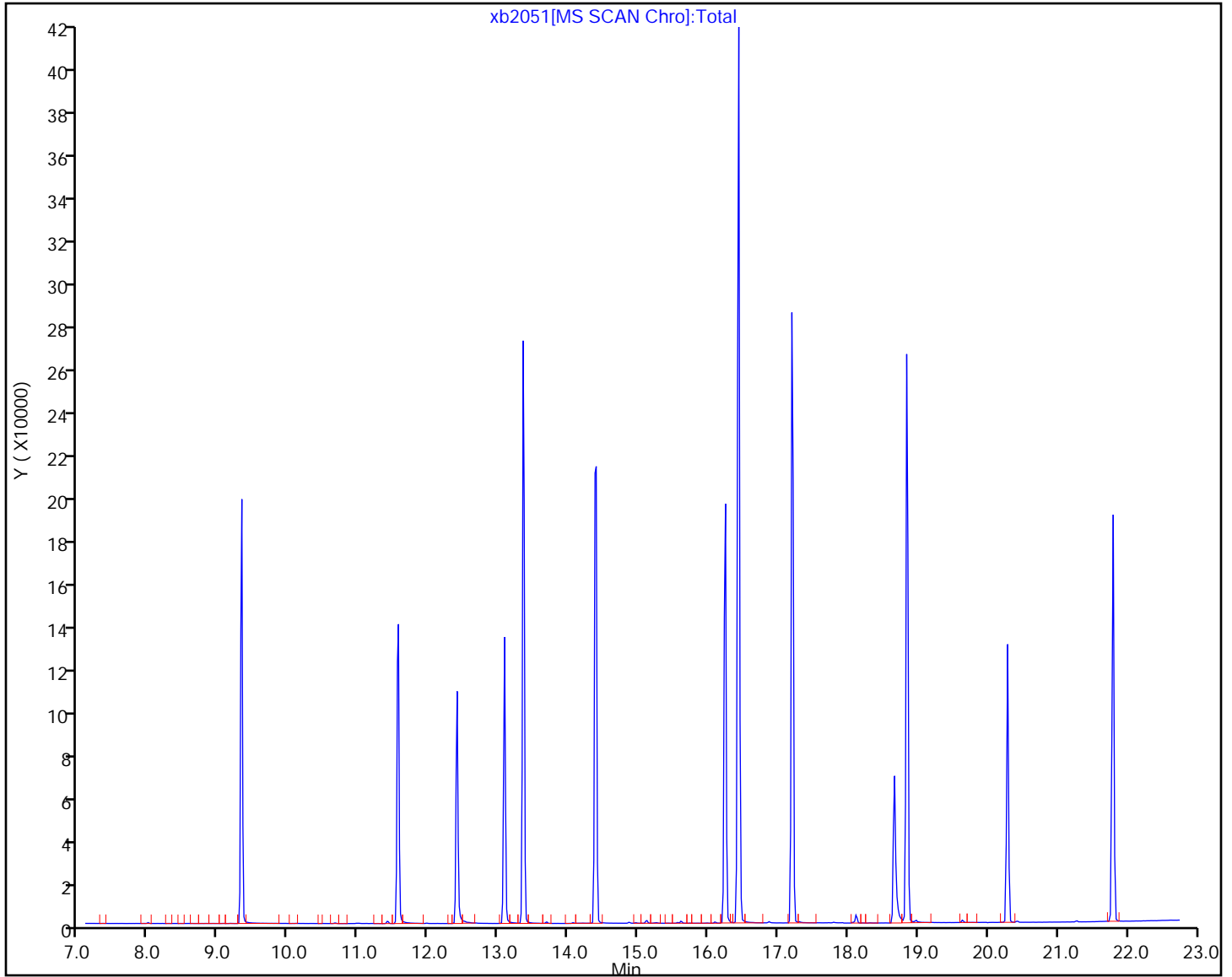
680cal3ICV_00054

Amount Added: 1.00

Units: mL

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:
Injection Vol: 2.0 ul
Method: 680\CMSX
Column: HP-5MS (0.25 mm)

ALS Bottle#: 3 Worklist Smp#: 21
Dil. Factor: 1.0000
Limit Group: 680



TestAmerica Savannah

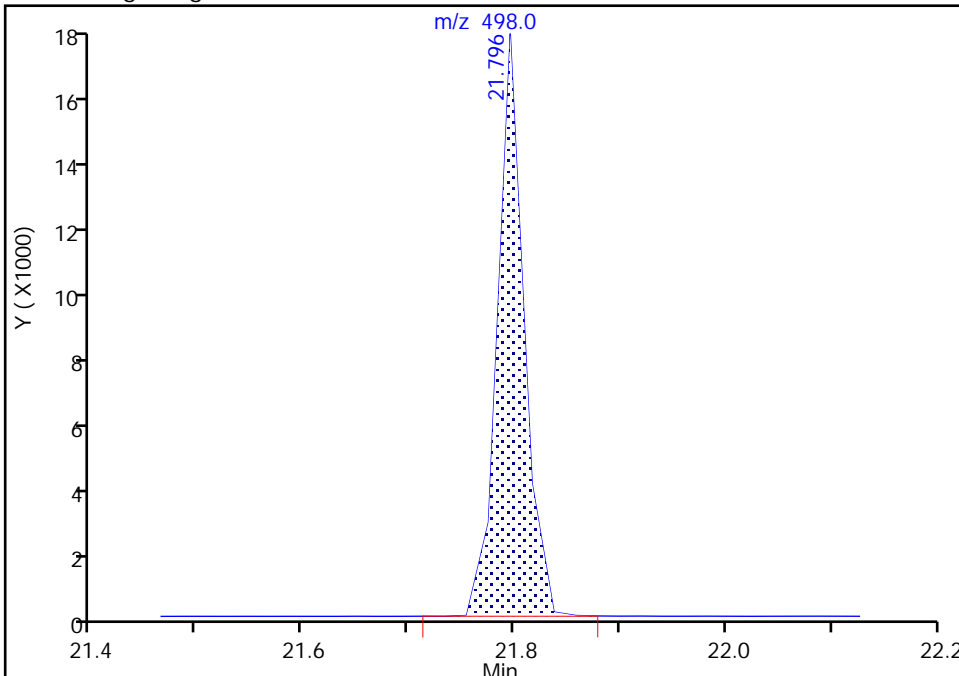
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Injection Date: 21-Feb-2019 16:43:30 Instrument ID: CMSX
Lims ID: ccv
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 21
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

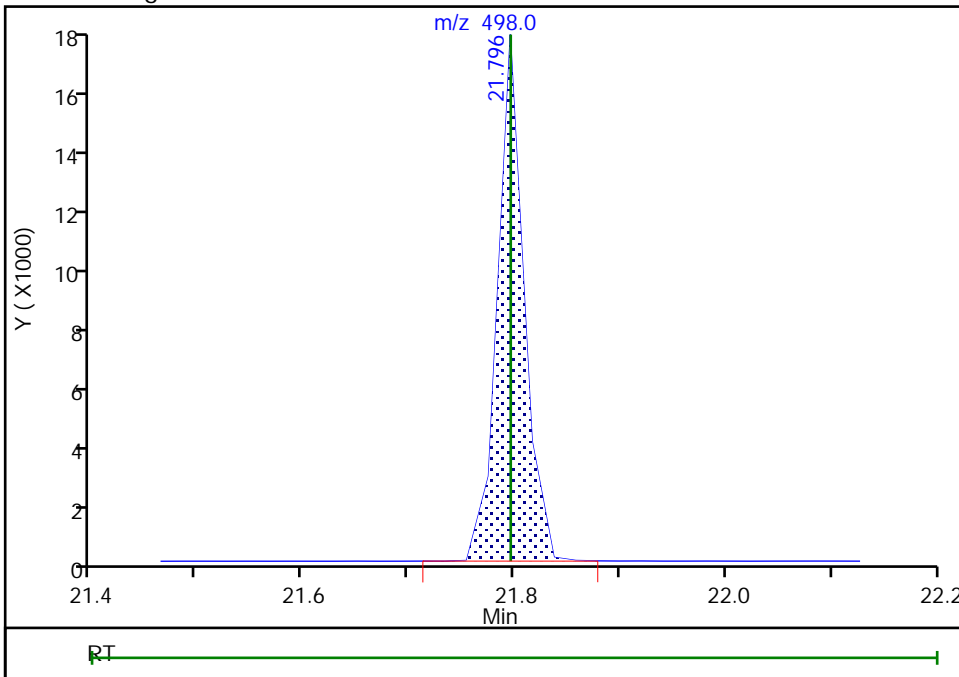
RT: 21.80
Area: 29950
Amount: 3.751402
Amount Units: ug/ml

Processing Integration Results



RT: 21.80
Area: 29950
Amount: 3.751402
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 22-Feb-2019 09:51:33
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

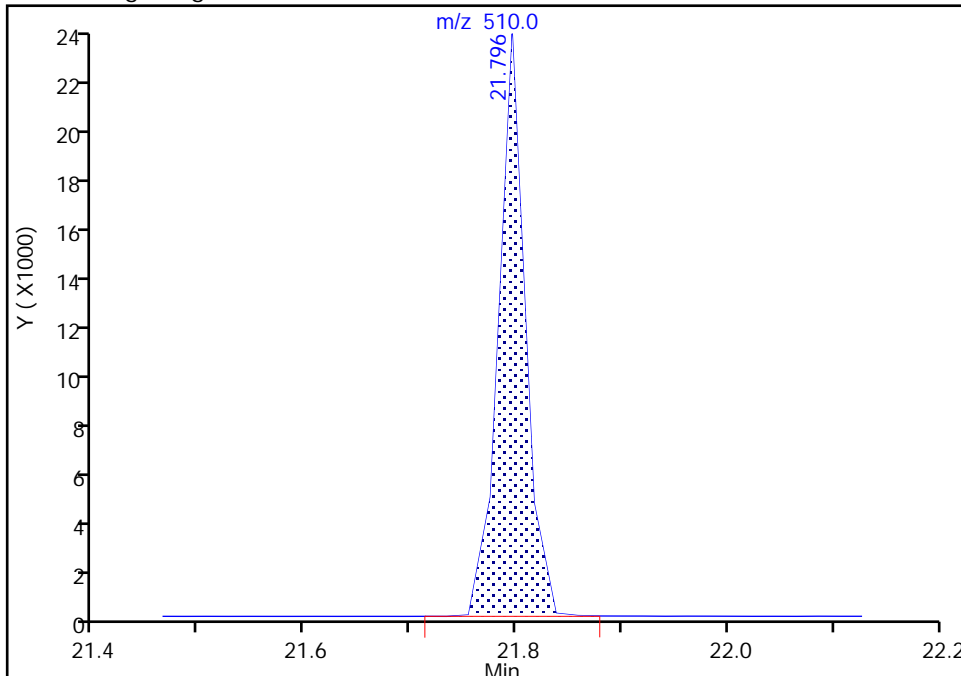
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Injection Date: 21-Feb-2019 16:43:30 Instrument ID: CMSX
Lims ID: ccv
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 21
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

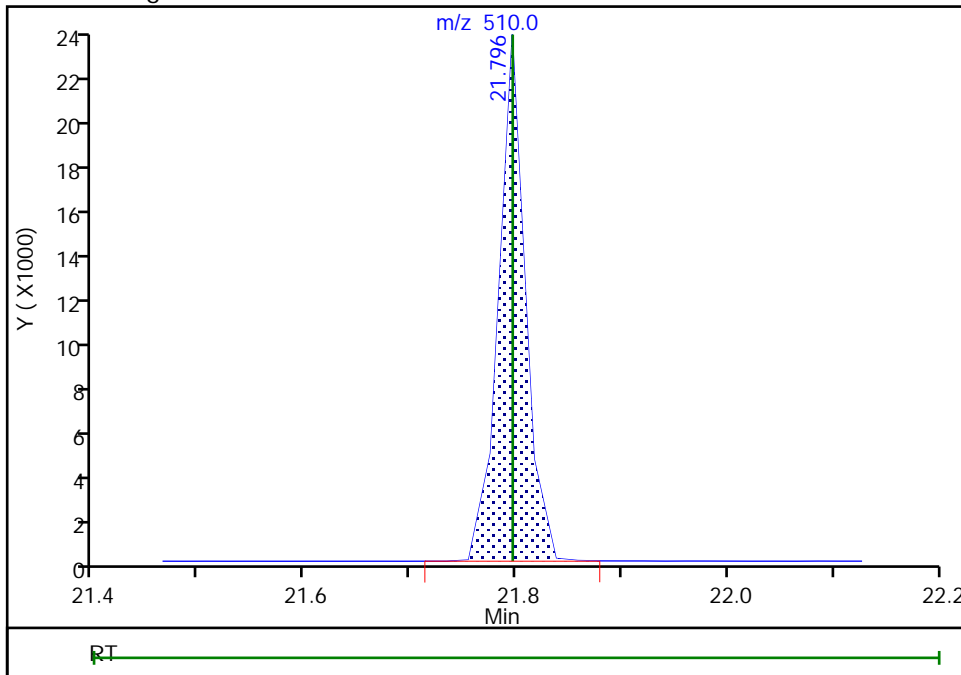
RT: 21.80
Area: 40168
Amount: 3.917710
Amount Units: ug/ml

Processing Integration Results



RT: 21.80
Area: 40168
Amount: 3.917710
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 22-Feb-2019 09:51:30
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

APPENDIX D - Laboratory Reports
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									
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
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									
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	a
32 DCB Decachlorobiphenyl									
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	a
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:

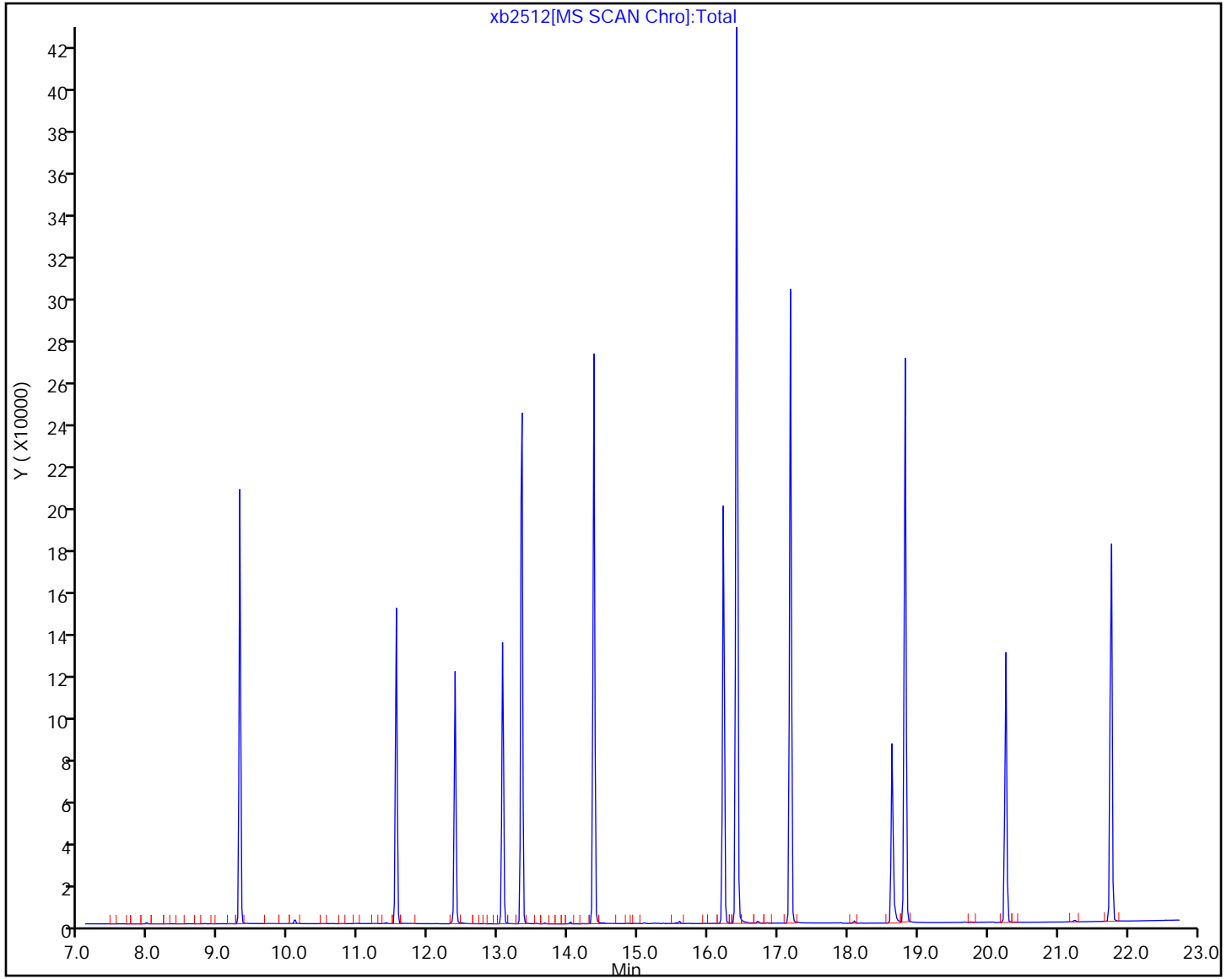
680cal3ICV_00054

Amount Added: 1.00

Units: mL

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:
Injection Vol: 2.0 ul
Method: 680\CMSX
Column: HP-5MS (0.25 mm)

ALS Bottle#: 12 Worklist Smp#: 12
Dil. Factor: 1.0000
Limit Group: 680



TestAmerica Savannah

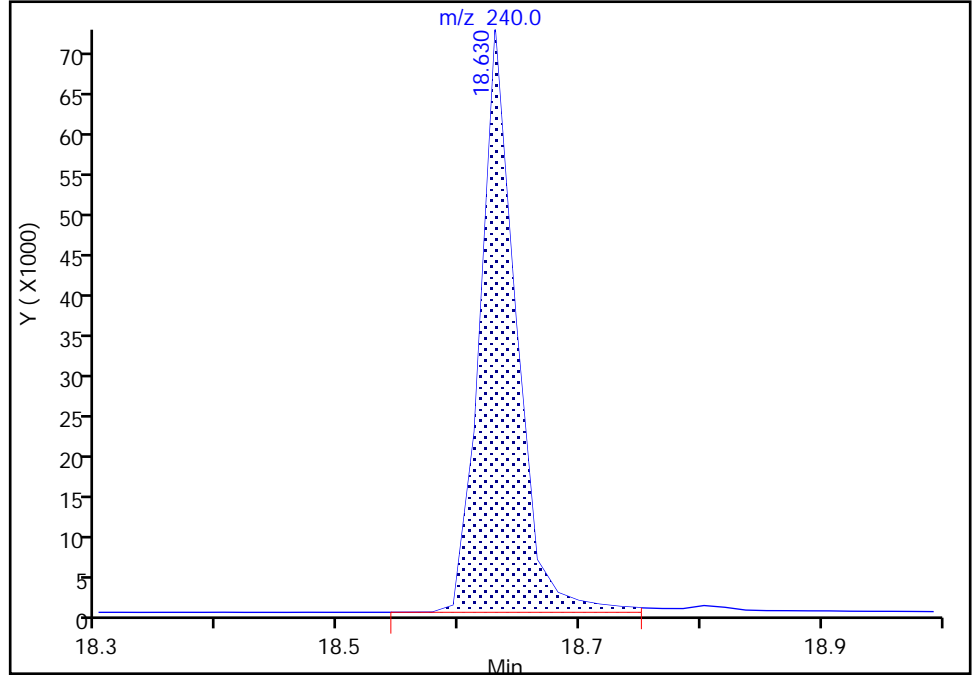
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Lims ID: icv
Client ID:
Operator ID:
Injection Vol: 2.0 ul
Method: 680\CMSX
Column: HP-5MS (0.25 mm)

ALS Bottle#: 12 Worklist Smp#: 12
Dil. Factor: 1.0000
Limit Group: 680
Detector: MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5
Signal: 1

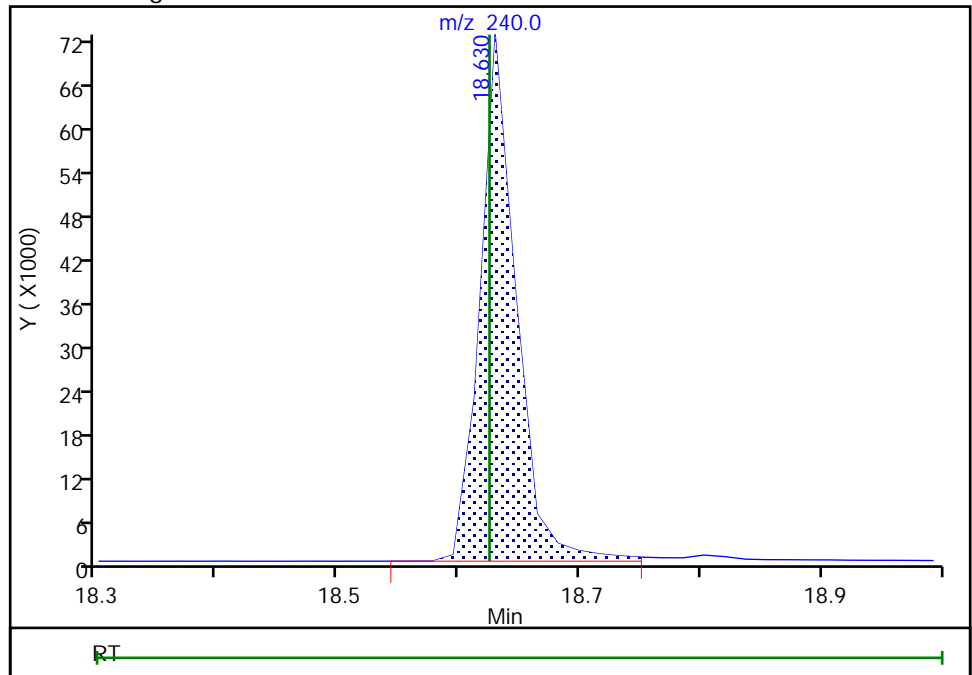
RT: 18.63
Area: 149107
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.63
Area: 149107
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



APPENDIX D - Laboratory Reports
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									
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
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									
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	a
32 DCB Decachlorobiphenyl									
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	a
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

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

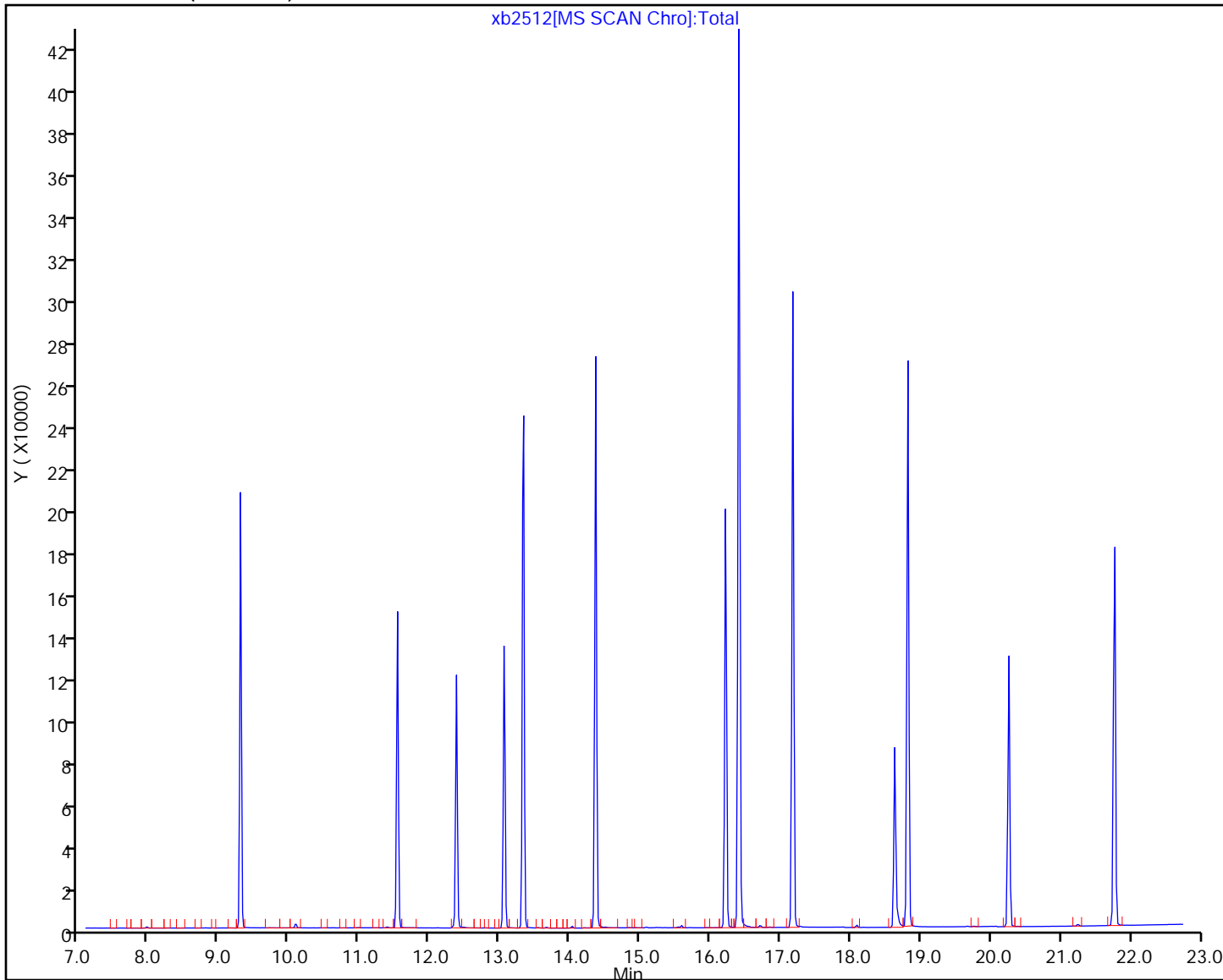
Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 680\CMSX

Limit Group: 680

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

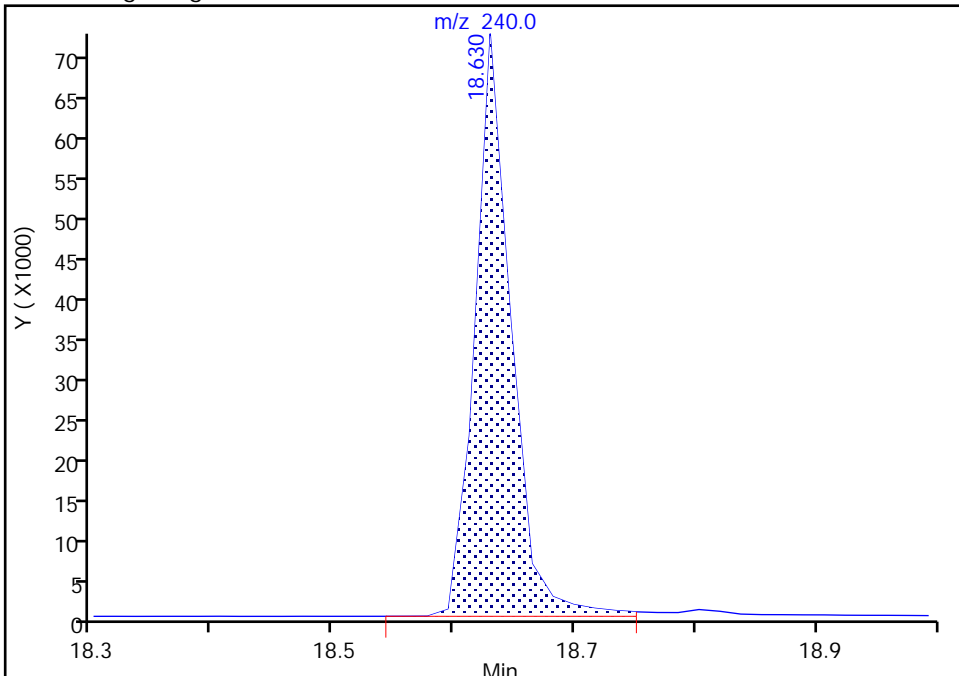
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Injection Date: 25-Feb-2019 16:27:30 Instrument ID: CMSX
Lims ID: icv
Client ID:
Operator ID: ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

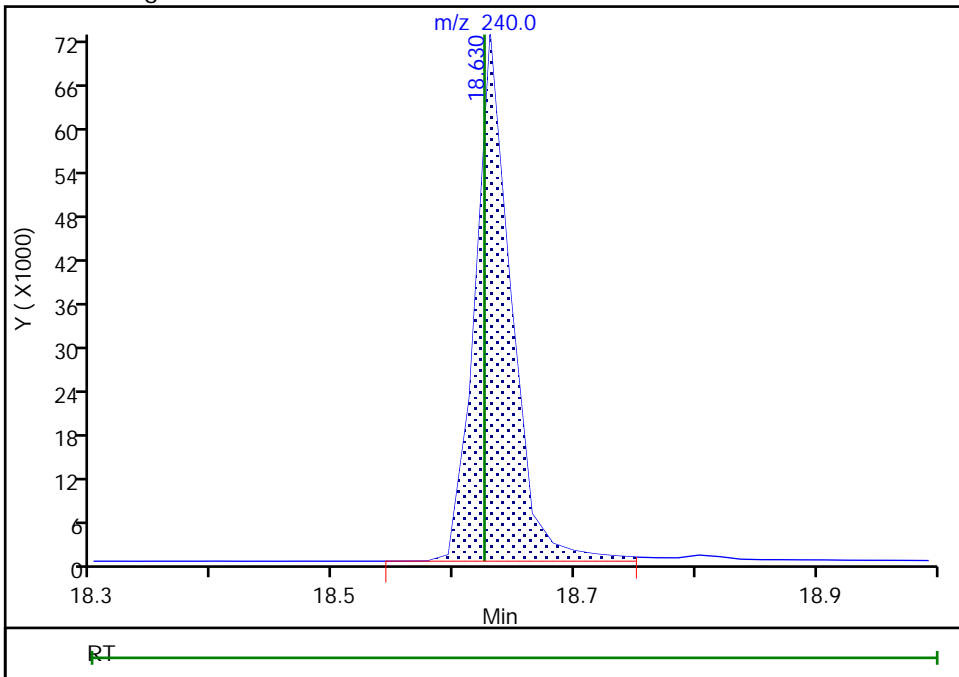
RT: 18.63
Area: 149107
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.63
Area: 149107
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



TestAmerica Savannah

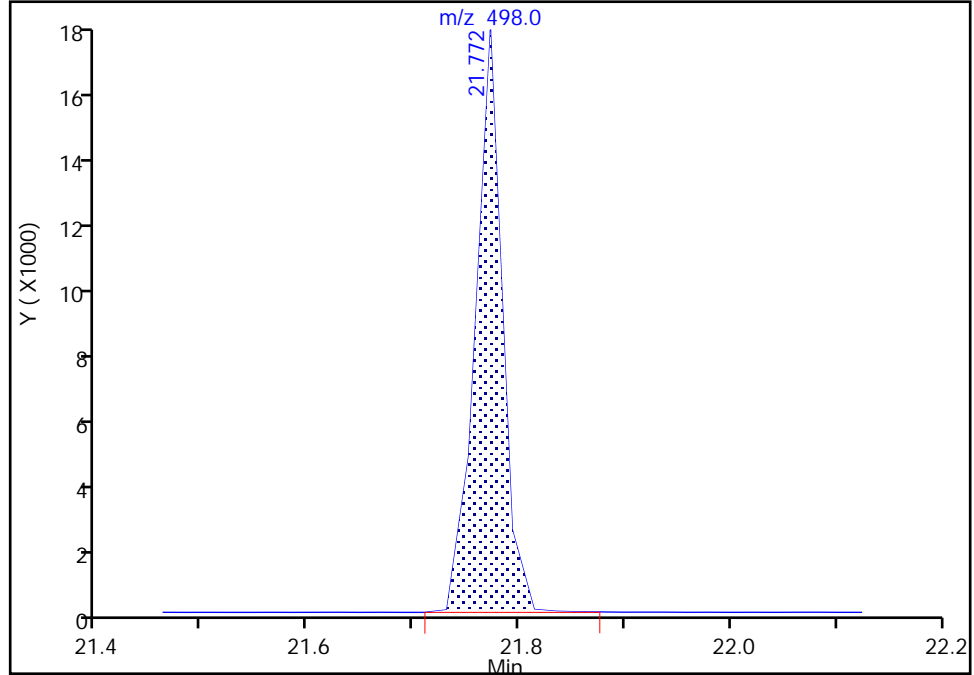
Data File: \\chromna\Savannah\ChromData\CMSX\20190225-54006.b\xb2512.D
Injection Date: 25-Feb-2019 16:27:30 Instrument ID: CMSX
Lims ID: icv
Client ID:
Operator ID: ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

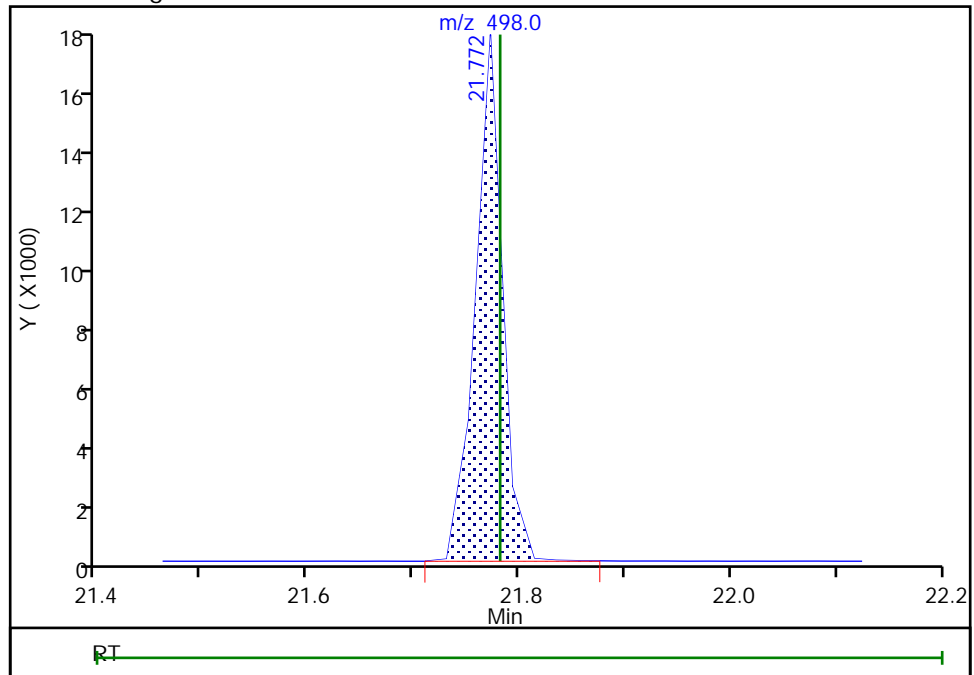
RT: 21.77
Area: 30805
Amount: 4.983920
Amount Units: ug/ml

Processing Integration Results



RT: 21.77
Area: 30805
Amount: 4.983920
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 26-Feb-2019 09:34:43
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

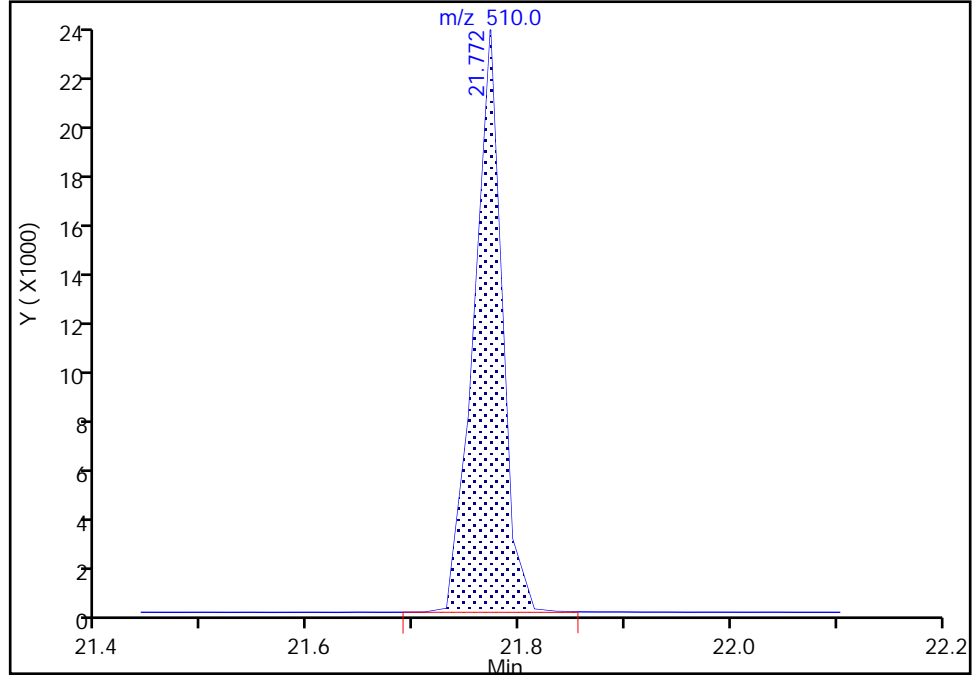
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Injection Date: 25-Feb-2019 16:27:30 Instrument ID: CMSX
Lims ID: icv
Client ID:
Operator ID: ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

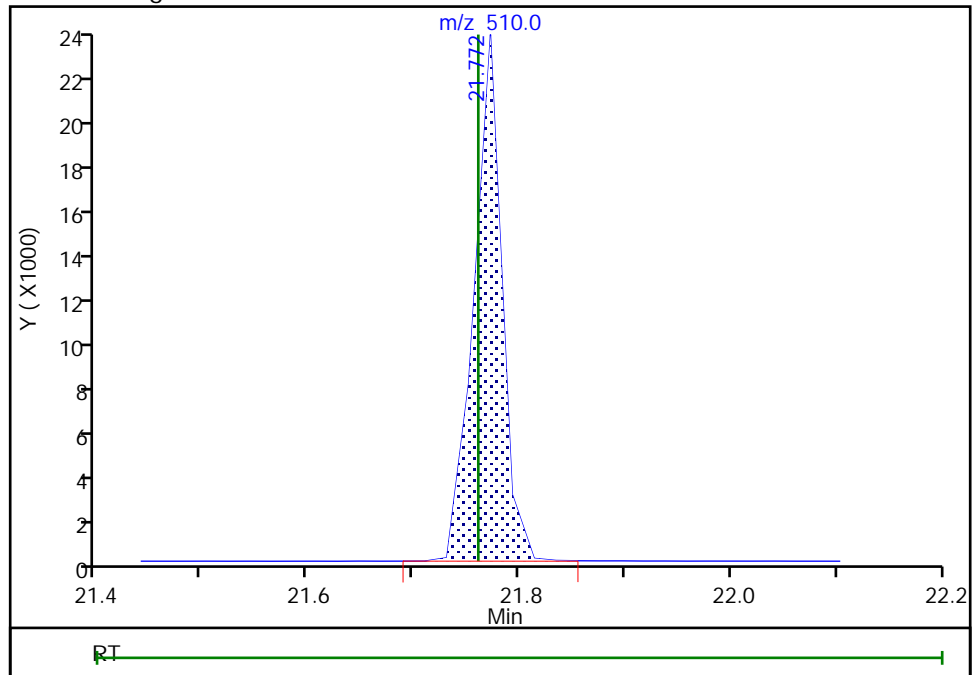
RT: 21.77
Area: 43029
Amount: 5.131350
Amount Units: ug/ml

Processing Integration Results



RT: 21.77
Area: 43029
Amount: 5.131350
Amount Units: ug/ml

Manual Integration Results



APPENDIX D - Laboratory Reports
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\2704.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\2511.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										
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		a
32 DCB Decachlorobiphenyl										
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:

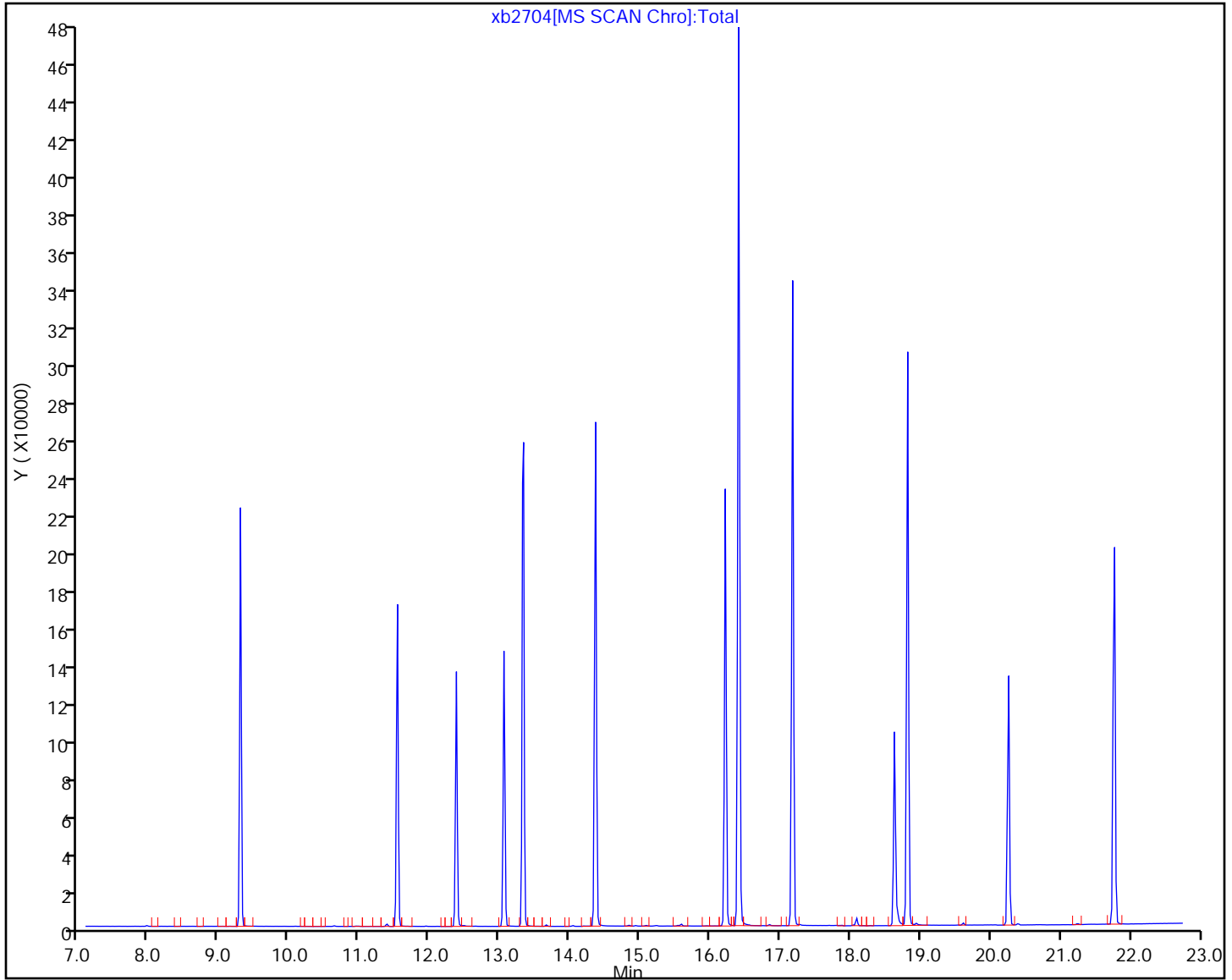
680isomerCal3_00045

Amount Added: 1.00

Units: mL

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:
Injection Vol: 2.0 ul
Method: 680\CMSX
Column: HP-5MS (0.25 mm)

ALS Bottle#: 3 Worklist Smp#: 3
Dil. Factor: 1.0000
Limit Group: 680



TestAmerica Savannah

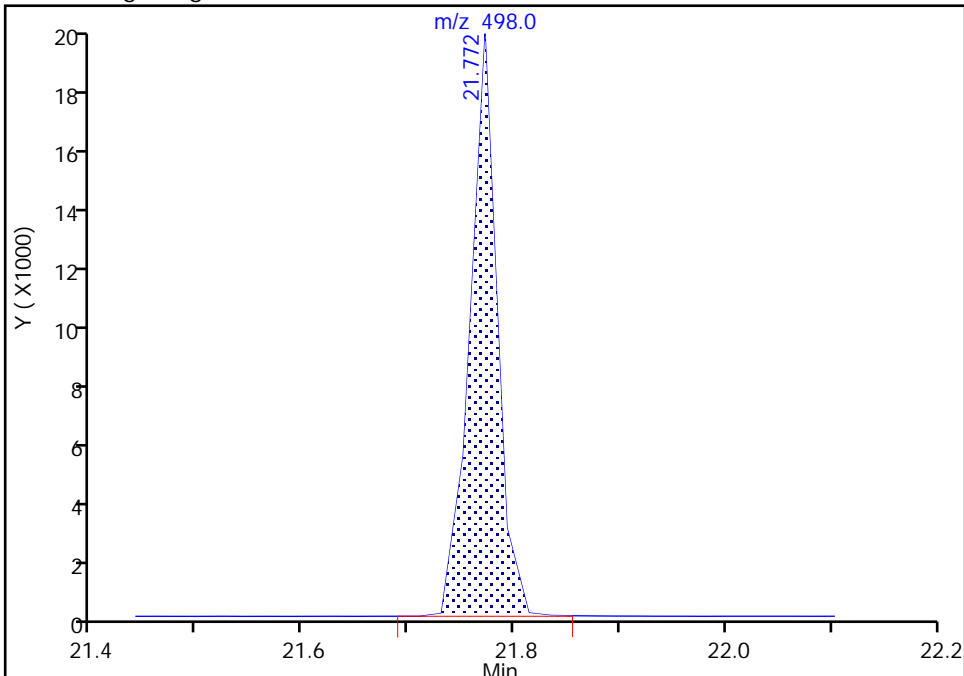
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Lims ID: ccvis
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

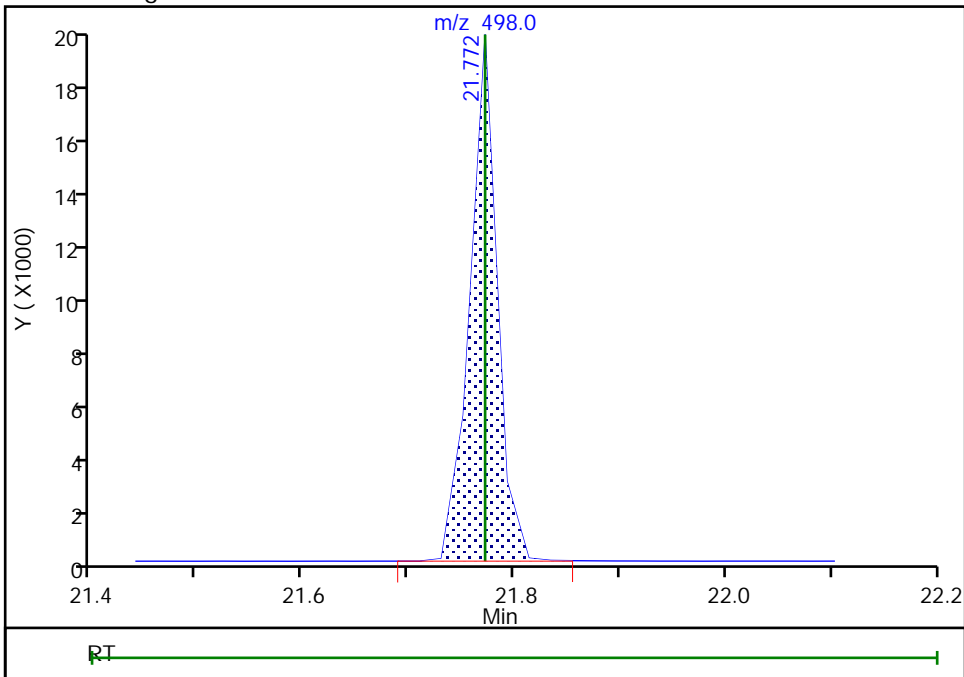
RT: 21.77
Area: 35046
Amount: 4.911648
Amount Units: ug/ml

Processing Integration Results



RT: 21.77
Area: 35046
Amount: 4.911648
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 27-Feb-2019 15:52:24
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

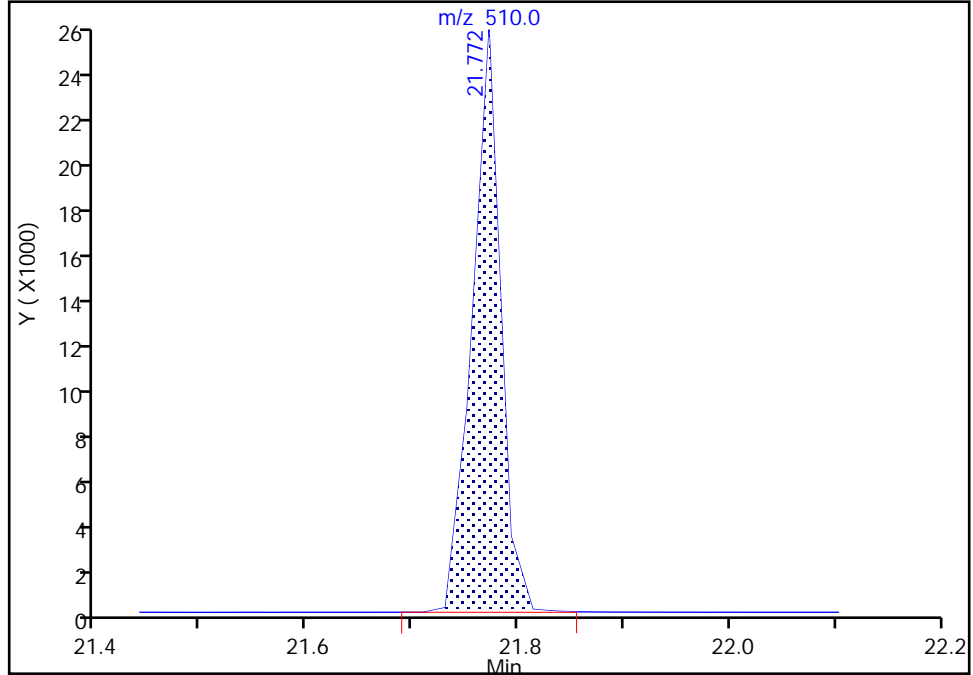
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Injection Date: 27-Feb-2019 15:23:30 Instrument ID: CMSX
Lims ID: ccvis
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

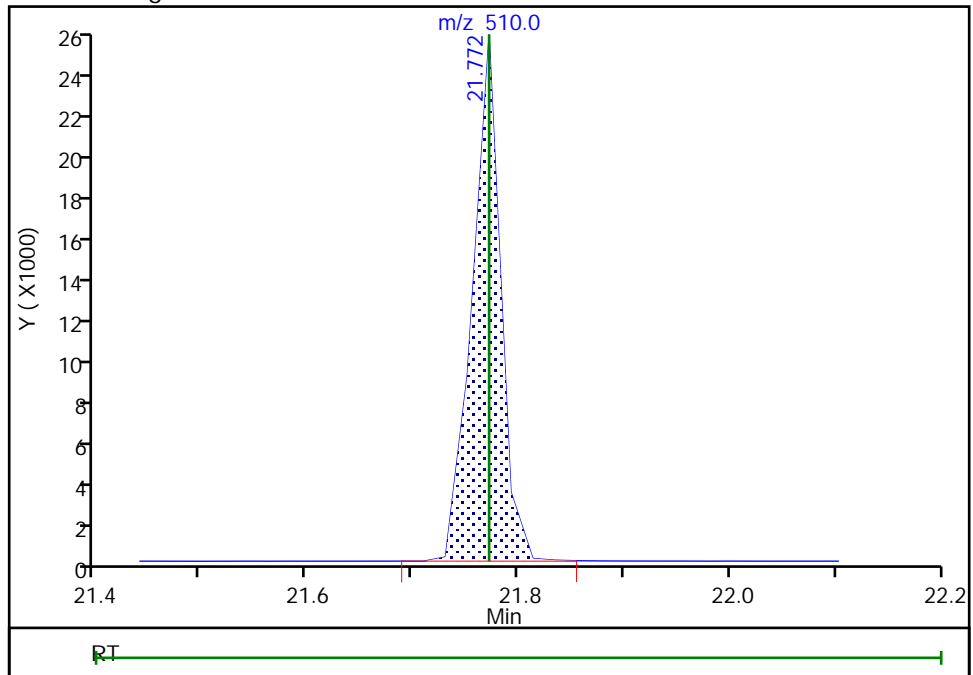
RT: 21.77
Area: 46751
Amount: 4.829478
Amount Units: ug/ml

Processing Integration Results



RT: 21.77
Area: 46751
Amount: 4.829478
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 27-Feb-2019 15:52:21
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

APPENDIX D - Laboratory Reports
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\zb2714.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\zb2511.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									
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	a
32 DCB Decachlorobiphenyl									
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	a
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

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

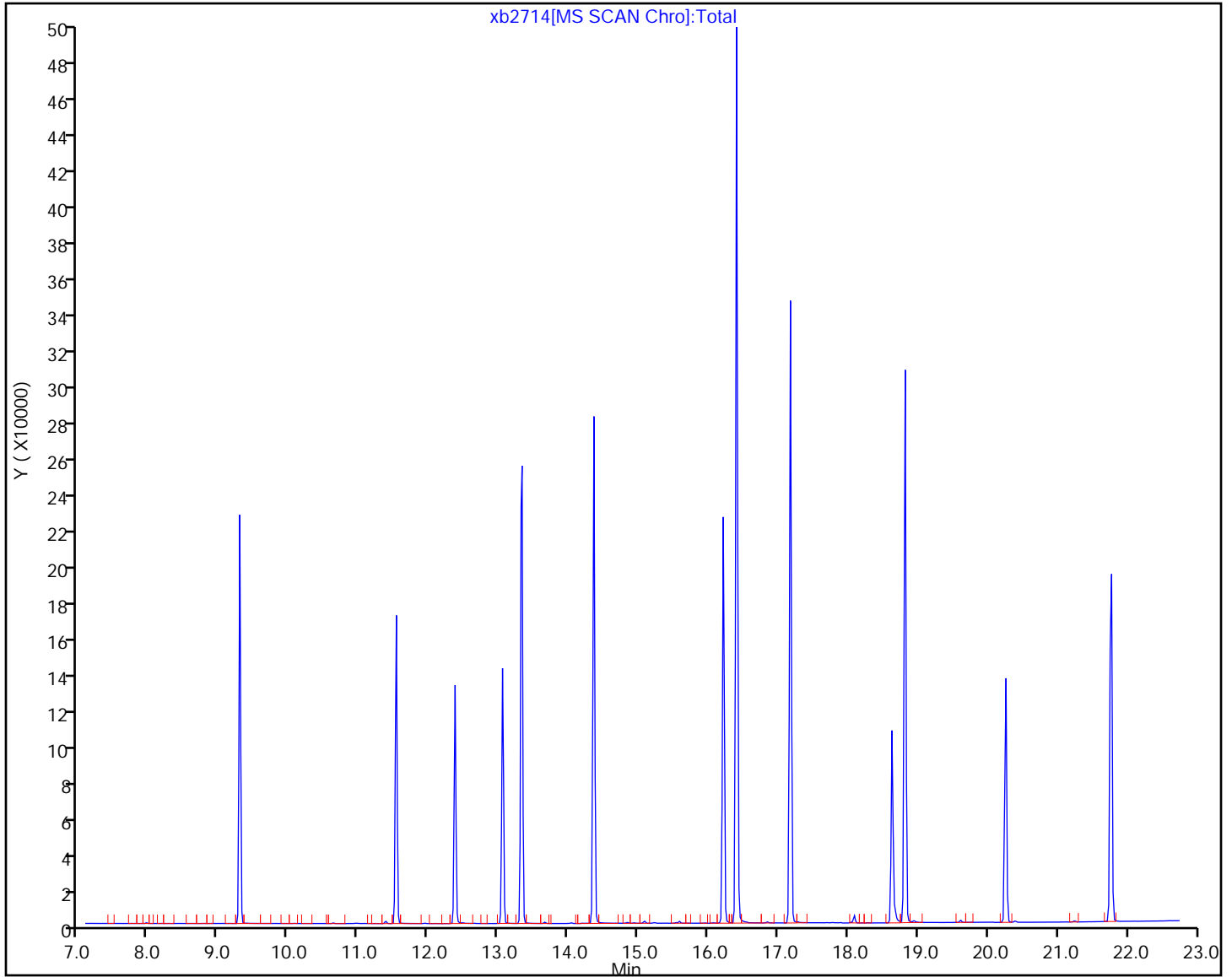
Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 680\CMSX

Limit Group: 680

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

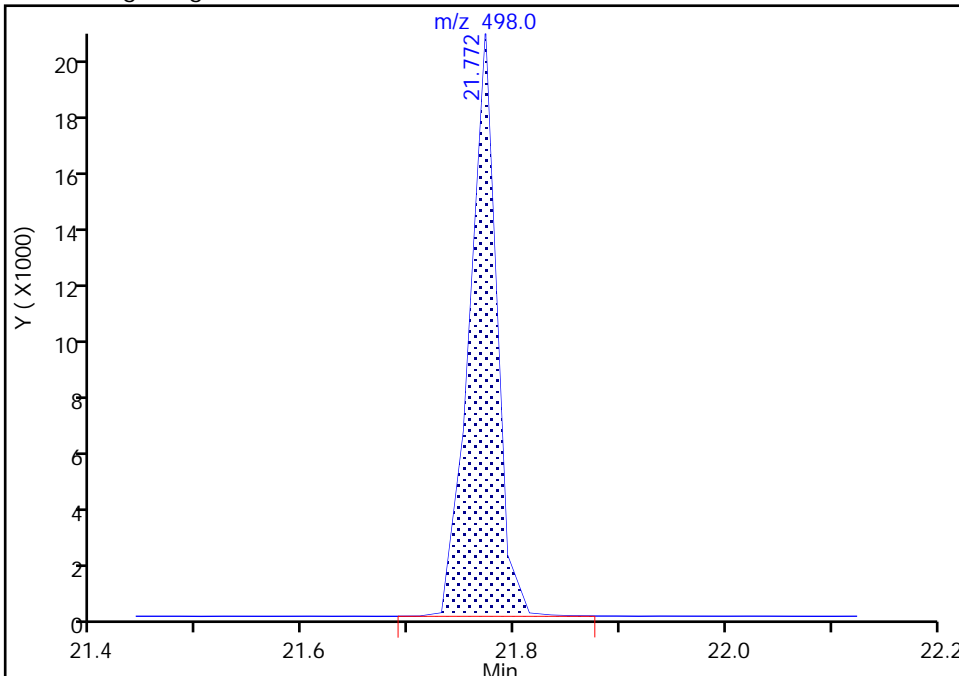
Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2714.D
Injection Date: 27-Feb-2019 20:09:30 Instrument ID: CMSX
Lims ID: ccv
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

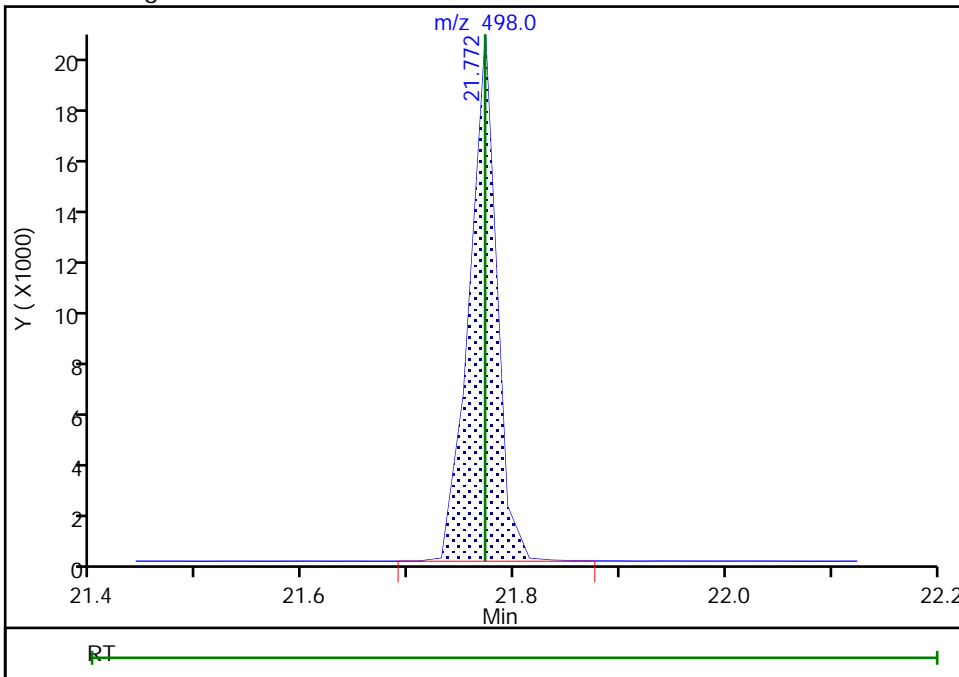
RT: 21.77
Area: 36159
Amount: 4.870527
Amount Units: ug/ml

Processing Integration Results



RT: 21.77
Area: 36159
Amount: 4.870527
Amount Units: ug/ml

Manual Integration Results



TestAmerica Savannah

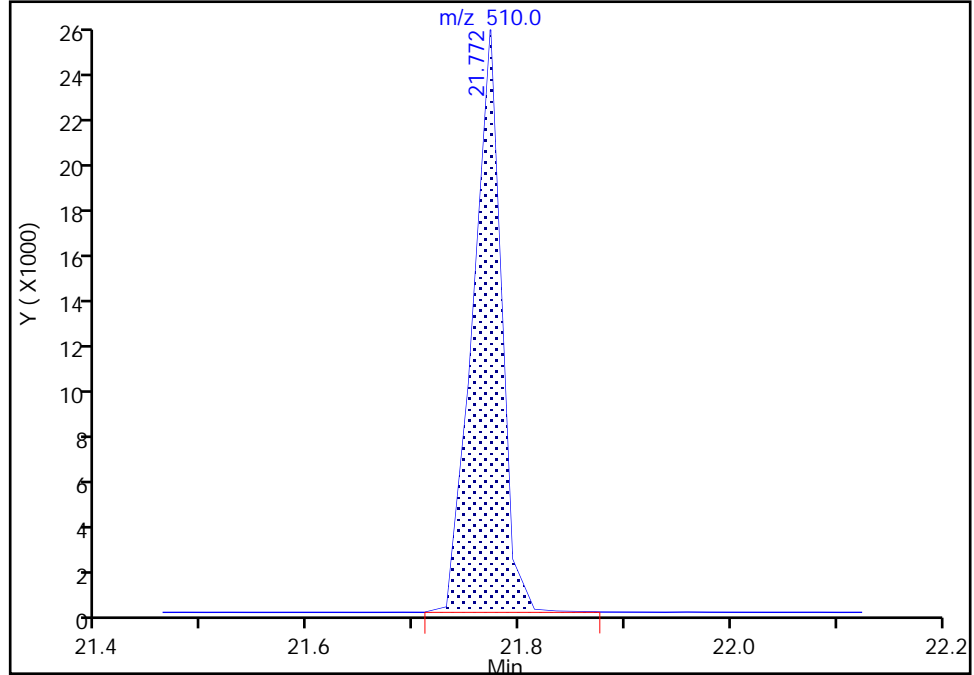
Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2714.D
Injection Date: 27-Feb-2019 20:09:30 Instrument ID: CMSX
Lims ID: ccv
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

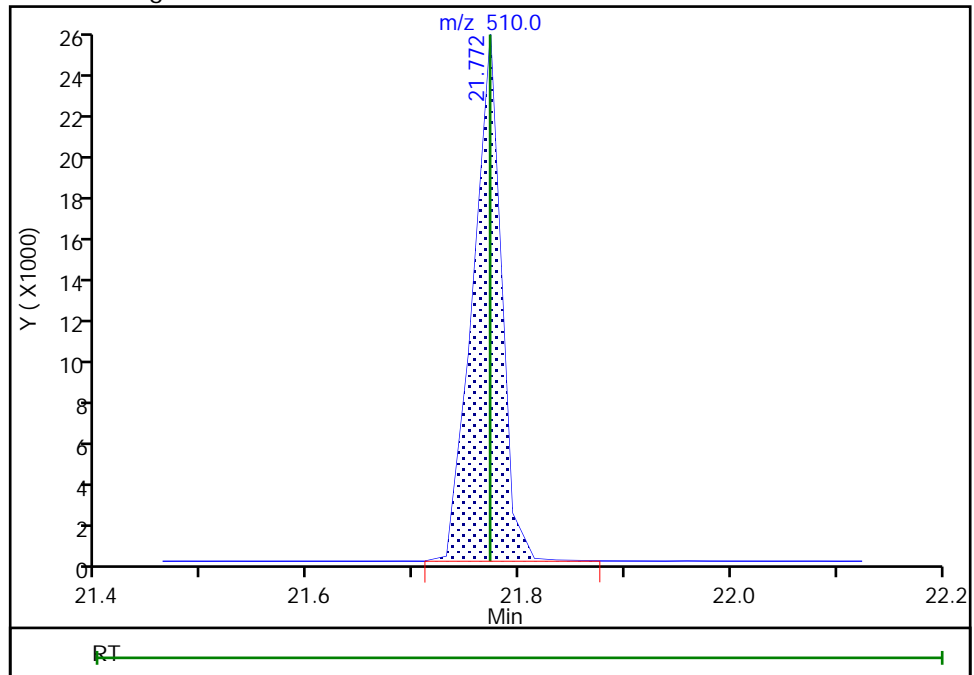
RT: 21.77
Area: 48102
Amount: 4.775768
Amount Units: ug/ml

Processing Integration Results



RT: 21.77
Area: 48102
Amount: 4.775768
Amount Units: ug/ml

Manual Integration Results



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
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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
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8 DFTPP
 198 13.533 13.533 0.0 0 177564 -1.0- -1.0

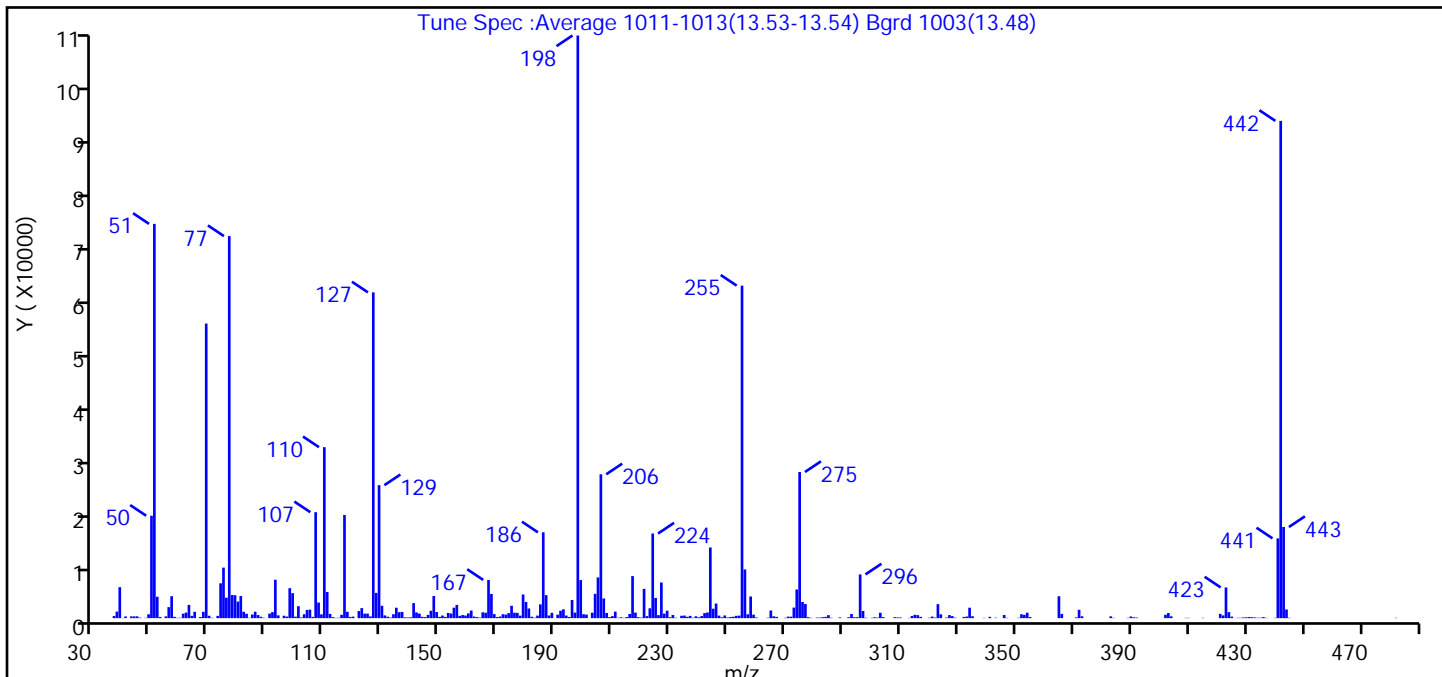
Reagents:

SM680dftpp_00038 Amount Added: 1.00 Units: mL

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190108-53107.b\1a0805.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\A0805.D\680\CMSX.rsl\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

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\680\CMSX.rsl\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		

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

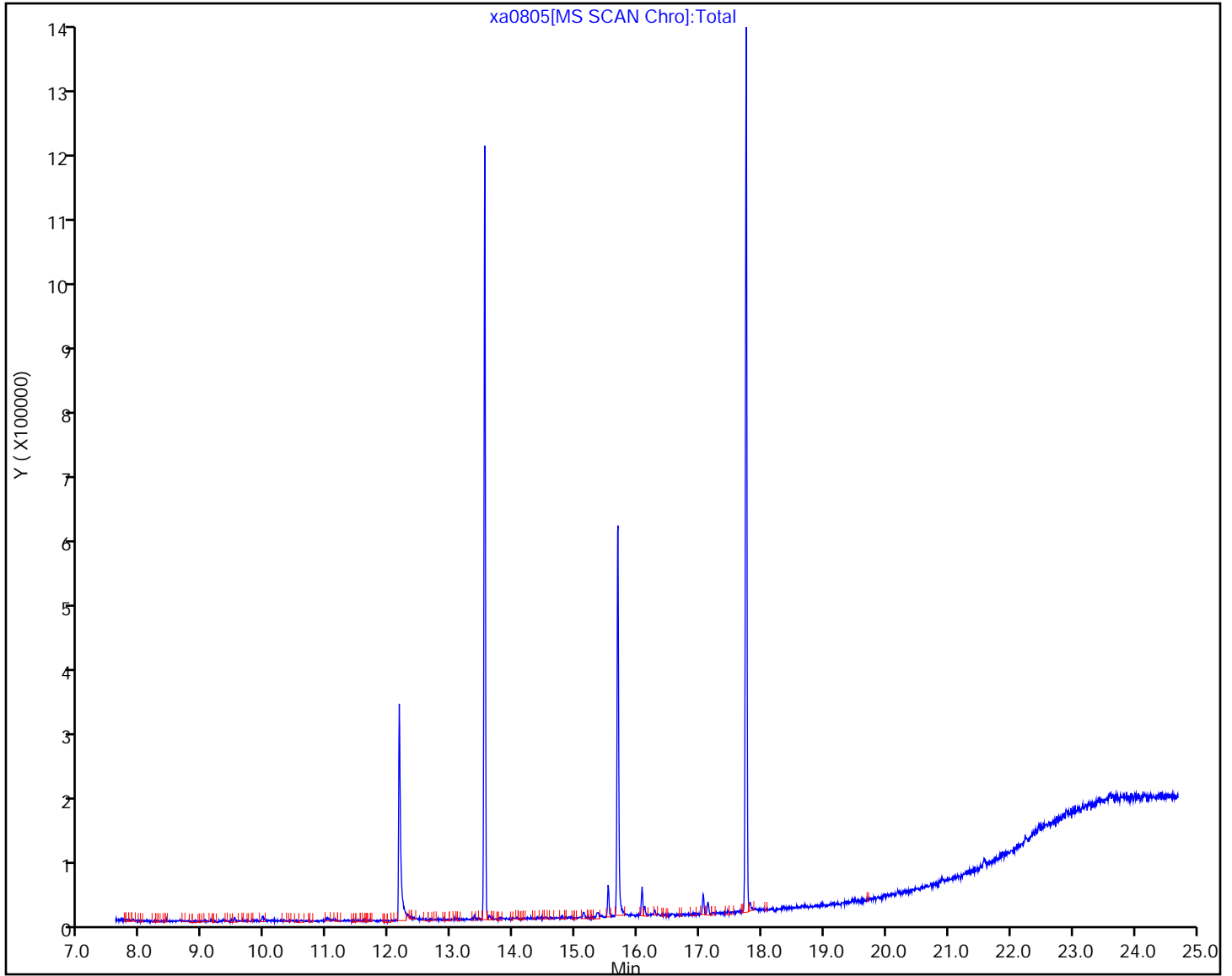
Injection Vol: 2.0 ul

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
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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
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8 DFTPP
 198 13.528 13.528 0.0 0 190070 -1.0- -1.0

Reagents:

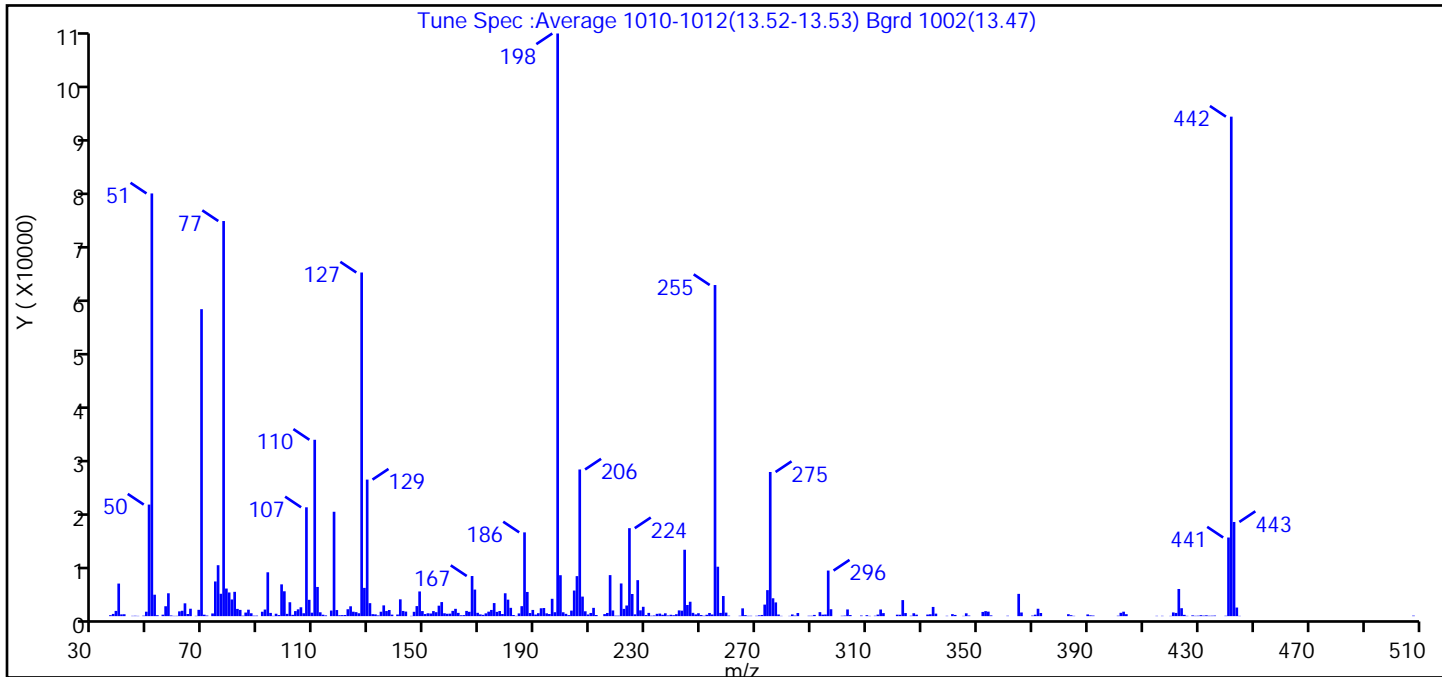
SM680dftpp_00038 Amount Added: 1.00 Units: mL

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:
 Injection Vol: 2.0 ul
 Method: 680\CMSX
 Tune Method: DFTPP Method 680

ALS Bottle#: 1 Worklist Smp#: 1
 Dil. Factor: 1.0000
 Limit Group: 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.rsl\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

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\2002.D\680\CMSX.rsl\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		

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

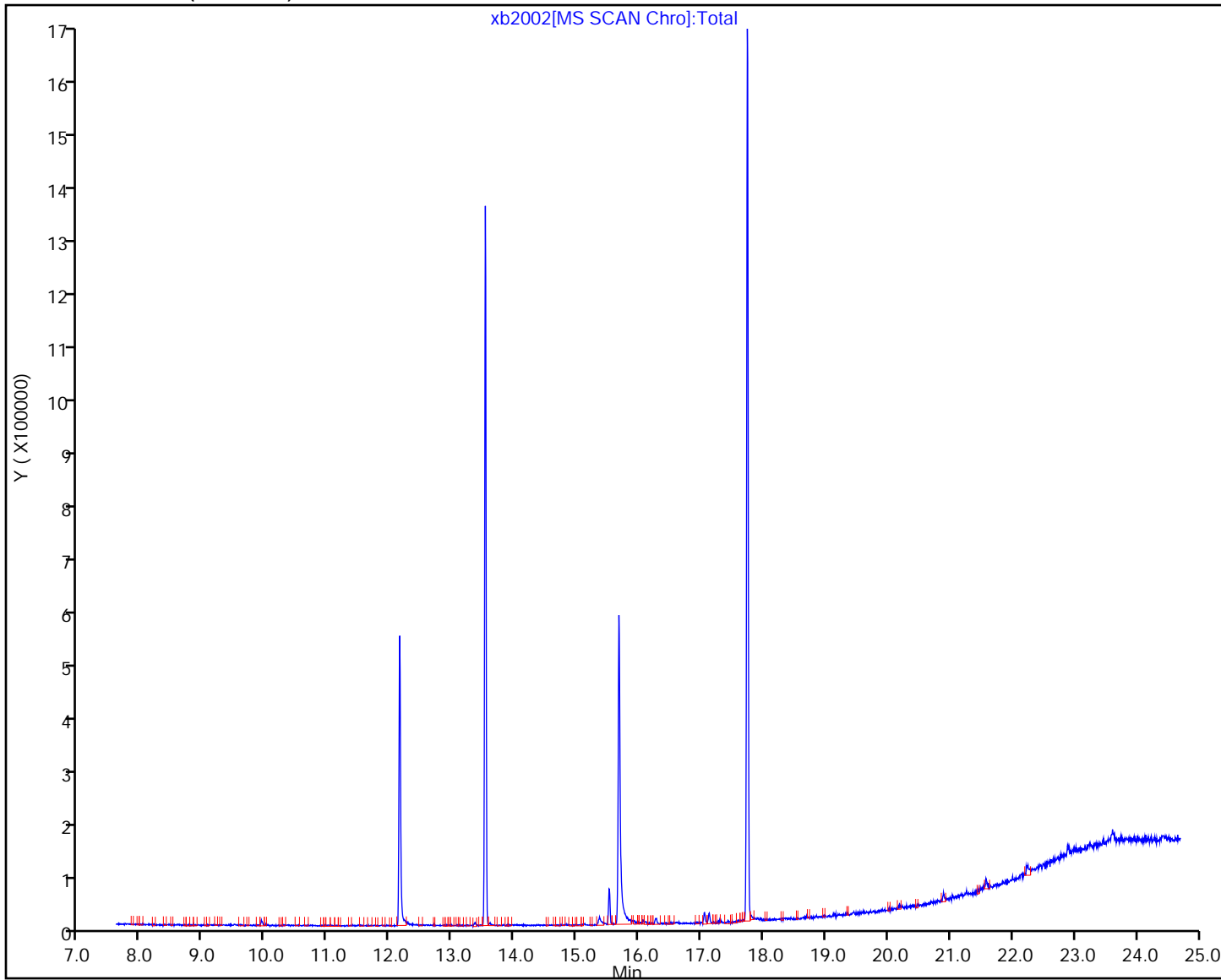
Injection Vol: 2.0 ul

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									
394	17.206	17.206	0.0	1	3760	NC			a
396	17.206	17.206	0.0		0		1.0- 1.0		a
32 DCB Decachlorobiphenyl									
498	21.799	21.799	0.0	1	5123	0			a
500	21.799	21.799	0.0		0		0.9- 1.3		a
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

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

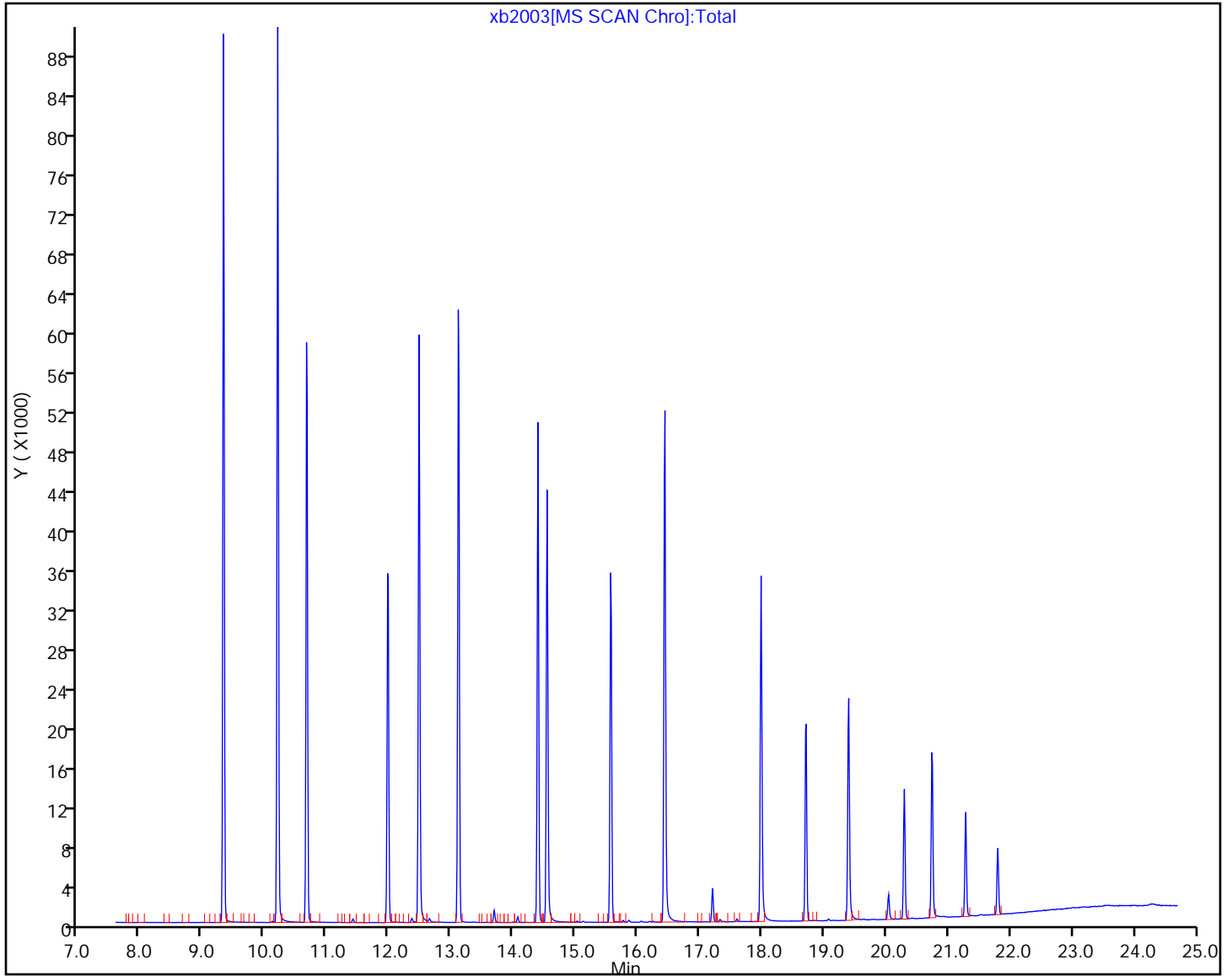
Injection Vol: 2.0 ul

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
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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
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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

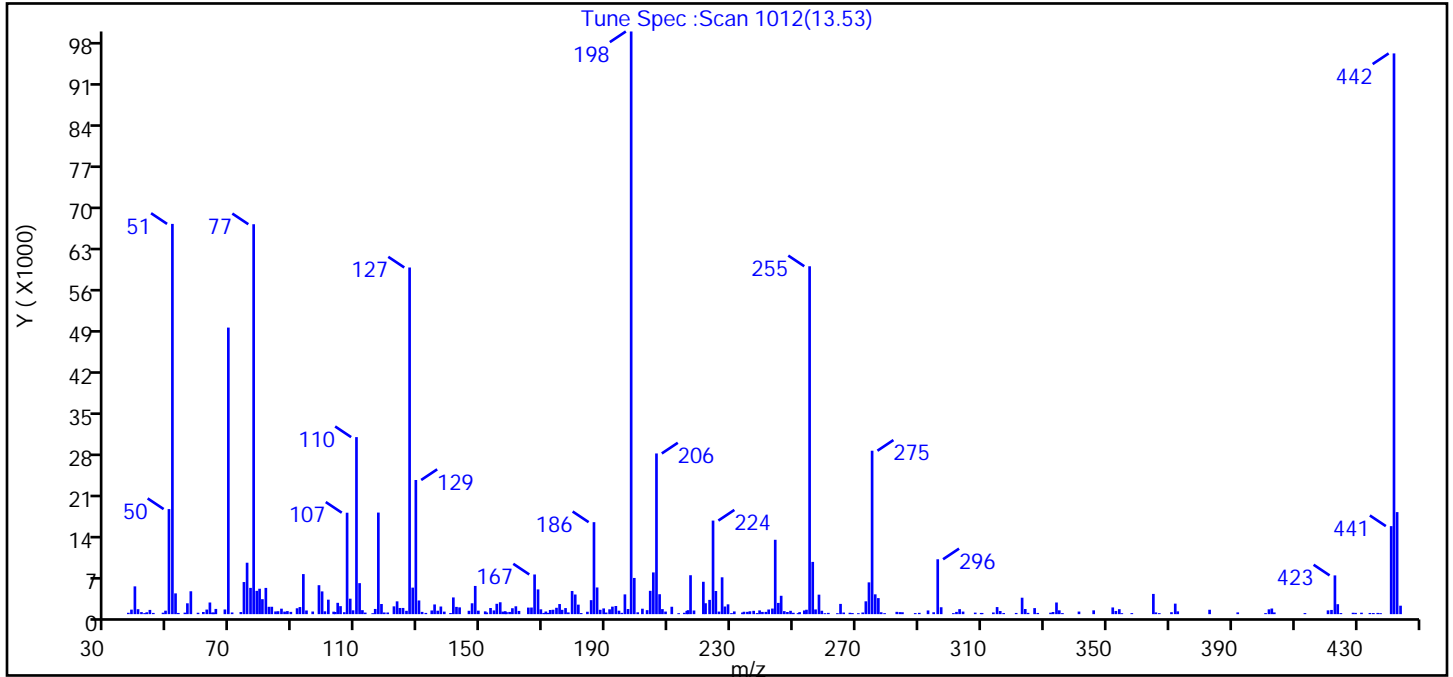
Amount Added: 1.00

Units: mL

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.rsl\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

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\2028.D\680\CMSX.rsl\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		

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

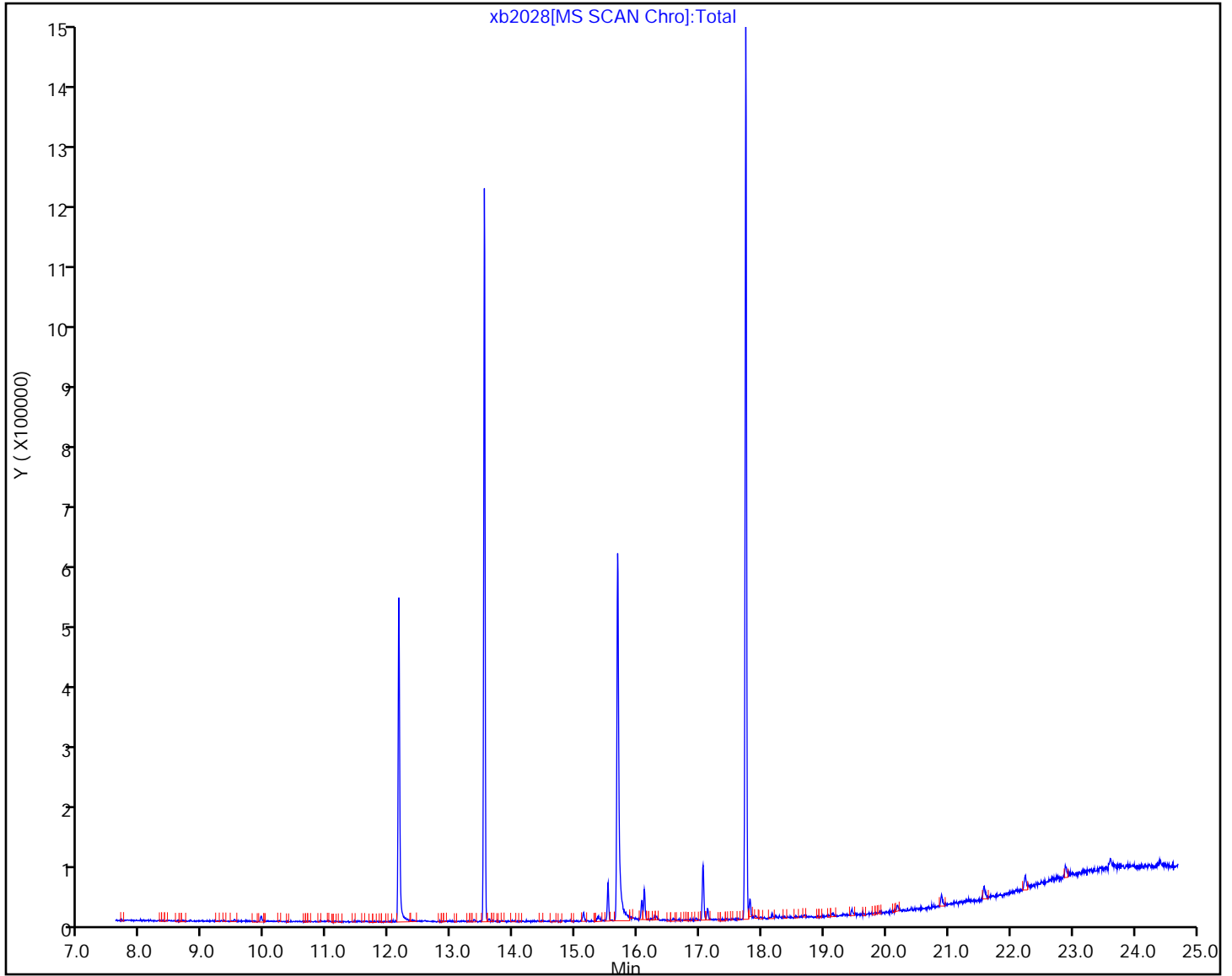
Injection Vol: 2.0 ul

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									
394	17.206	17.206	0.0	1	3666	NC			a
396	17.206	17.206	0.0		0		1.0- 1.0		a
32 DCB Decachlorobiphenyl									
498	21.799	21.799	0.0	1	4719	0			a
500	21.796	21.799	-0.003		0		0.9- 1.3		a
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:

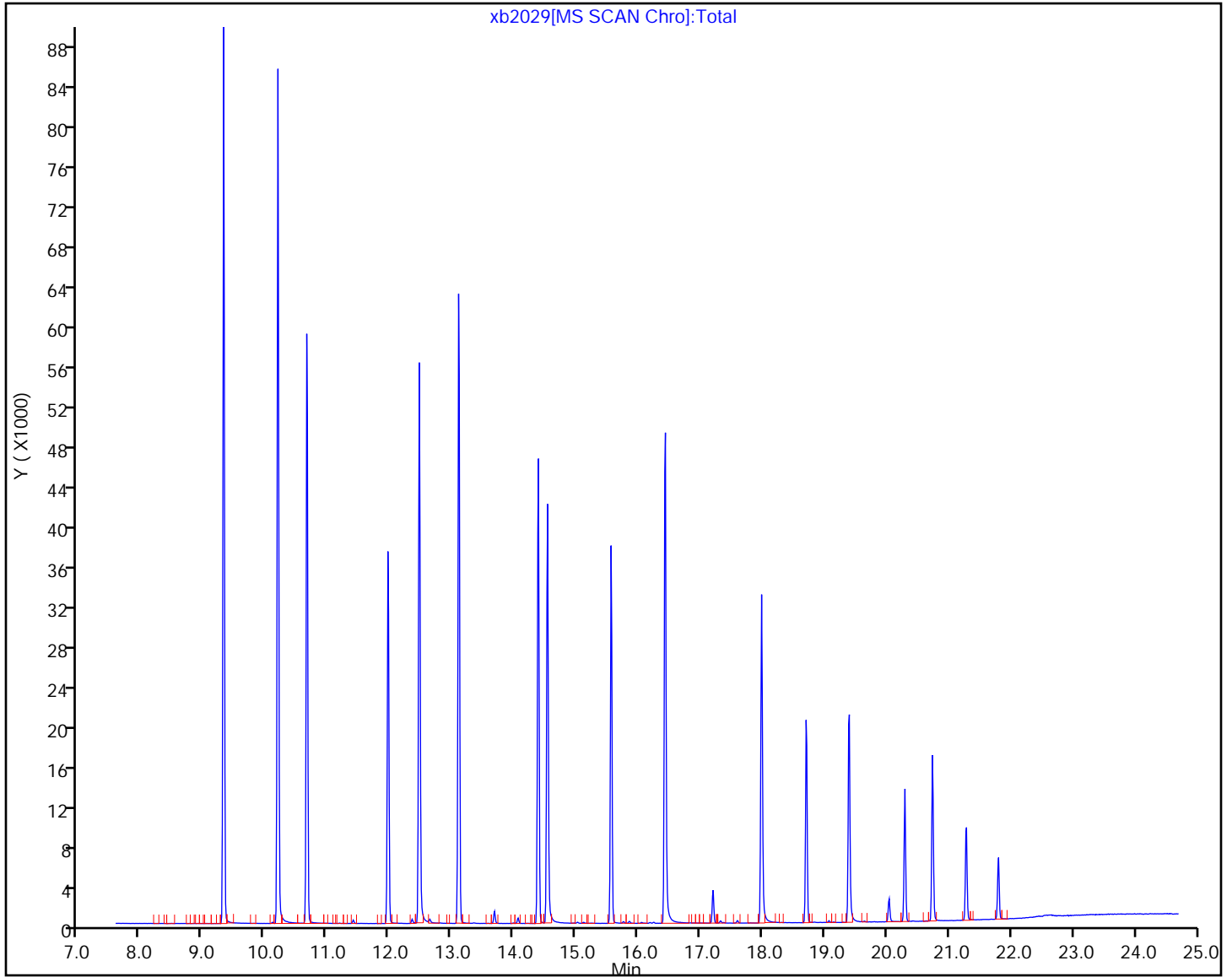
SM680WDM_00031

Amount Added: 1.00

Units: mL

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:
Injection Vol: 2.0 ul
Method: 680\CMSX
Column: HP-5MS (0.25 mm)

ALS Bottle#: 2 Worklist Smp#: 2
Dil. Factor: 1.0000
Limit Group: 680



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
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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
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8 DFTPP
 198 13.510 13.510 0.0 0 481020 -1.0- -1.0

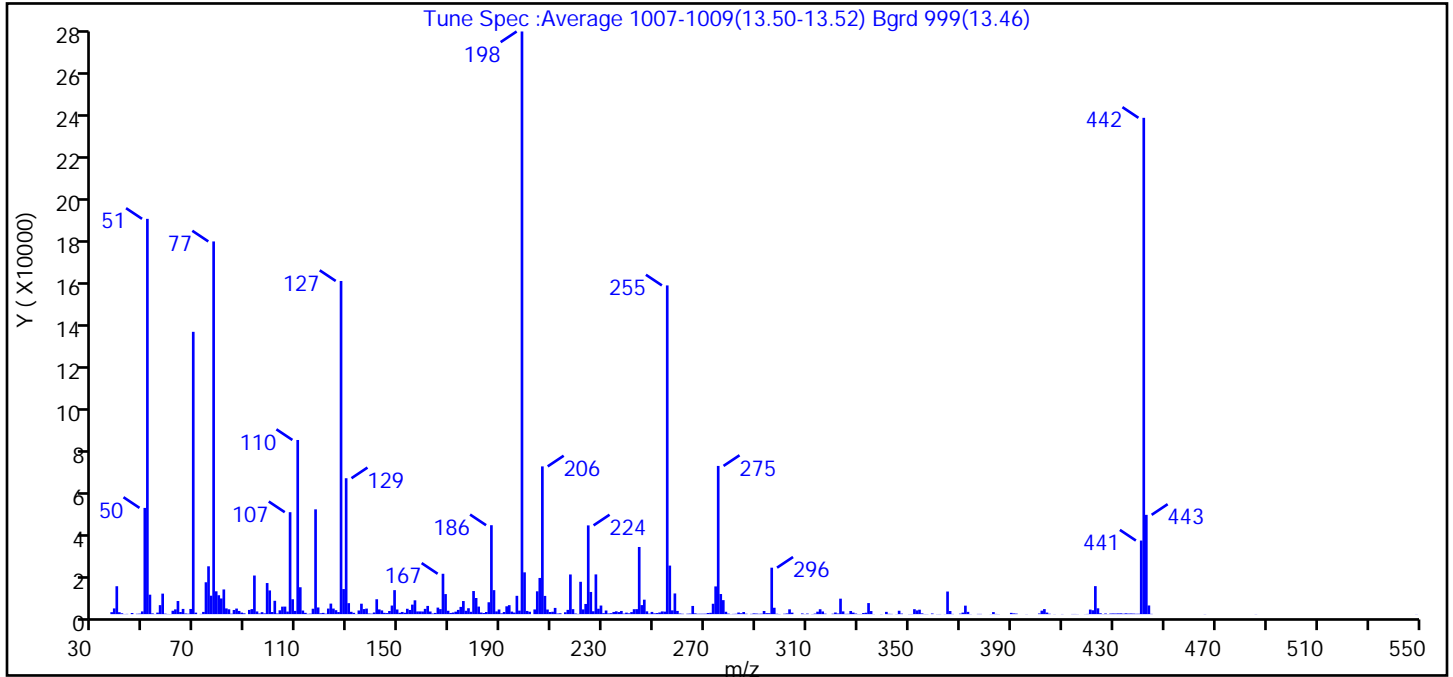
Reagents:

SM680dftpp_00038 Amount Added: 1.00 Units: mL

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.rsl\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

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

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		

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

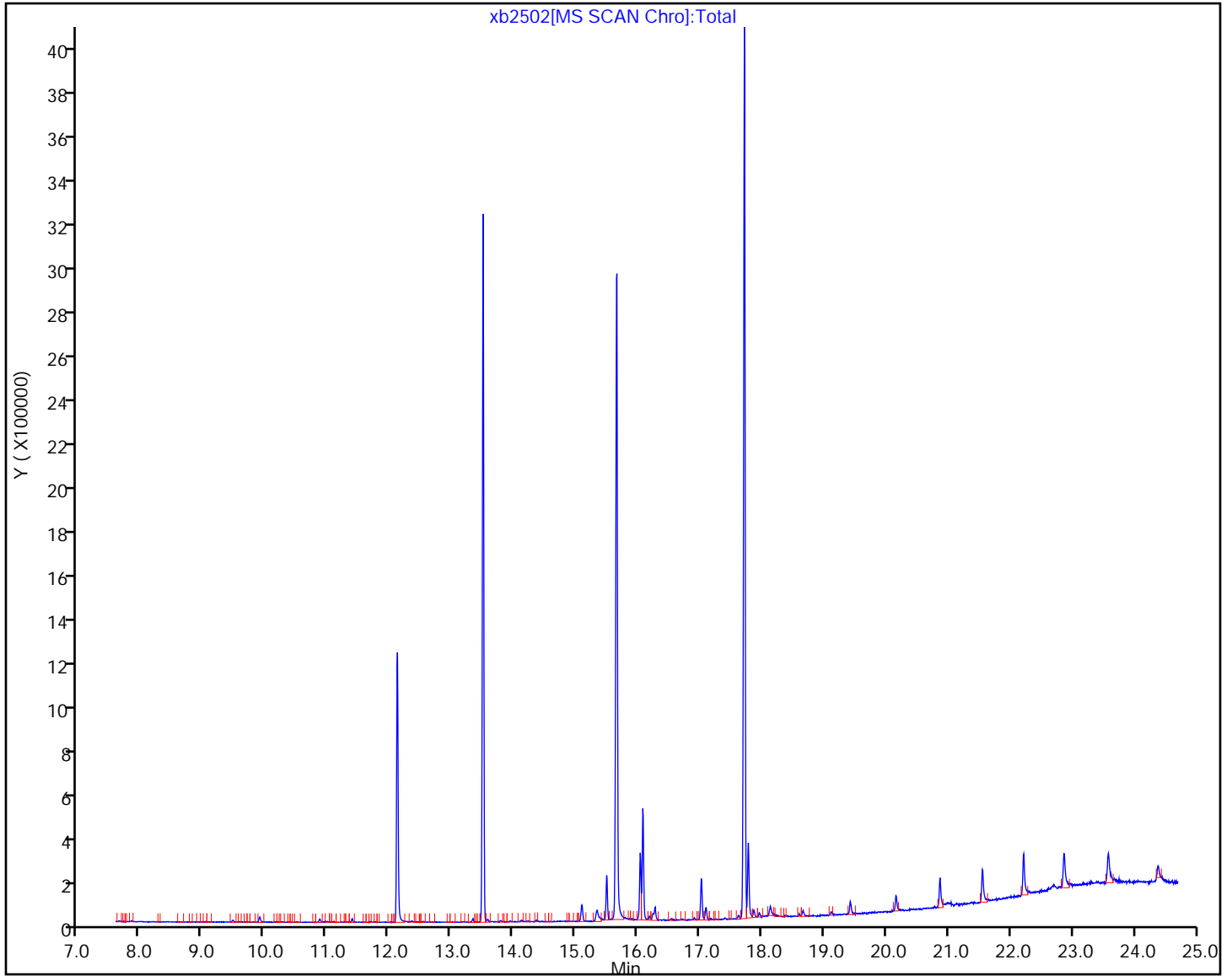
Injection Vol: 2.0 ul

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
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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
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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

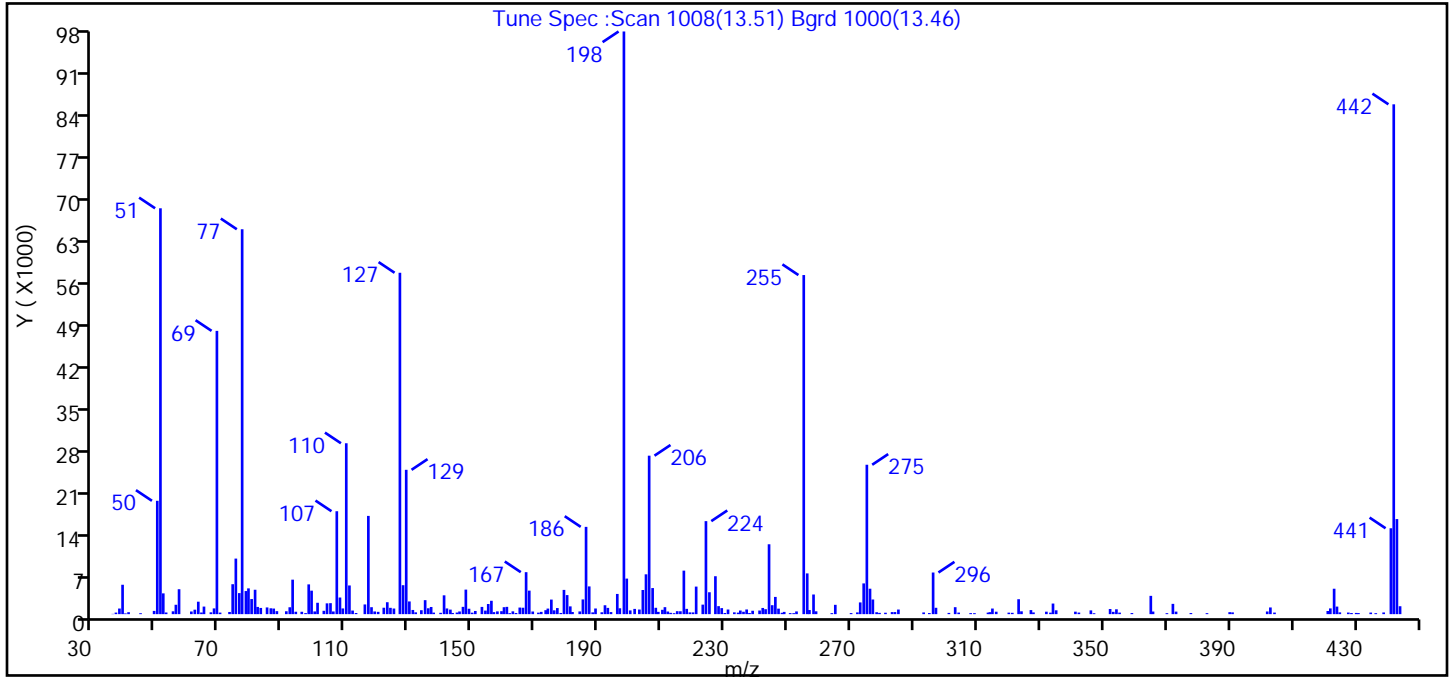
Amount Added: 1.00

Units: mL

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.rsl\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

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		

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

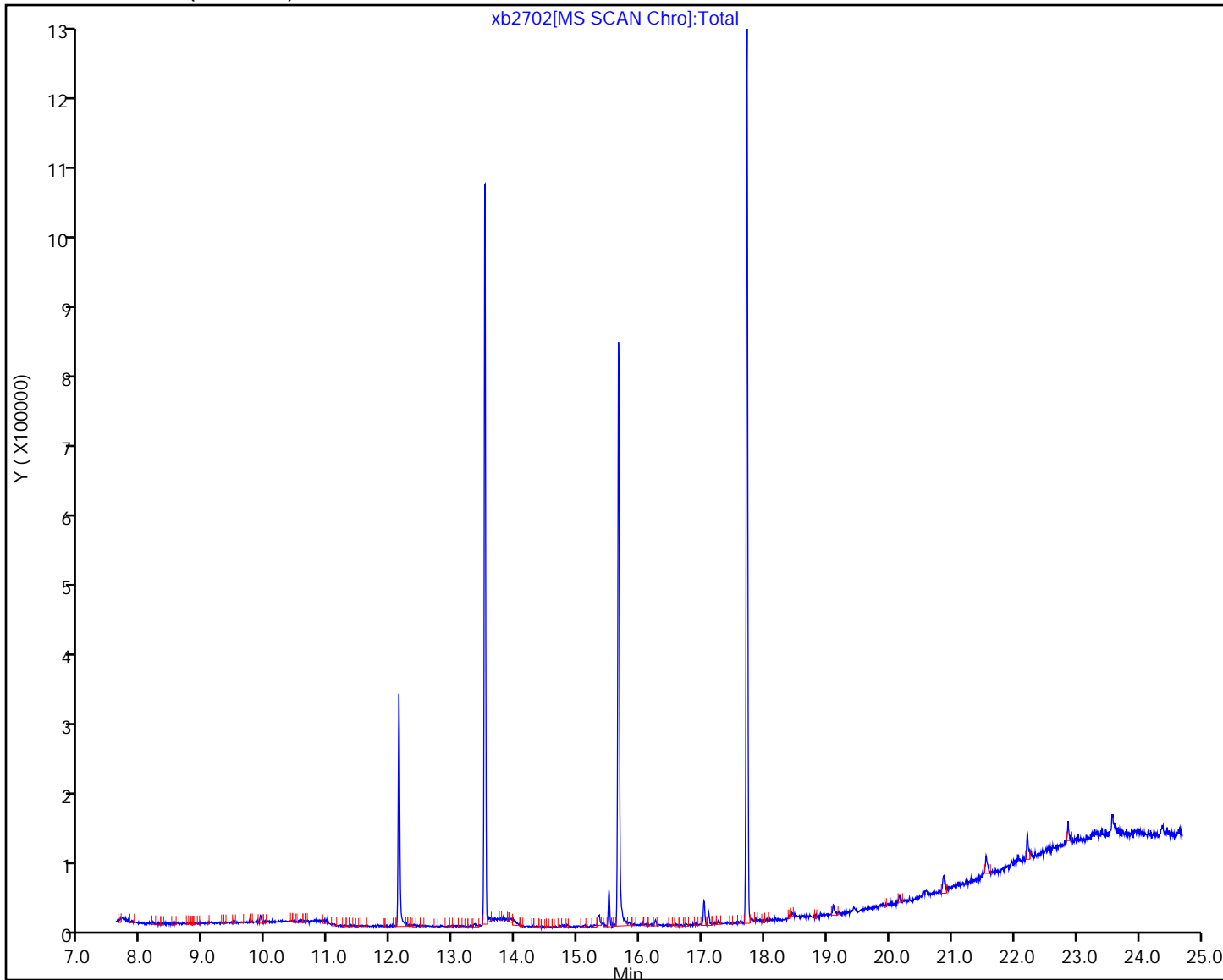
Injection Vol: 2.0 ul

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									
394	17.174	17.174	0.0	1	3280	NC			a
396	17.174	17.174	0.0		0		1.0- 1.0		a
32 DCB Decachlorobiphenyl									
498	21.768	21.768	0.0	1	4285	0			a
500	21.768	21.768	0.0		0		0.9- 1.3		a
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

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

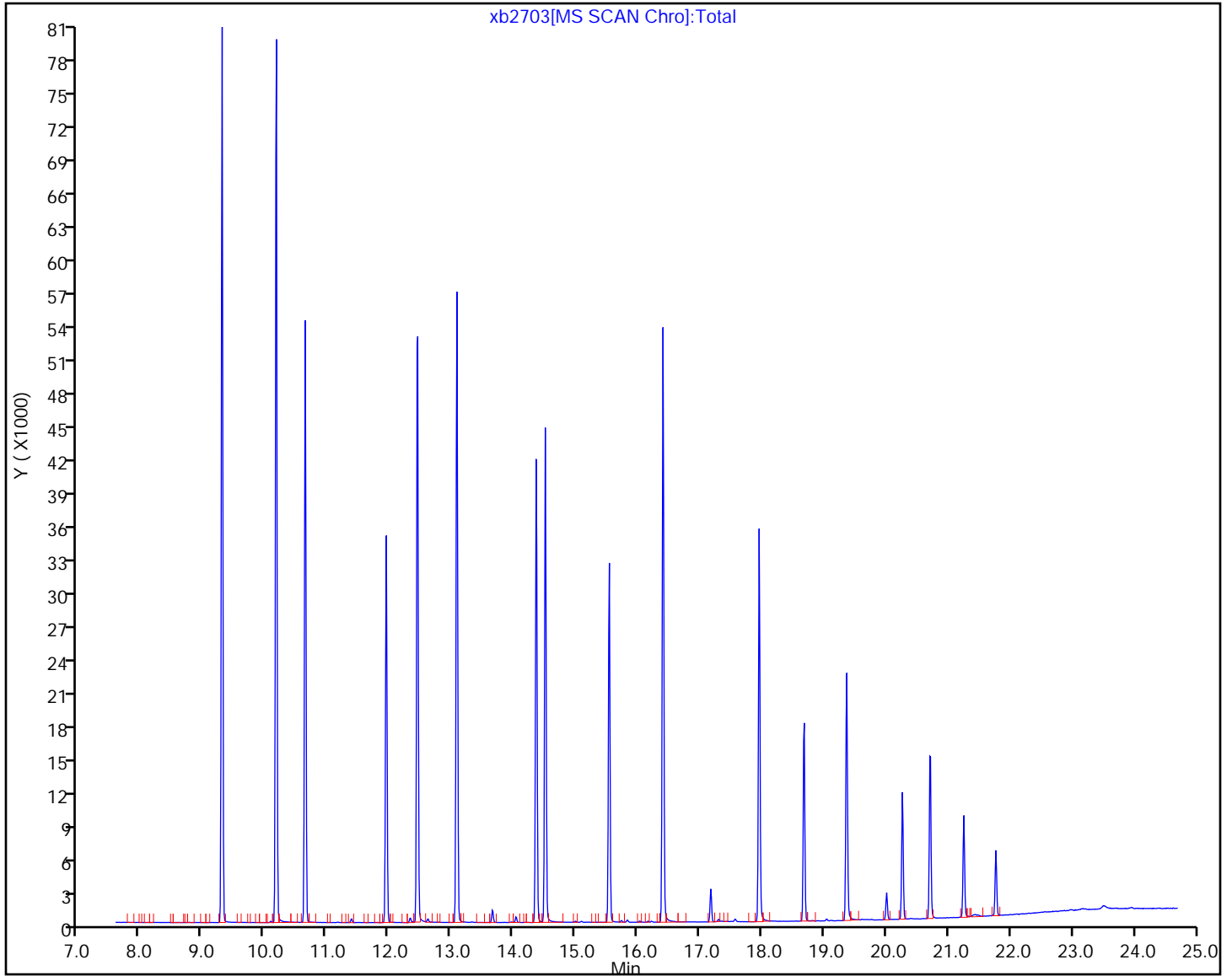
Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 680\CMSX

Limit Group: 680

Column: HP-5MS (0.25 mm)



APPENDIX D - Laboratory Reports
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

WorkSheet Quantitation Report

Sig	RT	Lower RT	Upper RT	Q	Response	On-Col Amt ug/ml	Ratio Range	Ratio	Flags
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* 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

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

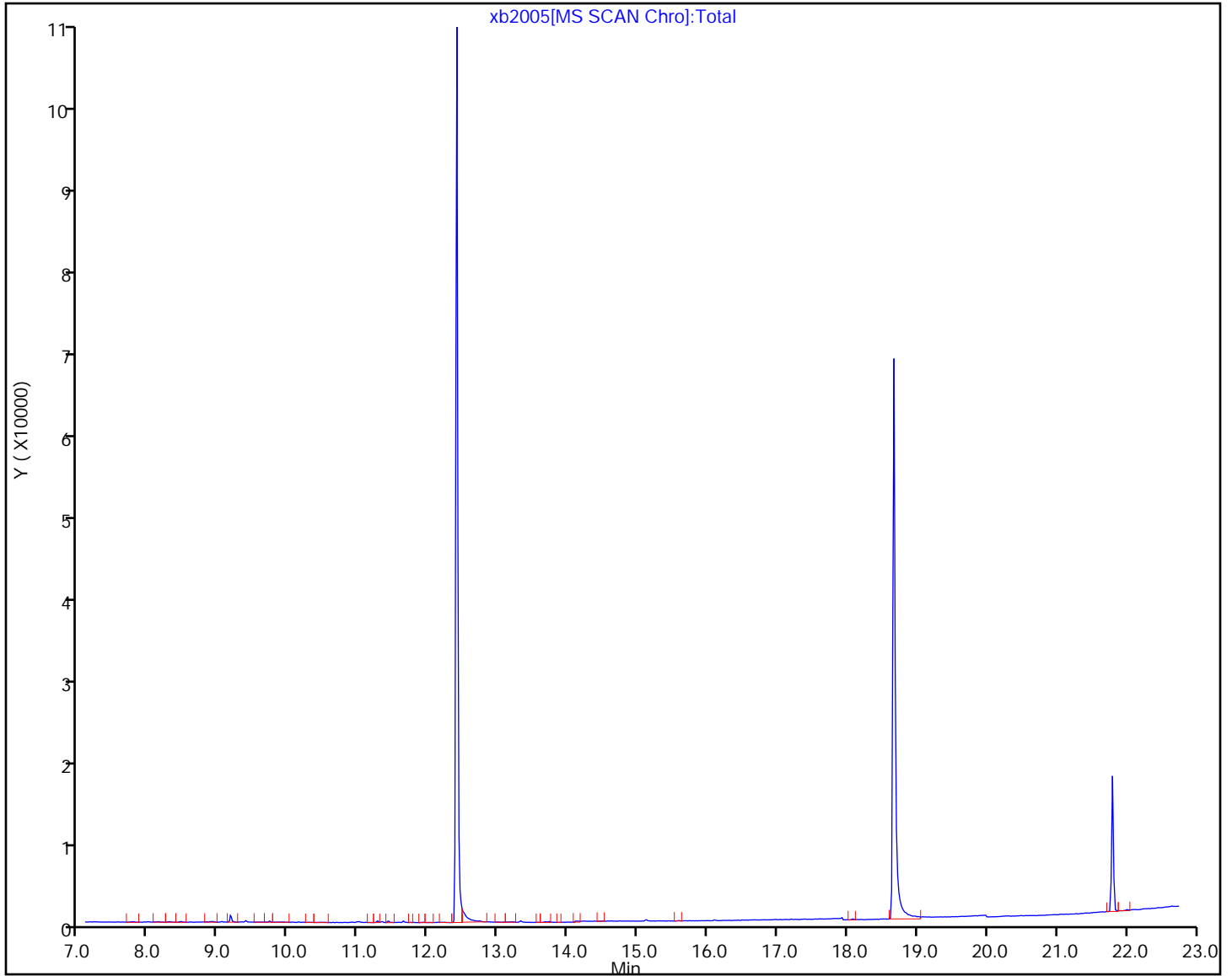
Injection Vol: 2.0 ul

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

APPENDIX D - Laboratory Reports
FORM I
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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

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

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

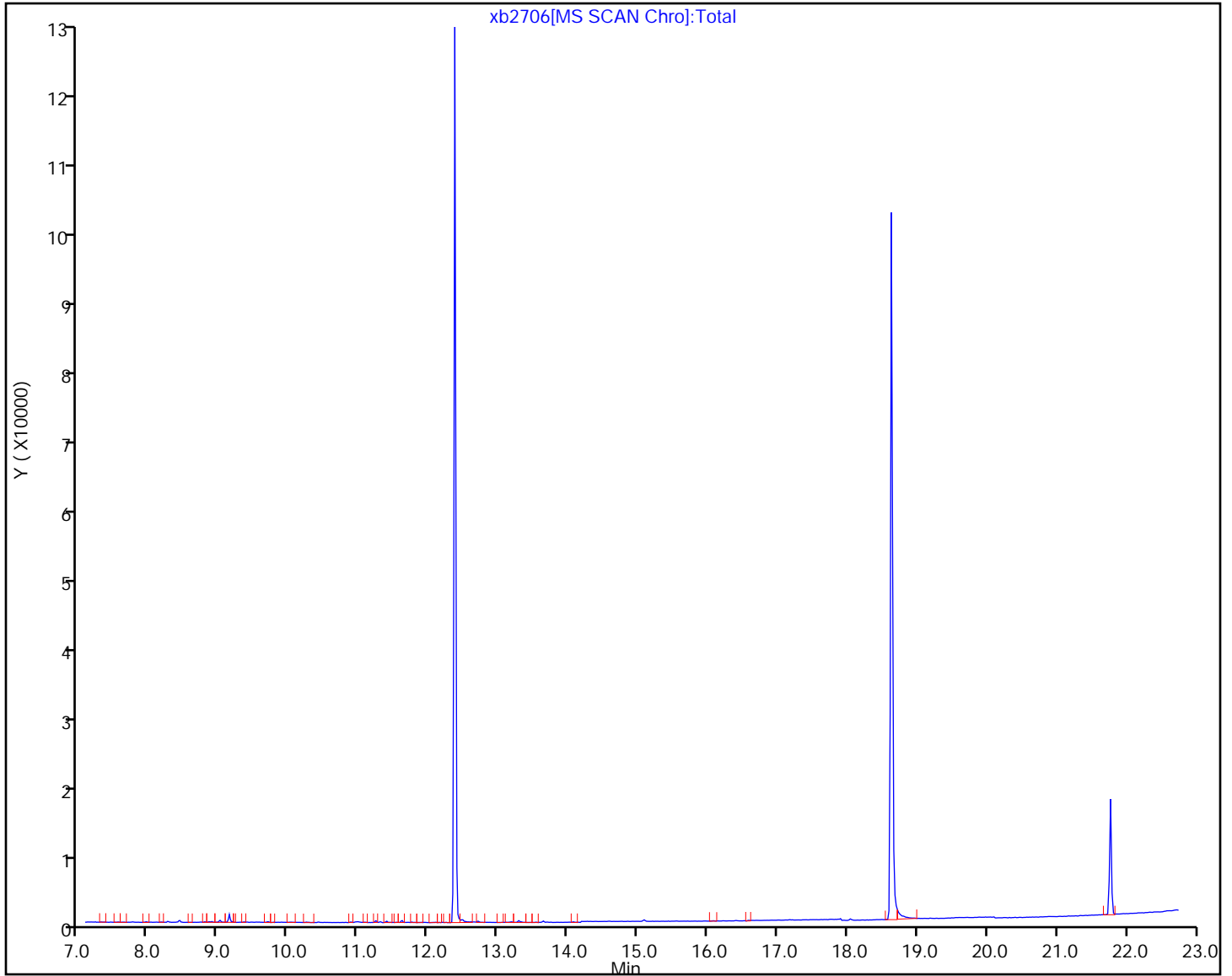
Injection Vol: 2.0 ul

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

APPENDIX D - Laboratory Reports
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									
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
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

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

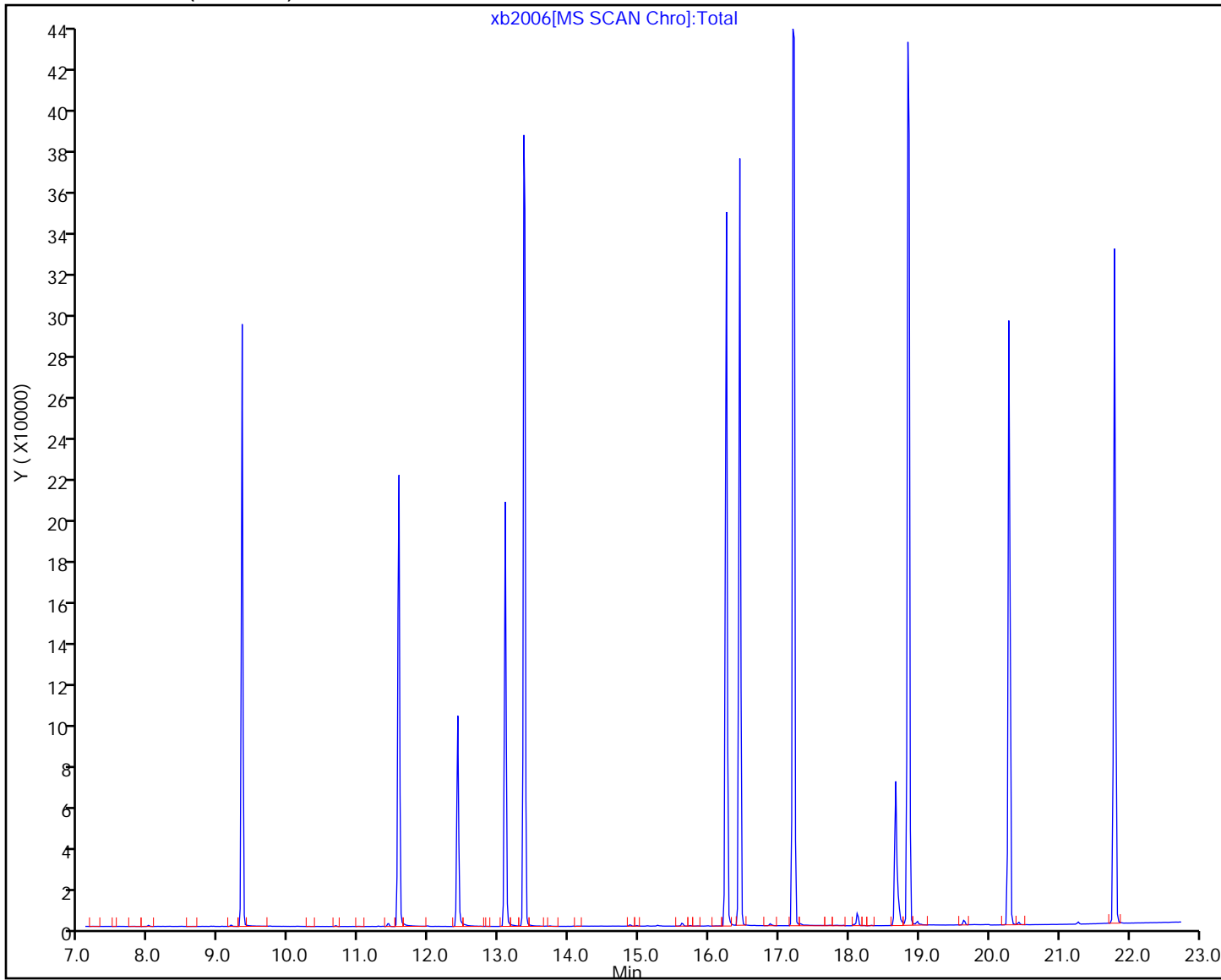
Injection Vol: 2.0 ul

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

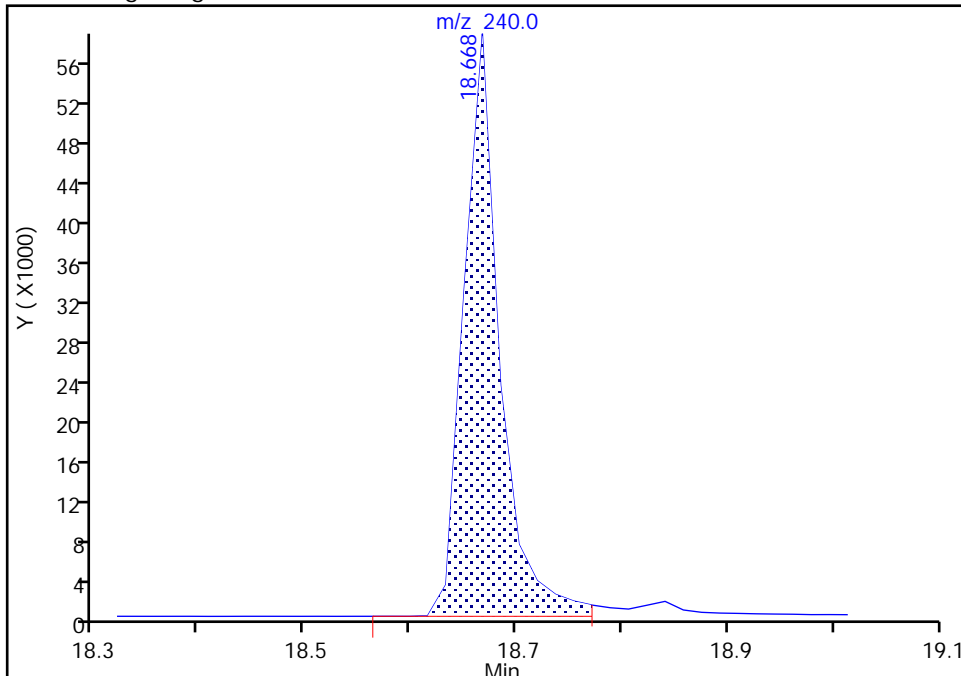
Data File: \\chromna\Savannah\ChromData\CMSX\20190220-53931.b\xb2006.D
Injection Date: 20-Feb-2019 19:13:30 Instrument ID: CMSX
Lims ID: LCS 680-558724/19-A
Client ID:
Operator ID: ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

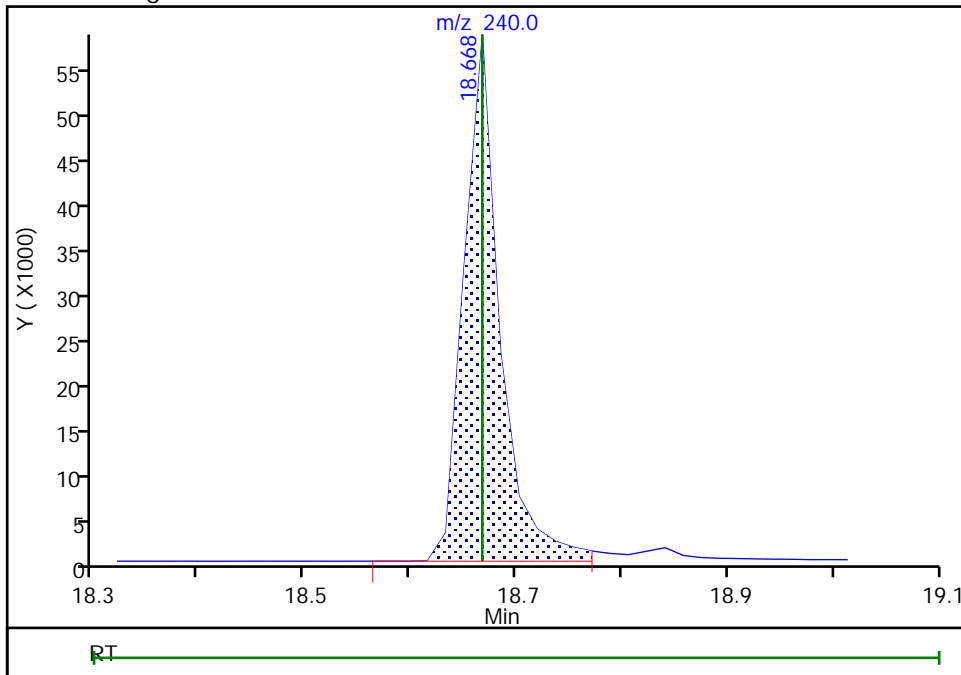
RT: 18.67
Area: 137759
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.67
Area: 137759
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



APPENDIX D - Laboratory Reports
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									
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
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

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

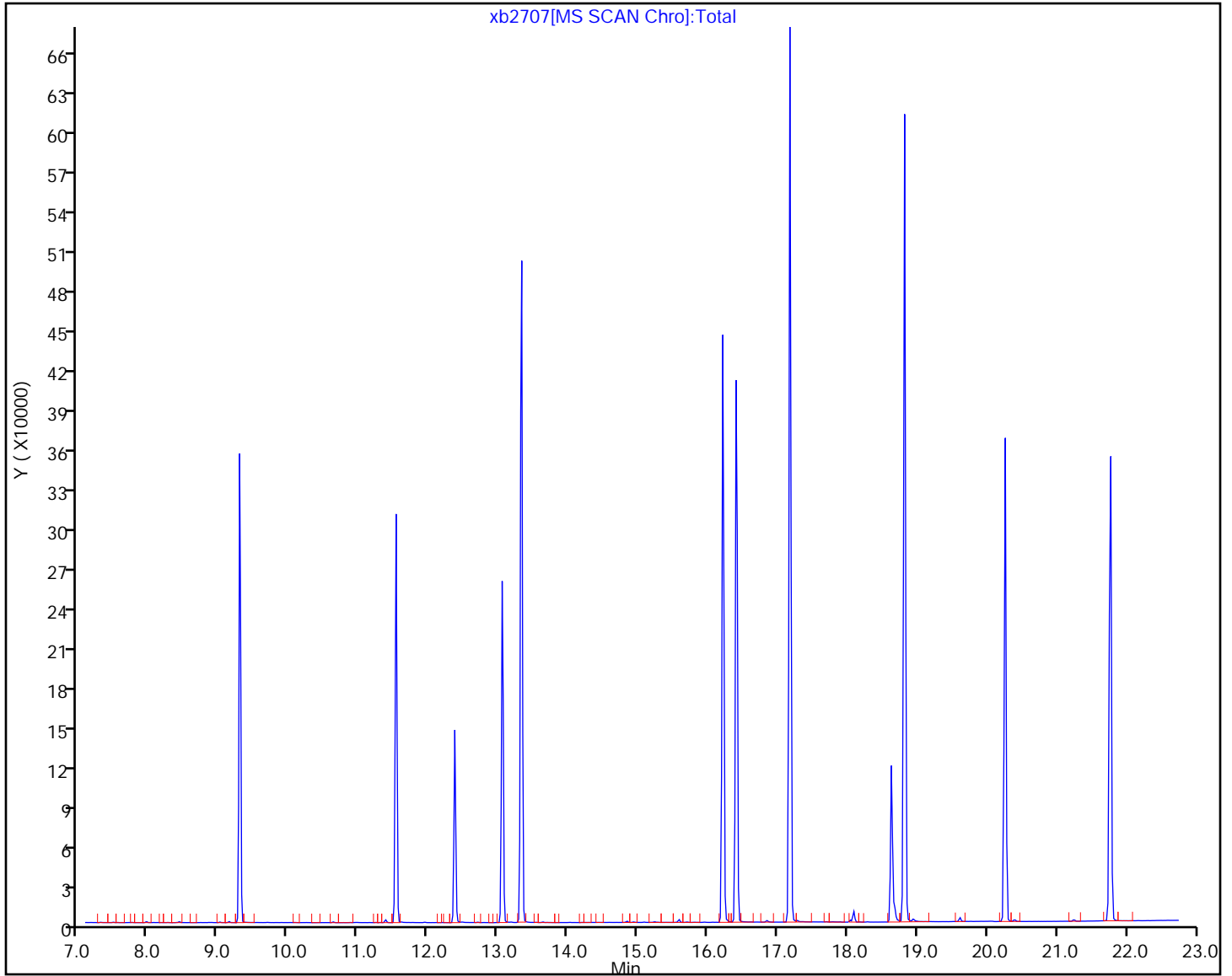
Injection Vol: 2.0 ul

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

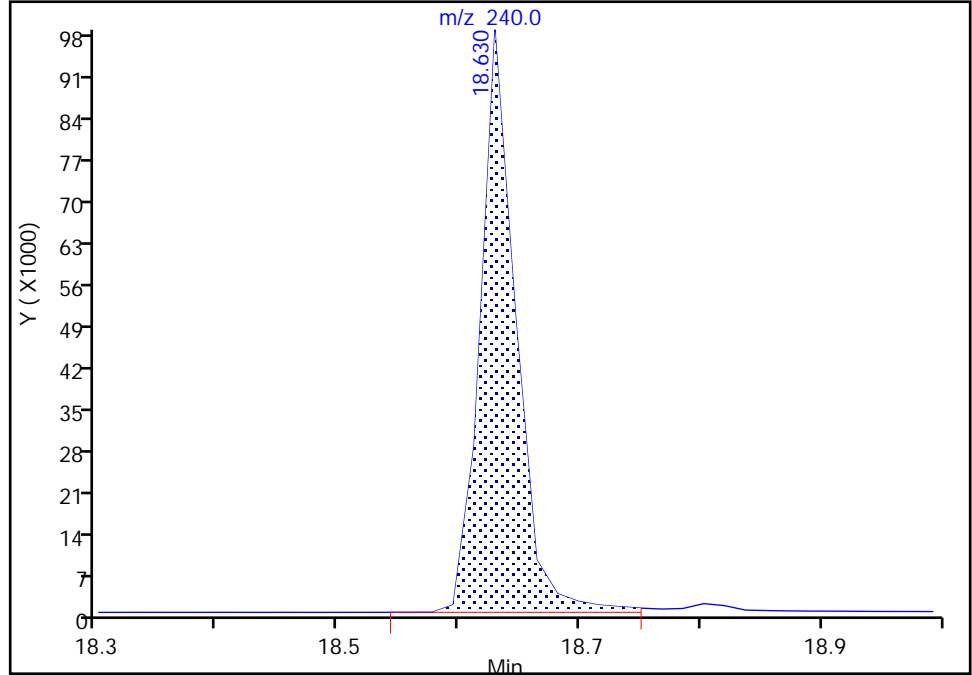
TestAmerica Savannah

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

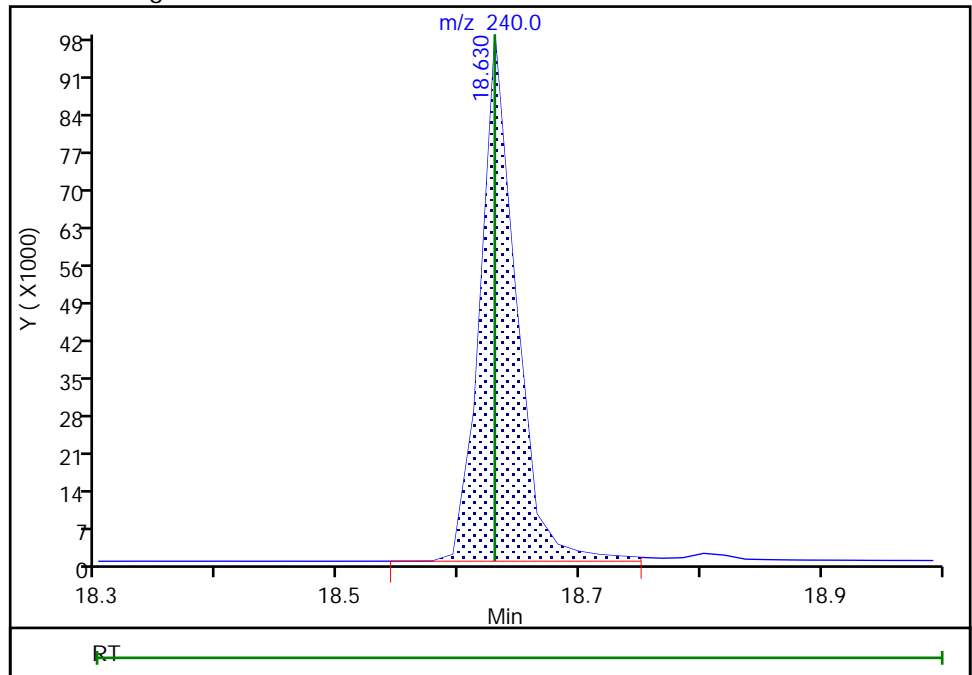
RT: 18.63
Area: 201227
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.63
Area: 201227
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



APPENDIX D - Laboratory Reports
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									
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
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									
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	a
32 DCB Decachlorobiphenyl									
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	a
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

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

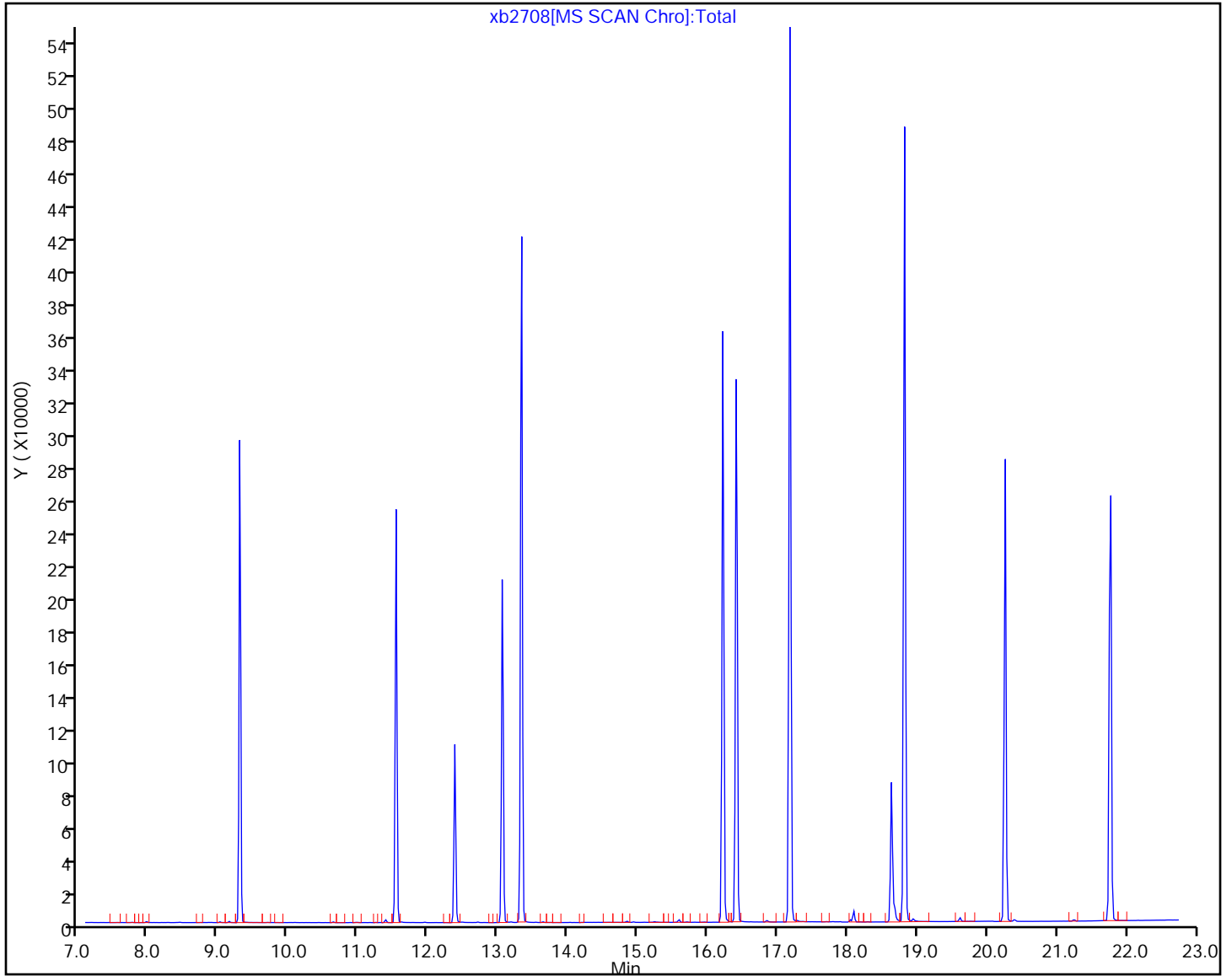
Injection Vol: 2.0 ul

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

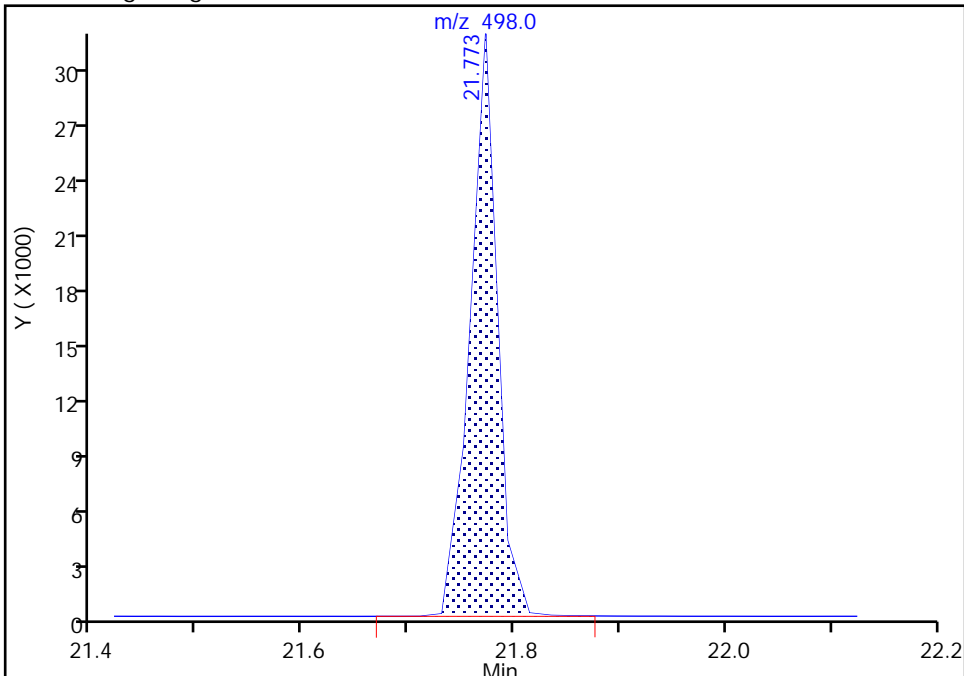
Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2708.D
Injection Date: 27-Feb-2019 17:18:30 Instrument ID: CMSX
Lims ID: LCSD 680-559624/5-A
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

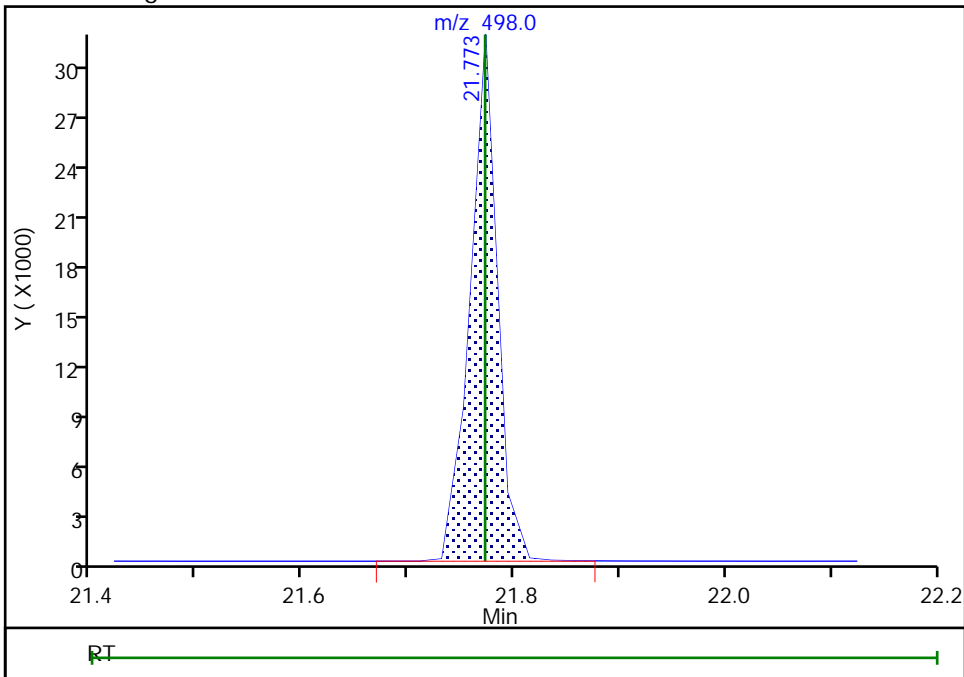
RT: 21.77
Area: 55738
Amount: 9.095527
Amount Units: ug/ml

Processing Integration Results



RT: 21.77
Area: 55738
Amount: 9.095527
Amount Units: ug/ml

Manual Integration Results



TestAmerica Savannah

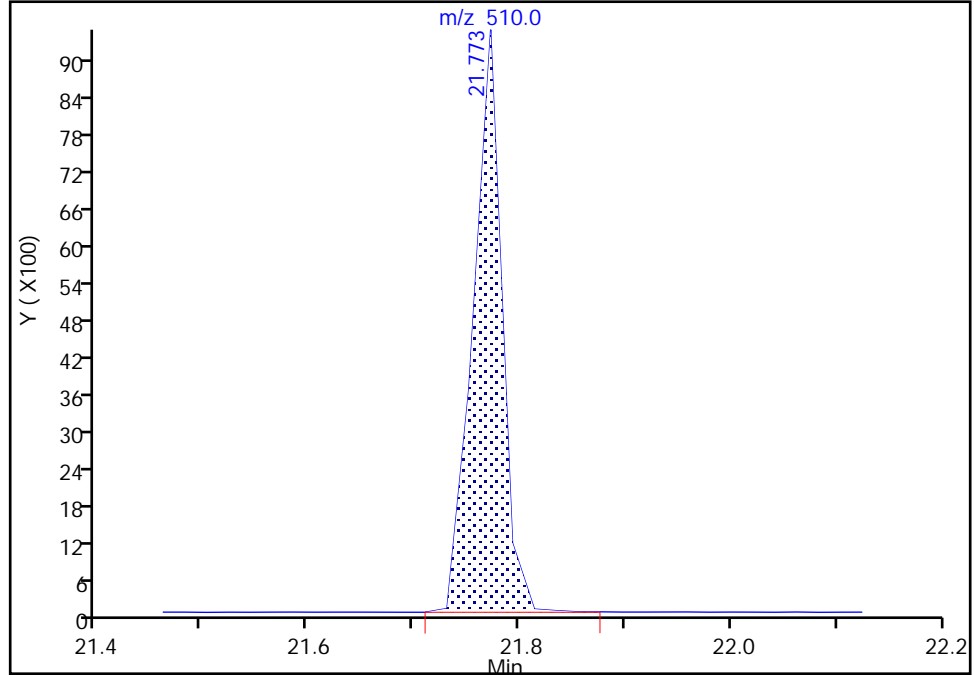
Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2708.D
Injection Date: 27-Feb-2019 17:18:30 Instrument ID: CMSX
Lims ID: LCSD 680-559624/5-A
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

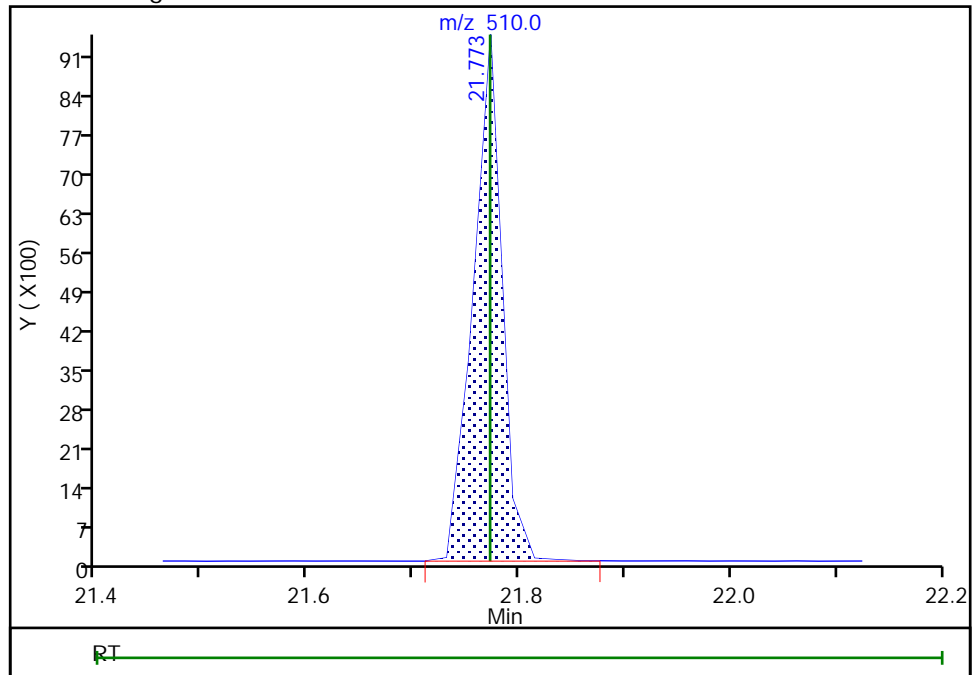
RT: 21.77
Area: 17740
Amount: 2.133785
Amount Units: ug/ml

Processing Integration Results



RT: 21.77
Area: 17740
Amount: 2.133785
Amount Units: ug/ml

Manual Integration Results



TestAmerica Savannah

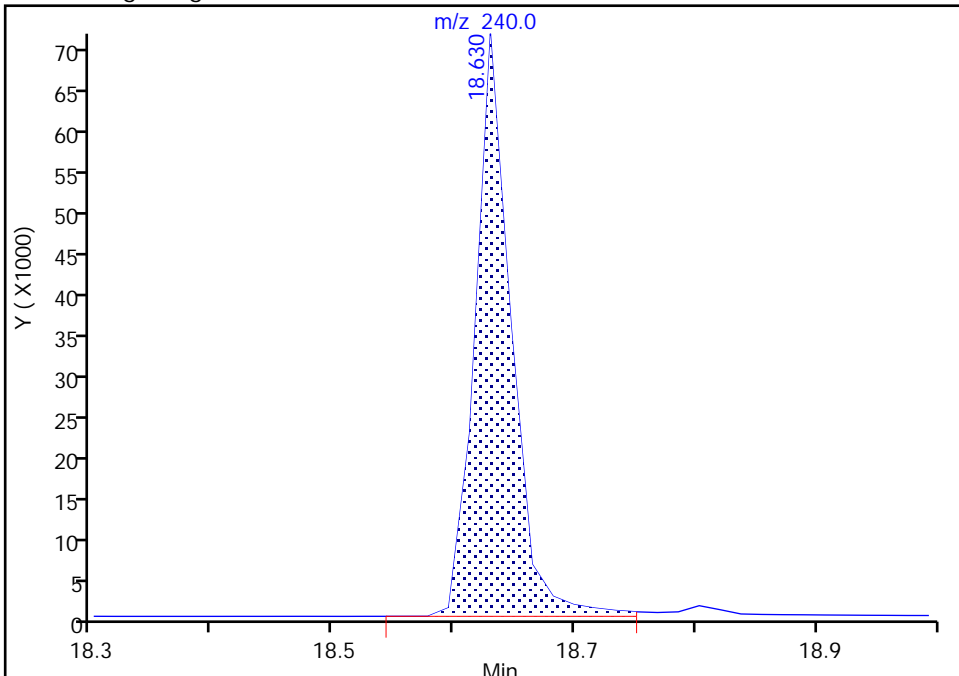
Data File: \\chromna\Savannah\ChromData\CMSX\20190227-54053.b\xb2708.D
Injection Date: 27-Feb-2019 17:18:30 Instrument ID: CMSX
Lims ID: LCSD 680-559624/5-A
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

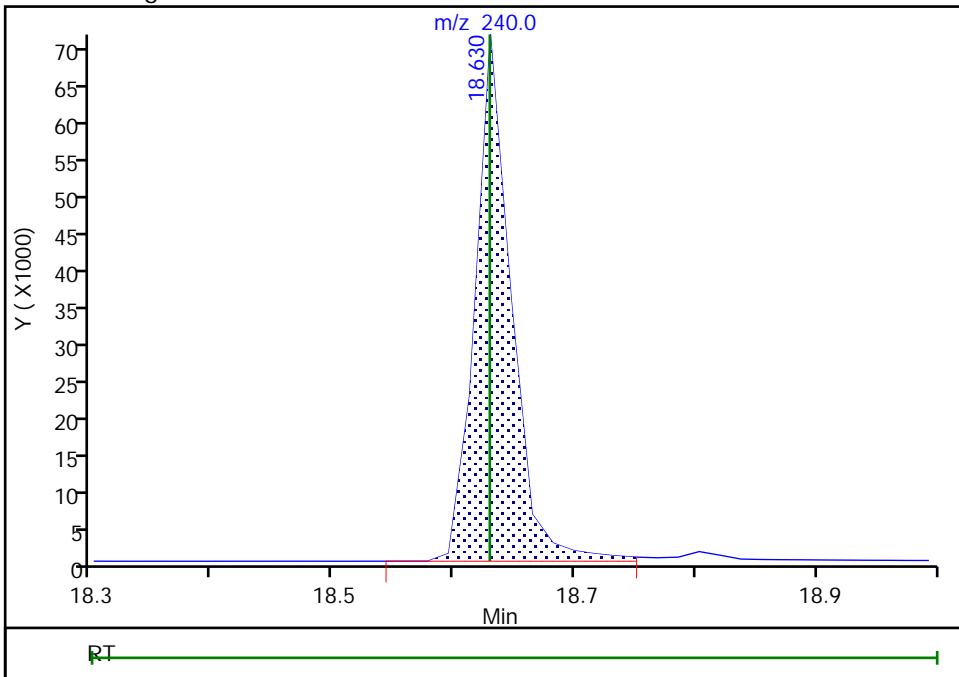
RT: 18.63
Area: 147833
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.63
Area: 147833
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 28-Feb-2019 08:58:36
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

APPENDIX D - Laboratory Reports
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\2007.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\20190108.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									
240	18.668	18.668	0.0	100	196762	0.7500			s
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:

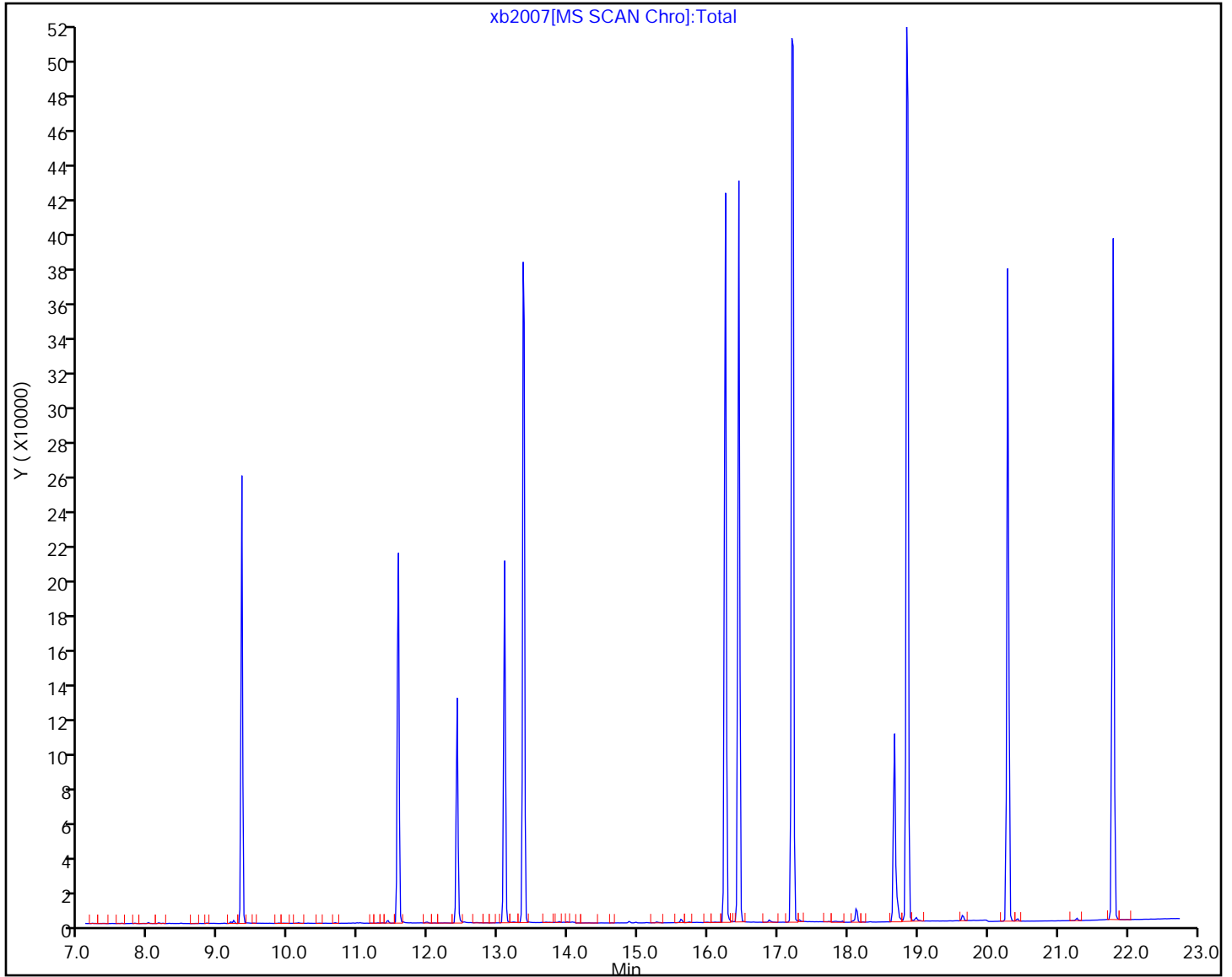
SM-680istd_00045

Amount Added: 30.00

Units: uL

Run Reagent

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

APPENDIX D - Laboratory Reports
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									
240	18.669	18.668	0.001	100	193533	0.7500			S
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

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

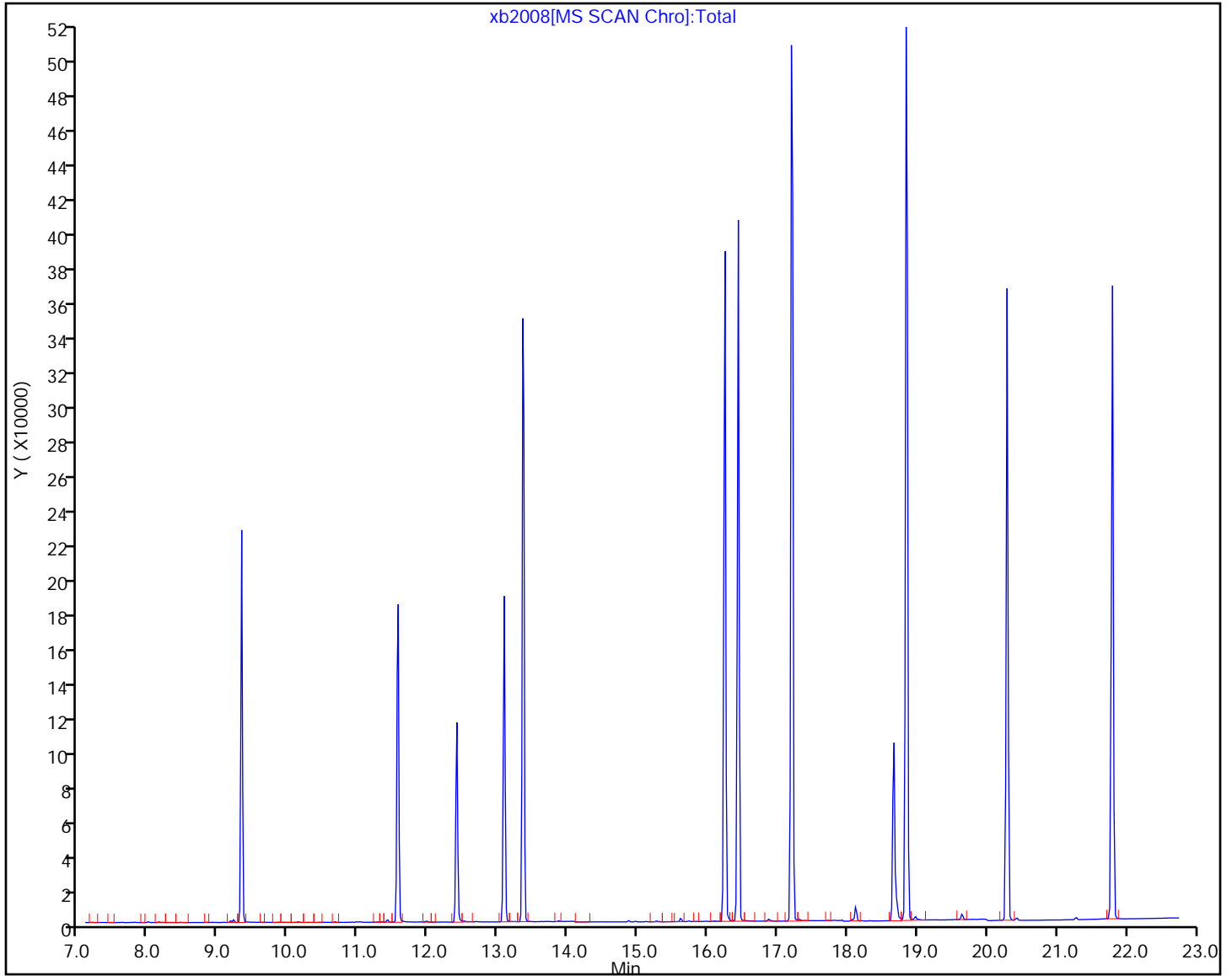
Injection Vol: 2.0 ul

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

APPENDIX D - Laboratory Reports
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)

APPENDIX D - Laboratory Reports
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)

APPENDIX D - Laboratory Reports
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)

APPENDIX D - Laboratory Reports
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)

APPENDIX D - Laboratory Reports
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)

APPENDIX D - Laboratory Reports
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	ResidualChloChe ck	ReceivedpH
680-164605-A-1	MRC-SW5A1-S-0214 19-T	680, 680	T	1534.6 g	508.6 g	1026 mL	1 mL	N	7 SU
680-164605-A-2	MRC-SW5A2-S-0214 19-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-0214 19-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-02141 9-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-02141 9-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-02141 9-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-02141 9-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-02141 9-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-0214 19-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-02141 9-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-02141 9-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.

APPENDIX D - Laboratory Reports
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	680wkSURRE-NEW 00034	680wkSURRE-NEW 00035			
680-164605-A-1	MRC-SW5A1-S-0214 19-T	680, 680	T		1 mL				
680-164605-A-2	MRC-SW5A2-S-0214 19-T	680, 680	T		1 mL				
680-164605-A-3	MRC-SW13A-S-0214 19-T	680, 680	T		1 mL				
680-164605-A-4	MRC-SW8B-S-02141 9-T	680, 680	T		1 mL				
680-164605-B-5	MRC-SW8A-S-02141 9-T	680, 680	T		1 mL				
680-164605-B-6	MRC-SW9A-S-02141 9-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-02141 9-T	680, 680	T			1 mL			
680-164605-A-10	MRC-SW7A-S-02141 9-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-0214 19-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-02141 9-T	680, 680	T	1 mL		1 mL			
680-164605-A-9 MSD	MRC-SW7A-S-02141 9-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.

APPENDIX D - Laboratory Reports
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.

APPENDIX D - Laboratory Reports
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	ResidualChloChe ck	ReceivedpH
680-164605-A-6	MRC-SW9A-S-02141 9-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
LCS 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-02141 9-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				
LCS 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.

APPENDIX D - Laboratory Reports
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

Chain of Custody Record

Client Information Mr. Naoum Tavantzis AECOM		Lab PM: Barnett, Eddie T E-Mail: eddie.barnett@testamericainc.com		Carrier Tracking No(s):		COC No:			
Address: 1600 Perimeter Park Drive Suite 400 City: Morrisville State, Zip: NC, 27560 Phone: 443-737-1299 (Tel) Email: Naoum.Tavantzis@aecom.com		Due Date Requested: By 2-22-19 TAT Requested (days): Rush 5 day		Analysis Requested:		Job #: 60555202 Page: 1 of 1			
Project Name: MRC Surface Water Sampling Site: Oak Head Cove		PO #: Purchase Order Requested WO #:		Barcode: 680-164605 Chain of Custody		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 X - other (specify) Other:			
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, BT=issue, 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:
MRC-SW5A1-S-021419-T	2-14-19	1107	G	SW	N	N	2		Also email results to: ravi.donne@acocom.com
MRC-SW5A2-S-021419-T	2-14-19	1121	G	SW	N	N	2		holly.brown@acocom.com
MRC-SW13A-S-021419-T	2-14-19	1144	G	SW	N	N	2		zachary.neighe@acocom.com
MRC-SW15A-S-021419-T	2-14-19	1214	G	SW	N	N	2		Total of 4
MRC-SW18A-S-021419-T	2-14-19	1232	G	SW	N	N	2		Coolest being shipped
MRC-SW88-S-021419-T	2-14-19	1254	G	SW	N	N	2		

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological

Deliverable Requested: I, II, III, IV, Other (specify) **EAJIS**

Empty Kit Relinquished by: _____ Date: _____

Relinquished by: Holly Brown Date/Time: 2-14-19 1830 Company: AECOM

Relinquished by: _____ Date/Time: _____ Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: Yes No Δ No

Custody Seal No.: 33(CF)3.52

Received by: _____ Date/Time: 02-15-19 0730 Company: Saw

Received by: _____ Date/Time: _____ Company: _____

Received by: _____ Date/Time: _____ Company: _____

Method of Shipment: _____

Special Instructions/OC Requirements: _____

Return To Client Disposal By Lab Archive For _____ Months

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Chain of Custody Record

Client Information Client Contact: Mr. Naoum Tavantzis 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: Park Head Cove		Lab PM: Barnett, Eddie T E-Mail: eddie.barnett@testamericainc.com		Carrier Tracking No(s): Job #: 60555202	
Due Date Requested: TAT Requested (days): Rush 5-day PO #: Purchase Order Requested WO #: Project #: 68021277 SOW #: Preservation Code: Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=air)		Analysis Requested		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Isop J - DI Water K - EDTA L - EDA Other: 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)	
Sample Identification FB-SW-021419-A MRC-SW8A-S-021419-T MRC-SW9A-S-021419-T MRC-SW33-021419-T MRC-SW40-021419-T		Sample Date 2/14/19 2/14/19 2/14/19 2/14/19		Sample Time 1232 1314 1730 1600	
Sample Type (C=Comp, G=grab) G G G G		Field Filtered Sample (Yes or No) N N N N		Perform MS/MSD (Yes or No) N N N N	
Sample Date 2/14/19 2/14/19 2/14/19 2/14/19		Total Number of Containers 2 2 2 2		Special Instructions/Note: total of 4 cobs being shipped Broil results to: Holly.Brown@aecom.com Pam.Davara@aecom.com zachary.neigh@aecom.com	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV Other (specify) FOR IS					
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:					
Empty Kit Relinquished by: Holly Brown / [Signature] Relinquished by: Relinquished by:		Date: 2-14-19 / 1830 Date/Time: Date/Time: Date/Time:		Method of Shipment: Received by: [Signature] Received by: Received by: Cooler Temperature(s) °C and Other Remarks: 3.7 (CF) 3.9C	

Chain of Custody Record

Client Information Client Contact: Mr. Naoum Tavantzis Company: AECOM Address: 1600 Perimeter Park Drive Suite 400 Morrisville, NC, 27560 Phone: 443-737-1299(Tel) Email: Naoum.Tavantzis@aecom.com Project Name: MRC Surface Water Sampling Site: Port Head Cave		Lab PM: Barnett, Eddie T E-Mail: eddie.barnett@testamericainc.com Phone: 361-674-3799 Due Date Requested: By 2-22-19 TAT Requested (days): Rush 5-day PO #: Purchase Order Requested WO #: Project #: 68021277 SSOV#:		Sampler: Zach Neigh Carrier Tracking No(s): Job #: 61555202 Page: 1 of 1 COC No:	
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:		Total Number of containers Special Instructions/Note: Also e-mail results to ravi.davara@aecom.com holes - brown e action com zachary. neigh e action com total of 4 coolers being shipped		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III (V) Other (specify) EQMS Empty Kit Relinquished by:		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> N Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> N 680 - Routine 680 Sublist		Sample Identification Sample Date Sample Time Sample Type (C=Comp, G=grab) Preservation Code Matrix (W=water, S=solid, O=wastewater, A=air) 2-14-19 1342 G SW N/A 2-14-19 1344 G SW N/A 2-14-19 1342 G SW N/A 2-14-19 1342 G SW N/A 2-14-19 1630 G SW N/A	
Relinquished by: Holly Davis Relinquished by: Relinquished by:		Date: 2-14-19 1830 Date/Time: Date/Time: Date/Time:		Received by: AECOM Received by: Received by:	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.: 3.6 (CF) 3.82		Method of Shipment: Date/Time: 02-15-19 0730 Company: SAU	

Chain of Custody Record

Client Information Mr. Naoum Tavantzis AECOM Address: 1600 Perimeter Park Drive Suite 400 Morrisville State, Zip: NC, 27560 Phone: 443-737-1299(Tel) Email: Naoum.Tavantzis@aecom.com Project Name: MRC Surface Water Sampling Site: Dark Head Cove		Sampler: Zach Neigh Phone: 301-674-3199 Lab PM: Barnett, Eddie T E-Mail: eddie.barnett@testamerica.com		Carrier Tracking No(s): Job #: 60555202 Preservation Codes: A - HCL B - NaOH C - Zn-Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - ICS J - DI Water K - EDTA L - EDA Other: 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 X - EDTA Z - other (specify)	
Due Date Requested: Due by 2-22-19 TAT Requested (days): Rush 5-day PO #: Purchase Order Requested WO #: Project #: 68021277 SSOV#: 		Analysis Requested Total Number of Containers: 4 Special Instructions/Note: coolers being shipped		COC No: Page: 1 of 1	
Sample Identification MRC-SWISA-S-021419-T FB-tube1-021419-T EB-tube2-021419-T MRC-SW32-021419-T FB-SW-021419-T		Sample Date 2-14-19 2-14-19 2-14-19 2-14-19 2-14-19		Sample Time 1214 1435 1450 1715 1430	
Sample Type (C=Comp, G=grab) G M/A N/A G G		Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=air) SW DI DI SW DI		Preservation Code: N N N N N	
Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> N Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> N 680 - Routine 680 Sublist		Analysis Requested Total Number of Containers: 4 Special Instructions/Note: equipment blank equipment blank field blank		Email results to: Holly.Brown@aecom.com Paul.Dopera@aecom.com Zachary.Neigh@aecom.com	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Special Instructions/OC Requirements:	
Empty Kit Relinquished by:		Date:		Method of Shipment:	
Relinquished by: Holly Brown		Date/Time: 2-14-19 / 1830		Date/Time: 02-15-19 0730	
Relinquished by:		Date/Time:		Date/Time:	
Relinquished by:		Date/Time:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) and Other Remarks: 3.3/13.5	

APPENDIX D - Laboratory Reports
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
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 Rochester, NY 14623
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 F : +1 585 288 8475
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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
Project: Lockheed Martin Middle River Comparison Study SW
Sample Matrix: Water

Service Request: R1901380
Date Received: 02/15/2019

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:

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**

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
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

5599

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 MRL SW		Project Number 60555202		ANALYSIS REQUESTED (Include Method Number and Container Preservative)																																															
Project Manager Ravi Damara		Report CC		PRESERVATIVE																																															
Company/Address AECOM		Sampler's Signature <i>[Signature]</i>		Sampler's Printed Name Zach Neigh		<table border="1" style="width: 100%; text-align: center; font-size: small;"> <tr> <td>NUMBER OF CONTAINERS</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td> <td>GC/MS VOCs • 8200 • 821 • CLP</td> <td>GC/MS SVOs • 8270 • 825</td> <td>GC VOCs • 8021 • 801/802</td> <td>PESTICIDES • 8081 • 808</td> <td>PCBs • 8082 • 808</td> <td>METALS, TOTAL (List in comments below)</td> <td>METALS, DISSOLVED (List in comments below)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>												NUMBER OF CONTAINERS																		GC/MS VOCs • 8200 • 821 • CLP	GC/MS SVOs • 8270 • 825	GC VOCs • 8021 • 801/802	PESTICIDES • 8081 • 808	PCBs • 8082 • 808	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)									
NUMBER OF CONTAINERS																																																			
	GC/MS VOCs • 8200 • 821 • CLP																	GC/MS SVOs • 8270 • 825	GC VOCs • 8021 • 801/802	PESTICIDES • 8081 • 808	PCBs • 8082 • 808	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)																												
12420 Milestone Center Drive, Suite 150 Germantown, MD 20876																																																			
Phone # 301-674-3199		Email ravi.damara@aecom.com																																																	
CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE		TIME	MATRIX	REMARKS/ ALTERNATE DESCRIPTION																																													
MRL-SW7A-5-021419-A-DUP						<div style="float: right; text-align: right; font-size: x-small;"> Preservative Key <input checked="" type="radio"/> NONE 1. HCL 2. HNO₃ 3. H₂SO₄ 4. NaOH 5. Zn. Acetate 6. MeOH 7. NaHSO₄ 8. Other _____ </div>																																													
MRL-SW7A-5-021419-A-DUP		2/14/19	1334	SW	2																																														
MRL-SW8A-5-021419-A		2/14/19	1230	SW	2																																														
FB-SW-021419-A		2/14/19	1425	SW	2																																														

SPECIAL INSTRUCTIONS/COMMENTS Metals Please also email results to: naoum.tavantzis@aecom.com holly.brown@aecom.com zachary.neigh@aecom.com See QAPP <input type="checkbox"/>				TURNAROUND REQUIREMENTS <input checked="" type="checkbox"/> RUSH (SURCHARGES APPLY) ___ 1 day ___ 2 day ___ 3 day ___ 4 day <input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> IV. Data Validation Report with Raw Data <div style="text-align: center; margin-top: 10px;"> Equis Edata <input checked="" type="checkbox"/> Yes ___ No </div>				INVOICE INFORMATION PO # _____ BILL TO: _____ _____			
STATE WHERE SAMPLES WERE COLLECTED															
RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY									
Signature <i>[Signature]</i>		Signature <i>[Signature]</i>		Signature		Signature									
Printed Name Holly Brown		Printed Name Gregory Emerison		Printed Name		Printed Name									
Firm AECOM		Firm ALS		Firm		Firm									
Date/Time 2-14-19 1830		Date/Time 2-15-19 07:45		Date/Time		Date/Time									

R1901380

AECOM

5

Lockheed Martin Middle River Comparison Study 5



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		ANALYSIS REQUESTED (Include Method Number and Container Preservative)																														
Project Manager Ravi Damera		Report CC		PRESERVATIVE																														
Company/Address AECOM				NUMBER OF CONTAINERS	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;">GC/MS VOCs • 8280 • 824 • CLP</td> <td colspan="2" style="text-align: center;">GC/MS SVOCs • 8270 • 825</td> <td colspan="2" style="text-align: center;">GC VOCs • 8021 • 801/802</td> <td colspan="2" style="text-align: center;">PESTICIDES • 8081 • 808</td> <td colspan="2" style="text-align: center;">PCBs • 8080 • 808</td> <td colspan="2" style="text-align: center;">METALS, TOTAL (List in comments below)</td> <td colspan="2" style="text-align: center;">METALS, DISSOLVED (List in comments below)</td> <td colspan="2" style="text-align: center;">680 Hexyls</td> </tr> </table>														GC/MS VOCs • 8280 • 824 • CLP		GC/MS SVOCs • 8270 • 825		GC VOCs • 8021 • 801/802		PESTICIDES • 8081 • 808		PCBs • 8080 • 808		METALS, TOTAL (List in comments below)		METALS, DISSOLVED (List in comments below)		680 Hexyls	
GC/MS VOCs • 8280 • 824 • CLP		GC/MS SVOCs • 8270 • 825			GC VOCs • 8021 • 801/802		PESTICIDES • 8081 • 808		PCBs • 8080 • 808		METALS, TOTAL (List in comments below)		METALS, DISSOLVED (List in comments below)		680 Hexyls																			
12420 Milestone Center Drive, Suite 150 Germantown, MD 20876					<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;">PRESERVATIVE KEY</td> </tr> <tr> <td colspan="2"> 0. NONE 1. HCL 2. HNO₃ 3. H₂SO₄ 4. NaOH 5. Zn. Acetate 6. MeOH 7. NaHSO₄ 8. Other _____ </td> </tr> </table>														PRESERVATIVE KEY		0. NONE 1. HCL 2. HNO ₃ 3. H ₂ SO ₄ 4. NaOH 5. Zn. Acetate 6. MeOH 7. NaHSO ₄ 8. Other _____													
PRESERVATIVE KEY																																		
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Phone # 301-674-3199		Email ravi.damera@aecom.com																																
Sampler's Signature 		Sampler's Printed Name Zach Neigh																																
				REMARKS/ ALTERNATE DESCRIPTION																														
CLIENT SAMPLE ID		FOR OFFICE USE ONLY LAB ID		SAMPLING DATE		TIME		MATRIX																										
MRC-SW5A1-S-021419-A				2-14-19		1105		SW		2																								
MRC-SW5A2-S-021419-A				2-14-19		1122		SW		2																								
MRC-SW13A-S-021419-A				2-14-19		1142		SW		2																								
MRC-SW5A5-S-021419-A				2-14-19		1212		SW		2		HB 2-14-19																						
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																								
MRC-SW30-021419-A				2-14-19		1630		SW		2																								
										4 (unless total)																								
SPECIAL INSTRUCTIONS/COMMENTS Metals please also email results to: raoum.tavantzis@aecom.com holly.brown@aecom.com zuchary.neigh@aecom.com										TURNAROUND REQUIREMENTS <input checked="" type="checkbox"/> RUSH (SURCHARGES APPLY) <input type="checkbox"/> 1 day <input type="checkbox"/> 2 day <input type="checkbox"/> 3 day <input type="checkbox"/> 4 day <input checked="" type="checkbox"/> 5 day <input type="checkbox"/> Standard (10 business days-No Surcharge)					REPORT REQUIREMENTS <input type="checkbox"/> I. Results Only <input type="checkbox"/> II. Results + QC Summaries (LCS, DUP, MS/MSD as required) <input type="checkbox"/> III. Results + QC and Calibration Summaries <input checked="" type="checkbox"/> IV. Data Validation Report with Raw Data Edata <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					INVOICE INFORMATION PO # _____ BILL TO: _____ _____ _____														
See QAPP <input type="checkbox"/>										REQUESTED REPORT DATE By 2-22-19																								
STATE WHERE SAMPLES WERE COLLECTED																																		
RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY																				
Signature		Signature		Signature _____		Signature _____		Signature _____		Signature _____		Signature _____		Signature _____																				
Printed Name Holly Brown		Printed Name Gregory O. Esmerian		Printed Name _____		Printed Name _____		Printed Name _____		Printed Name _____		Printed Name _____		Printed Name _____																				
Firm AECOM		Firm ALS		Firm _____		Firm _____		Firm _____		Firm _____		Firm _____		Firm _____																				
Date/Time 2-14-19 1830		Date/Time 2/15/19 07:45		Date/Time _____		Date/Time _____		Date/Time _____		Date/Time _____		Date/Time _____		Date/Time _____																				

R1901380 **5**

AECOM
Lockheed Martin Middle River Comparison Study E



CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 55300

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 Ln MRC SW		Project Number 60555202		ANALYSIS REQUESTED (Include Method Number and Container Preservative)											
Project Manager Ravi Damara		Report CC		PRESERVATIVE											
Company/Address AECOM		NUMBER OF CONTAINERS		GC/MS VOCs • 8260 • 824 • CLP GC/MS SVOCs • 8270 • 825 GC VOCs • 8021 • 801/802 PESTICIDES • 8881 • 888 PCBs • 8882 • 888 METALS, TOTAL (List in comments below) METALS, DISSOLVED (List in comments below) 690 Handlogs										Preservative Key 0. NONE 1. HCL 2. HNO ₃ 3. H ₂ SO ₄ 4. NaOH 5. Zn, Acetate 6. MeOH 7. NaHSO ₄ 8. Other _____	
12400 Milestone Center Drive, Suite 150															
Cermantown, MD 20876															
Phone # 301-674-3199															
Sampler's Signature Zach Neigh		Sampler's Printed Name Zach Neigh		REMARKS/ ALTERNATE DESCRIPTION											
CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	DATE	SAMPLING TIME	MATRIX											
MRC-SW15A-S-021419-A		2-14-19	1212	SW											
MRC-SW9A-S-021419-A		2-14-19	1312	SW											
EB-tube 2-021419-A		2-14-19	1445	DI											
EB-tube 1-021419-A		2-14-19	1440	DI											
MRC-SW31-021419-A		2-14-19	1635	SW											
4 coolers total															

SPECIAL INSTRUCTIONS/COMMENTS Metal: Please also email results to: naam.tuvantzis@aecom.com holly.brown@aecom.com zachary.neigh@aecom.com			TURNAROUND REQUIREMENTS <input checked="" type="checkbox"/> RUSH (SURCHARGES APPLY) ___ 1 day ___ 2 day ___ 3 day ___ 4 day <input checked="" type="checkbox"/> 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		
Signature			Signature			Signature			Signature			Signature		
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		

R1901380 5
 AECOM
 Lockheed Martin Middle River Comparison Study &...



Cooler Receipt and Preservation Check Form

AECOM Lockhead Martin Middle River Comparison Study 5



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?	<input checked="" type="radio"/> Y	<input type="radio"/> N
2	Custody papers properly completed (ink, signed)?	<input checked="" type="radio"/> Y	<input type="radio"/> N
3	Did all bottles arrive in good condition (unbroken)?	<input type="radio"/> Y	<input type="radio"/> N
4	Circle: Wet Ice Dry Ice Gel packs present?	<input checked="" type="radio"/> Y	<input type="radio"/> N

5a	Perchlorate samples have required headspace?	<input type="radio"/> Y	<input type="radio"/> N	<input type="radio"/> NA
5b	Did VOA vials, Alk, or Sulfide have sig* bubbles ?	<input type="radio"/> Y	<input type="radio"/> N	<input type="radio"/> NA
6	Where did the bottles originate?	<u>ALS/ROC</u>	<u>CLIENT</u>	
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)	<u>1.0</u>	<u>3.1</u>	<u>2.9</u>	<u>2.8</u>				
Correction Factor (°C)	<u>0</u>	<u>-0.2</u>	<u>+0.3</u>	<u>-0.2</u>				
Corrected Temp (°C)	<u>1.0</u>	<u>2.9</u>	<u>3.2</u>	<u>2.6</u>				
Temp from: Type of bottle	<u>-</u>	<u>1 liter Amber</u>	<u>Cent tube</u>	<u>1 liter Amber</u>				
Within 0-6°C?	<input checked="" type="radio"/> Y <input type="radio"/> N	<input checked="" type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N	<input checked="" type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N
If <0°C, were samples frozen?	<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> 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: sl

- 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
- 13. Air Samples: Cassettes / Tubes Intact with MS? Canisters Pressurized Tedlar® Bags Inflated N/A

pH	Lot of test paper	Reagent	Preserved?		Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
			Yes	No						
≥12		NaOH								
≥2		HNO ₃								
≥2		H ₂ SO 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 ₂ S ₂ O ₃ (625, 608, CN), ascorbic (phenol).					
		Na ₂ S ₂ O 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: sl
PC Secondary Review: sl 2/19/19 *significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

ALS Group USA, Corp.
 APPENDIX B - Laboratory Reports
Internal Chain of Custody Report

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study SW/60555202

Service Request: R1901380

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
Project: Lockheed Martin Middle River Comparison Study SW/60555202

Service Request: R1901380

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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Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

<p>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.</p> <p>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/Aroclors).</p> <p>B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.</p> <p>E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.</p> <p>E Organics- Concentration has exceeded the calibration range for that specific analysis.</p> <p>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.</p> <p>* 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.</p> <p>H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.</p> <p># Spike was diluted out.</p>	<p>+ Correlation coefficient for MSA is <0.995.</p> <p>N Inorganics- Matrix spike recovery was outside laboratory limits.</p> <p>N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.</p> <p>S Concentration has been determined using Method of Standard Additions (MSA).</p> <p>W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.</p> <p>P Concentration >40% difference between the two GC columns.</p> <p>C Confirmed by GC/MS</p> <p>Q DoD reports: indicates a pesticide/Aroclor is not confirmed (>100% Difference between two GC columns).</p> <p>X See Case Narrative for discussion.</p> <p>MRL Method Reporting Limit. Also known as:</p> <p>LOQ Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.</p> <p>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).</p> <p>LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.</p> <p>ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.</p>
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Rochester Lab ID # for State Certifications¹

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>

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
Project: Lockheed Martin Middle River Comparison Study SW/60555202

Service Request: R1901380

Sample Name: MRC-SW7A-S-021419-A-DUP
Lab Code: R1901380-001
Sample Matrix: Water

Date Collected: 02/14/19
Date Received: 02/15/19

Analysis Method
680

Extracted/Digested By
JMISIUREWICZ

Analyzed By
JMISIUREWICZ

Sample Name: MRC-SW8A-S-021419-A
Lab Code: R1901380-002
Sample Matrix: Water

Date Collected: 02/14/19
Date Received: 02/15/19

Analysis Method
680

Extracted/Digested By
JMISIUREWICZ

Analyzed By
JMISIUREWICZ

Sample Name: FB-SW-021419-A
Lab Code: R1901380-003
Sample Matrix: Water

Date Collected: 02/14/19
Date Received: 02/15/19

Analysis Method
680

Extracted/Digested By
JMISIUREWICZ

Analyzed By
JMISIUREWICZ

Sample Name: MRC-SW5A1-S-021419-A
Lab Code: R1901380-004
Sample Matrix: Water

Date Collected: 02/14/19
Date Received: 02/15/19

Analysis Method
680

Extracted/Digested By
JMISIUREWICZ

Analyzed By
JMISIUREWICZ

Sample Name: MRC-SW5A2-S-021419-A
Lab Code: R1901380-005
Sample Matrix: Water

Date Collected: 02/14/19
Date Received: 02/15/19

Analysis Method
680

Extracted/Digested By
JMISIUREWICZ

Analyzed By
JMISIUREWICZ

Analyst Summary report

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study SW/60555202

Service Request: R1901380

Sample Name: MRC-SW13A-S-021419-A
Lab Code: R1901380-006
Sample Matrix: Water

Date Collected: 02/14/19
Date Received: 02/15/19

Analysis Method
680

Extracted/Digested By
JMISIUREWICZ

Analyzed By
JMISIUREWICZ

Sample Name: MRC-SW8B-S-021419-A
Lab Code: R1901380-007
Sample Matrix: Water

Date Collected: 02/14/19
Date Received: 02/15/19

Analysis Method
680

Extracted/Digested By
JMISIUREWICZ

Analyzed By
JMISIUREWICZ

Sample Name: MRC-SW30-021419-A
Lab Code: R1901380-008
Sample Matrix: Water

Date Collected: 02/14/19
Date Received: 02/15/19

Analysis Method
680

Extracted/Digested By
JMISIUREWICZ

Analyzed By
JMISIUREWICZ

Sample Name: MRC-SW15A-S-021419-A
Lab Code: R1901380-009
Sample Matrix: Water

Date Collected: 02/14/19
Date Received: 02/15/19

Analysis Method
680

Extracted/Digested By
JMISIUREWICZ

Analyzed By
JMISIUREWICZ

Sample Name: MRC-SW9A-S-021419-A
Lab Code: R1901380-010
Sample Matrix: Water

Date Collected: 02/14/19
Date Received: 02/15/19

Analysis Method
680

Extracted/Digested By
JMISIUREWICZ

Analyzed By
JMISIUREWICZ

Analyst Summary report

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study SW/60555202

Service Request: R1901380

Sample Name: EB-Tube 2-021419-A
Lab Code: R1901380-011
Sample Matrix: Water

Date Collected: 02/14/19
Date Received: 02/15/19

Analysis Method
680

Extracted/Digested By
JMISIUREWICZ

Analyzed By
JMISIUREWICZ

Sample Name: EB-Tube 1-021419-A
Lab Code: R1901380-012
Sample Matrix: Water

Date Collected: 02/14/19
Date Received: 02/15/19

Analysis Method
680

Extracted/Digested By
JMISIUREWICZ

Analyzed By
JMISIUREWICZ

Sample Name: MRC-SW31-021419-A
Lab Code: R1901380-013
Sample Matrix: Water

Date Collected: 02/14/19
Date Received: 02/15/19

Analysis Method
680

Extracted/Digested By
JMISIUREWICZ

Analyzed By
JMISIUREWICZ

Sample Name: MRC-SW7A-S-021419-A
Lab Code: R1901380-014
Sample Matrix: Water

Date Collected: 02/14/19
Date Received: 02/15/19

Analysis Method
680

Extracted/Digested By
JMISIUREWICZ

Analyzed By
JMISIUREWICZ

Sample Name: MRC-SW40-S-021419-A
Lab Code: R1901380-015
Sample Matrix: Water

Date Collected: 02/14/19
Date Received: 02/15/19

Analysis Method
680

Extracted/Digested By
JMISIUREWICZ

Analyzed By
JMISIUREWICZ



APPENDIX D - Laboratory Reports
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

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: AECOM
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW7A-S-021419-A-DUP
Lab Code: R1901380-001

Service Request: R1901380
Date Collected: 02/14/19 13:34
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW8A-S-021419-A
Lab Code: R1901380-002

Service Request: R1901380
Date Collected: 02/14/19 12:30
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: FB-SW-021419-A
Lab Code: R1901380-003

Service Request: R1901380
Date Collected: 02/14/19 14:25
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW5A1-S-021419-A
Lab Code: R1901380-004

Service Request: R1901380
Date Collected: 02/14/19 11:05
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW5A2-S-021419-A
Lab Code: R1901380-005

Service Request: R1901380
Date Collected: 02/14/19 11:22
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW13A-S-021419-A
Lab Code: R1901380-006

Service Request: R1901380
Date Collected: 02/14/19 11:42
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW8B-S-021419-A
Lab Code: R1901380-007

Service Request: R1901380
Date Collected: 02/14/19 12:52
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW30-021419-A
Lab Code: R1901380-008

Service Request: R1901380
Date Collected: 02/14/19 16:30
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW15A-S-021419-A
Lab Code: R1901380-009

Service Request: R1901380
Date Collected: 02/14/19 12:12
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW9A-S-021419-A
Lab Code: R1901380-010

Service Request: R1901380
Date Collected: 02/14/19 13:12
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: EB-Tube 2-021419-A
Lab Code: R1901380-011

Service Request: R1901380
Date Collected: 02/14/19 14:45
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: EB-Tube 1-021419-A
Lab Code: R1901380-012

Service Request: R1901380
Date Collected: 02/14/19 14:40
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW31-021419-A
Lab Code: R1901380-013

Service Request: R1901380
Date Collected: 02/14/19 16:35
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW7A-S-021419-A
Lab Code: R1901380-014

Service Request: R1901380
Date Collected: 02/14/19 13:32
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW40-S-021419-A
Lab Code: R1901380-015

Service Request: R1901380
Date Collected: 02/14/19 16:00
Date Received: 02/15/19 07:45

Units: ug/L
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
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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
www.alsglobal.com

QA/QC Report

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water

Service Request: R1901380

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)	4,4'-DDT
		46-130	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

QA/QC Report

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water

Service Request: R1901380
Date Collected: 02/14/19
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
Lab Code: R1901380-014
Analysis Method: 680
Prep Method: EPA 3510C

Units: ug/L
Basis: NA

Analyte Name	Sample Result	Matrix Spike RQ1901357-04			Duplicate Matrix Spike RQ1901357-05			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
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.

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water

Service Request: R1901380
Date Analyzed: 02/21/19 17:28
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:\ACQUADATA\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:\ACQUADATA\5973B\DATA\022119\DN732.D\	02/21/19 17:57
MRC-SW30-021419-A	R1901380-008	I:\ACQUADATA\5973B\DATA\022119\DN733.D\	02/21/19 18:26
EB-Tube 2-021419-A	R1901380-011	I:\ACQUADATA\5973B\DATA\022119\DN734.D\	02/21/19 18:55
EB-Tube 1-021419-A	R1901380-012	I:\ACQUADATA\5973B\DATA\022119\DN735.D\	02/21/19 19:24
MRC-SW31-021419-A	R1901380-013	I:\ACQUADATA\5973B\DATA\022119\DN736.D\	02/21/19 19:53
MRC-SW40-S-021419-A	R1901380-015	I:\ACQUADATA\5973B\DATA\022119\DN737.D\	02/21/19 20:22
Lab Control Sample	RQ1901357-02	I:\ACQUADATA\5973B\DATA\022119\DN738.D\	02/21/19 20:51
Duplicate Lab Control Sample	RQ1901357-03	I:\ACQUADATA\5973B\DATA\022119\DN739.D\	02/21/19 21:20
Method Detection Limit Verification	RQ1901357-06	I:\ACQUADATA\5973B\DATA\022119\DN740.D\	02/21/19 21:49
Method Detection Limit Verification	RQ1901357-07	I:\ACQUADATA\5973B\DATA\022119\DN741.D\	02/21/19 22:17
Method Detection Limit Verification	RQ1901357-08	I:\ACQUADATA\5973B\DATA\022119\DN742.D\	02/21/19 22:46
MRC-SW7A-S-021419-A-DUP	R1901380-001	I:\ACQUADATA\5973B\DATA\022119\DN746.D\	02/22/19 00:30
MRC-SW8A-S-021419-A	R1901380-002	I:\ACQUADATA\5973B\DATA\022119\DN748.D\	02/22/19 01:28
MRC-SW5A1-S-021419-A	R1901380-004	I:\ACQUADATA\5973B\DATA\022119\DN750.D\	02/22/19 02:25
MRC-SW5A2-S-021419-A	R1901380-005	I:\ACQUADATA\5973B\DATA\022119\DN752.D\	02/22/19 03:22
MRC-SW13A-S-021419-A	R1901380-006	I:\ACQUADATA\5973B\DATA\022119\DN754.D\	02/22/19 04:19
MRC-SW8B-S-021419-A	R1901380-007	I:\ACQUADATA\5973B\DATA\022119\DN756.D\	02/22/19 05:16
MRC-SW15A-S-021419-A	R1901380-009	I:\ACQUADATA\5973B\DATA\022119\DN758.D\	02/22/19 06:14
MRC-SW9A-S-021419-A	R1901380-010	I:\ACQUADATA\5973B\DATA\022119\DN760.D\	02/22/19 07:11
MRC-SW7A-S-021419-A	R1901380-014	I:\ACQUADATA\5973B\DATA\022119\DN762.D\	02/22/19 08:09
MRC-SW7A-S-021419-AMS	RQ1901357-04	I:\ACQUADATA\5973B\DATA\022119\DN764.D\	02/22/19 09:07
MRC-SW7A-S-021419-ADMS	RQ1901357-05	I:\ACQUADATA\5973B\DATA\022119\DN766.D\	02/22/19 10:04

Analytical Report

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1901357-01

Service Request: R1901380
Date Collected: NA
Date Received: NA
Units: ug/L
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	

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water

Service Request: R1901380
Date Analyzed: 02/21/19 20:51
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:\ACQUADATA\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:\ACQUADATA\5973B\DATA\022119\DN731.D\	02/21/19 17:28
FB-SW-021419-A	R1901380-003	I:\ACQUADATA\5973B\DATA\022119\DN732.D\	02/21/19 17:57
MRC-SW30-021419-A	R1901380-008	I:\ACQUADATA\5973B\DATA\022119\DN733.D\	02/21/19 18:26
EB-Tube 2-021419-A	R1901380-011	I:\ACQUADATA\5973B\DATA\022119\DN734.D\	02/21/19 18:55
EB-Tube 1-021419-A	R1901380-012	I:\ACQUADATA\5973B\DATA\022119\DN735.D\	02/21/19 19:24
MRC-SW31-021419-A	R1901380-013	I:\ACQUADATA\5973B\DATA\022119\DN736.D\	02/21/19 19:53
MRC-SW40-S-021419-A	R1901380-015	I:\ACQUADATA\5973B\DATA\022119\DN737.D\	02/21/19 20:22
Duplicate Lab Control Sample	RQ1901357-03	I:\ACQUADATA\5973B\DATA\022119\DN739.D\	02/21/19 21:20
Method Detection Limit Verification	RQ1901357-06	I:\ACQUADATA\5973B\DATA\022119\DN740.D\	02/21/19 21:49
Method Detection Limit Verification	RQ1901357-07	I:\ACQUADATA\5973B\DATA\022119\DN741.D\	02/21/19 22:17
Method Detection Limit Verification	RQ1901357-08	I:\ACQUADATA\5973B\DATA\022119\DN742.D\	02/21/19 22:46
MRC-SW7A-S-021419-A-DUP	R1901380-001	I:\ACQUADATA\5973B\DATA\022119\DN746.D\	02/22/19 00:30
MRC-SW8A-S-021419-A	R1901380-002	I:\ACQUADATA\5973B\DATA\022119\DN748.D\	02/22/19 01:28
MRC-SW5A1-S-021419-A	R1901380-004	I:\ACQUADATA\5973B\DATA\022119\DN750.D\	02/22/19 02:25
MRC-SW5A2-S-021419-A	R1901380-005	I:\ACQUADATA\5973B\DATA\022119\DN752.D\	02/22/19 03:22
MRC-SW13A-S-021419-A	R1901380-006	I:\ACQUADATA\5973B\DATA\022119\DN754.D\	02/22/19 04:19
MRC-SW8B-S-021419-A	R1901380-007	I:\ACQUADATA\5973B\DATA\022119\DN756.D\	02/22/19 05:16
MRC-SW15A-S-021419-A	R1901380-009	I:\ACQUADATA\5973B\DATA\022119\DN758.D\	02/22/19 06:14
MRC-SW9A-S-021419-A	R1901380-010	I:\ACQUADATA\5973B\DATA\022119\DN760.D\	02/22/19 07:11
MRC-SW7A-S-021419-A	R1901380-014	I:\ACQUADATA\5973B\DATA\022119\DN762.D\	02/22/19 08:09
MRC-SW7A-S-021419-AMS	RQ1901357-04	I:\ACQUADATA\5973B\DATA\022119\DN764.D\	02/22/19 09:07
MRC-SW7A-S-021419-ADMS	RQ1901357-05	I:\ACQUADATA\5973B\DATA\022119\DN766.D\	02/22/19 10:04

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

Analyte Name	Lab Control Sample RQ1901357-02				Duplicate Lab Control Sample RQ1901357-03				RPD	RPD Limit
	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits		
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

QC/QC Report

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study SW/60555202

Service Request: R1901380
Date Analyzed: 02/21/19 16:41

Tune Summary
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

File ID: I:\ACQUADATA\5973B\DATA\022119\DN729.D\
Instrument ID: R-MS-52

Analytical Method: 680
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:\ACQUADATA\5973B\DATA\022119\DN730.D\	02/21/19 16:59	
Method Blank	RQ1901357-01	I:\ACQUADATA\5973B\DATA\022119\DN731.D\	02/21/19 17:28	
FB-SW-021419-A	R1901380-003	I:\ACQUADATA\5973B\DATA\022119\DN732.D\	02/21/19 17:57	
MRC-SW30-021419-A	R1901380-008	I:\ACQUADATA\5973B\DATA\022119\DN733.D\	02/21/19 18:26	
EB-Tube 2-021419-A	R1901380-011	I:\ACQUADATA\5973B\DATA\022119\DN734.D\	02/21/19 18:55	
EB-Tube 1-021419-A	R1901380-012	I:\ACQUADATA\5973B\DATA\022119\DN735.D\	02/21/19 19:24	
MRC-SW31-021419-A	R1901380-013	I:\ACQUADATA\5973B\DATA\022119\DN736.D\	02/21/19 19:53	
MRC-SW40-S-021419-A	R1901380-015	I:\ACQUADATA\5973B\DATA\022119\DN737.D\	02/21/19 20:22	
Lab Control Sample	RQ1901357-02	I:\ACQUADATA\5973B\DATA\022119\DN738.D\	02/21/19 20:51	
Duplicate Lab Control Sample	RQ1901357-03	I:\ACQUADATA\5973B\DATA\022119\DN739.D\	02/21/19 21:20	
Method Detection Limit Verification	RQ1901357-06	I:\ACQUADATA\5973B\DATA\022119\DN740.D\	02/21/19 21:49	
Method Detection Limit Verification	RQ1901357-07	I:\ACQUADATA\5973B\DATA\022119\DN741.D\	02/21/19 22:17	
Method Detection Limit Verification	RQ1901357-08	I:\ACQUADATA\5973B\DATA\022119\DN742.D\	02/21/19 22:46	
Continuing Calibration Verification	RQ1901484-03	I:\ACQUADATA\5973B\DATA\022119\DN743.D\	02/21/19 23:15	

QC/QC Report

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study SW/60555202

Service Request: R1901380
Date Analyzed: 02/21/19 23:43

Tune Summary
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

File ID: I:\ACQUADATA\5973B\DATA\022119\DN744.D\
Instrument ID: R-MS-52

Analytical Method: 680
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:\ACQUADATA\5973B\DATA\022119\DN745.D\	02/22/19 00:02	
MRC-SW7A-S-021419-A-DUP	R1901380-001	I:\ACQUADATA\5973B\DATA\022119\DN746.D\	02/22/19 00:30	
MRC-SW8A-S-021419-A	R1901380-002	I:\ACQUADATA\5973B\DATA\022119\DN748.D\	02/22/19 01:28	
MRC-SW5A1-S-021419-A	R1901380-004	I:\ACQUADATA\5973B\DATA\022119\DN750.D\	02/22/19 02:25	
MRC-SW5A2-S-021419-A	R1901380-005	I:\ACQUADATA\5973B\DATA\022119\DN752.D\	02/22/19 03:22	
MRC-SW13A-S-021419-A	R1901380-006	I:\ACQUADATA\5973B\DATA\022119\DN754.D\	02/22/19 04:19	
MRC-SW8B-S-021419-A	R1901380-007	I:\ACQUADATA\5973B\DATA\022119\DN756.D\	02/22/19 05:16	
MRC-SW15A-S-021419-A	R1901380-009	I:\ACQUADATA\5973B\DATA\022119\DN758.D\	02/22/19 06:14	
MRC-SW9A-S-021419-A	R1901380-010	I:\ACQUADATA\5973B\DATA\022119\DN760.D\	02/22/19 07:11	
MRC-SW7A-S-021419-A	R1901380-014	I:\ACQUADATA\5973B\DATA\022119\DN762.D\	02/22/19 08:09	
MRC-SW7A-S-021419-A	RQ1901357-04	I:\ACQUADATA\5973B\DATA\022119\DN764.D\	02/22/19 09:07	
MRC-SW7A-S-021419-A	RQ1901357-05	I:\ACQUADATA\5973B\DATA\022119\DN766.D\	02/22/19 10:04	
Continuing Calibration Verification	RQ1901485-03	I:\ACQUADATA\5973B\DATA\022119\DN768.D\	02/22/19 11:02	

QA/QC Report

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study

Service Request: R1901380
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:\ACQUADATA\5973B\DATA\022119\DN730.D\
Instrument ID: R-MS-52
Analysis Method: 680

Lab Code: RQ1901484-02
Analysis Lot: 625888
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
Project: Lockheed Martin Middle River Comparison Study

Service Request: R1901380
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:\ACQUADATA\5973B\DATA\022119\DN745.D\
Instrument ID: R-MS-52
Analysis Method: 680

Lab Code: RQ1901485-02
Analysis Lot: 625889
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
Phone (585) 288-5380 Fax (585) 288-8475
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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

Analytical Report

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW7A-S-021419-A-DUP
Lab Code: R1901380-001

Service Request: R1901380
Date Collected: 02/14/19 13:34
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW8A-S-021419-A
Lab Code: R1901380-002

Service Request: R1901380
Date Collected: 02/14/19 12:30
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: FB-SW-021419-A
Lab Code: R1901380-003

Service Request: R1901380
Date Collected: 02/14/19 14:25
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW5A1-S-021419-A
Lab Code: R1901380-004

Service Request: R1901380
Date Collected: 02/14/19 11:05
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW5A2-S-021419-A
Lab Code: R1901380-005

Service Request: R1901380
Date Collected: 02/14/19 11:22
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW13A-S-021419-A
Lab Code: R1901380-006

Service Request: R1901380
Date Collected: 02/14/19 11:42
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW8B-S-021419-A
Lab Code: R1901380-007

Service Request: R1901380
Date Collected: 02/14/19 12:52
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW30-021419-A
Lab Code: R1901380-008

Service Request: R1901380
Date Collected: 02/14/19 16:30
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW15A-S-021419-A
Lab Code: R1901380-009

Service Request: R1901380
Date Collected: 02/14/19 12:12
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW9A-S-021419-A
Lab Code: R1901380-010

Service Request: R1901380
Date Collected: 02/14/19 13:12
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: EB-Tube 2-021419-A
Lab Code: R1901380-011

Service Request: R1901380
Date Collected: 02/14/19 14:45
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: EB-Tube 1-021419-A
Lab Code: R1901380-012

Service Request: R1901380
Date Collected: 02/14/19 14:40
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW31-021419-A
Lab Code: R1901380-013

Service Request: R1901380
Date Collected: 02/14/19 16:35
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW7A-S-021419-A
Lab Code: R1901380-014

Service Request: R1901380
Date Collected: 02/14/19 13:32
Date Received: 02/15/19 07:45

Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water
Sample Name: MRC-SW40-S-021419-A
Lab Code: R1901380-015

Service Request: R1901380
Date Collected: 02/14/19 16:00
Date Received: 02/15/19 07:45

Units: ug/L
Basis: NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Analysis Method: 680
Prep Method: EPA 3510C

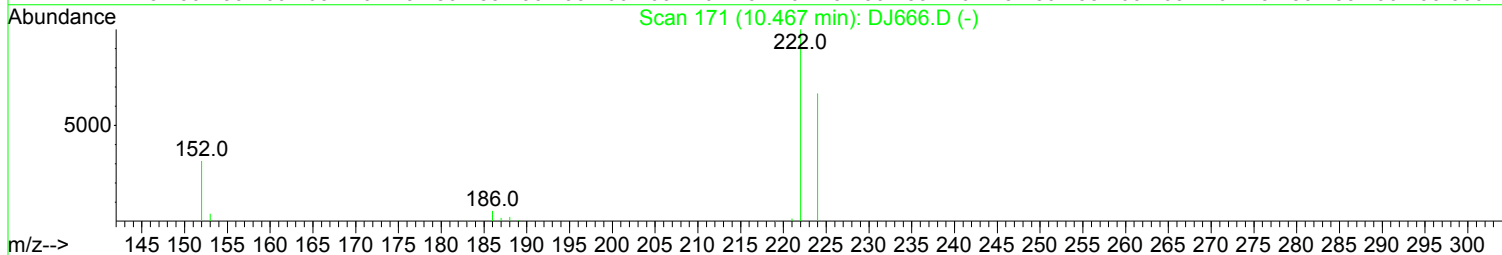
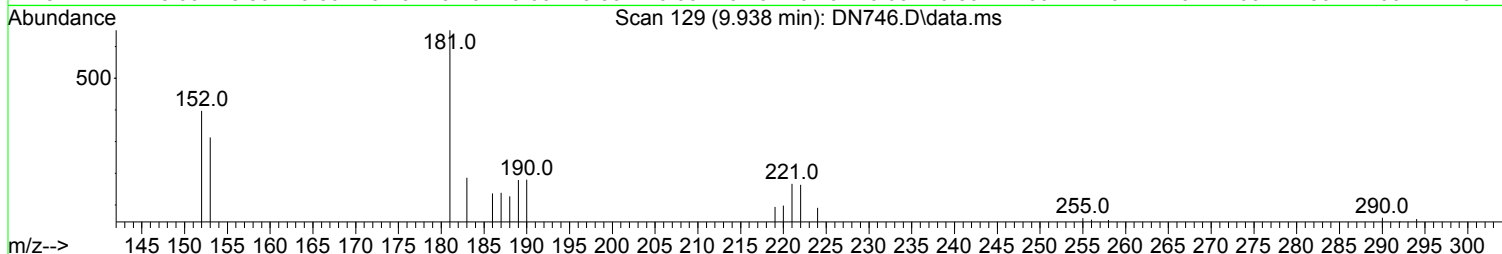
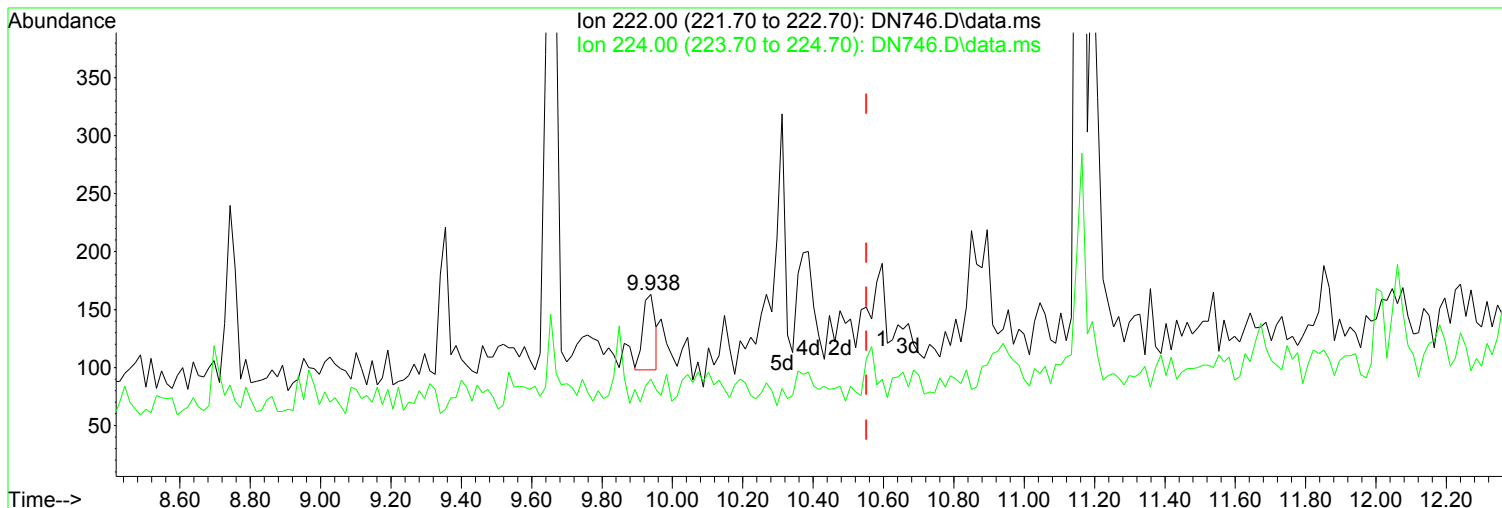
Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Decachlorobiphenyl	ND U	0.024	0.011	1	02/21/19 20:22	2/15/19	
Dichlorobiphenyls, Total	0.026	0.0048	0.0023	1	02/21/19 20:22	2/15/19	
Heptachlorobiphenyls, Total	ND U	0.014	0.0041	1	02/21/19 20:22	2/15/19	
Hexachlorobiphenyls, Total	ND U	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	

APPENDIX D - Laboratory Reports

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



(28) CL2 - #1 (L2)

Manual Integration:

9.938min (-0.613) 0.00 ppm m

After

response 161

Other -

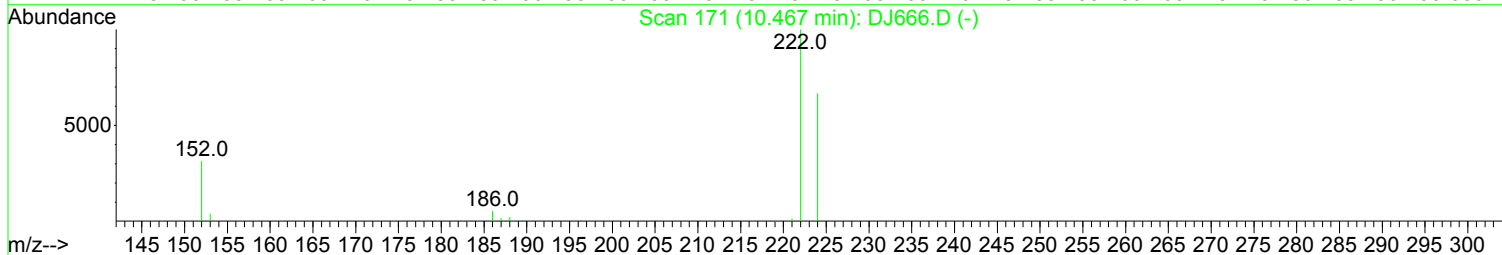
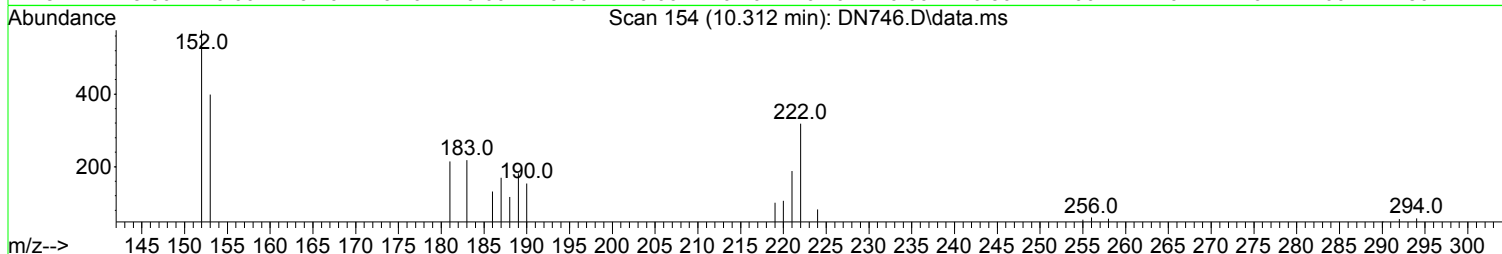
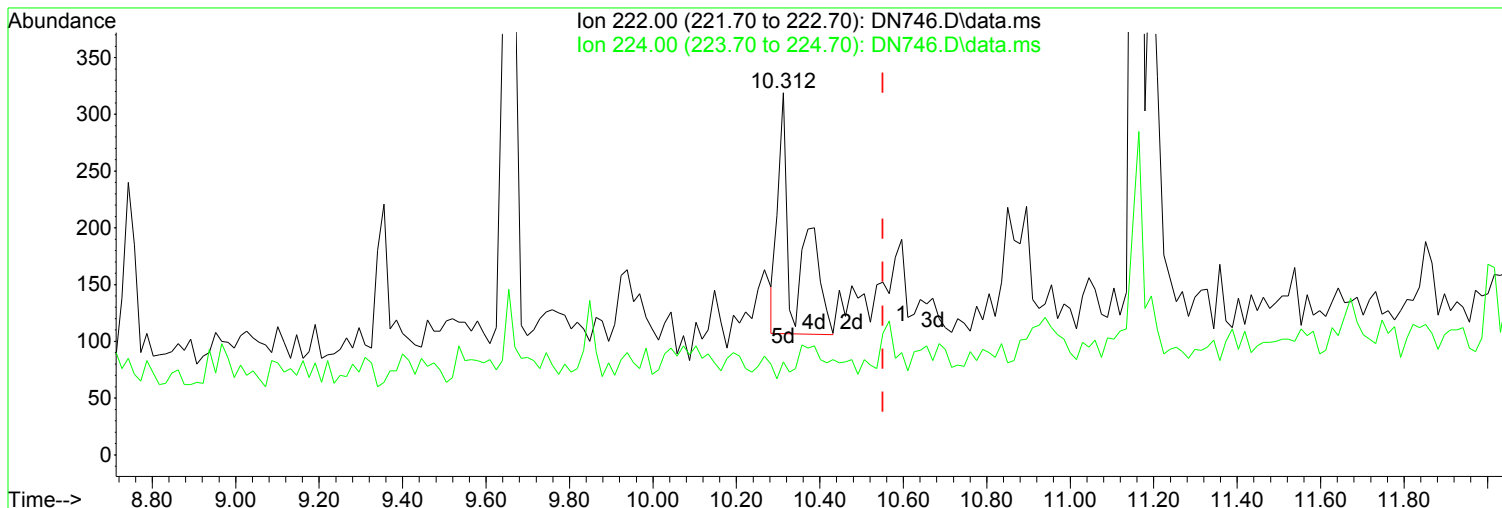
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	55.21
0.00	0.00	0.00
0.00	0.00	0.00

02/22/19

APPENDIX D - Laboratory Reports

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



(29) CL2 - #2 (L2)

Manual Integration:

10.312min (-0.239) 0.00 ppm m

After

response 603

Other -

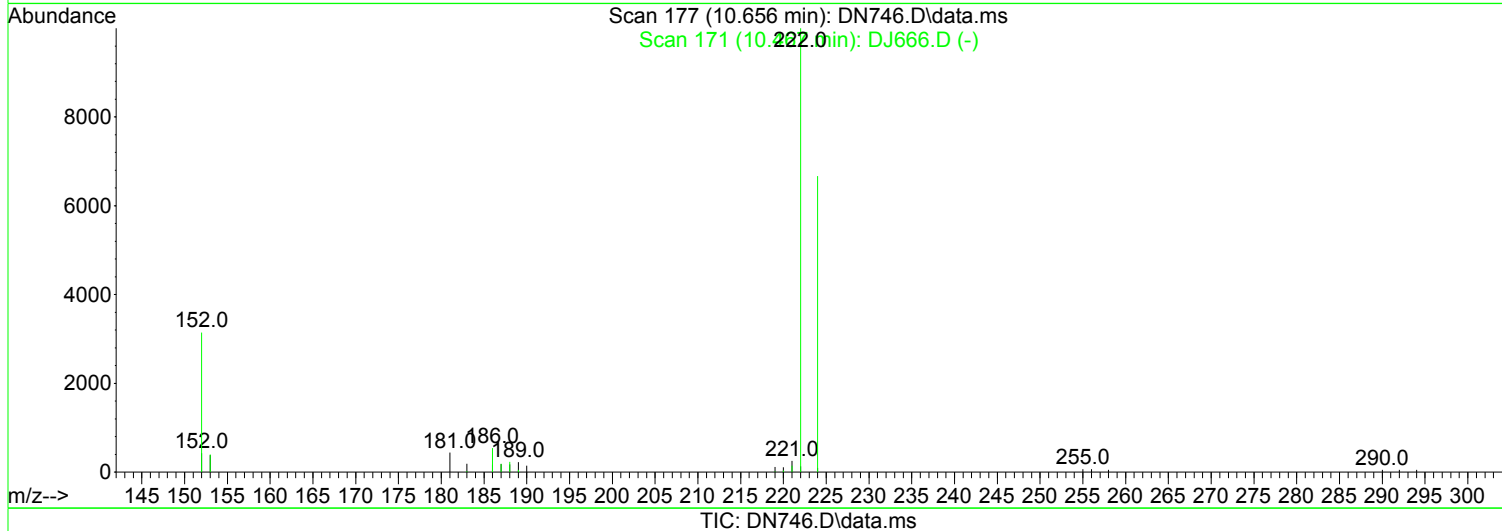
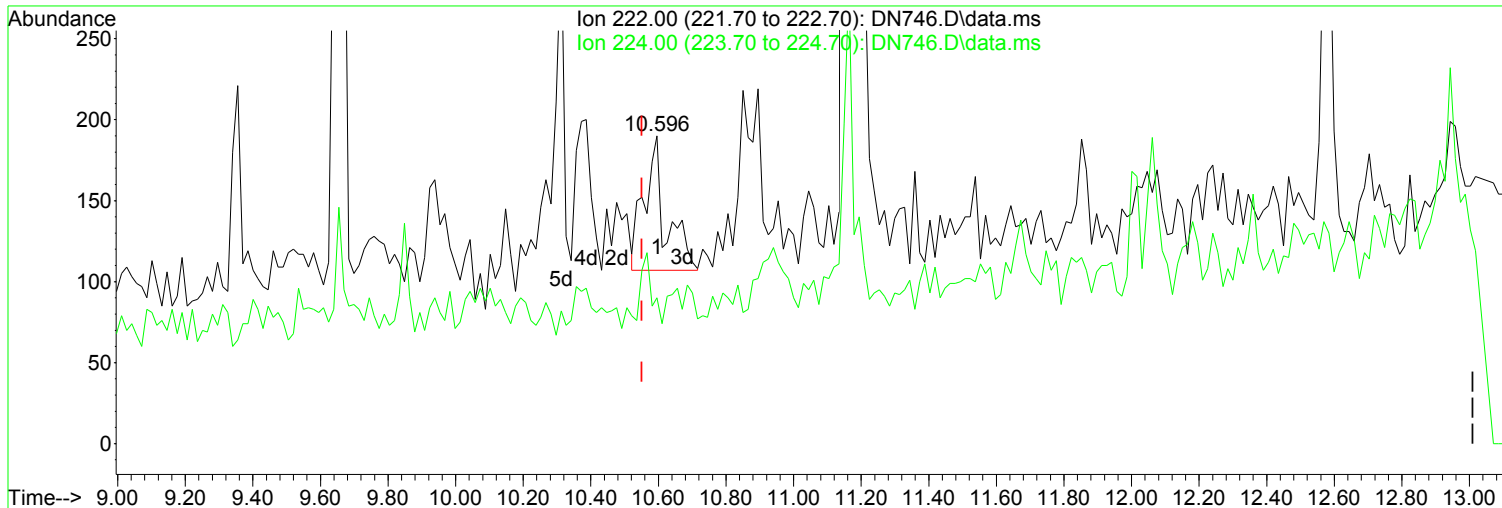
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	25.71#
0.00	0.00	0.00
0.00	0.00	0.00

02/22/19

APPENDIX D - Laboratory Reports

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



(30) CL2 - #3 (L2)

Manual Integration:

10.596min (+ 0.045) 0.00 ppm m

After

response 368

Other -

Ion Exp% Act%

02/22/19

222.00 100.00 100.00

224.00 61.00 47.37

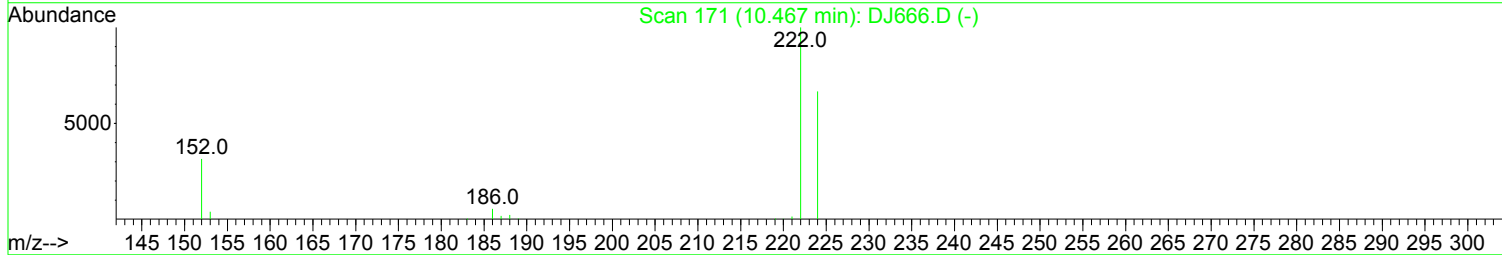
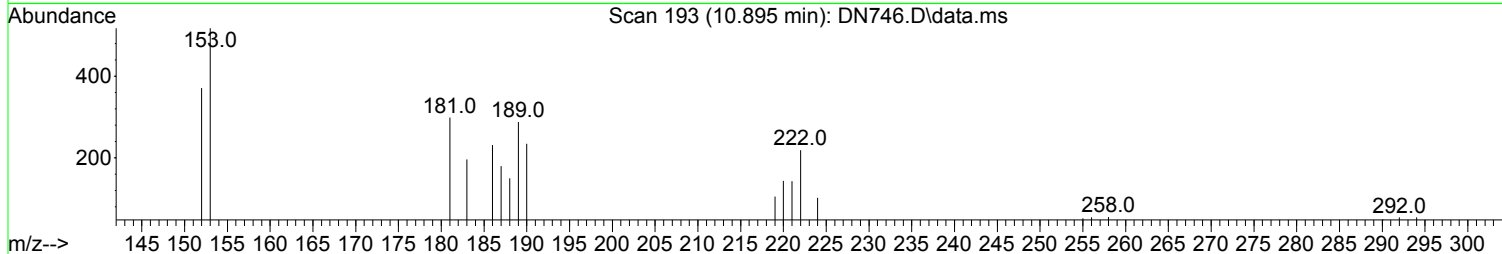
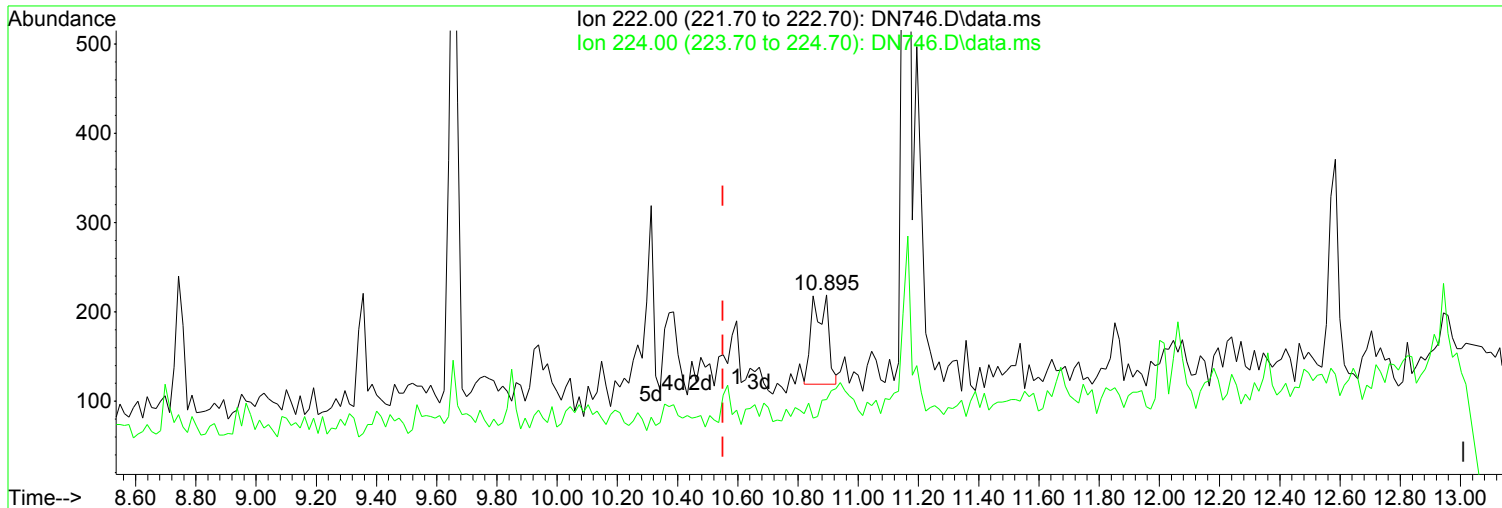
0.00 0.00 0.00

0.00 0.00 0.00

APPENDIX D - Laboratory Reports

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



(31) CL2 - #4 (L2)

Manual Integration:

10.895min (+ 0.344) 0.00 ppm m

After

response 356

Other -

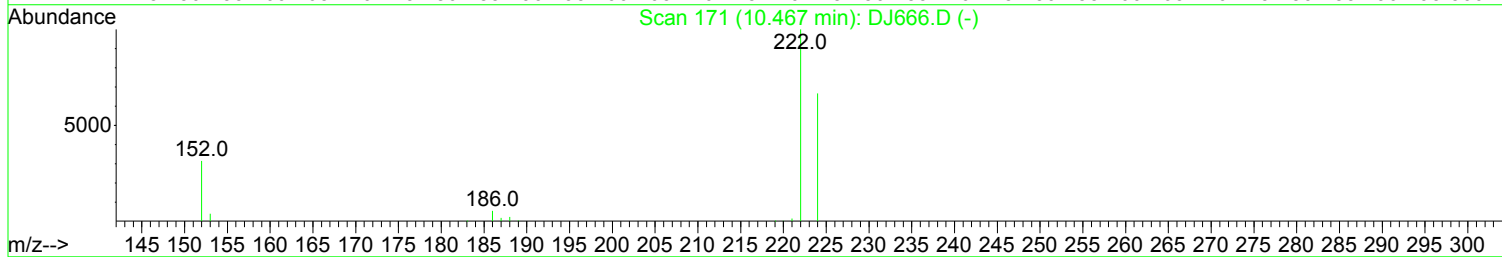
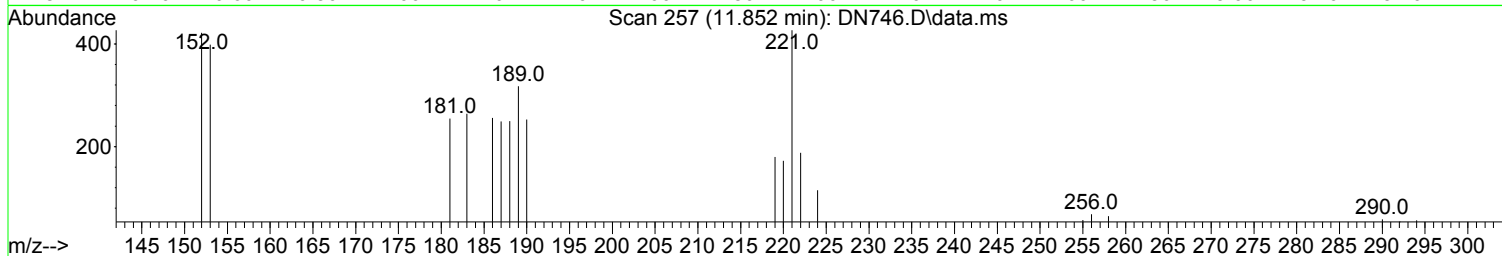
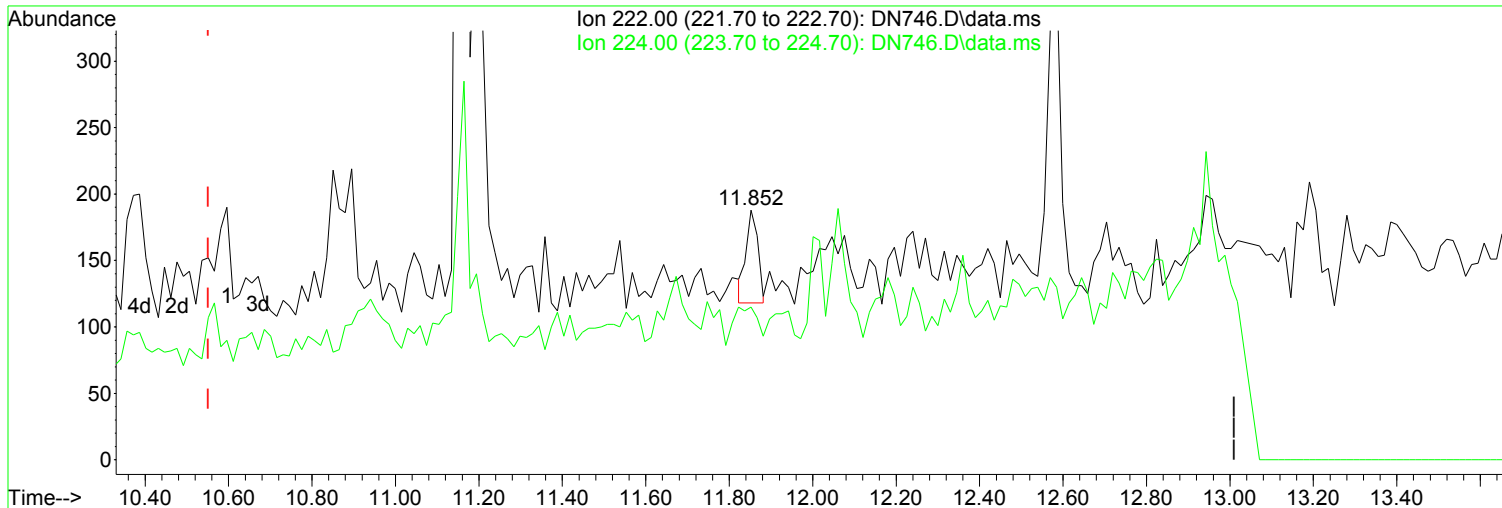
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	46.58
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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)

Manual Integration:

11.852min (+ 1.301) 0.00 ppm m

After

response 140

Other -

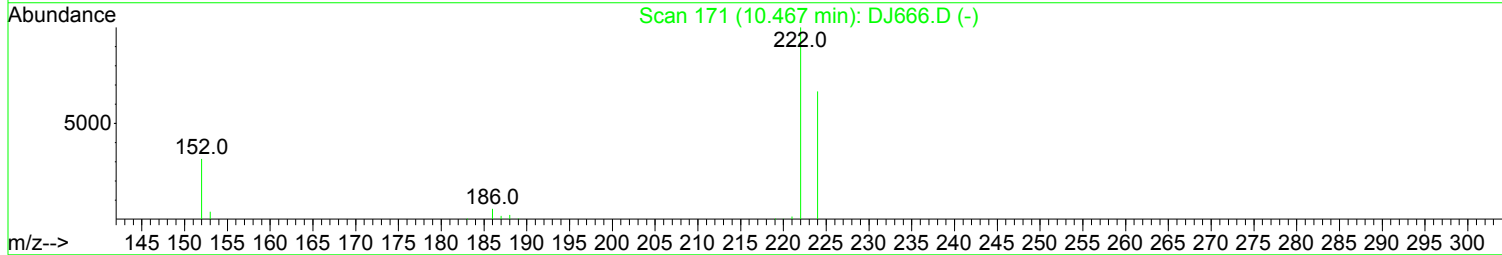
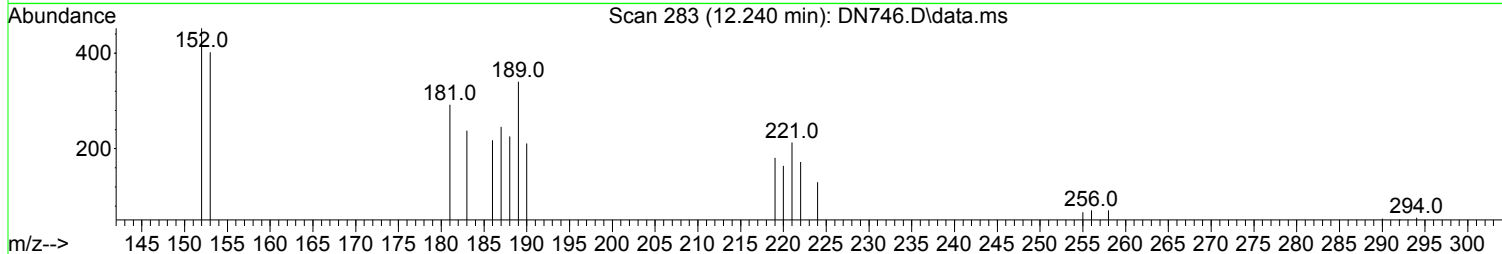
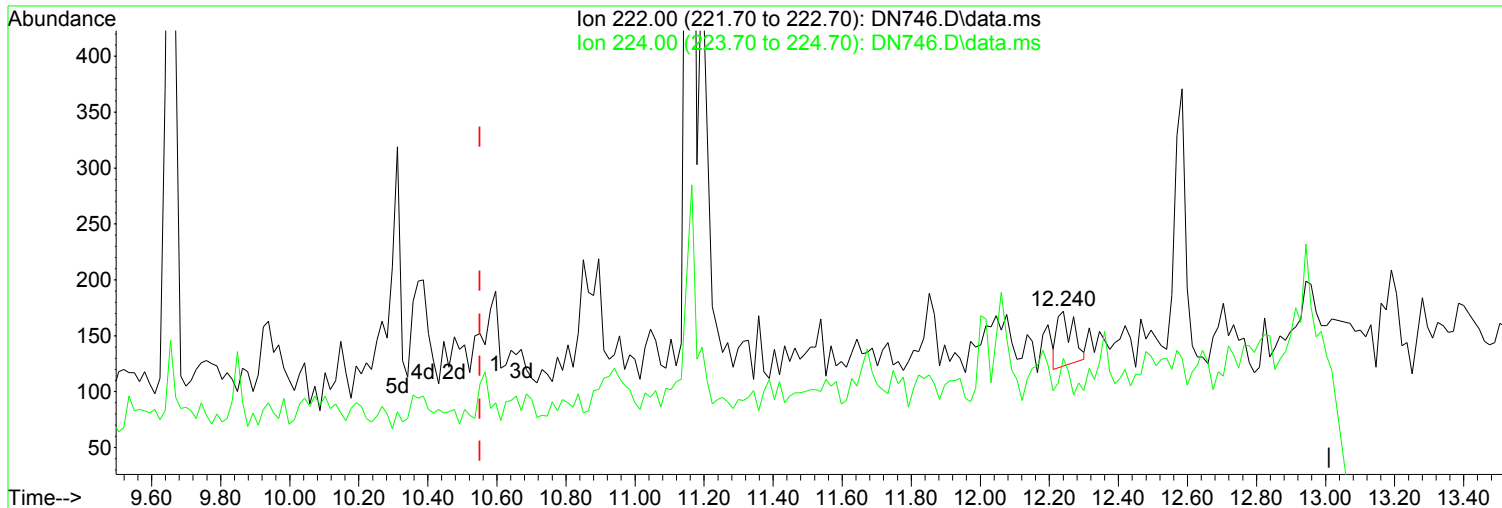
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	61.17
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(33) CL2 - #6 (L2)

Manual Integration:

12.240min (+ 1.689) 0.00 ppm m

After

response 159

Other -

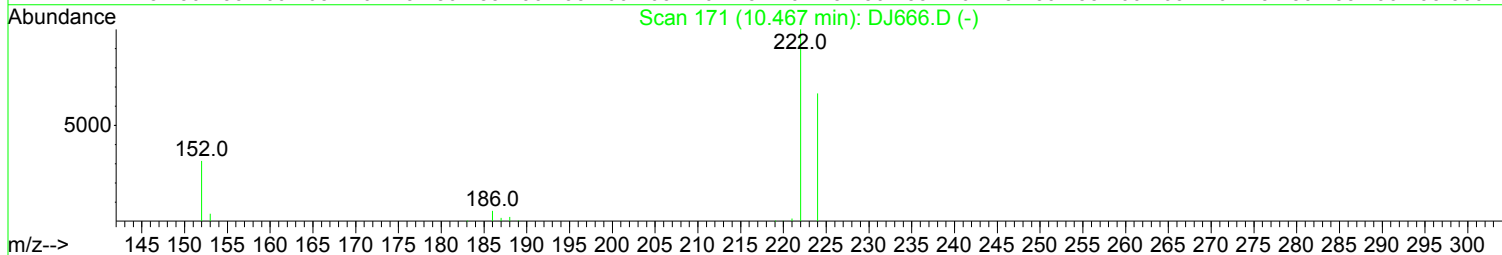
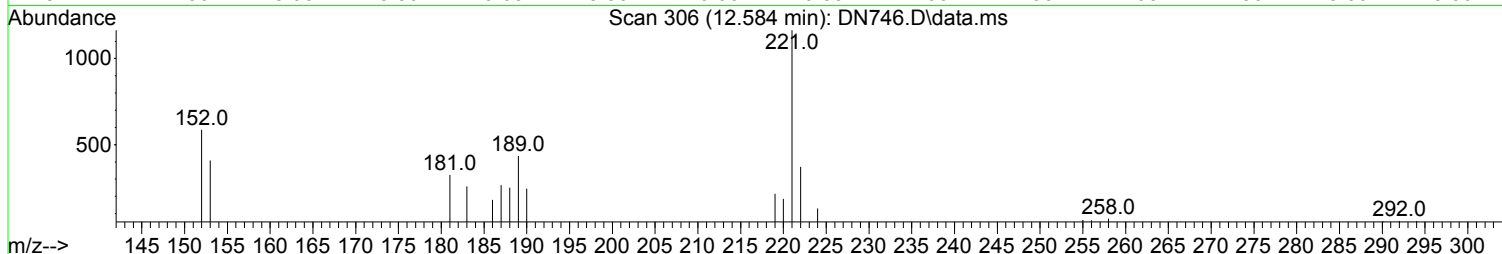
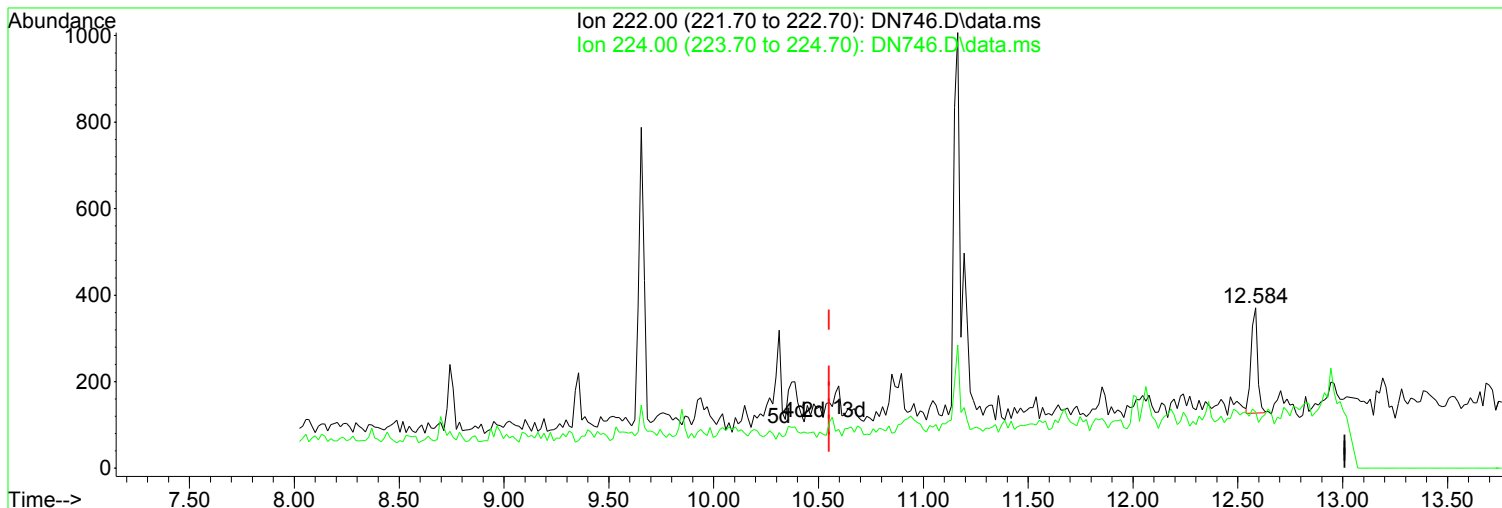
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	75.58
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(34) CL2 - #7 (L2)

Manual Integration:

12.584min (+ 2.033) 0.00 ppm m

After

response 526

Other -

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

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APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

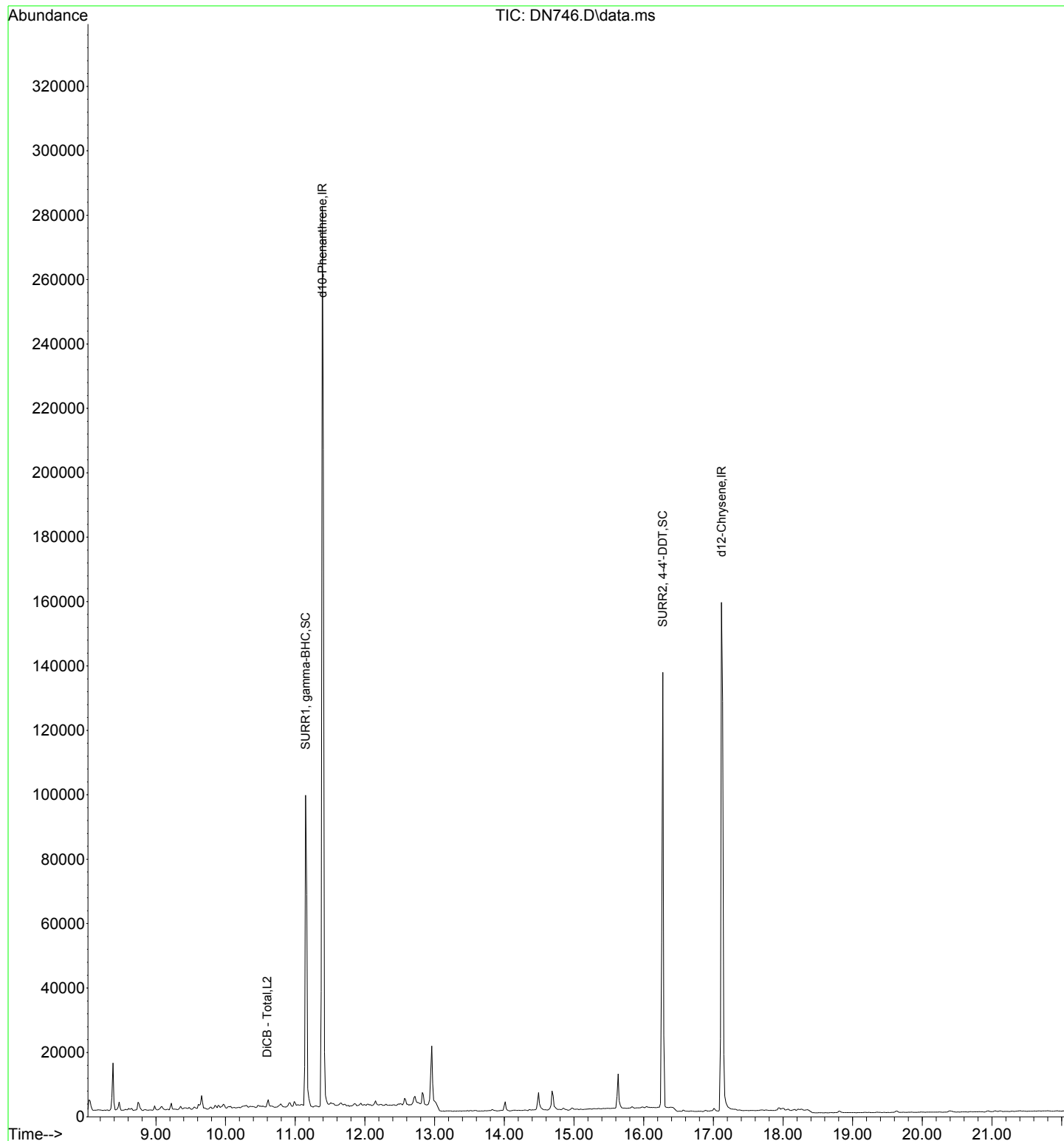
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	341561	0.75	ppm	0.00
2) d12-Chrysene	17.118	240	255937	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.149	219	37425	0.90	ppm	0.00
Spiked Amount	1.000	Range 55 - 133	Recovery	=	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						
38) DiCB - Total	10.596	222	2313m	0.011	ppm	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

APPENDIX D - Laboratory Reports

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

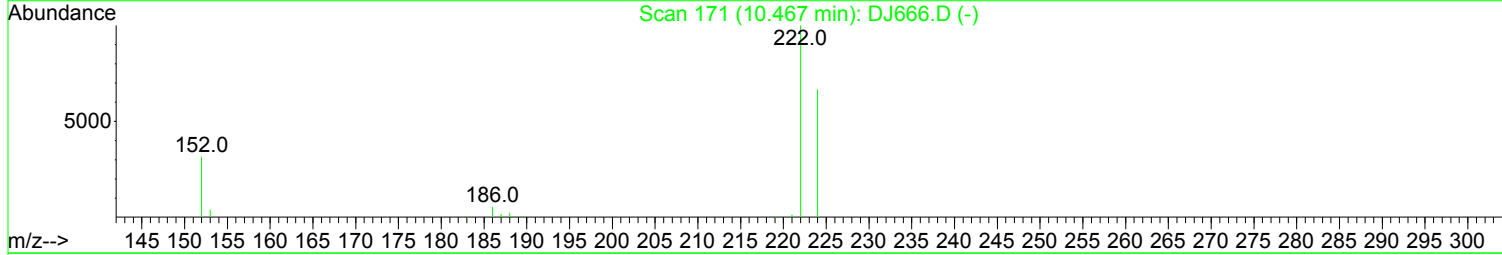
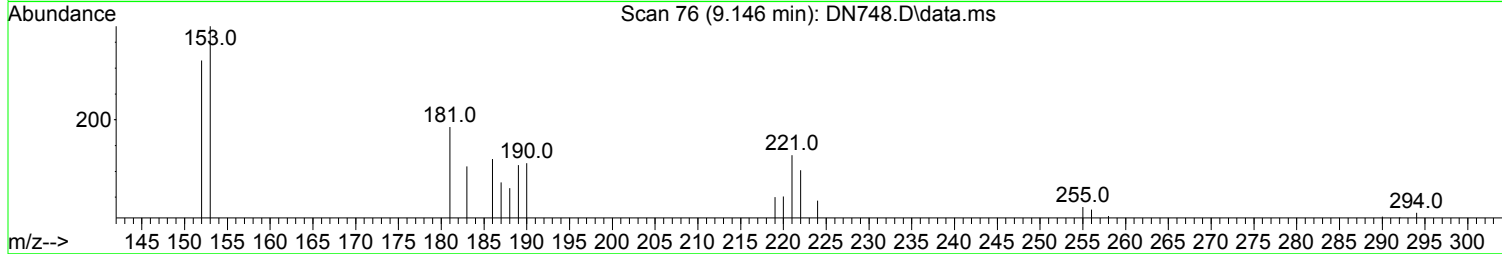
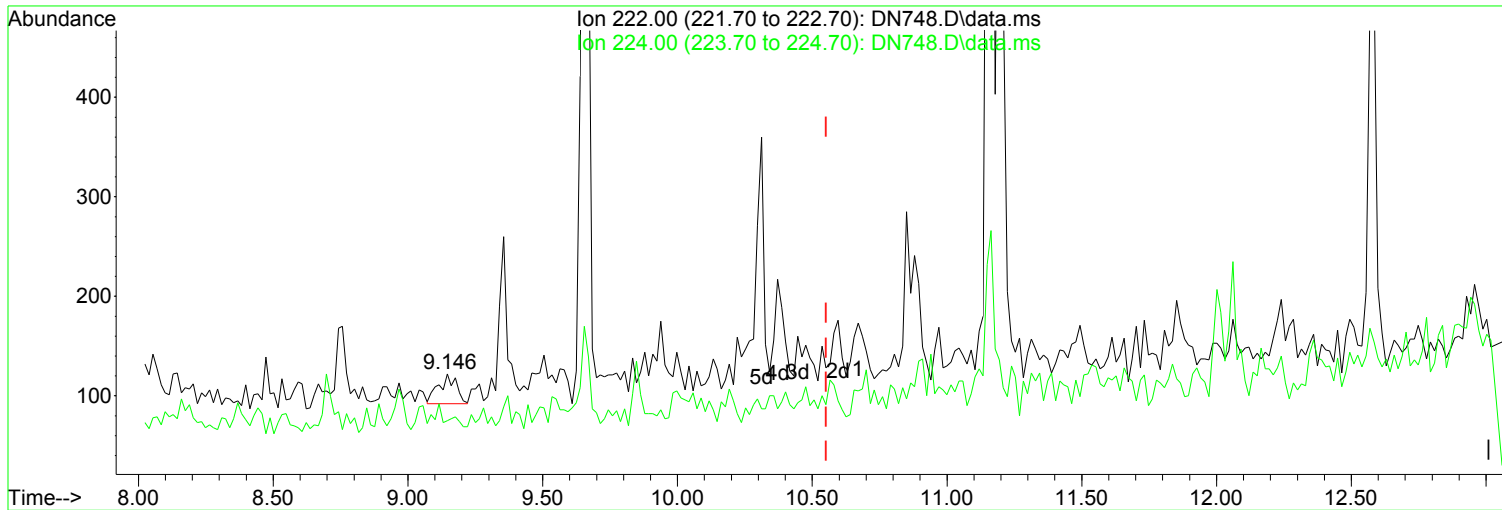
Quant Time: Feb 22 09:21:31 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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



(28) CL2 - #1 (L2)

Manual Integration:

9.146min (-1.405) 0.00 ppm m

After

response 135

Other -

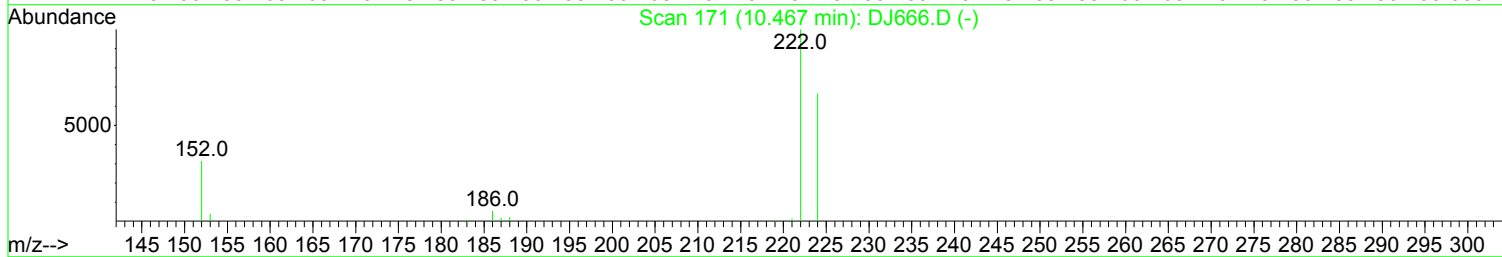
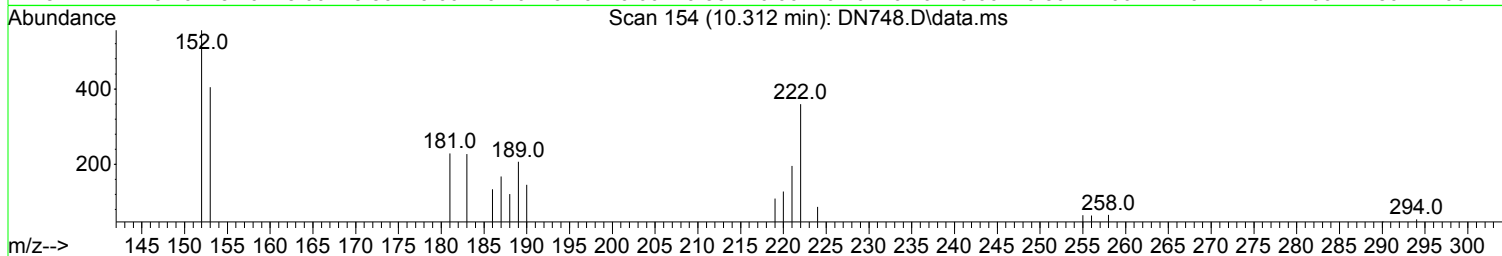
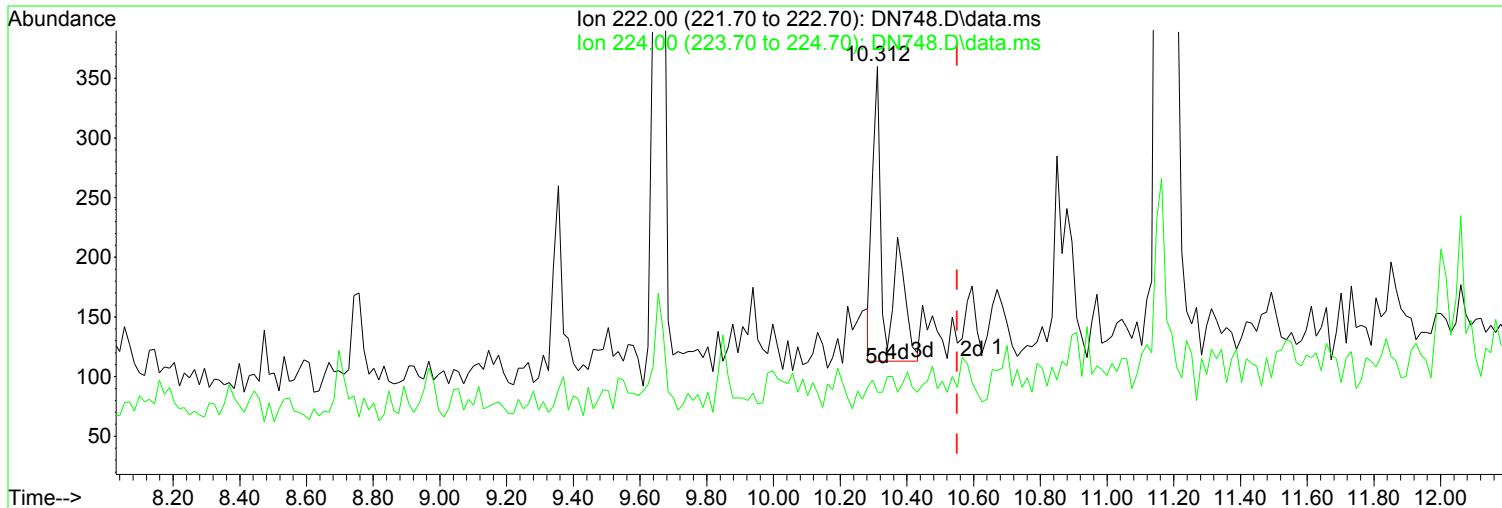
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	61.48
0.00	0.00	0.00
0.00	0.00	0.00

02/22/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

10.312min (-0.239) 0.00 ppm m

After

response 662

Other -

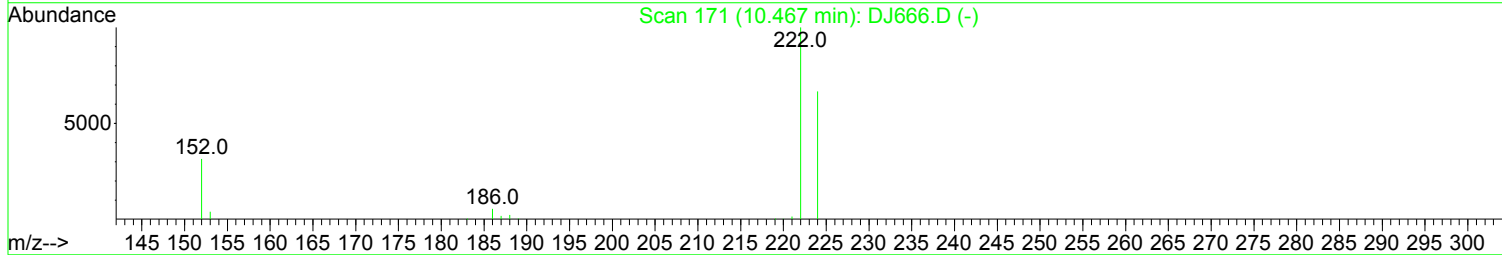
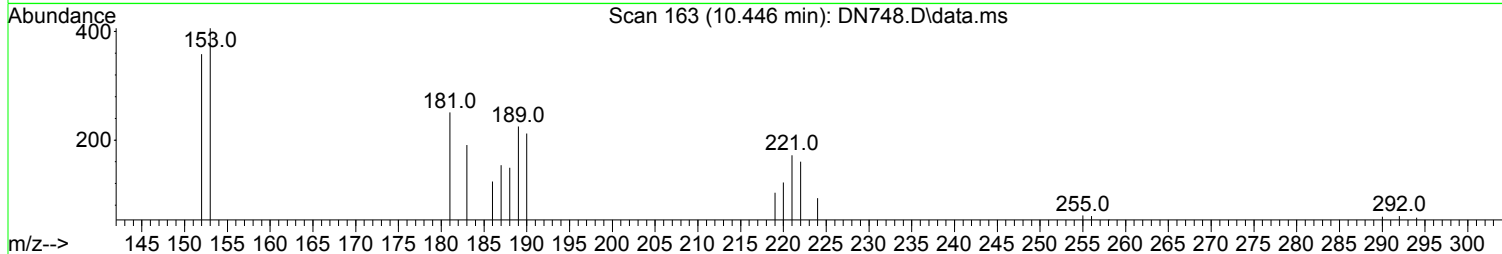
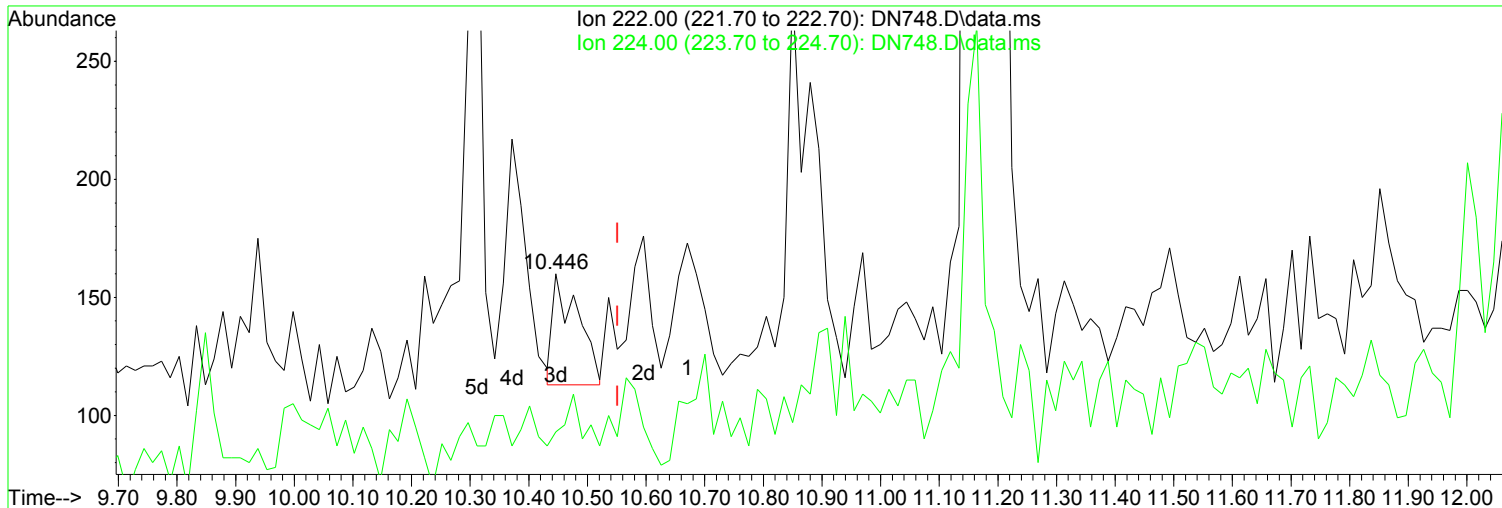
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	24.17#
0.00	0.00	0.00
0.00	0.00	0.00

02/22/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

10.446min (-0.105) 0.00 ppm m

After

response 140

Other -

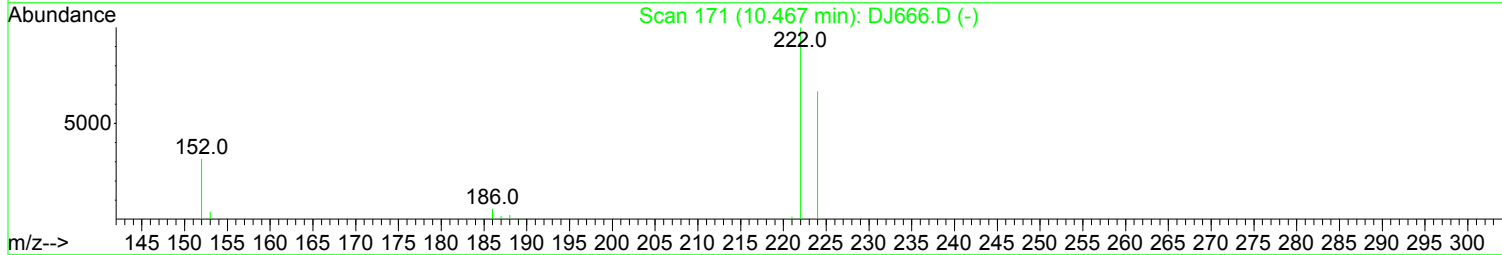
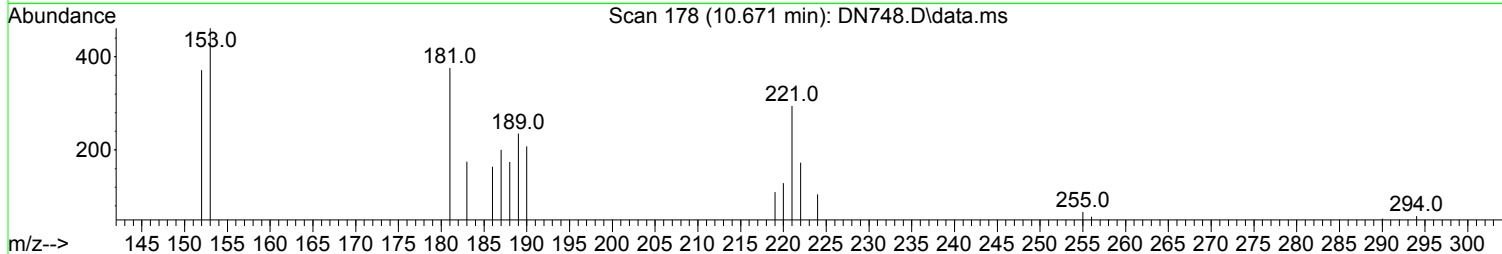
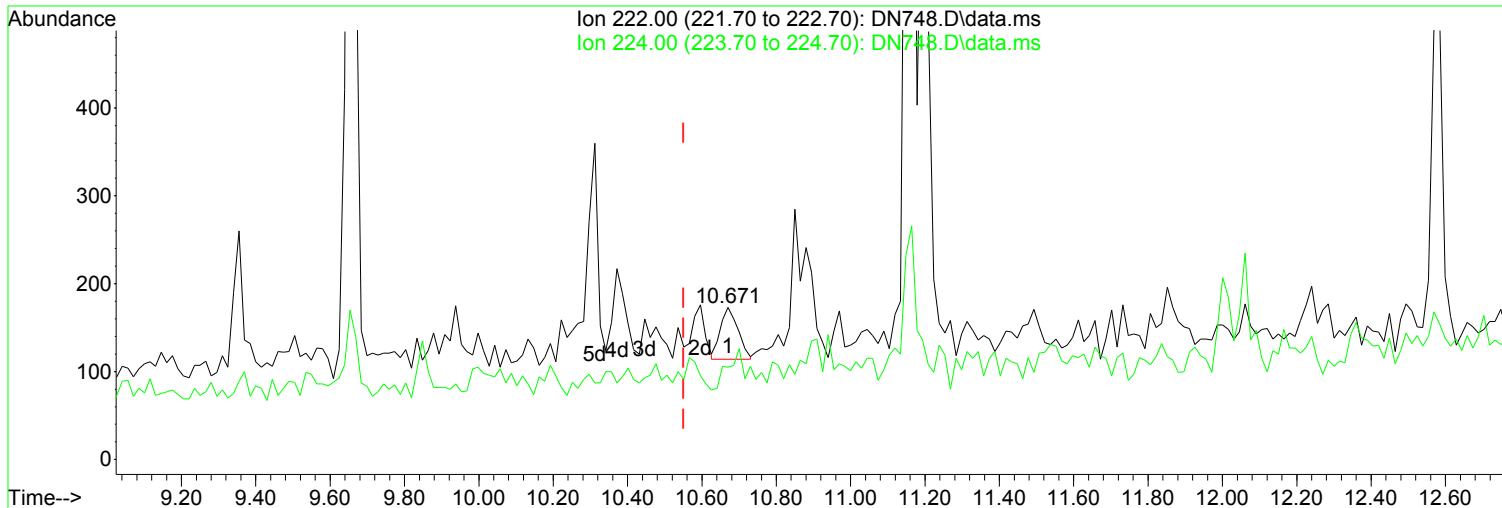
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	58.13
0.00	0.00	0.00
0.00	0.00	0.00

02/22/19

APPENDIX D - Laboratory Reports

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

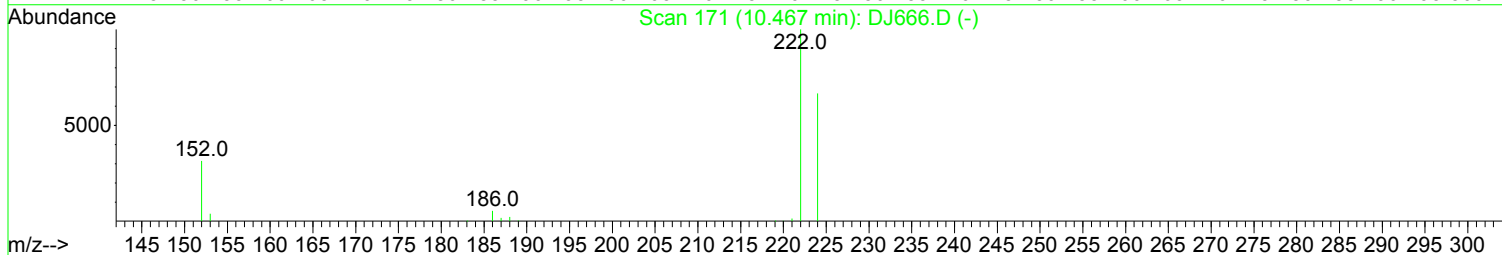
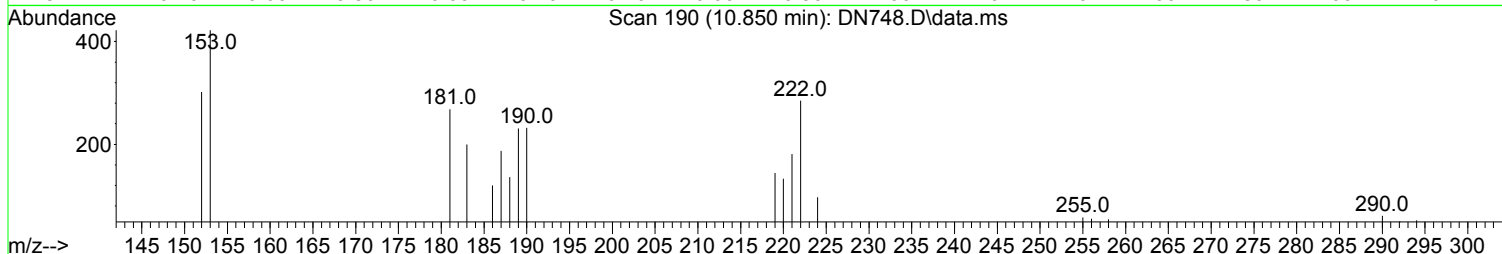
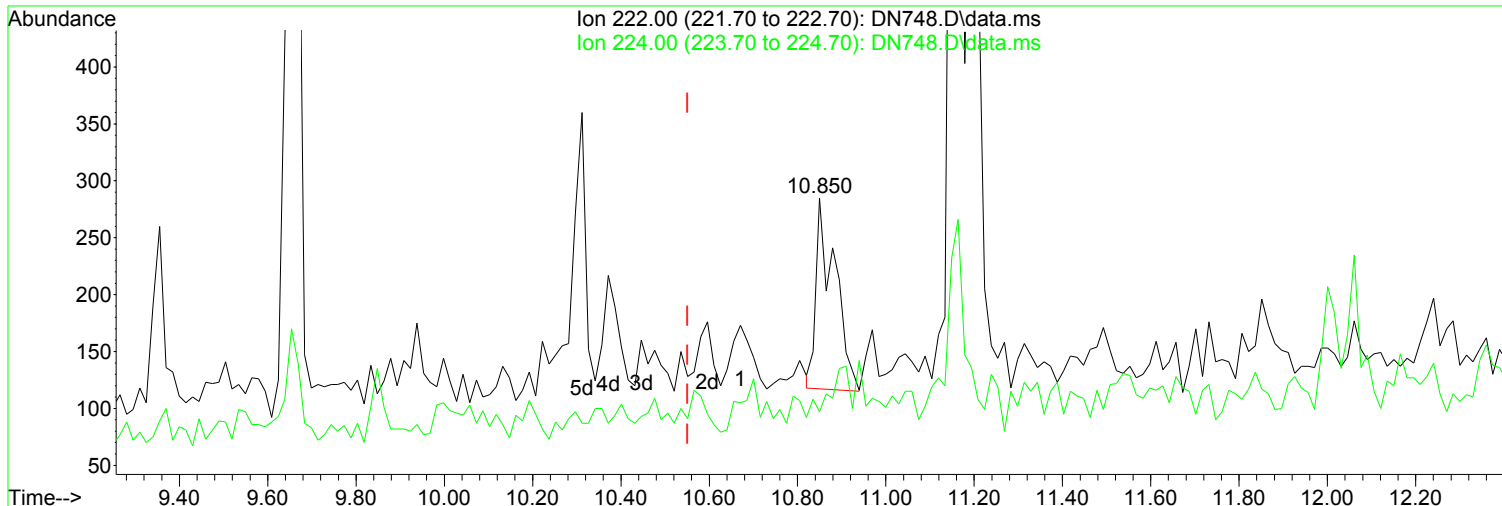


(31) CL2 - #4 (L2)			Manual Integration:
10.671min (+ 0.120) 0.00 ppm m			After
response	194		Other -
Ion	Exp%	Act%	02/22/19
222.00	100.00	100.00	
224.00	61.00	60.69	
0.00	0.00	0.00	
0.00	0.00	0.00	

APPENDIX D - Laboratory Reports

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)

Manual Integration:

10.850min (+ 0.299) 0.00 ppm m

After

response 500

Other -

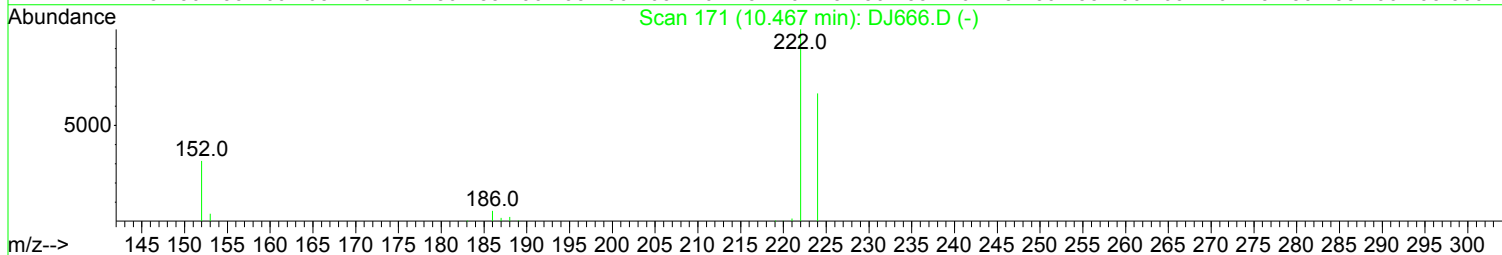
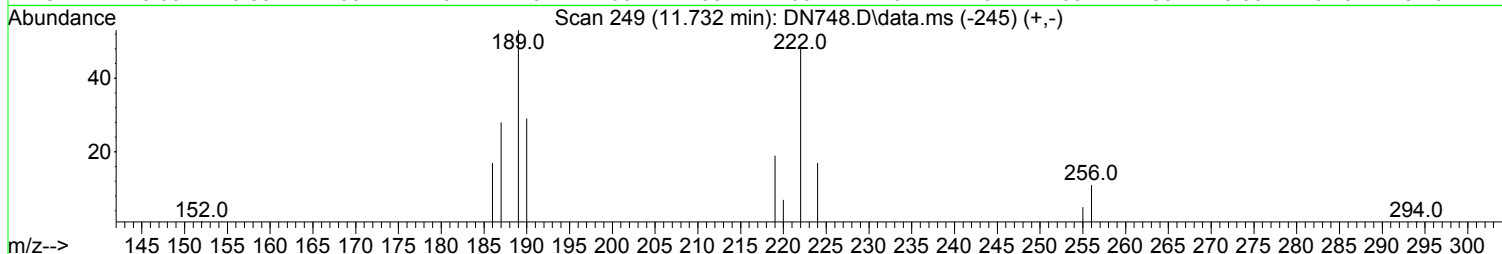
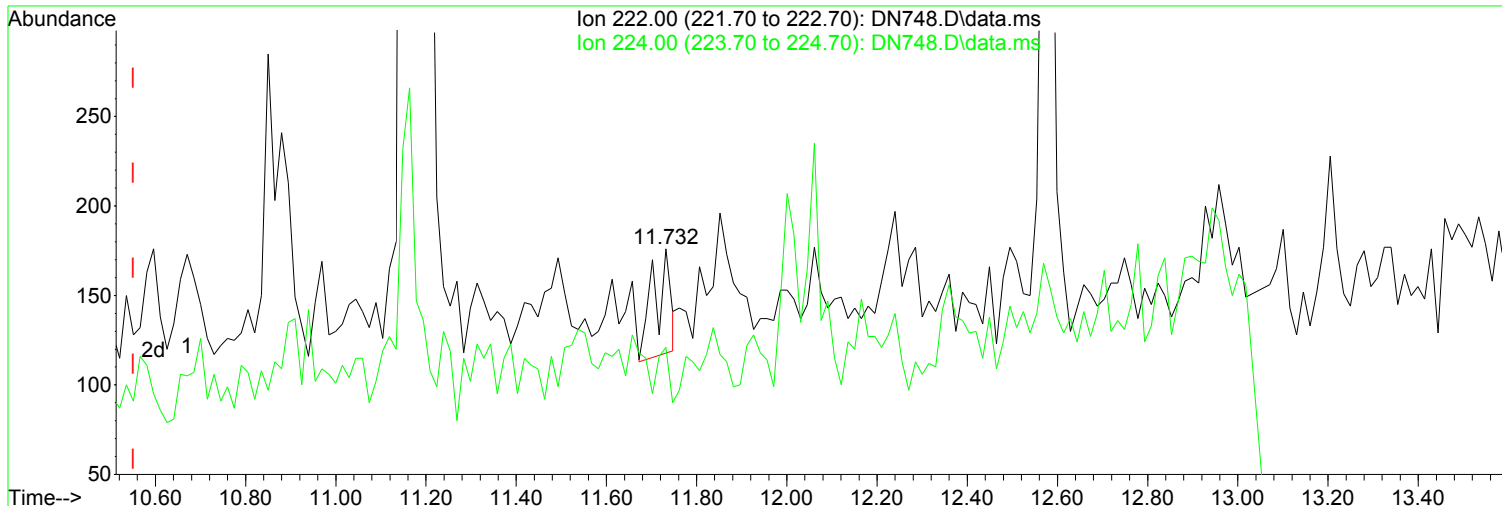
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	34.04
0.00	0.00	0.00
0.00	0.00	0.00

02/22/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

11.732min (+ 1.181) 0.00 ppm m

After

response 154

Other -

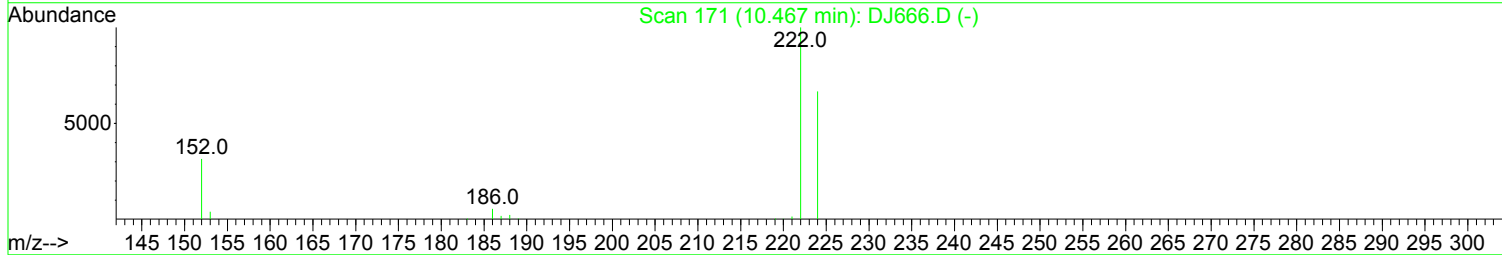
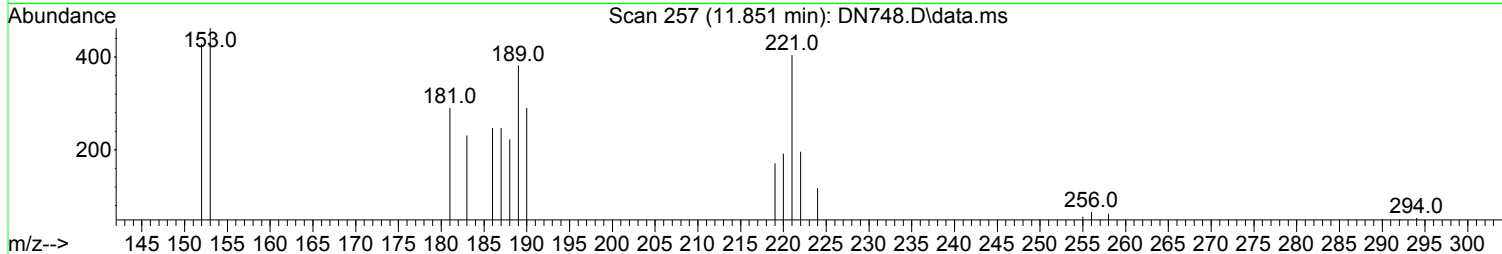
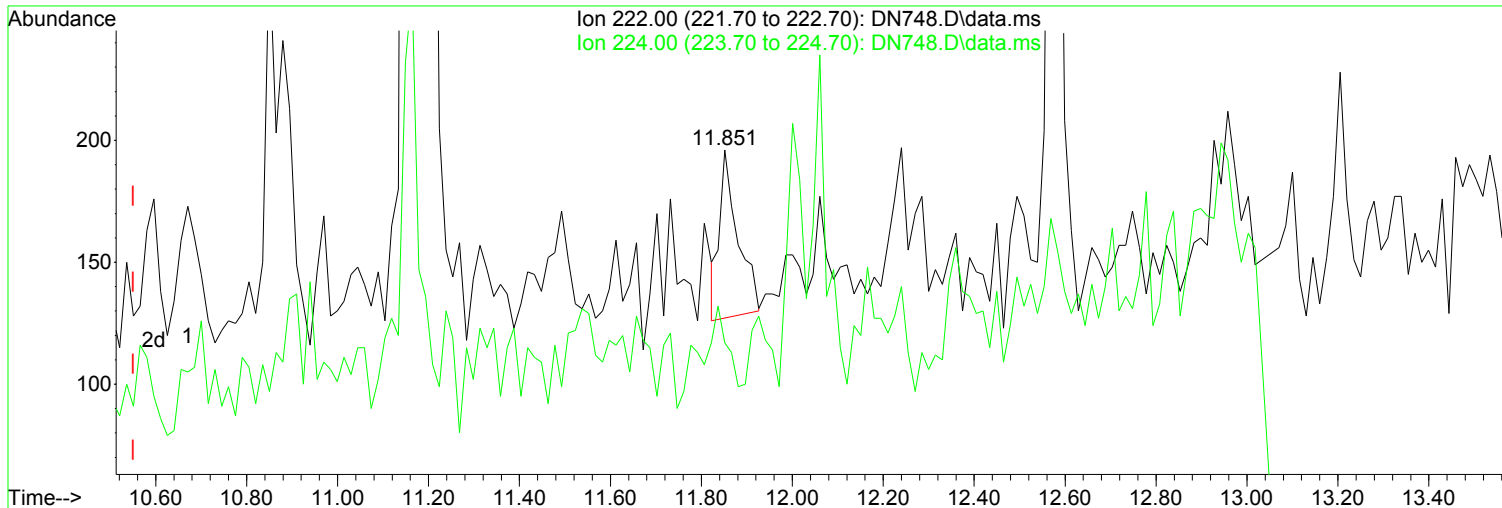
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	68.75
0.00	0.00	0.00
0.00	0.00	0.00

02/22/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

11.851min (+ 1.300) 0.00 ppm m

After

response 194

Other -

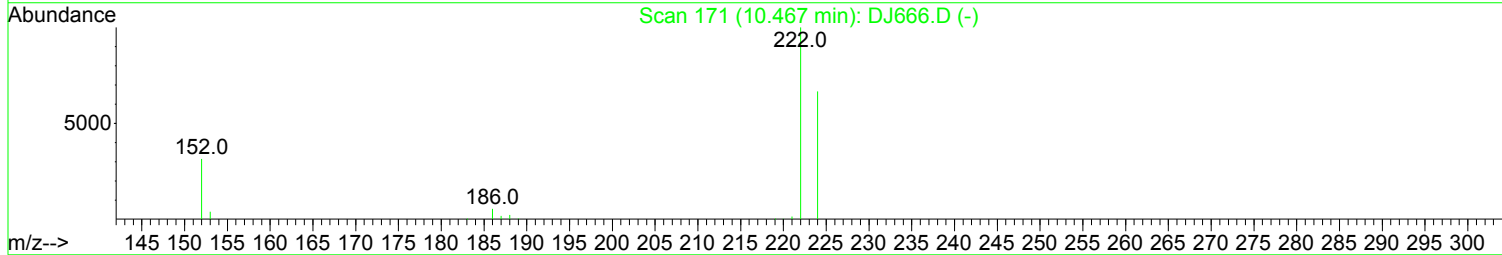
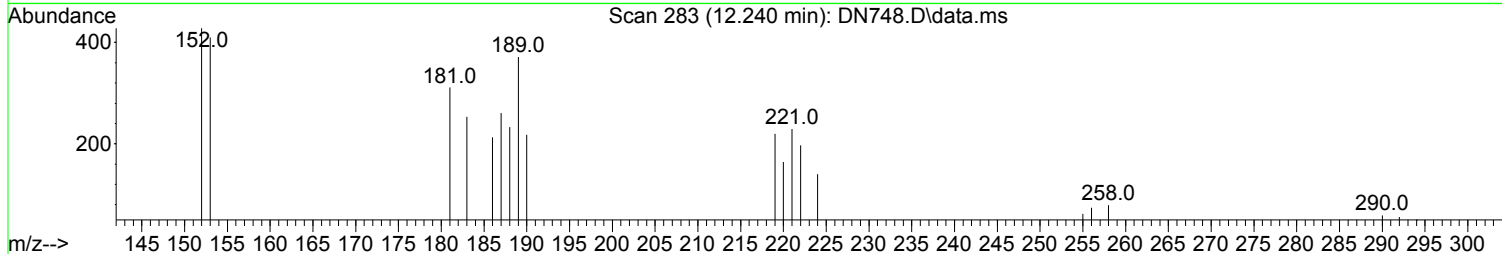
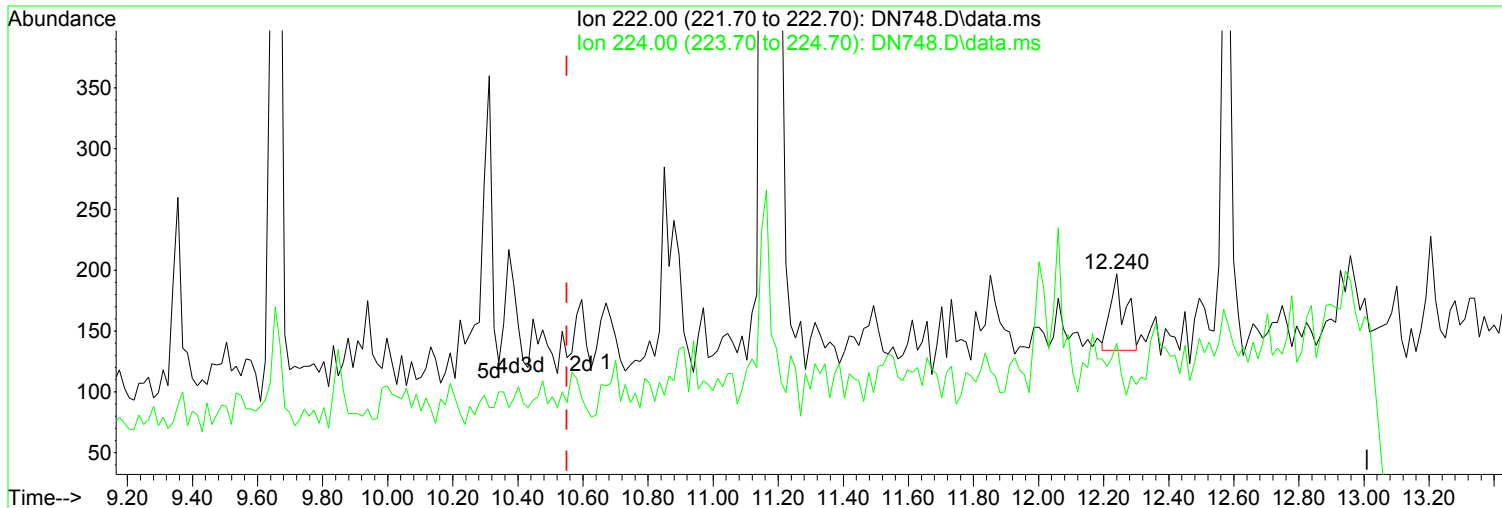
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	59.69
0.00	0.00	0.00
0.00	0.00	0.00

02/22/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

12.240min (+ 1.689) 0.00 ppm m

After

response 209

Other -

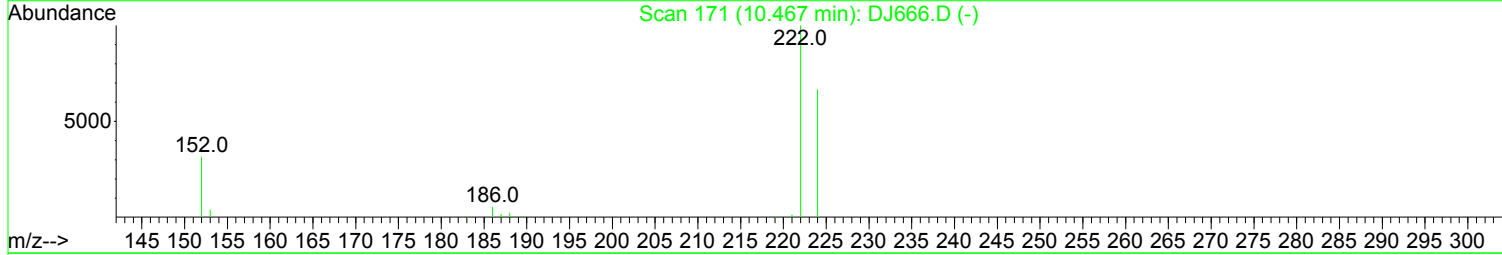
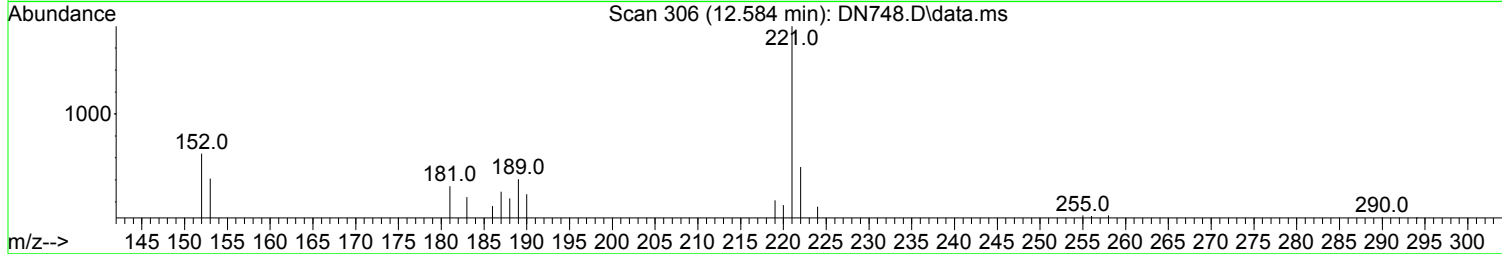
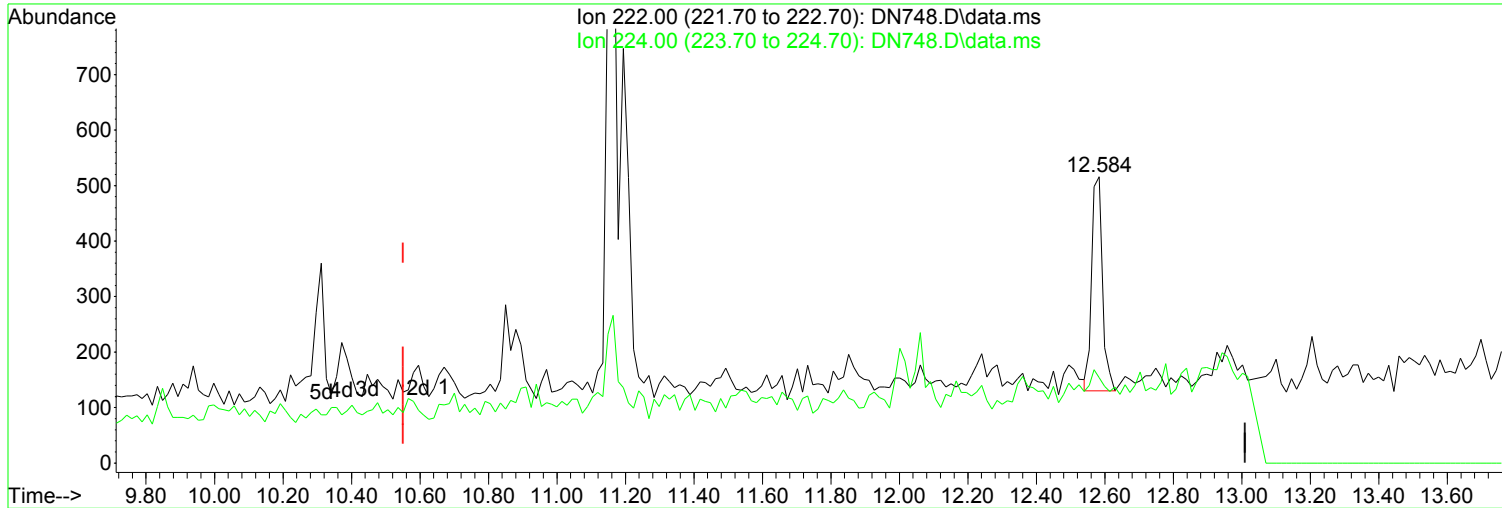
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	71.07
0.00	0.00	0.00
0.00	0.00	0.00

02/22/19

APPENDIX D - Laboratory Reports

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

APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

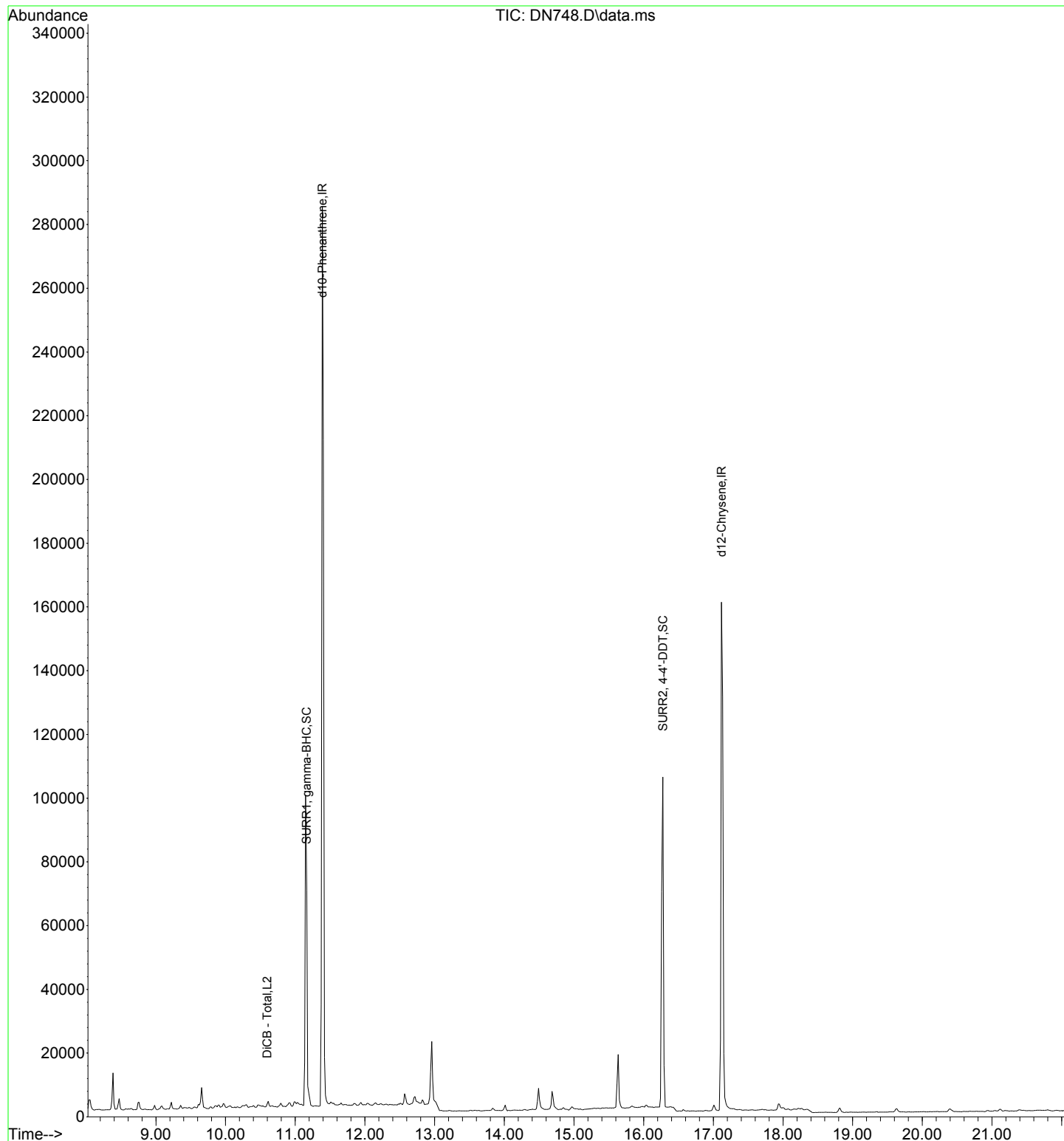
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	343715	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	258551	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.164	219	39975	0.95	ppm	0.01
Spiked Amount	1.000	Range	55 - 133	Recovery	=	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						
38) DiCB - Total	10.596	222	3030m	0.014	ppm	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

APPENDIX D - Laboratory Reports

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

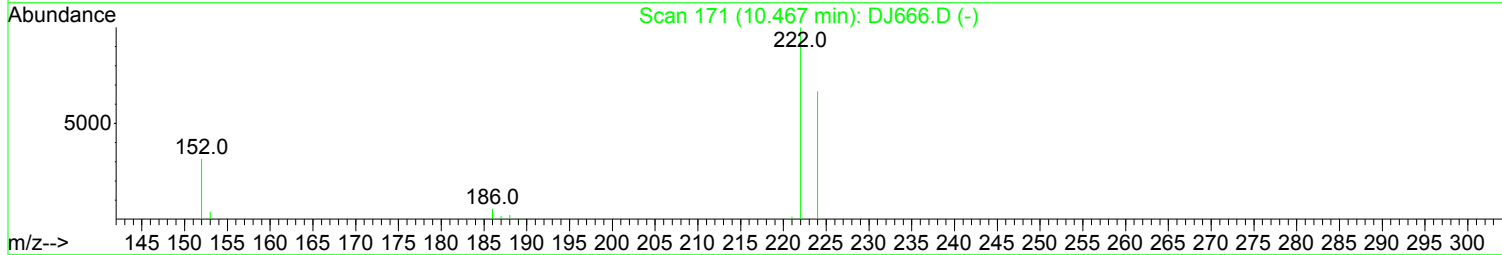
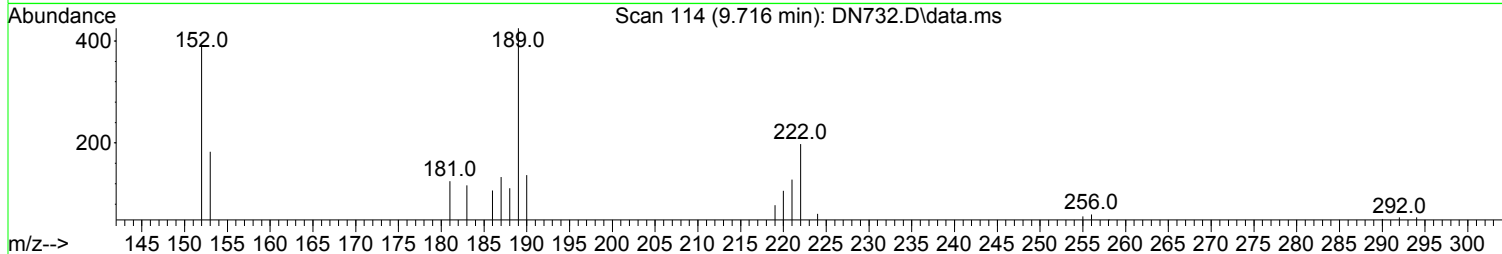
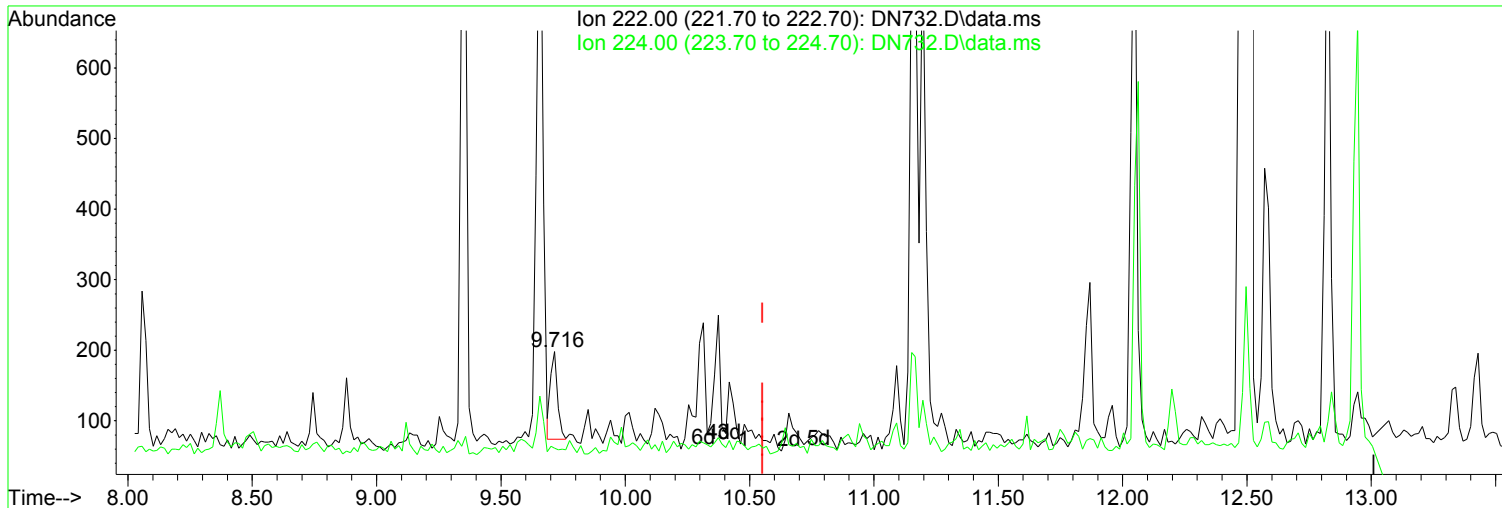
Quant Time: Feb 22 09:21:37 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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)

Manual Integration:

9.716min (-0.835) 0.00 ppm m

After

response 243

Other -

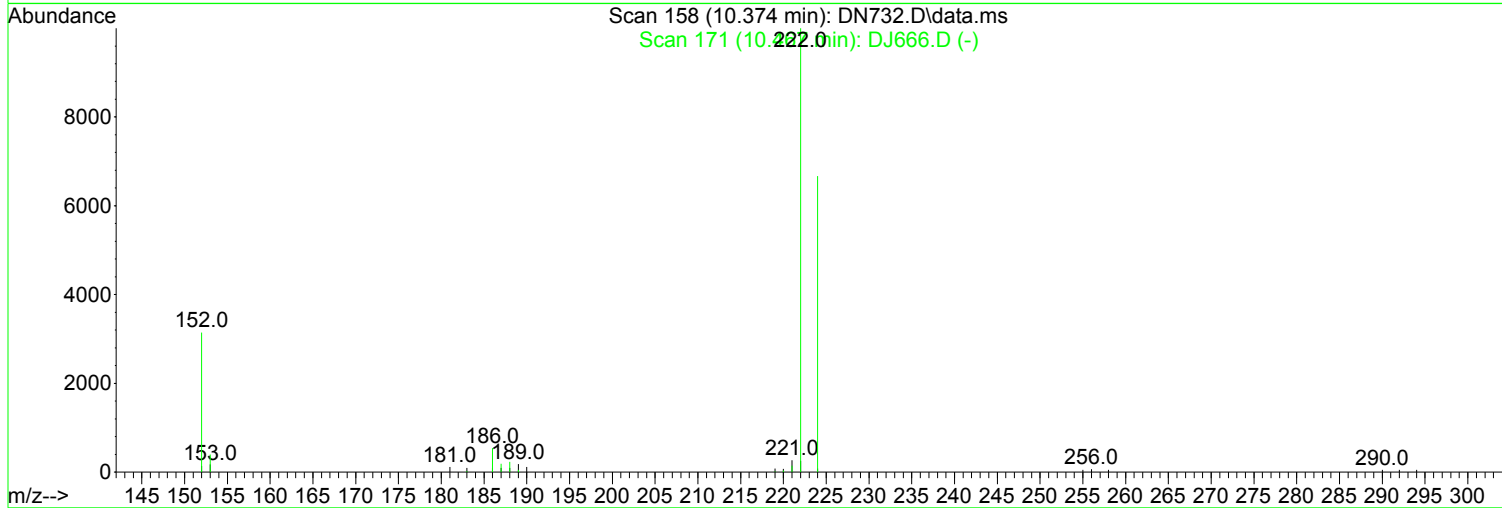
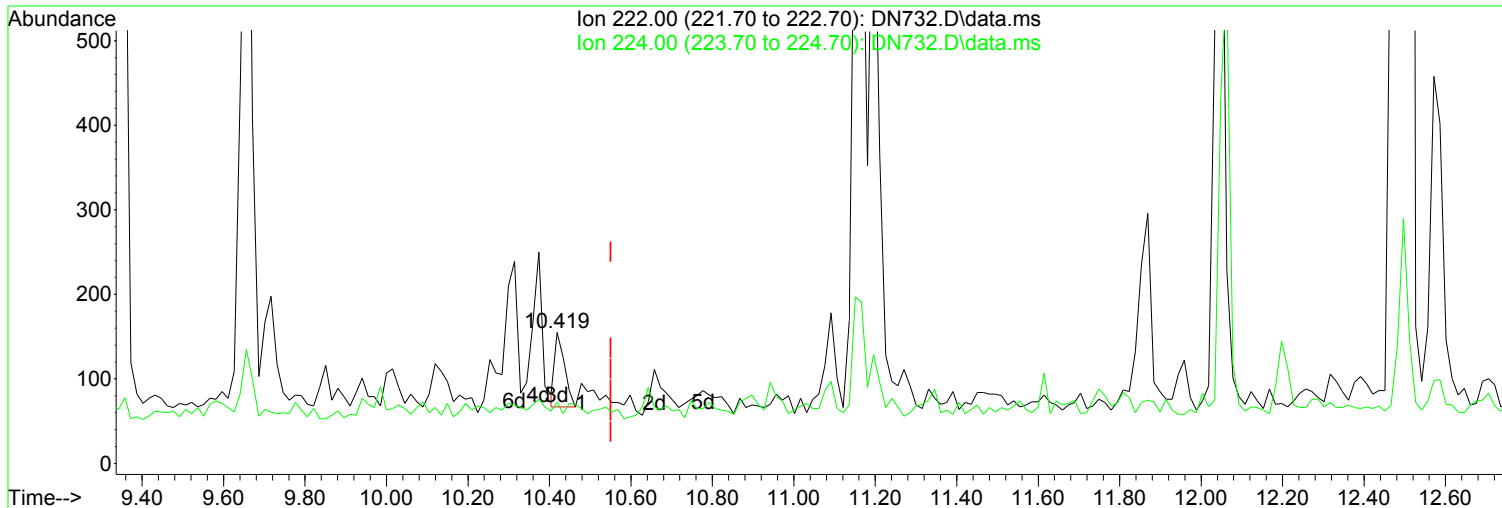
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	30.81#
0.00	0.00	0.00
0.00	0.00	0.00

02/22/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

10.419min (-0.132) 0.00 ppm m

After

response 148

Other -

Ion Exp% Act%

02/22/19

222.00 100.00 100.00

224.00 61.00 46.45

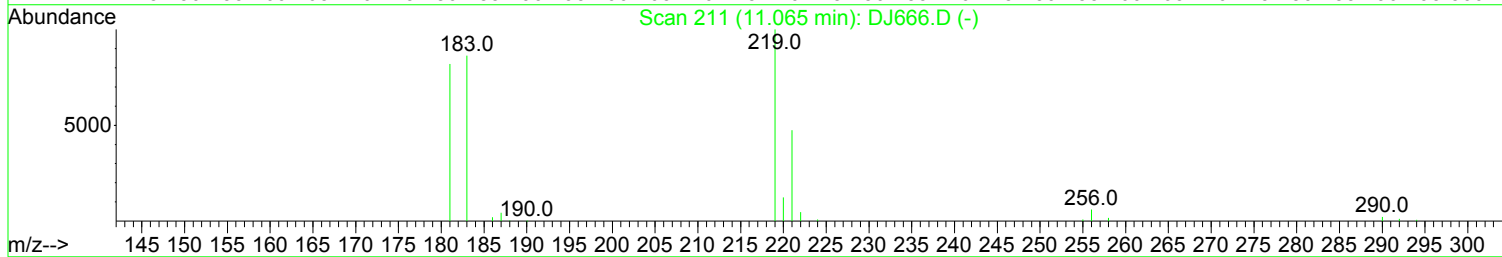
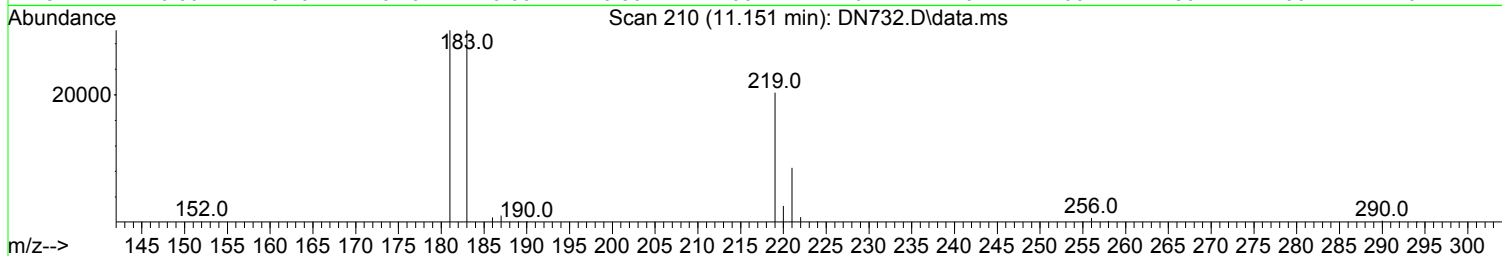
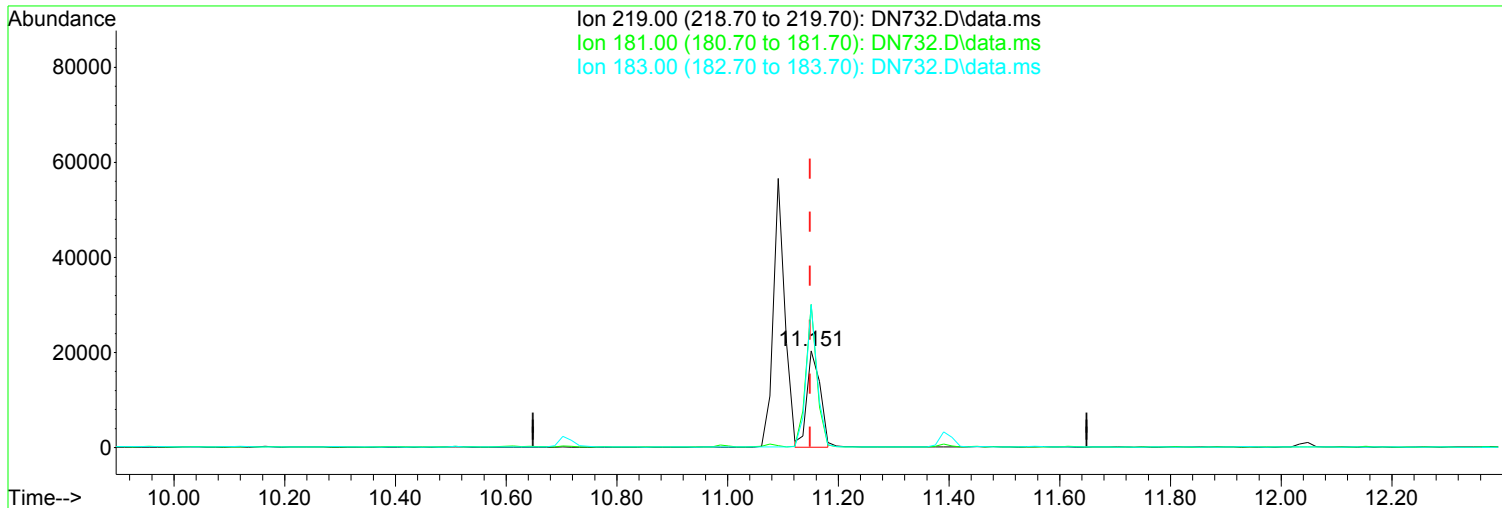
0.00 0.00 0.00

0.00 0.00 0.00

APPENDIX D - Laboratory Reports

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)

Manual Integration:

11.151min (+ 0.002) 0.78 ppm m

After

response 33515

Split Peak.

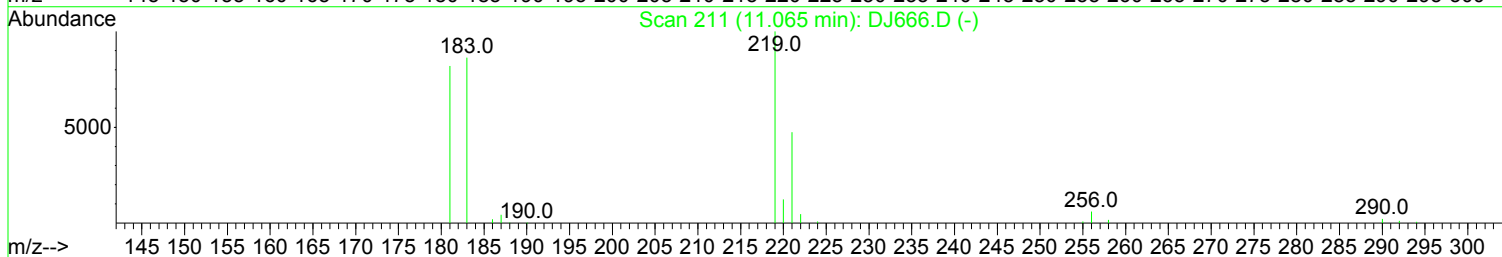
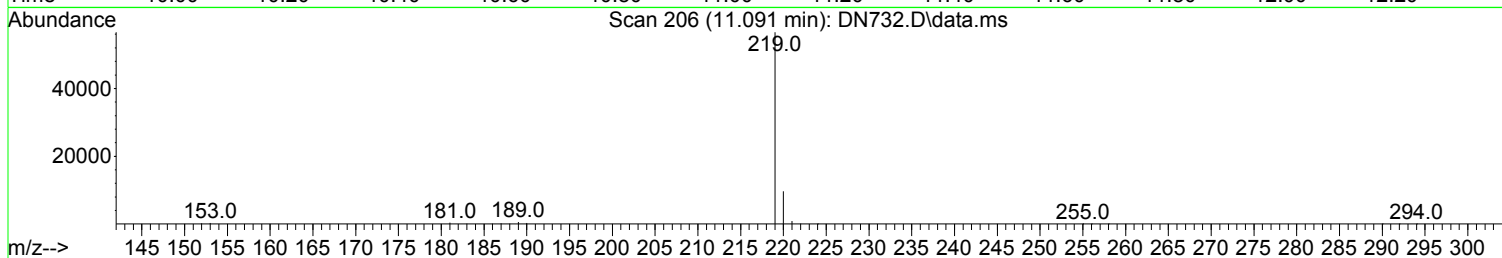
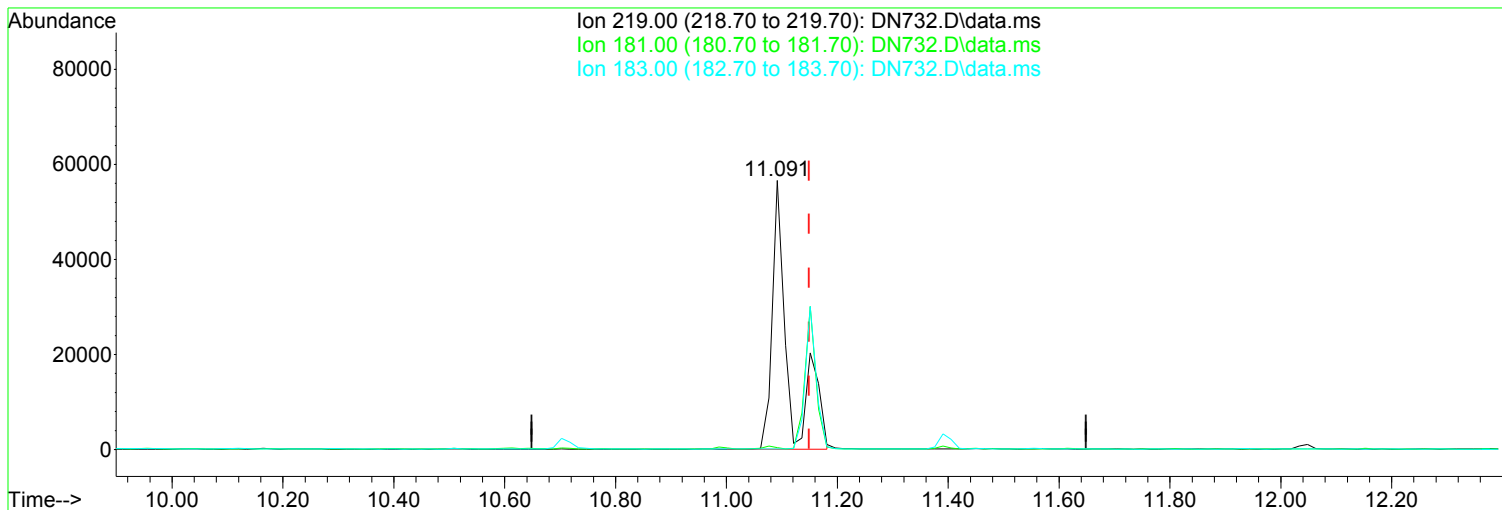
Ion	Exp%	Act%
219.00	100.00	100.00
181.00	137.20	147.84
183.00	135.20	147.84
0.00	0.00	0.00

02/22/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

11.091min (-0.058) 2.68 ppm

Before

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

02/22/19

APPENDIX D - Laboratory Reports

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

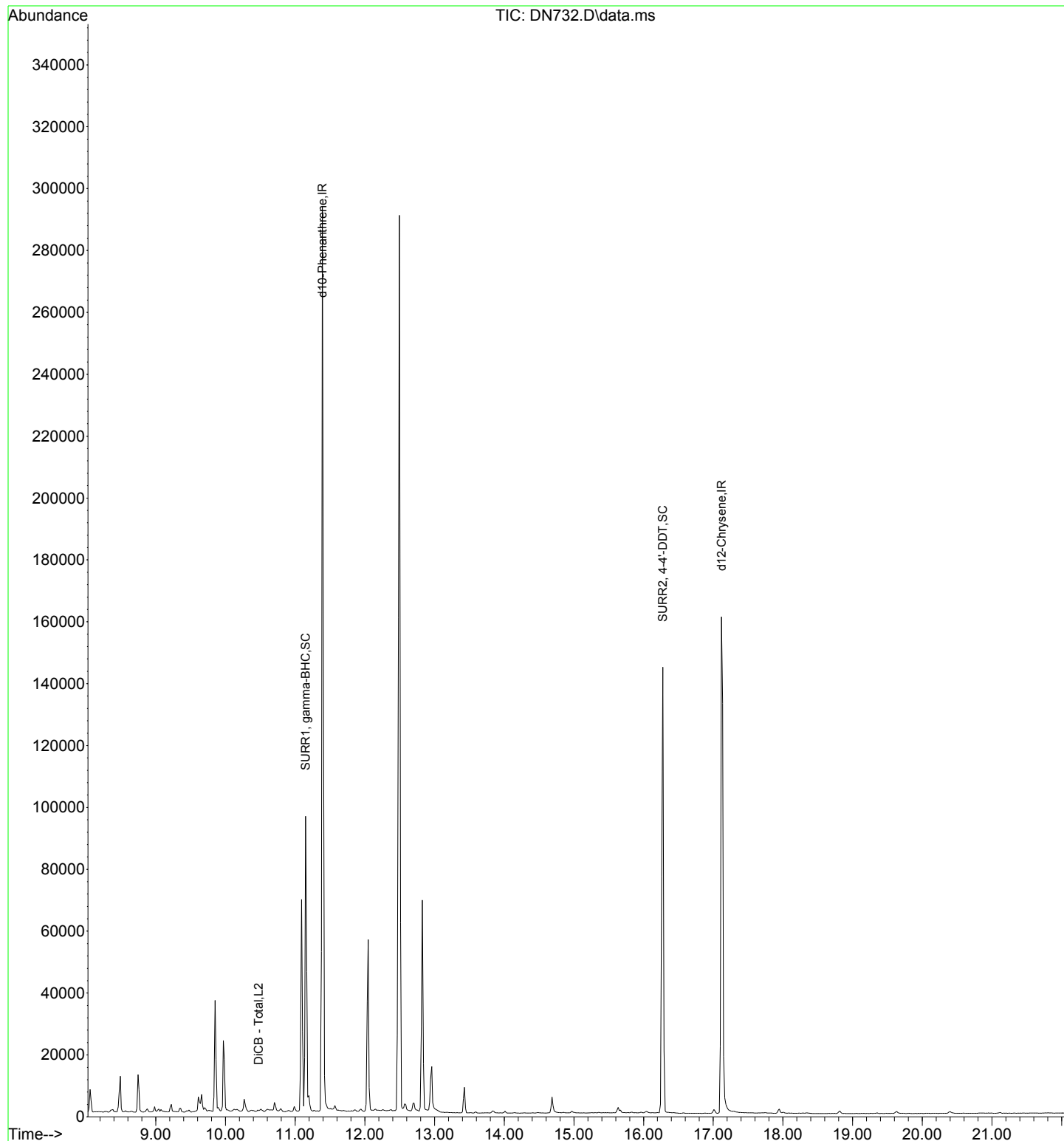
Quant Time: Feb 22 08:03:31 2019
 Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

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						
38) DiCB - Total	10.478	222	391m	0.002	ppm	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

APPENDIX D - Laboratory Reports
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

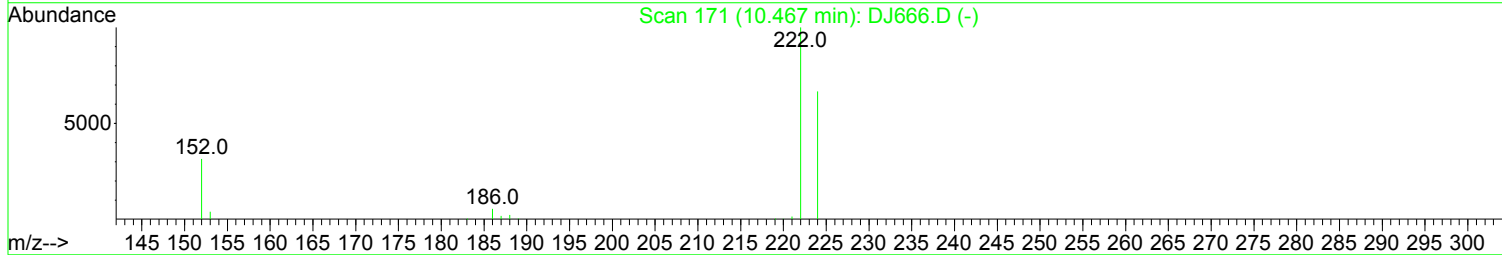
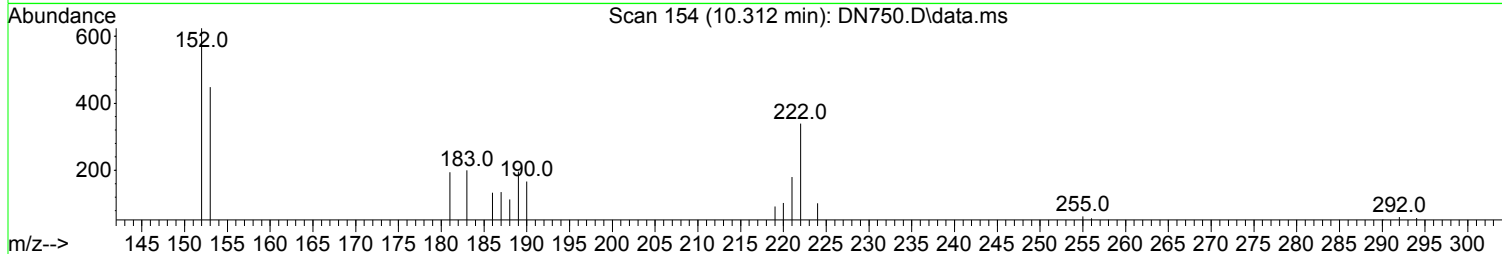
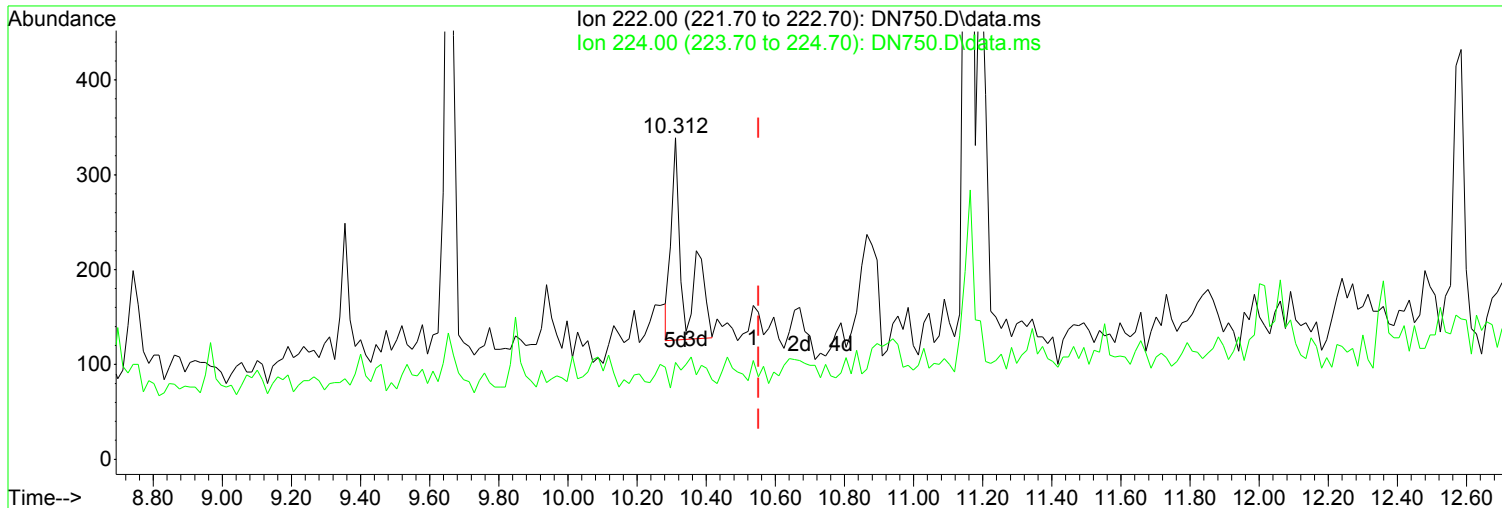
Quant Time: Feb 22 08:03:31 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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



(28) CL2 - #1 (L2)

10.312min (-0.239) 0.00 ppm m

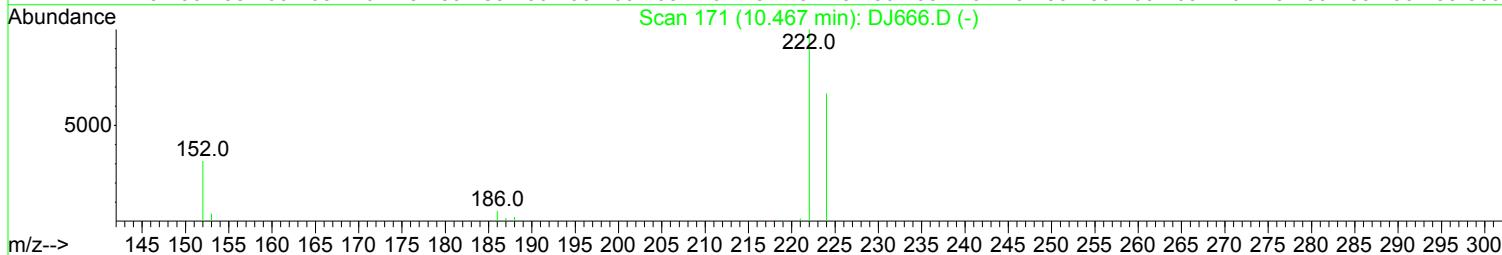
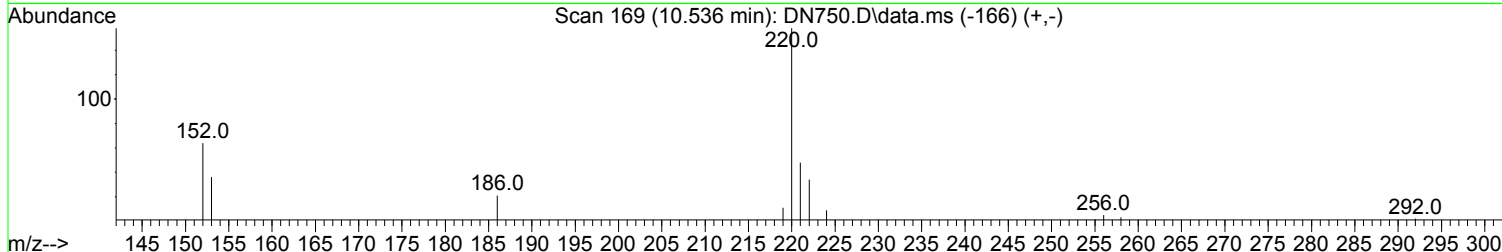
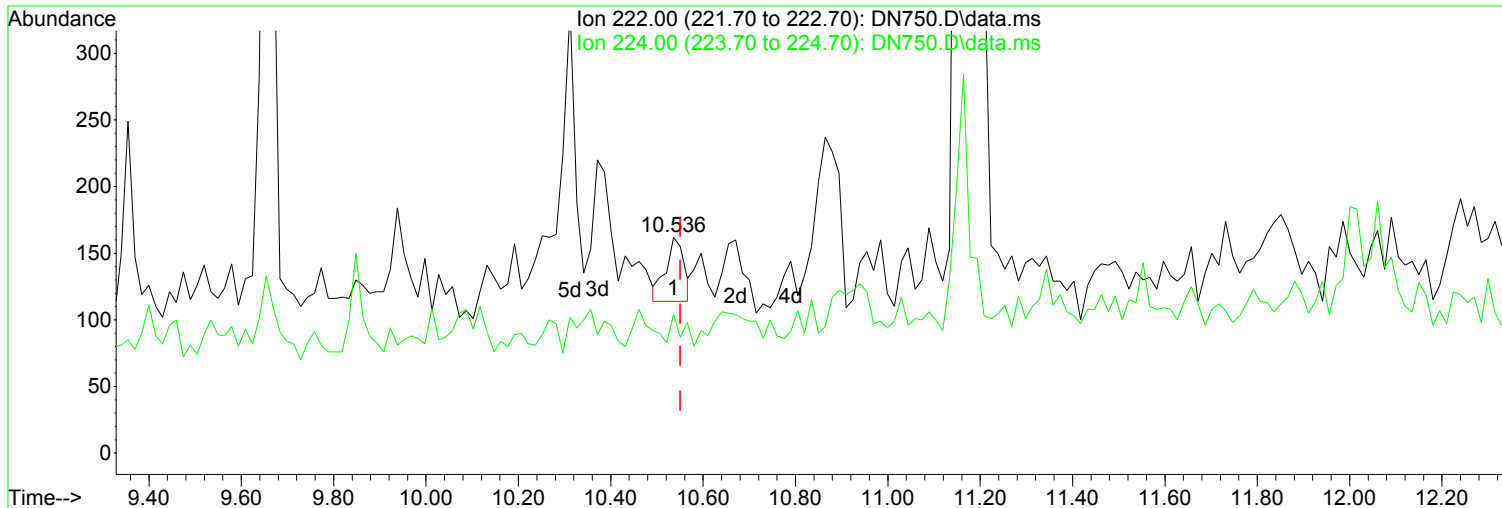
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	30.09#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
Other -
02/22/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

10.536min (-0.015) 0.00 ppm m

After

response 130

Other -

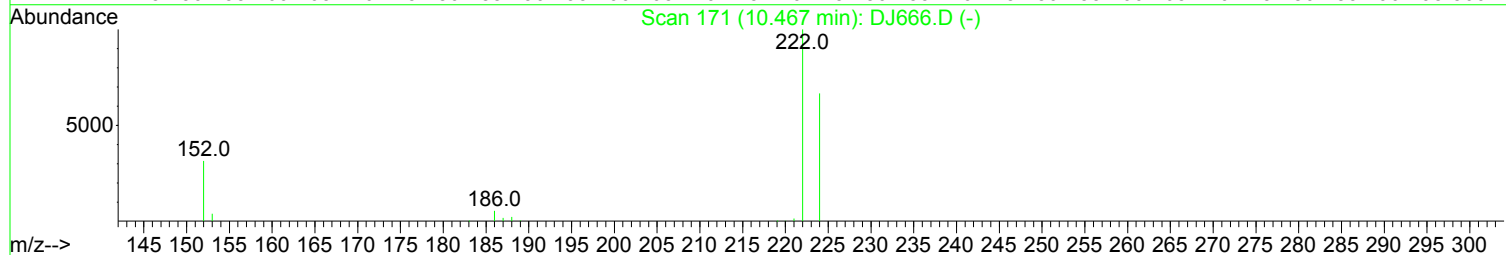
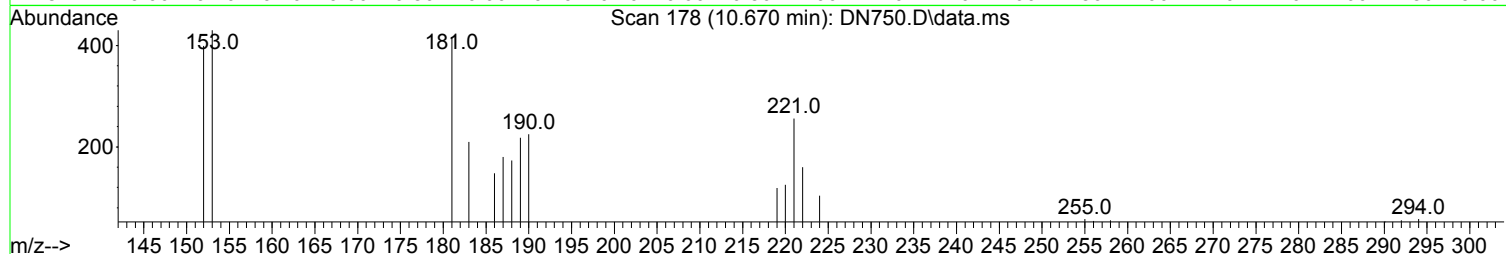
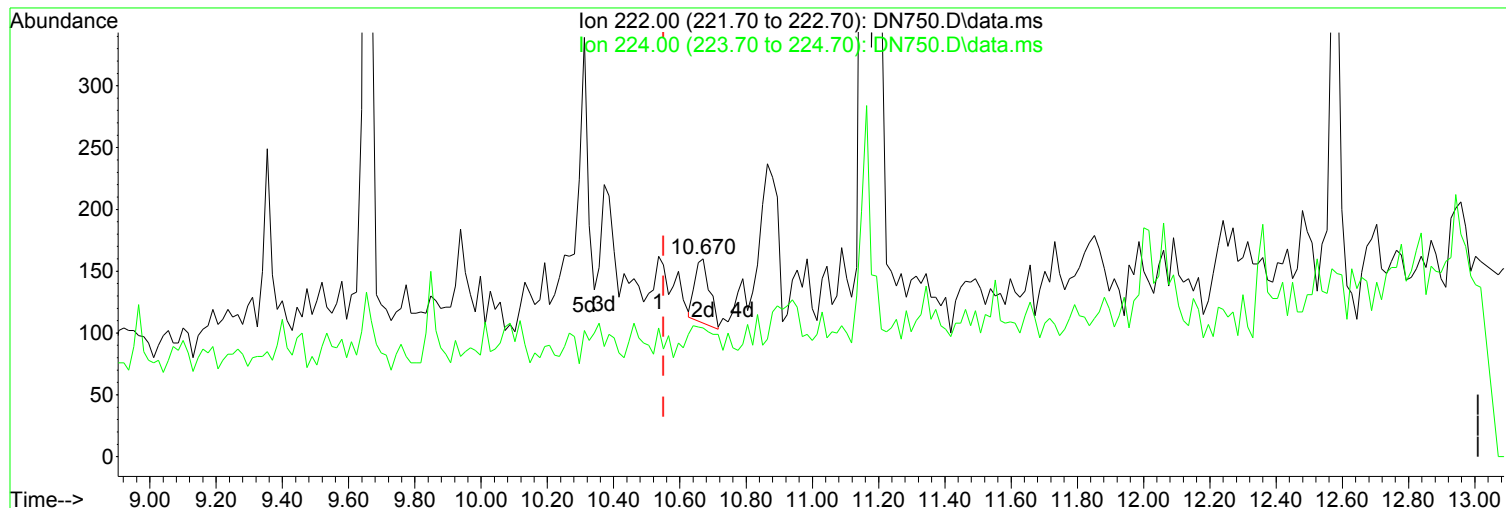
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	64.20
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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)

Manual Integration:

10.670min (+ 0.119) 0.00 ppm m

After

response 156

Other -

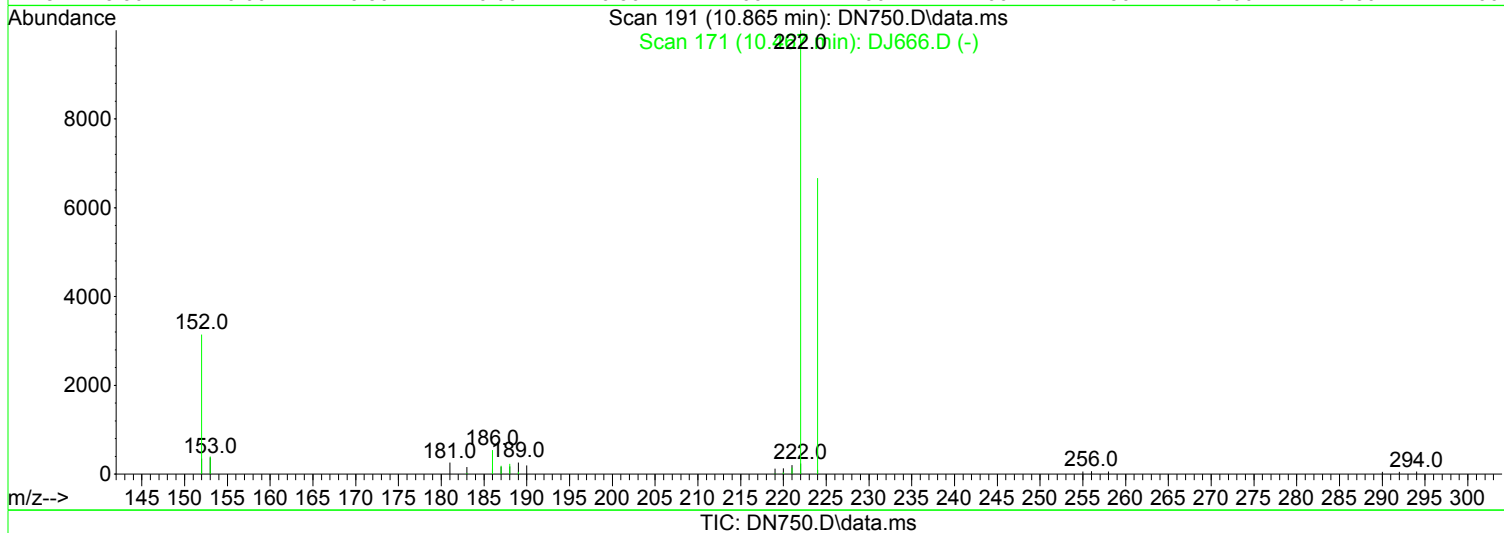
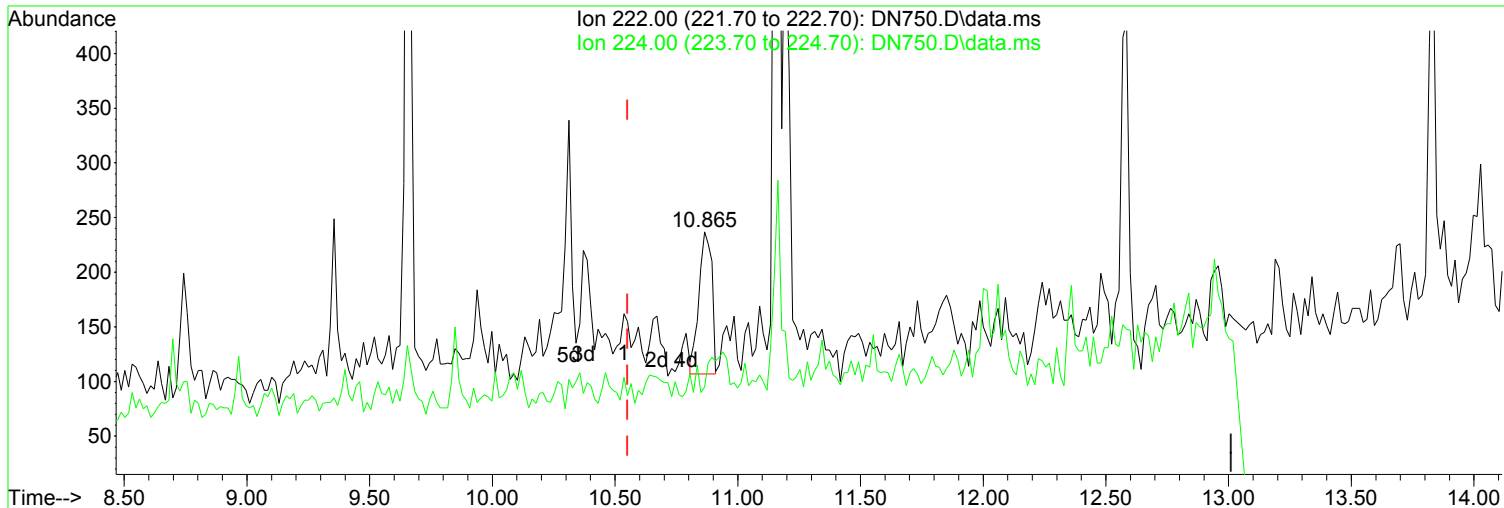
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	65.00
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(31) CL2 - #4 (L2)

Manual Integration:

10.865min (+ 0.314) 0.00 ppm m

After

response 471

Other -

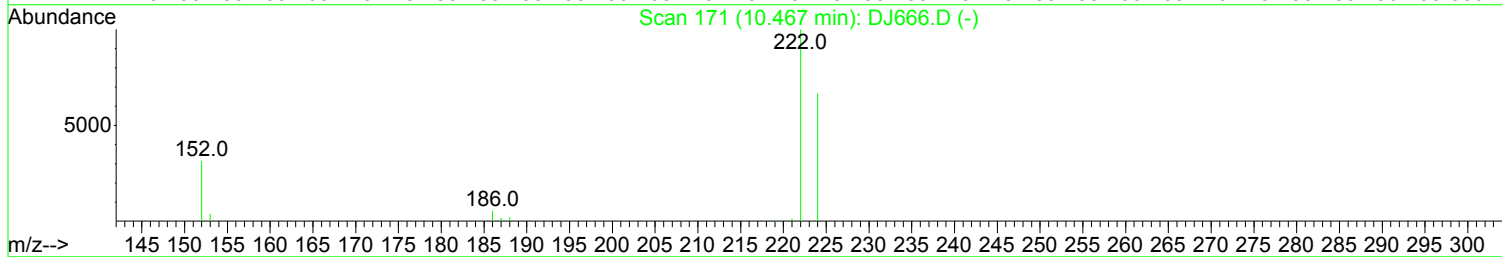
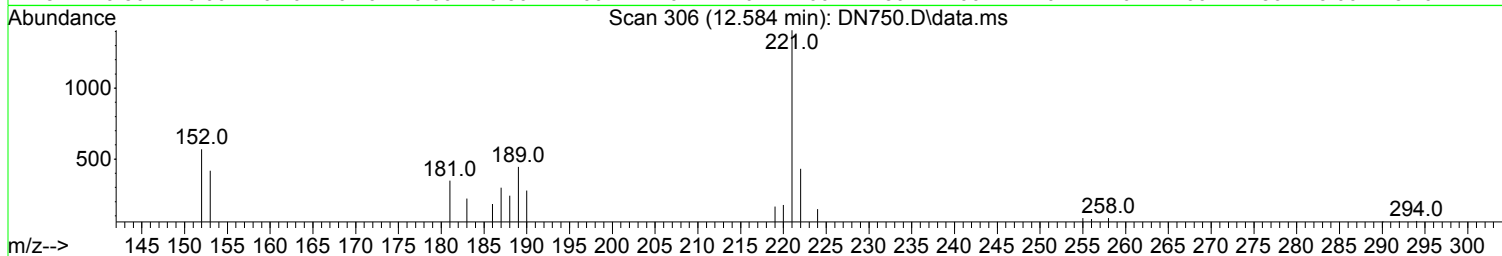
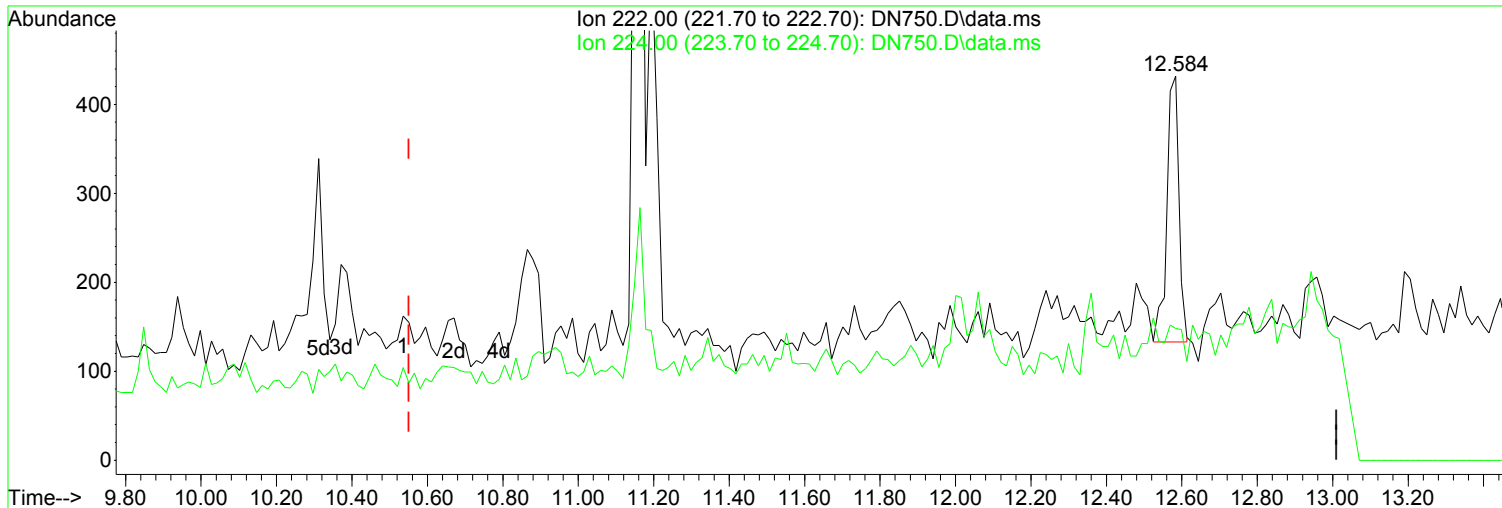
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	40.08
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(32) CL2 - #5 (L2)

Manual Integration:

12.584min (+ 2.033) 0.00 ppm m

After

response 666

Other -

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

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APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

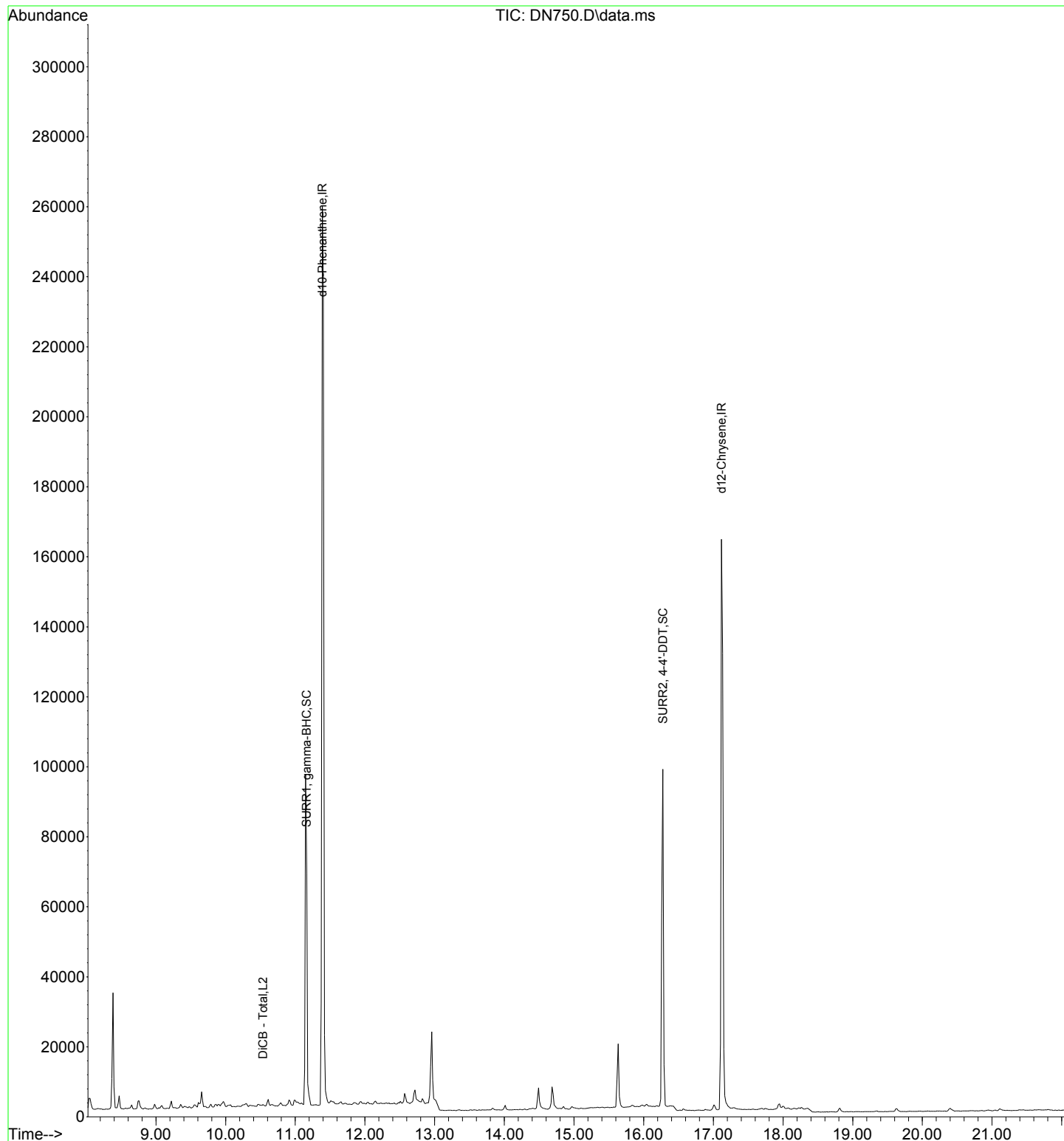
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	346419	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	257868	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.164	219	37244	0.88	ppm	0.01
Spiked Amount	1.000	Range 55 - 133	Recovery	=	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						
38) DiCB - Total	10.536	222	1984m	0.009	ppm	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

APPENDIX D - Laboratory Reports

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

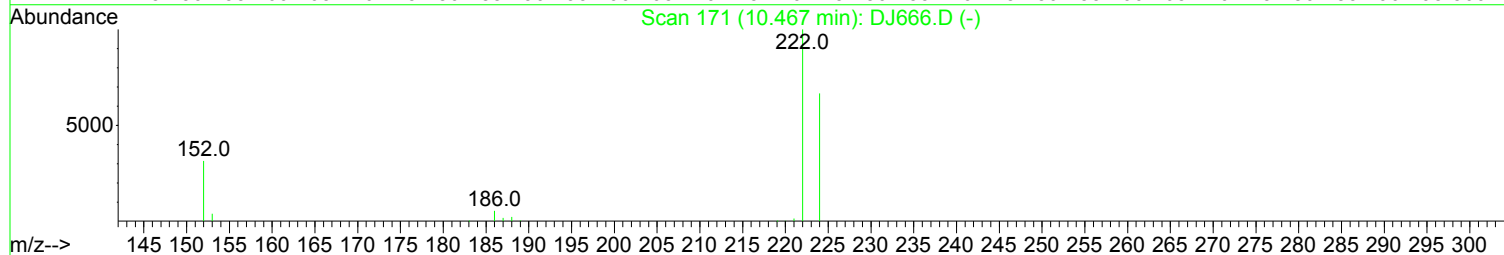
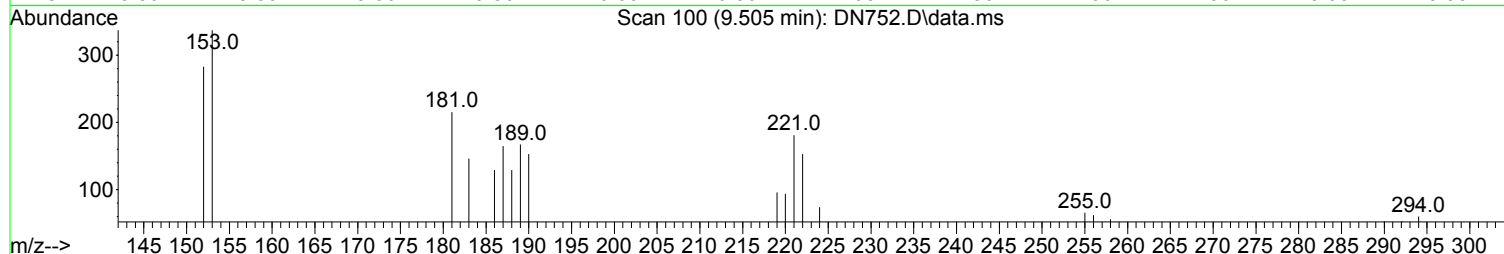
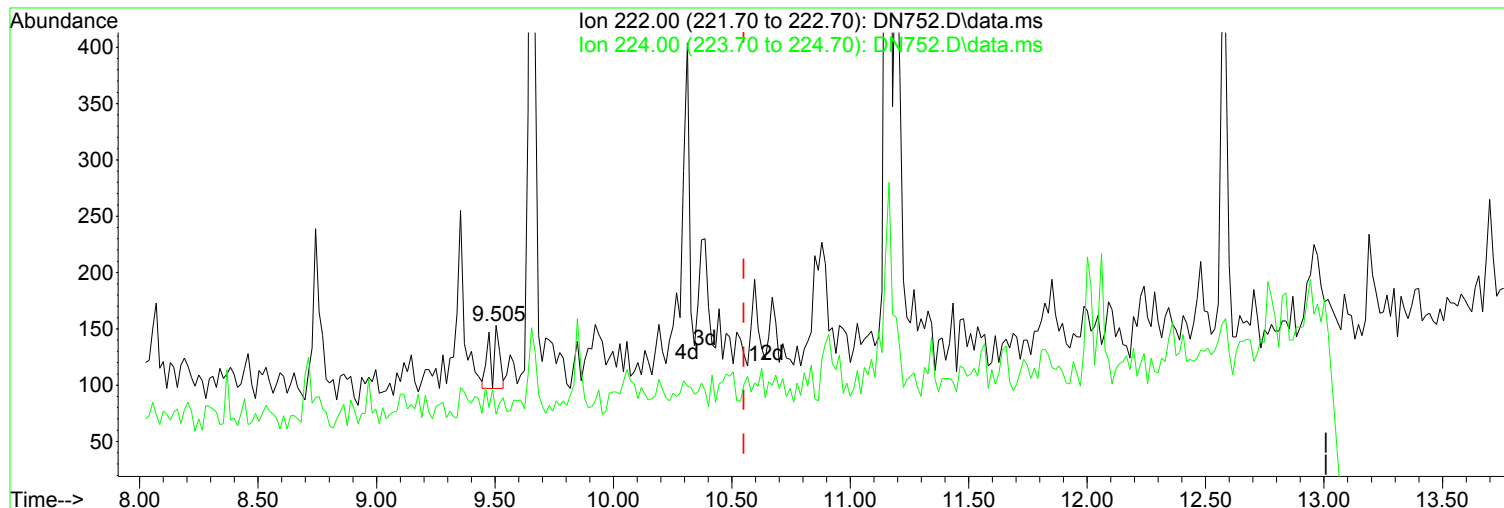
Quant Time: Feb 22 09:21:43 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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



(28) CL2 - #1 (L2)

Manual Integration:

9.505min (-1.046) 0.00 ppm m

After

response 150

Other -

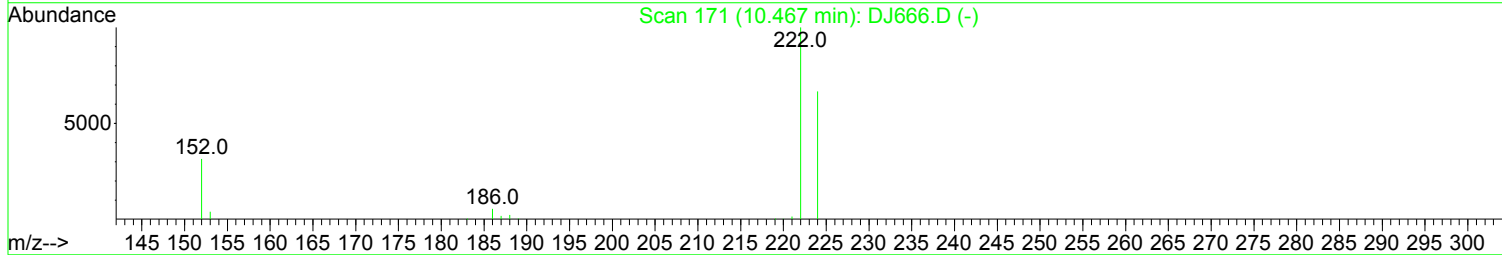
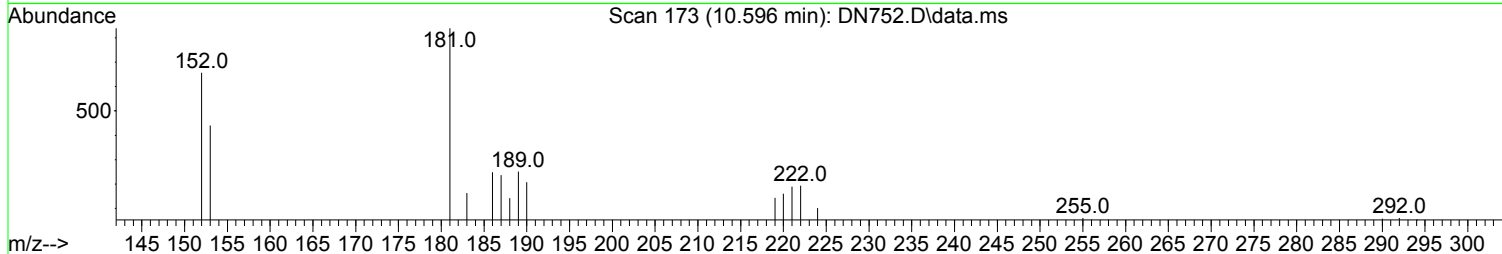
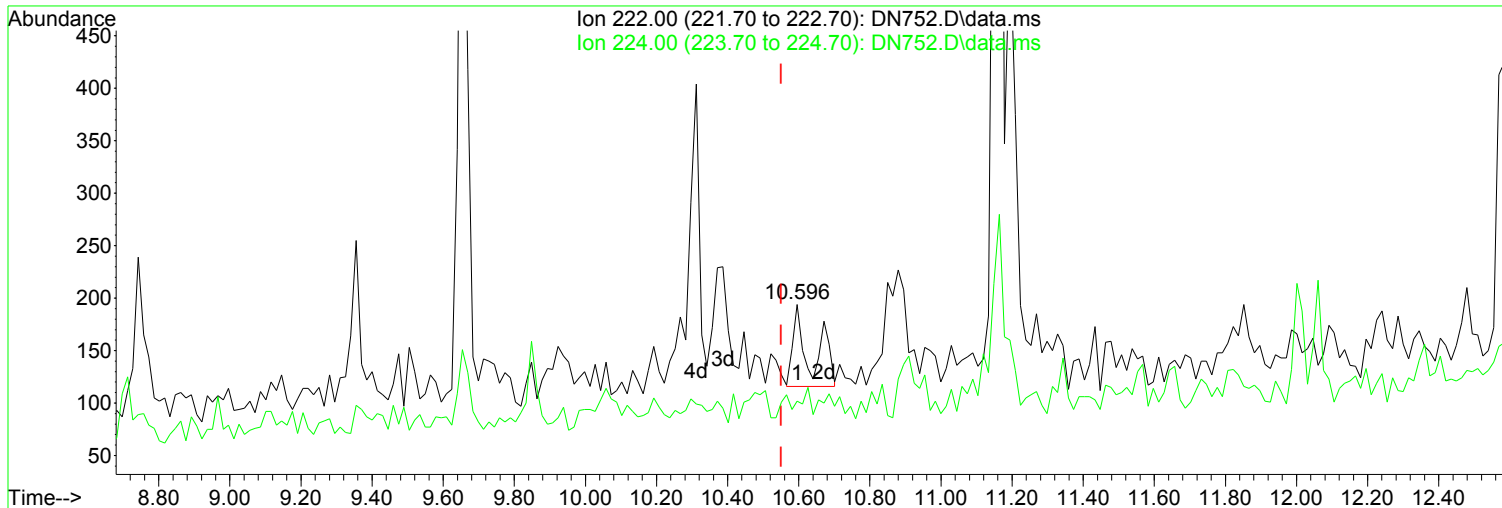
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	48.37
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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)

Manual Integration:

10.596min (+ 0.045) 0.00 ppm m

After

response 274

Other -

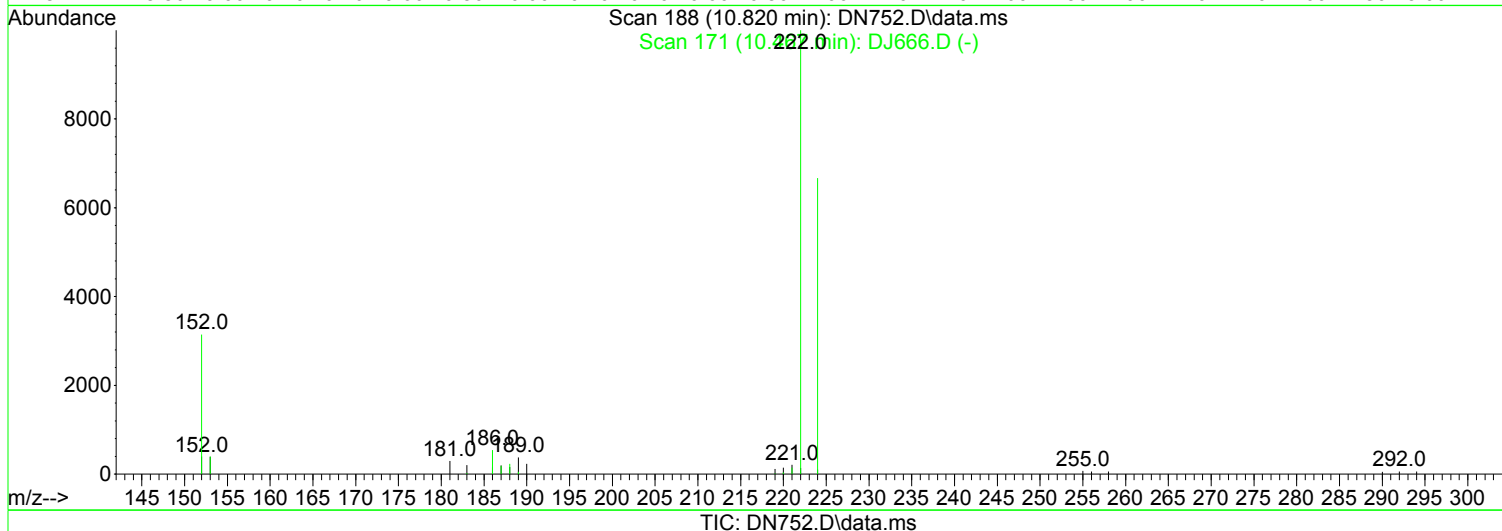
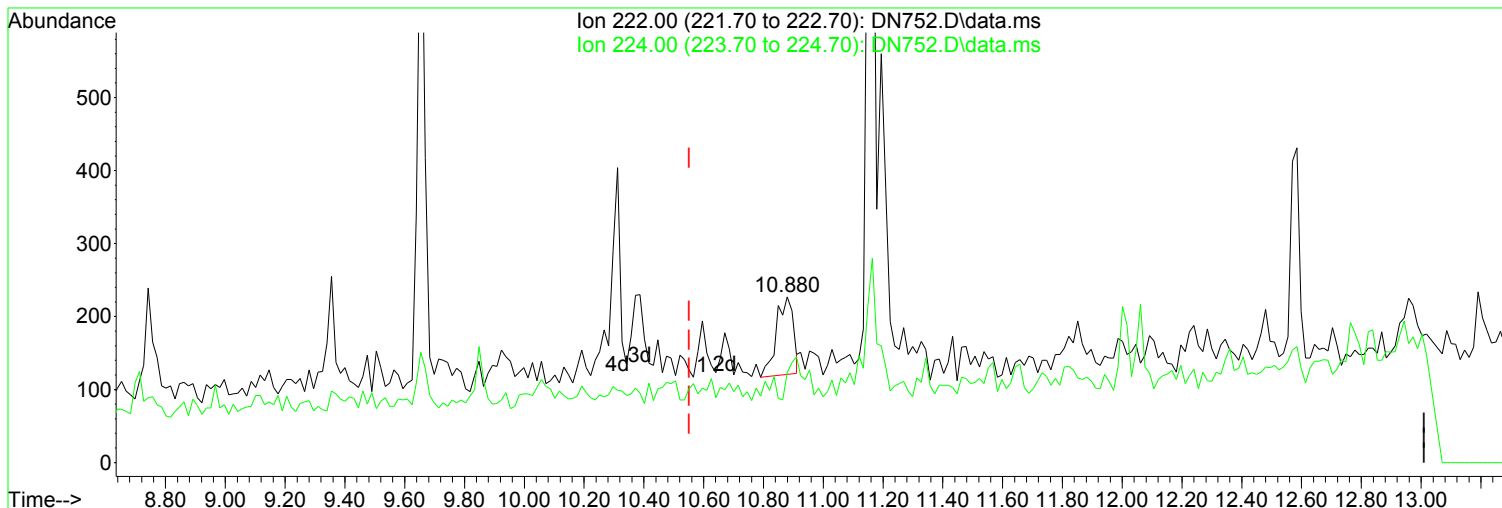
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	52.58
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(31) CL2 - #4 (L2)

Manual Integration:

10.880min (+ 0.329) 0.00 ppm m

After

response 414

Other -

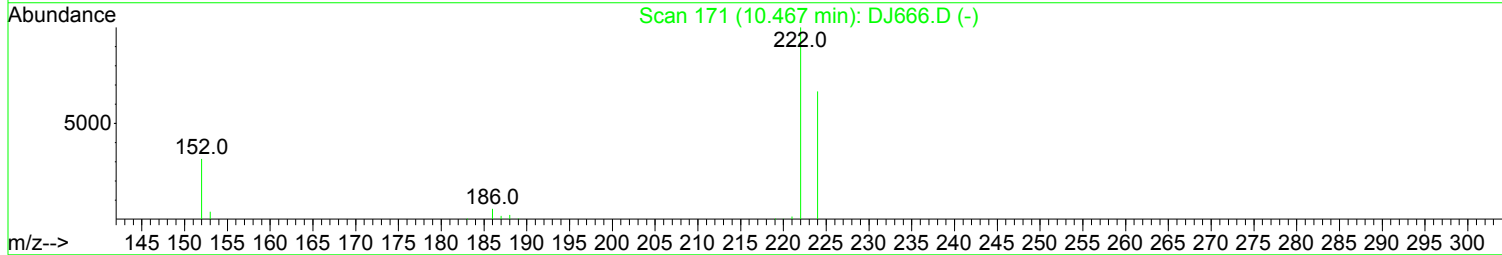
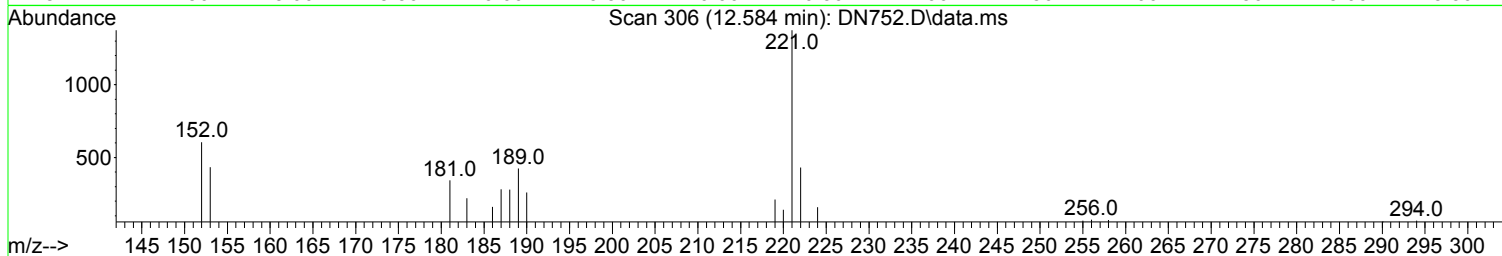
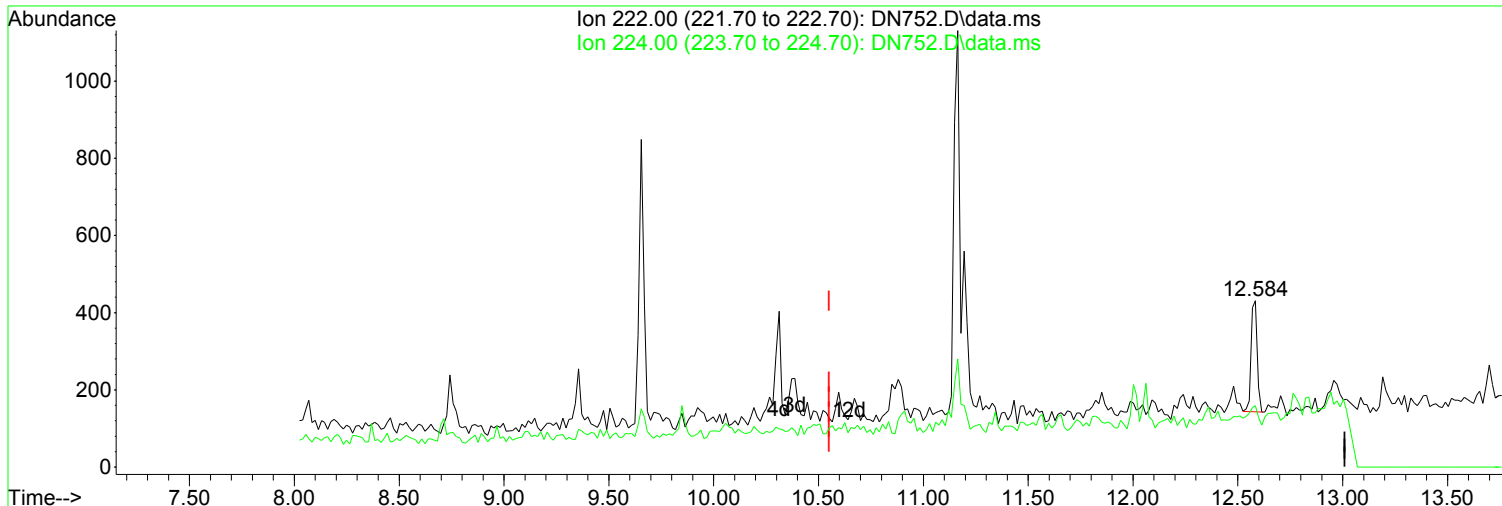
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	54.19
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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)

Manual Integration:

12.584min (+ 2.033) 0.00 ppm m

After

response 587

Other -

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

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APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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

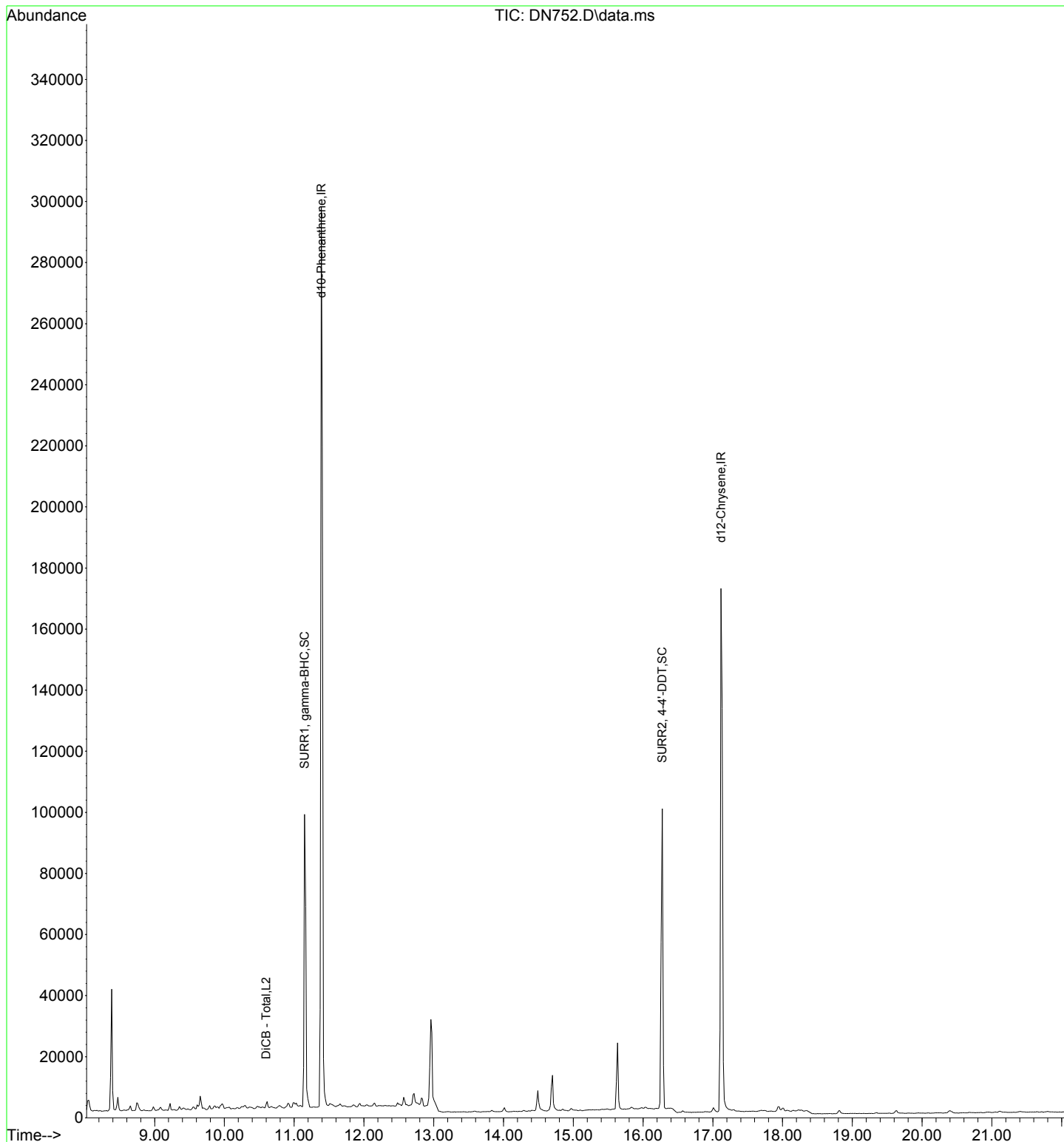
Quant Time: Feb 22 09:21:49 2019
 Quant Method : I:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

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						
38) DiCB - Total	10.596	222	2110m	0.009	ppm	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

APPENDIX D - Laboratory Reports
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

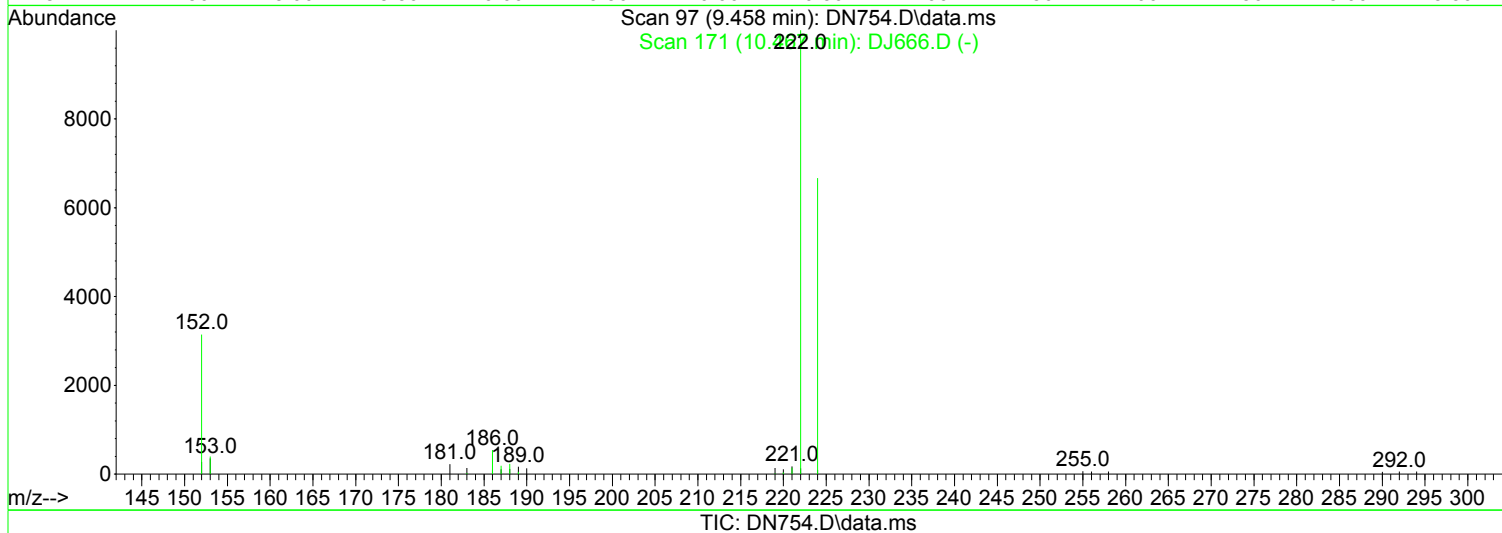
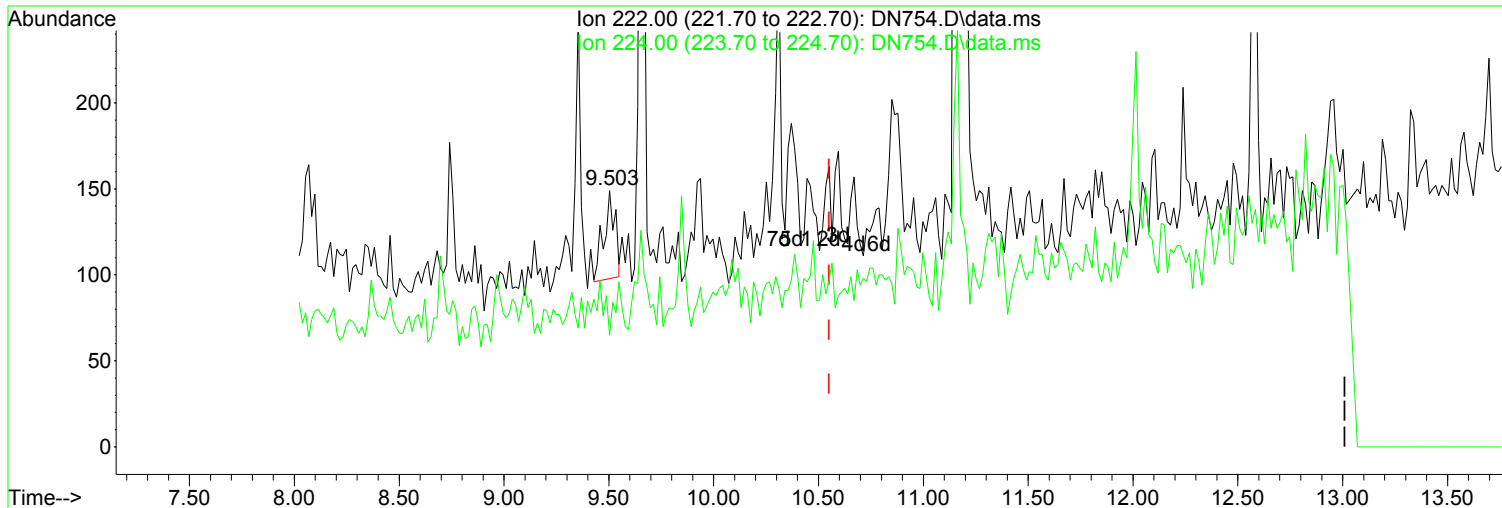
Quant Time: Feb 22 09:21:49 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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



(28) CL2 - #1 (L2)

Manual Integration:

9.503min (-1.048) 0.00 ppm m

After

response 190

Other -

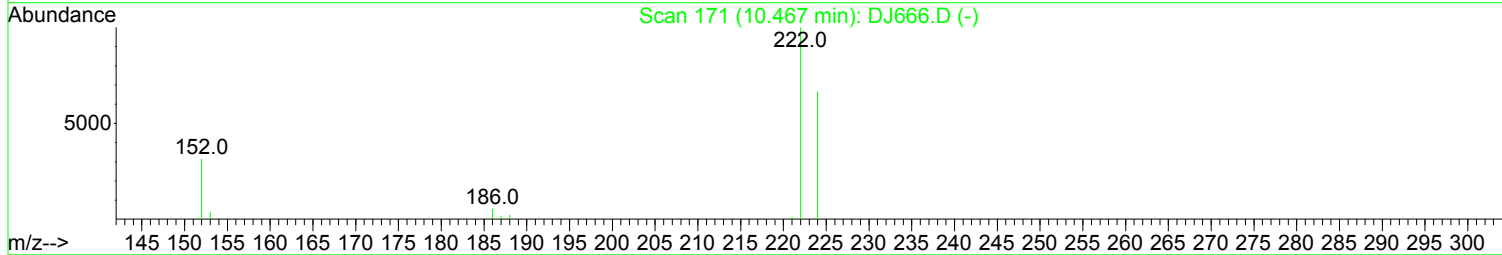
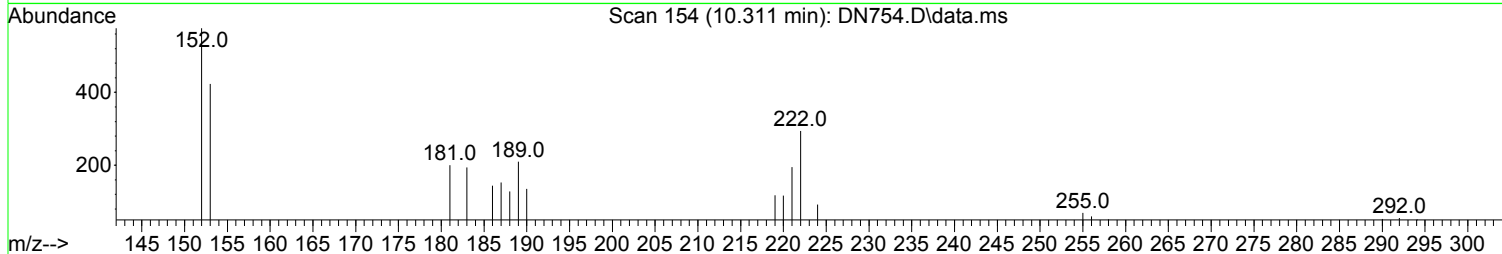
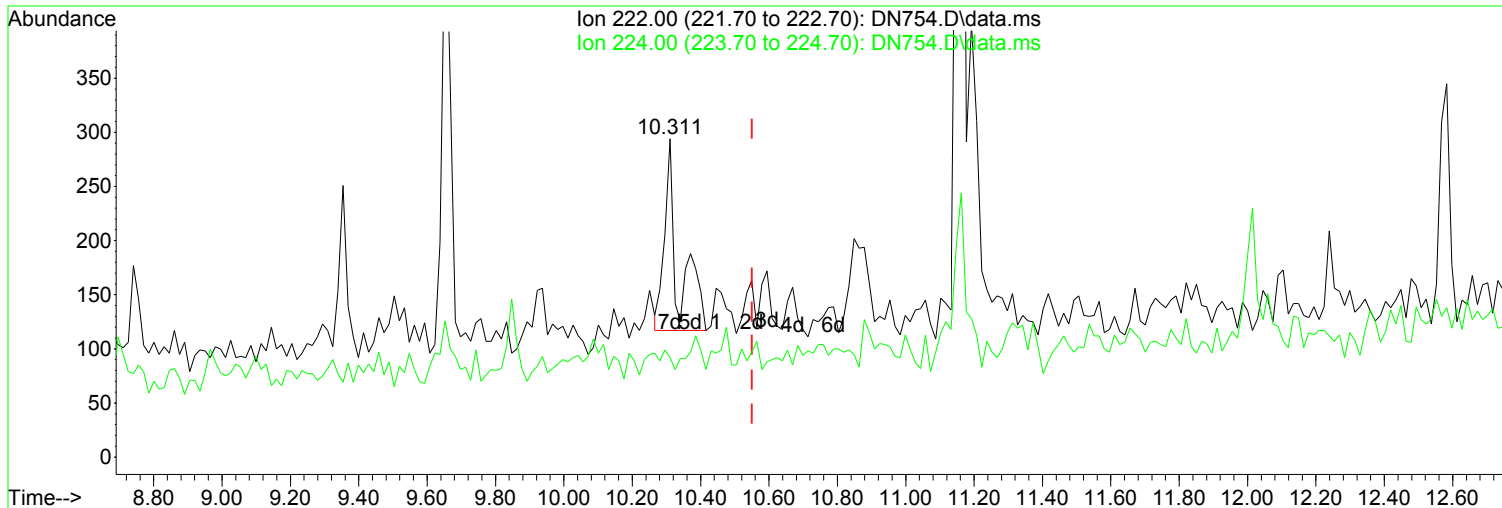
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	43.62
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(29) CL2 - #2 (L2)

Manual Integration:

10.311min (-0.240) 0.00 ppm m

After

response 501

Other -

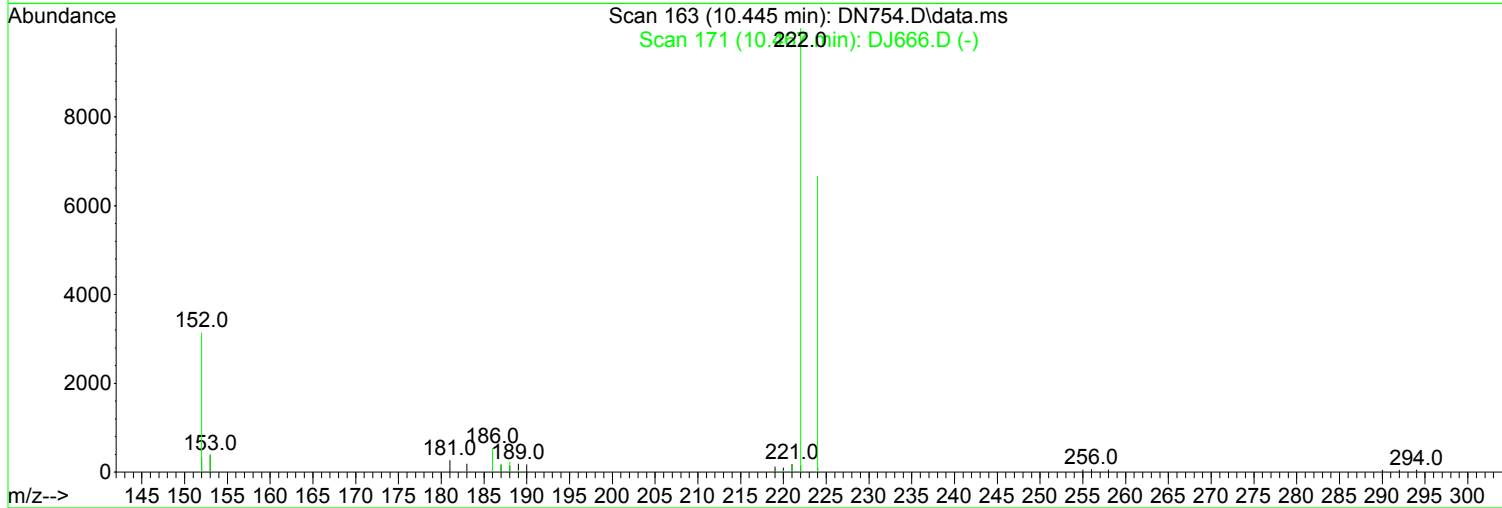
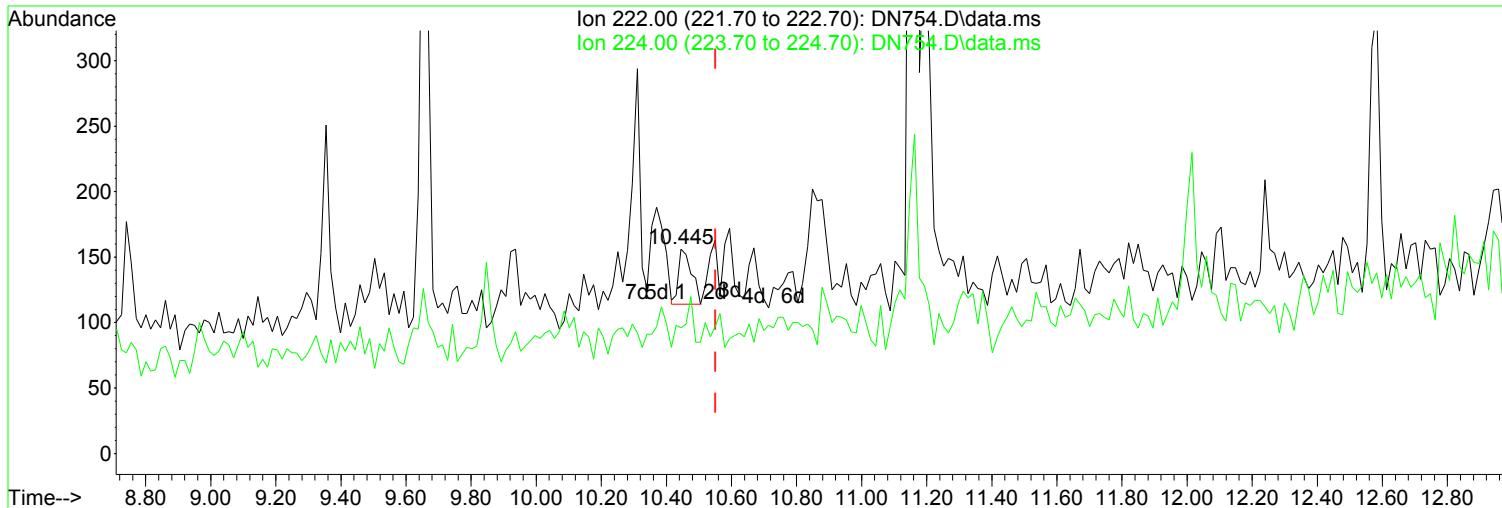
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	31.29
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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

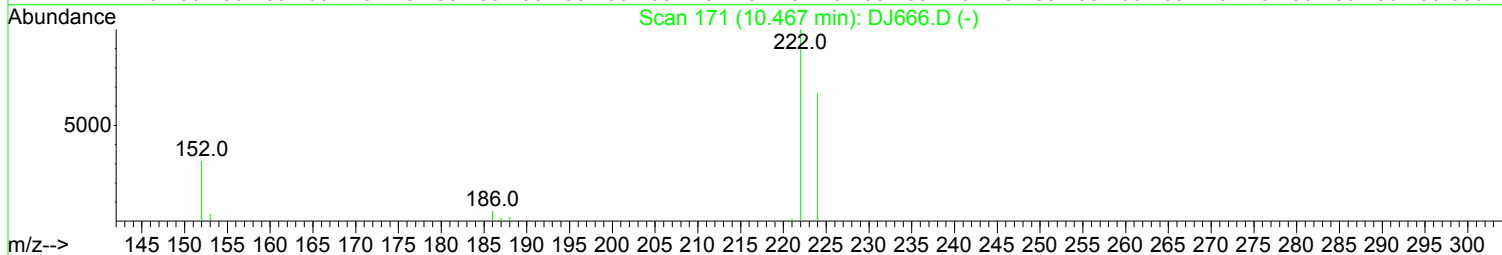
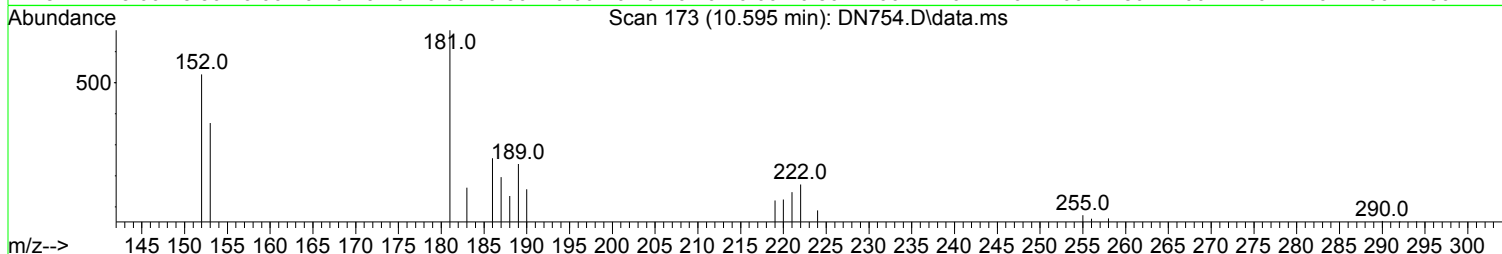
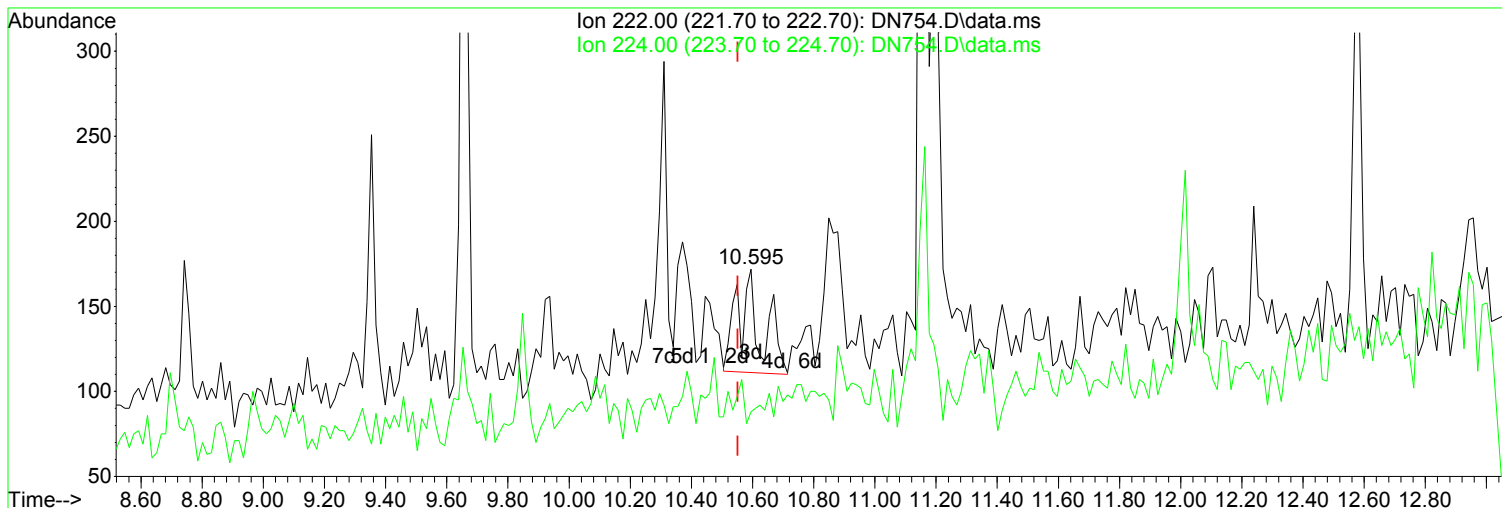
(30)	CL2 - #3 (L2)	
10.445min (-0.106)	0.00 ppm	
response	117	
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	32.10
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
Other -
02/22/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

10.595min (+ 0.044) 0.00 ppm m

After

response 328

Other -

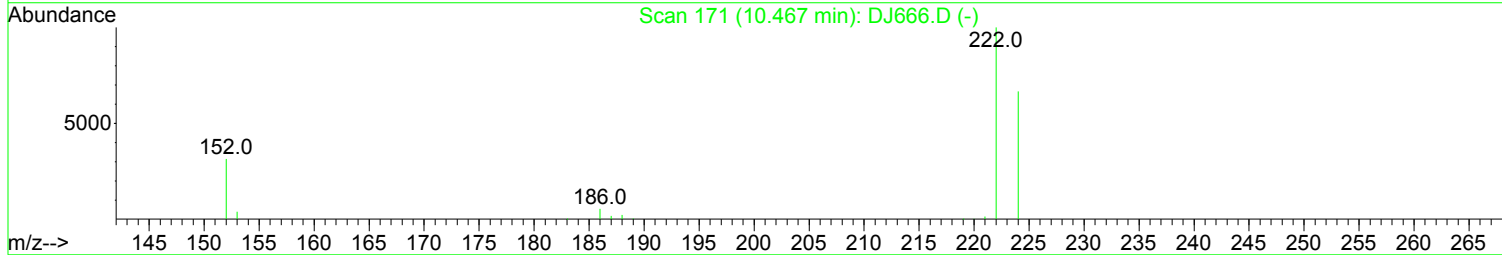
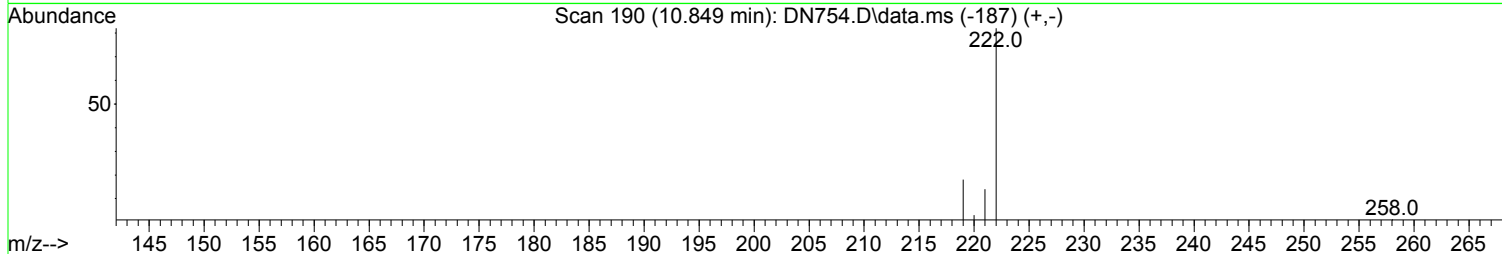
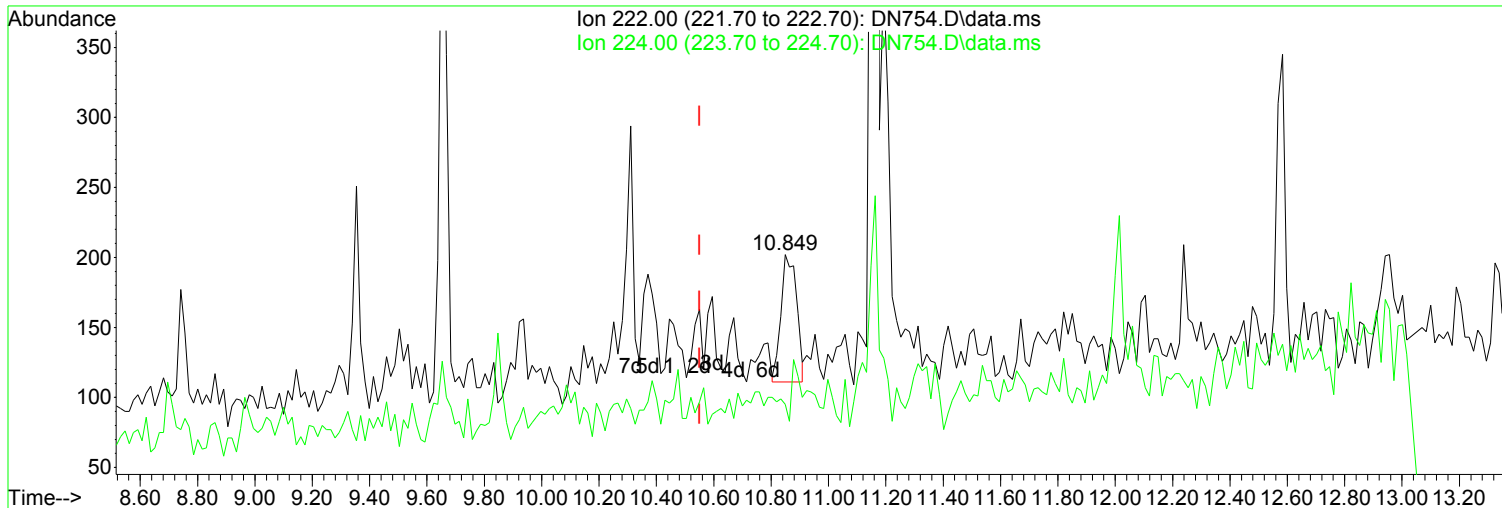
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	51.16
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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

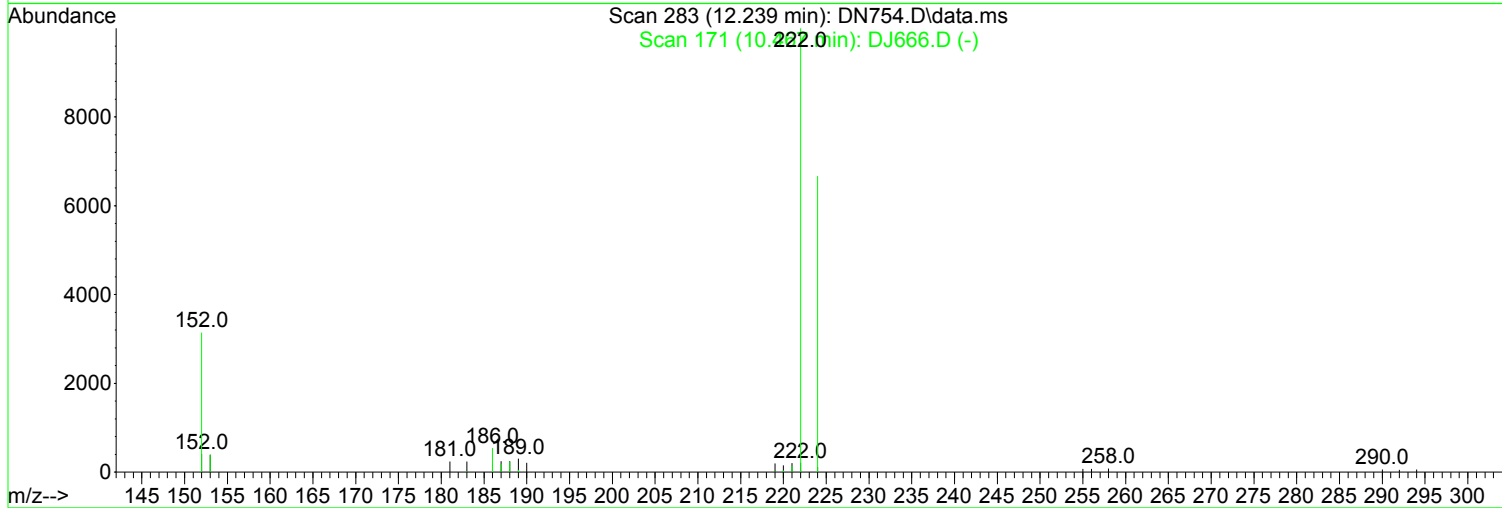
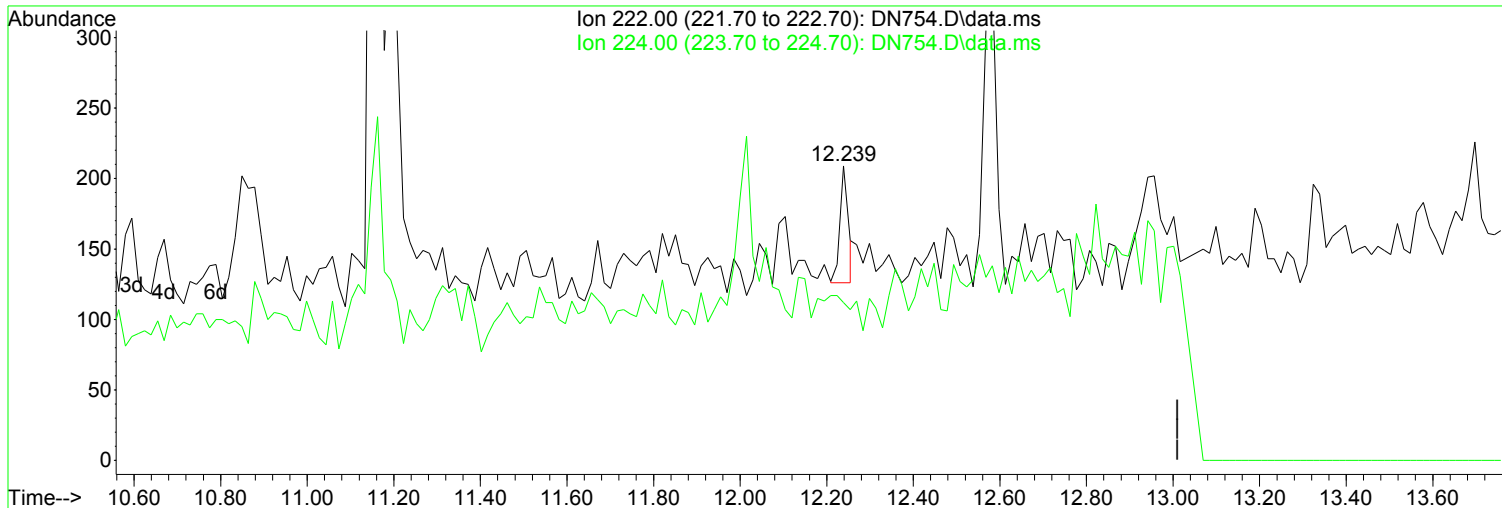
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	47.03
0.00	0.00	0.00
0.00	0.00	0.00

(32) CL2 - #5 (L2) Manual Integration:
10.849min (+ 0.298) 0.00 ppm m After
response 345 Other -
02/22/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

12.239min (+ 1.688) 0.00 ppm m

After

response 113

Other -

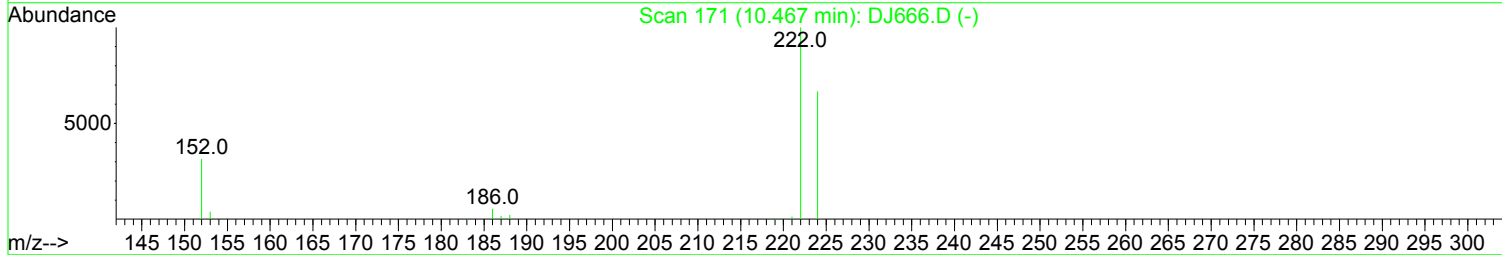
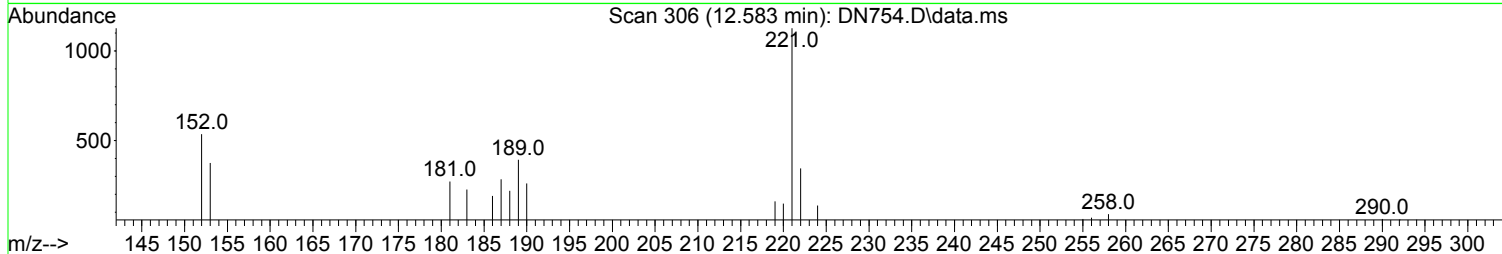
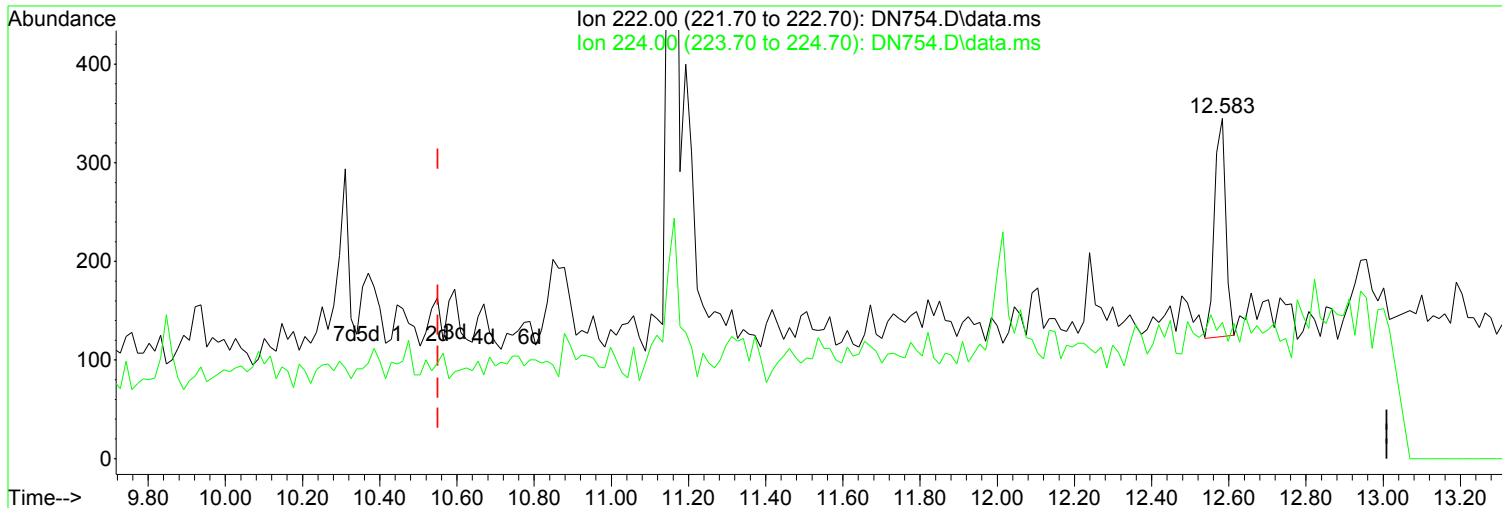
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	53.59
0.00	0.00	0.00
0.00	0.00	0.00

02/22/19

APPENDIX D - Laboratory Reports

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



(34) CL2 - #7 (L2)

Manual Integration:

12.583min (+ 2.032) 0.00 ppm m

After

response 449

Other -

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

02/22/19

APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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

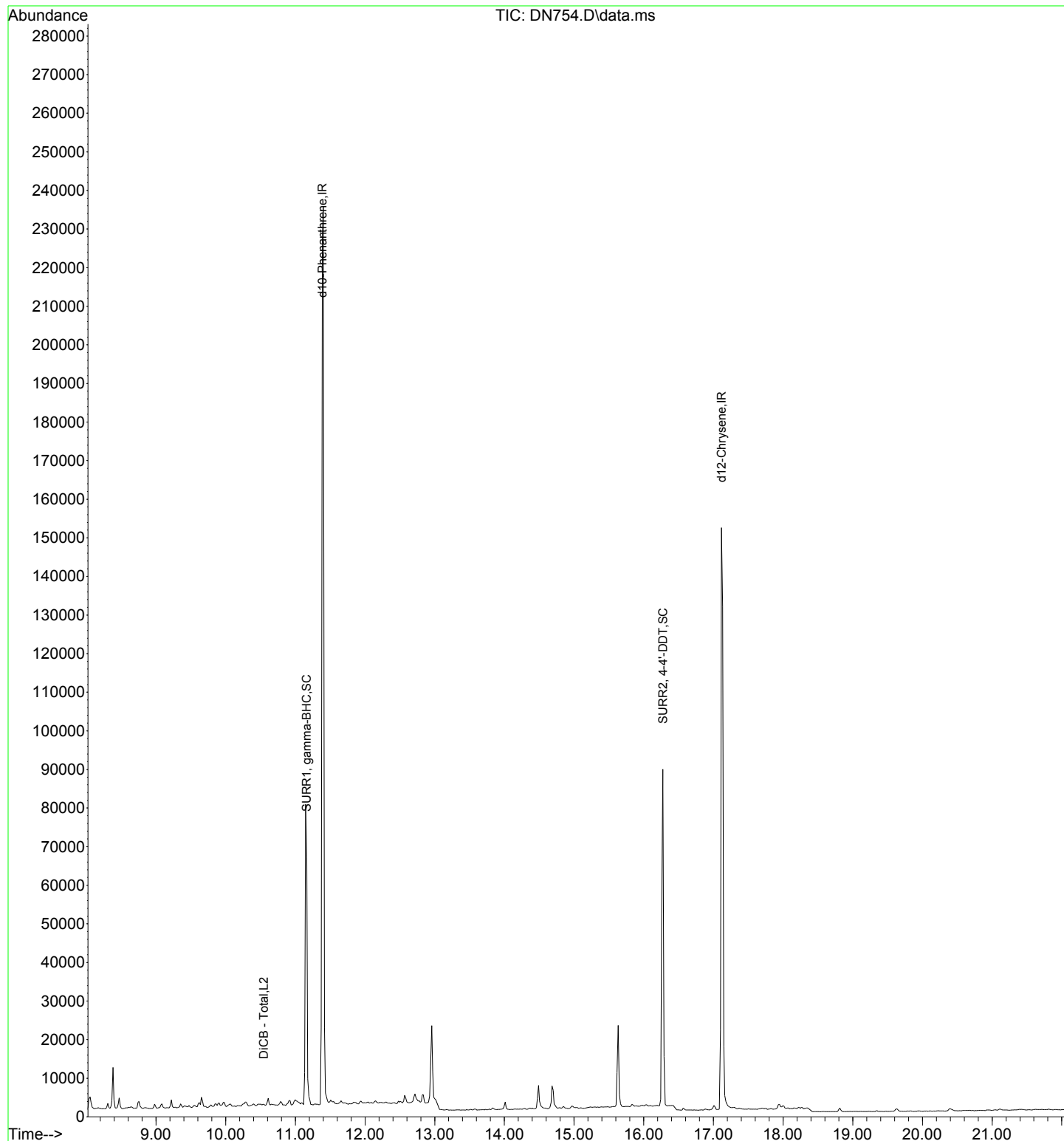
Quant Time: Feb 22 09:21:54 2019
 Quant Method : I:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

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						
38) DiCB - Total	10.550	222	2043m	0.010	ppm	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

APPENDIX D - Laboratory Reports
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

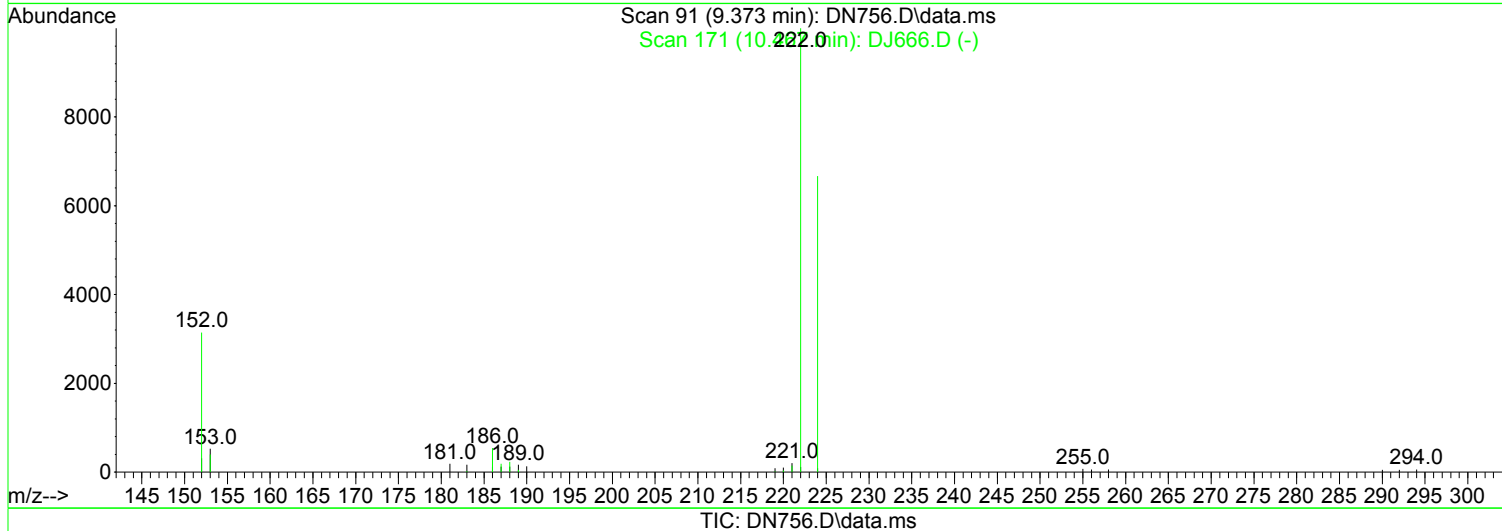
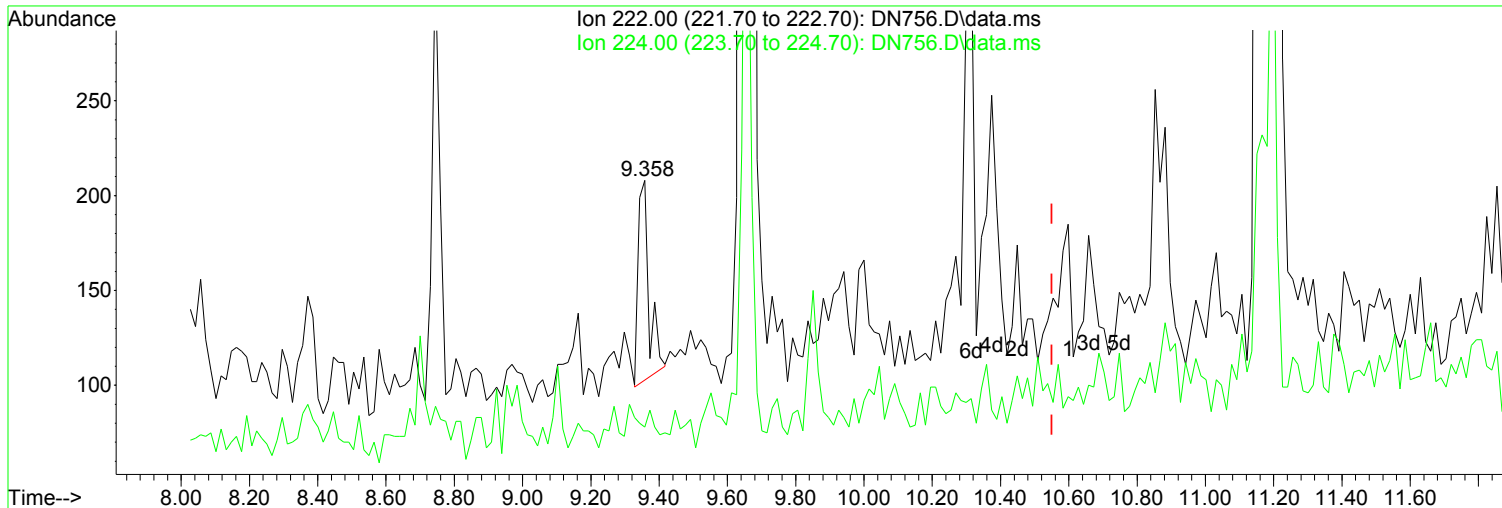
Quant Time: Feb 22 09:21:54 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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



(28) CL2 - #1 (L2)

9.358min (-1.193) 0.00 ppm m

response 237

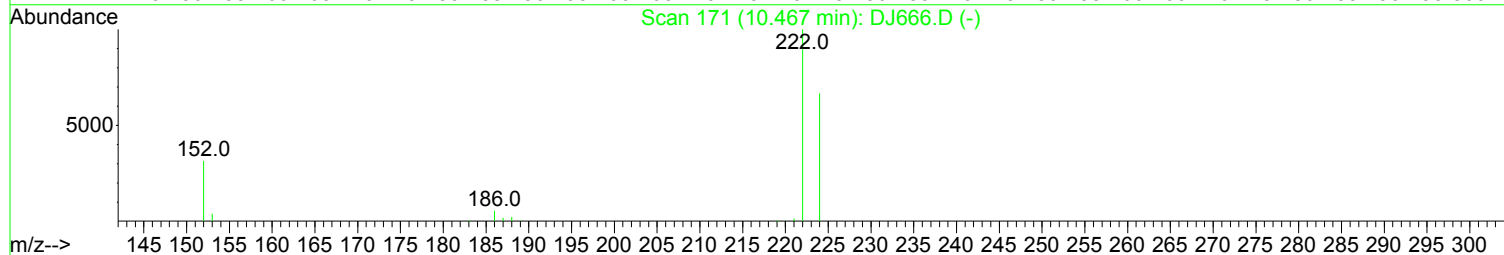
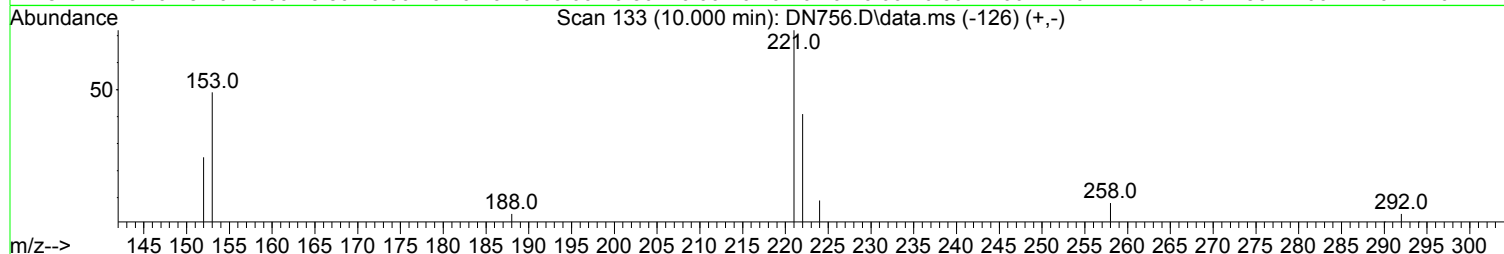
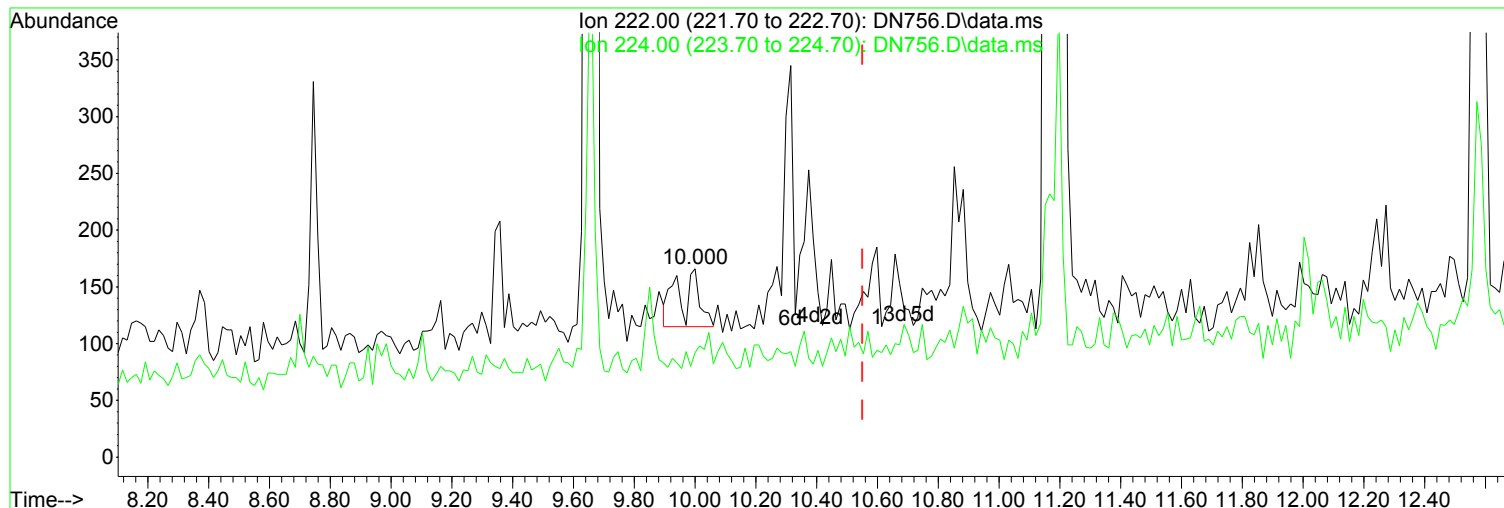
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	37.50
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
Other -
02/22/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

10.000min (-0.551) 0.00 ppm m

After

response 243

Other -

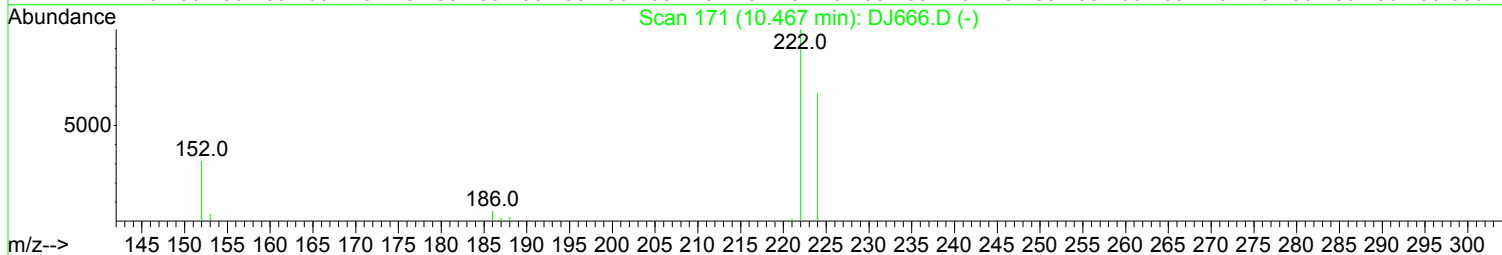
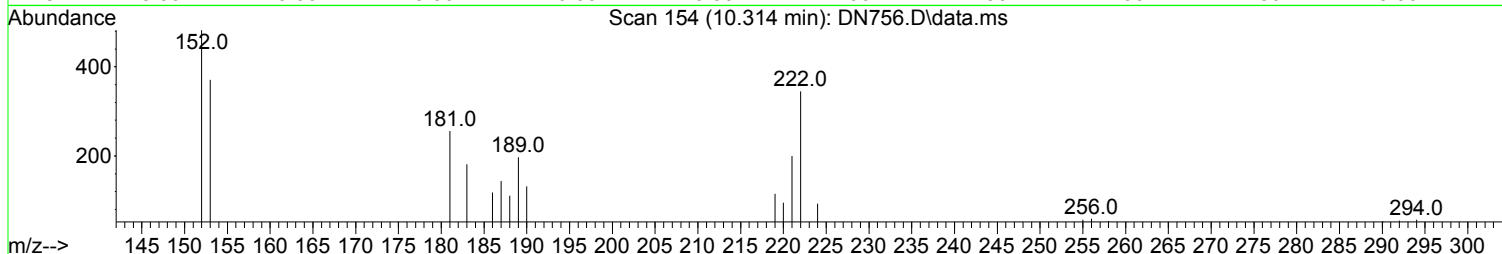
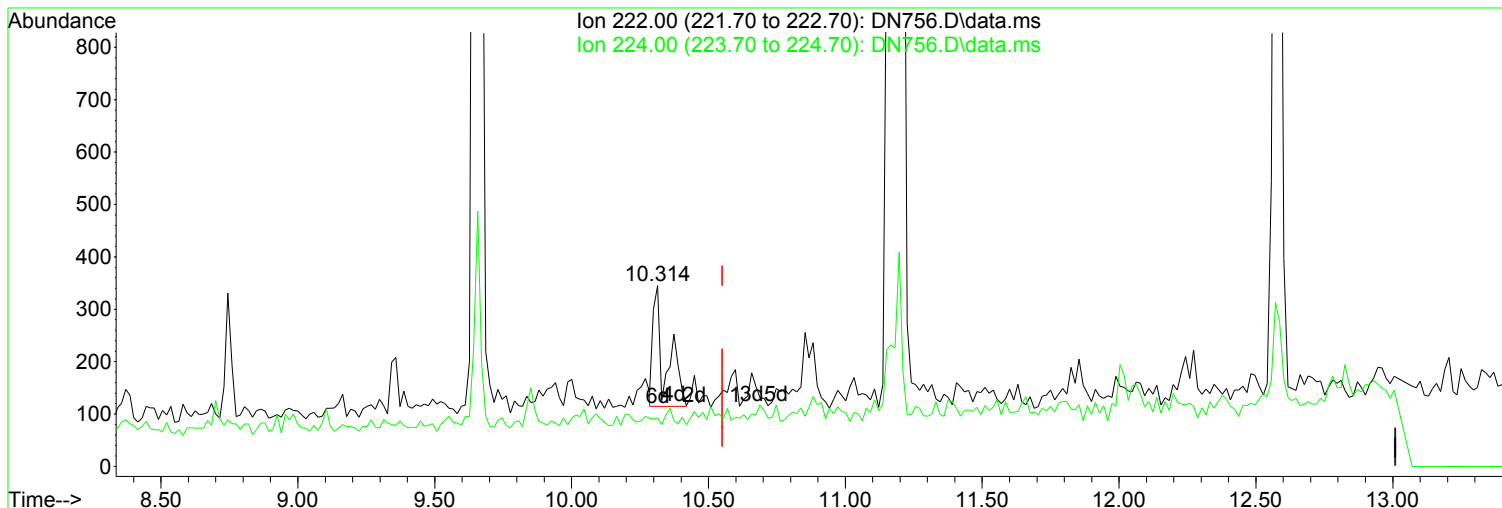
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	55.42
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(30) CL2 - #3 (L2)

Manual Integration:

10.314min (-0.237) 0.00 ppm m

After

response 727

Other -

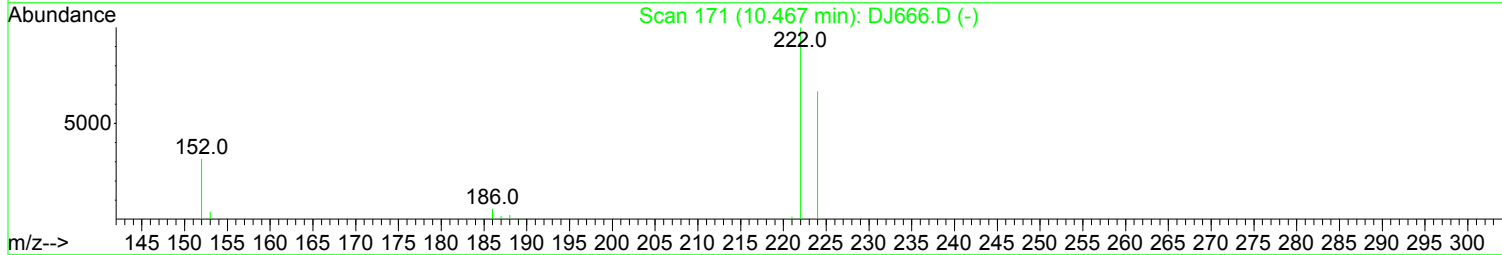
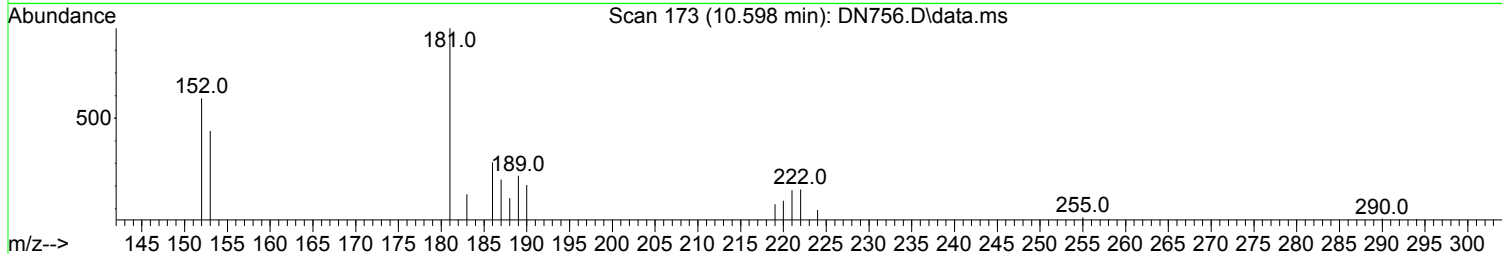
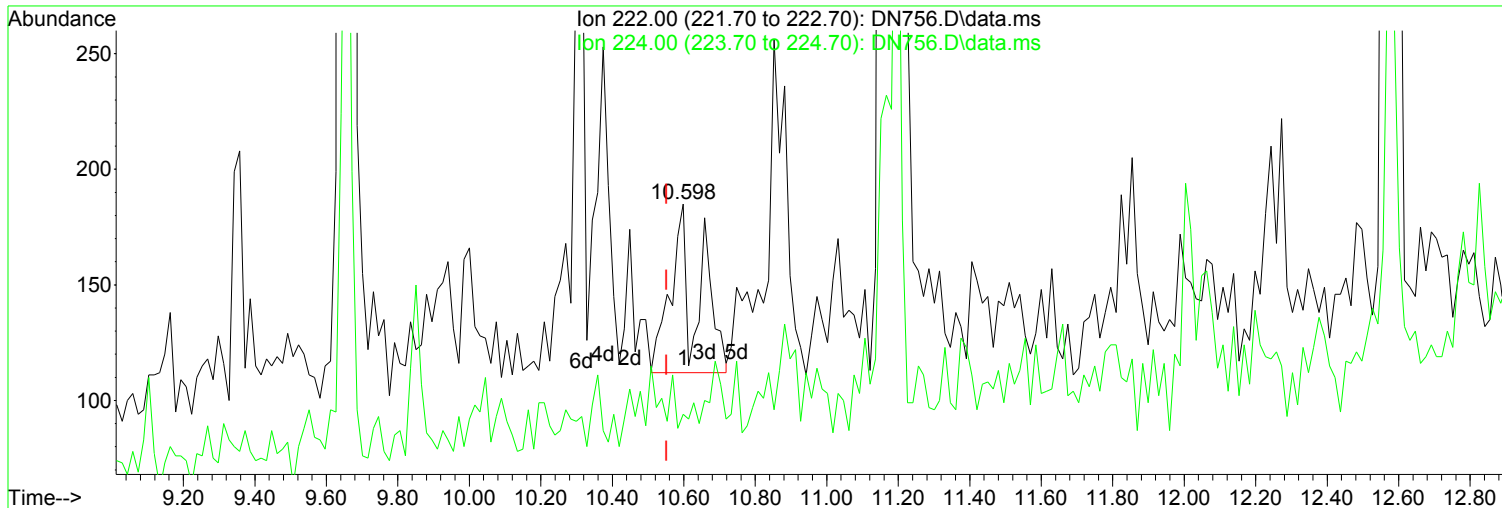
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	26.96#
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(31) CL2 - #4 (L2)

10.598min (+ 0.047) 0.00 ppm m

response 379

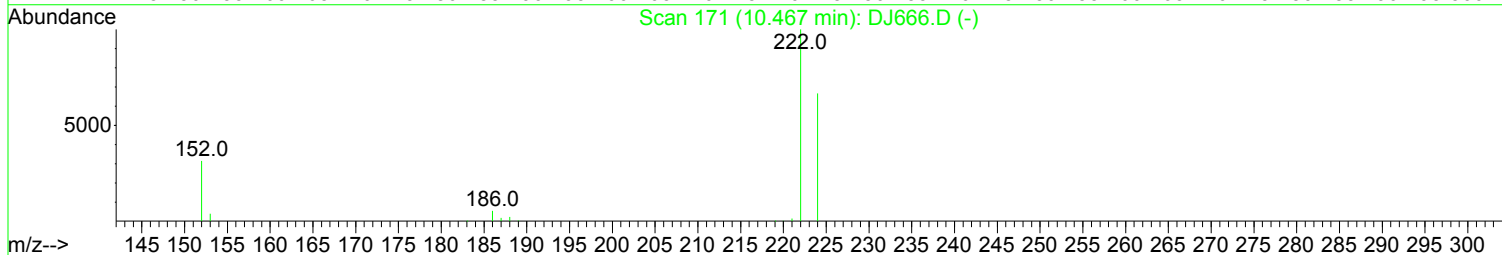
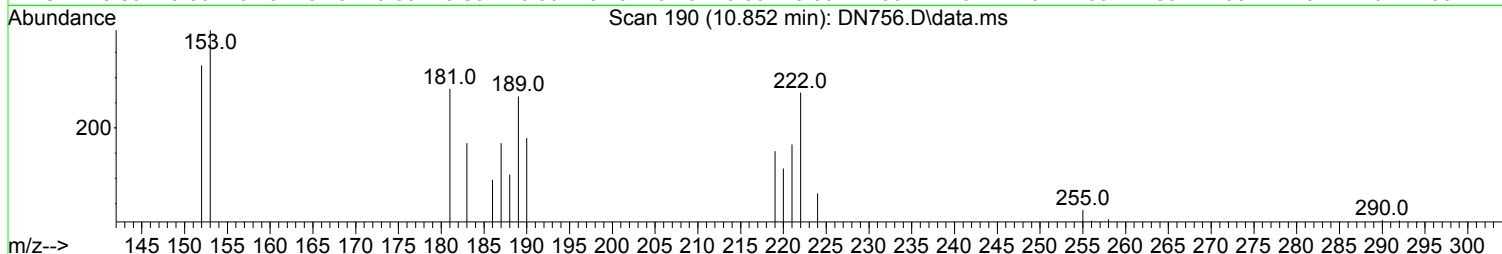
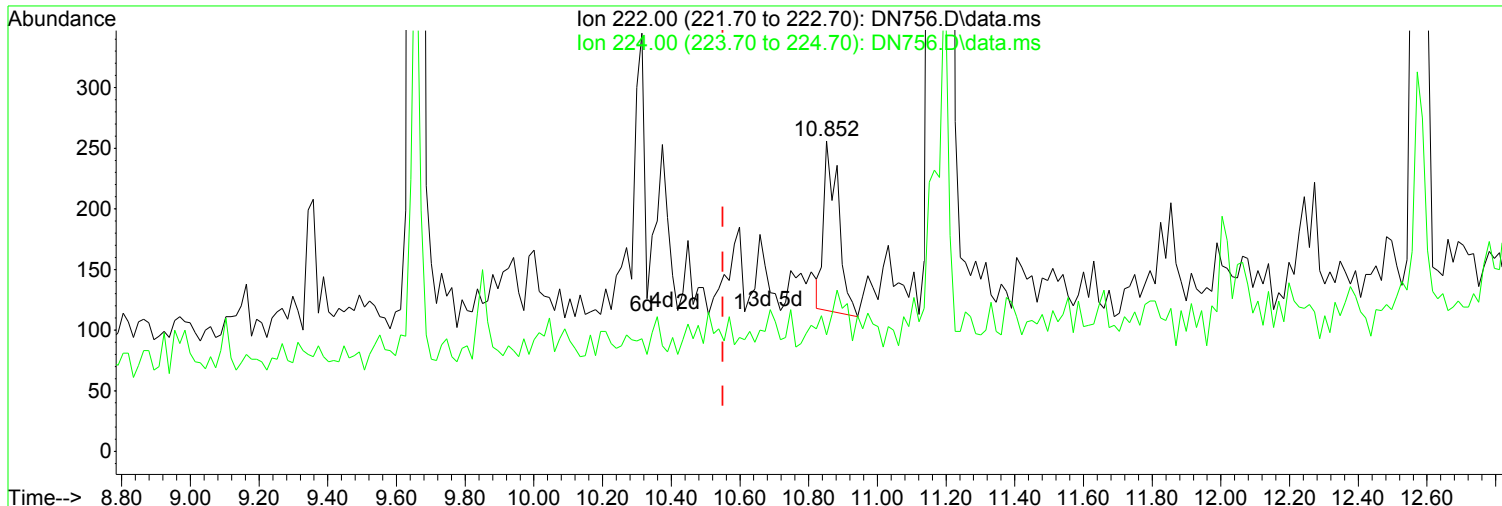
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	50.81
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
Other -
02/22/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

10.852min (+ 0.301) 0.00 ppm m

After

response 407

Other -

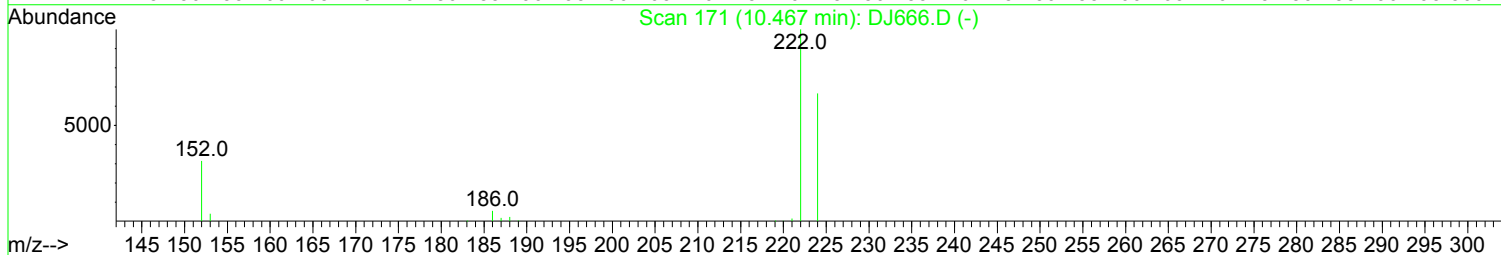
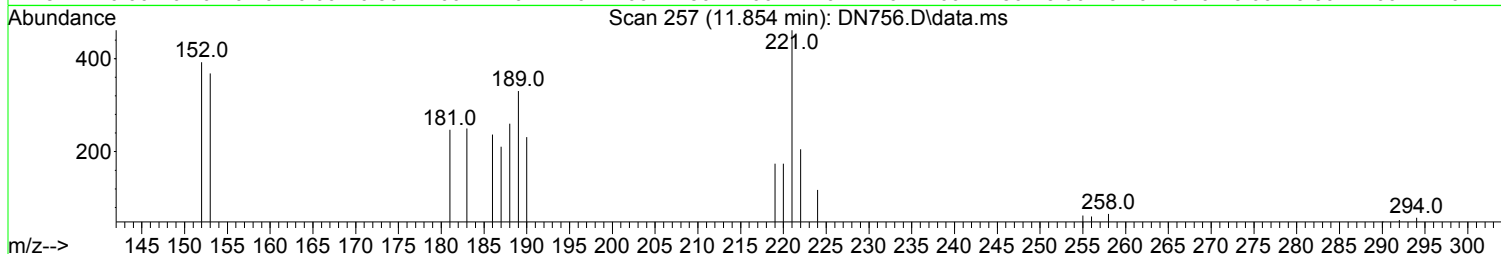
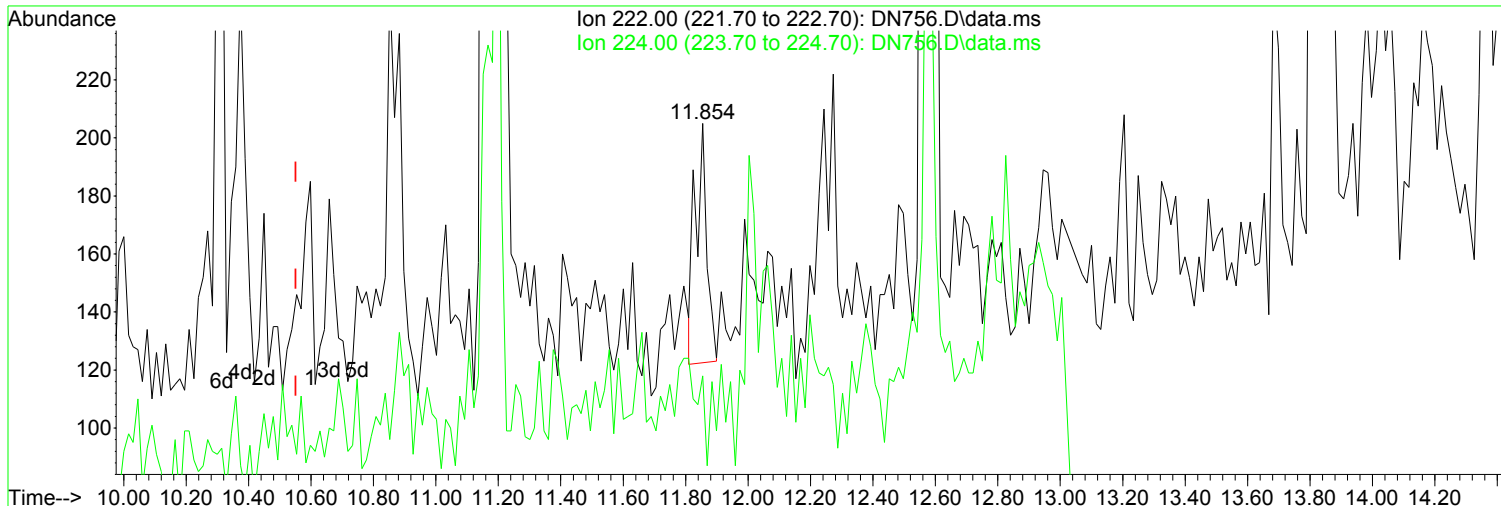
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	37.50
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(33) CL2 - #6 (L2) Manual Integration:

11.854min (+ 1.303) 0.00 ppm m After

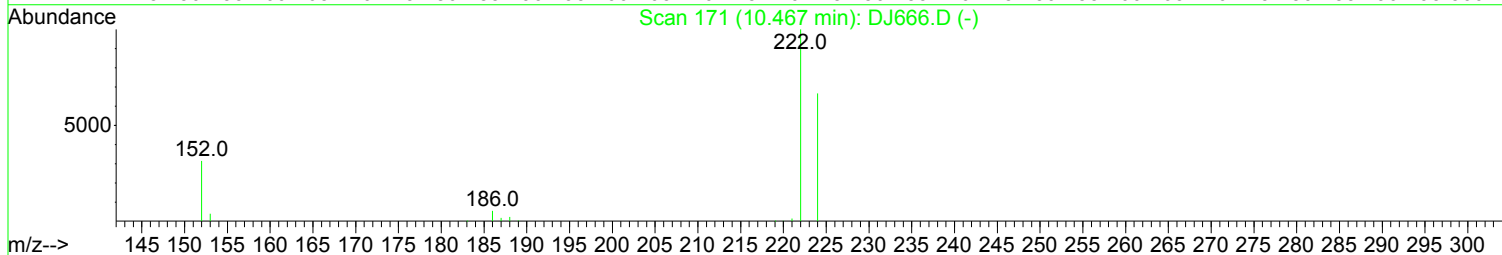
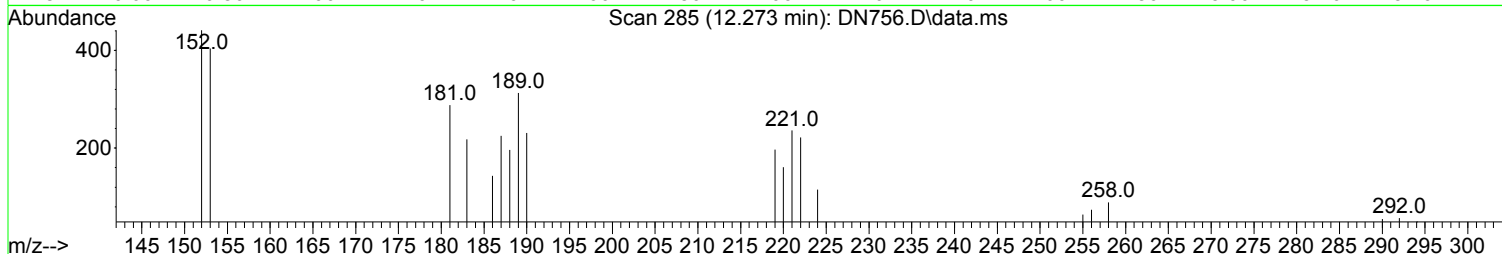
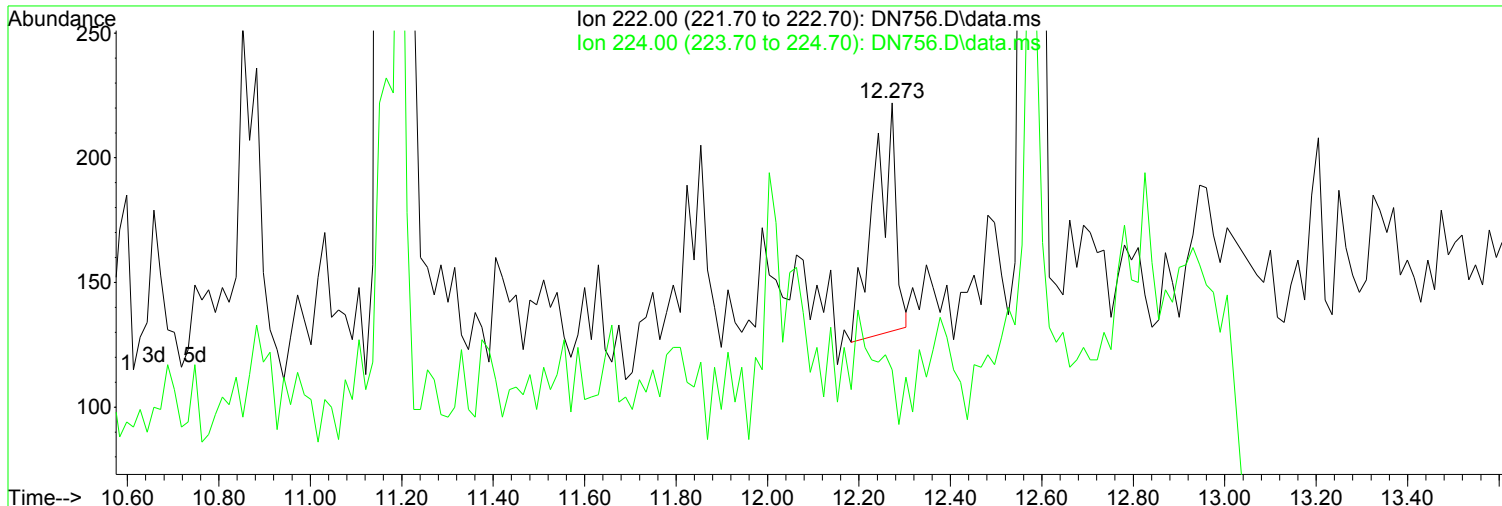
response 213 Other -

Ion	Exp%	Act%	
222.00	100.00	100.00	02/22/19
224.00	61.00	57.56	
0.00	0.00	0.00	
0.00	0.00	0.00	

APPENDIX D - Laboratory Reports

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)

Manual Integration:

12.273min (+ 1.722) 0.00 ppm m

After

response 303

Other -

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

02/22/19

APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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

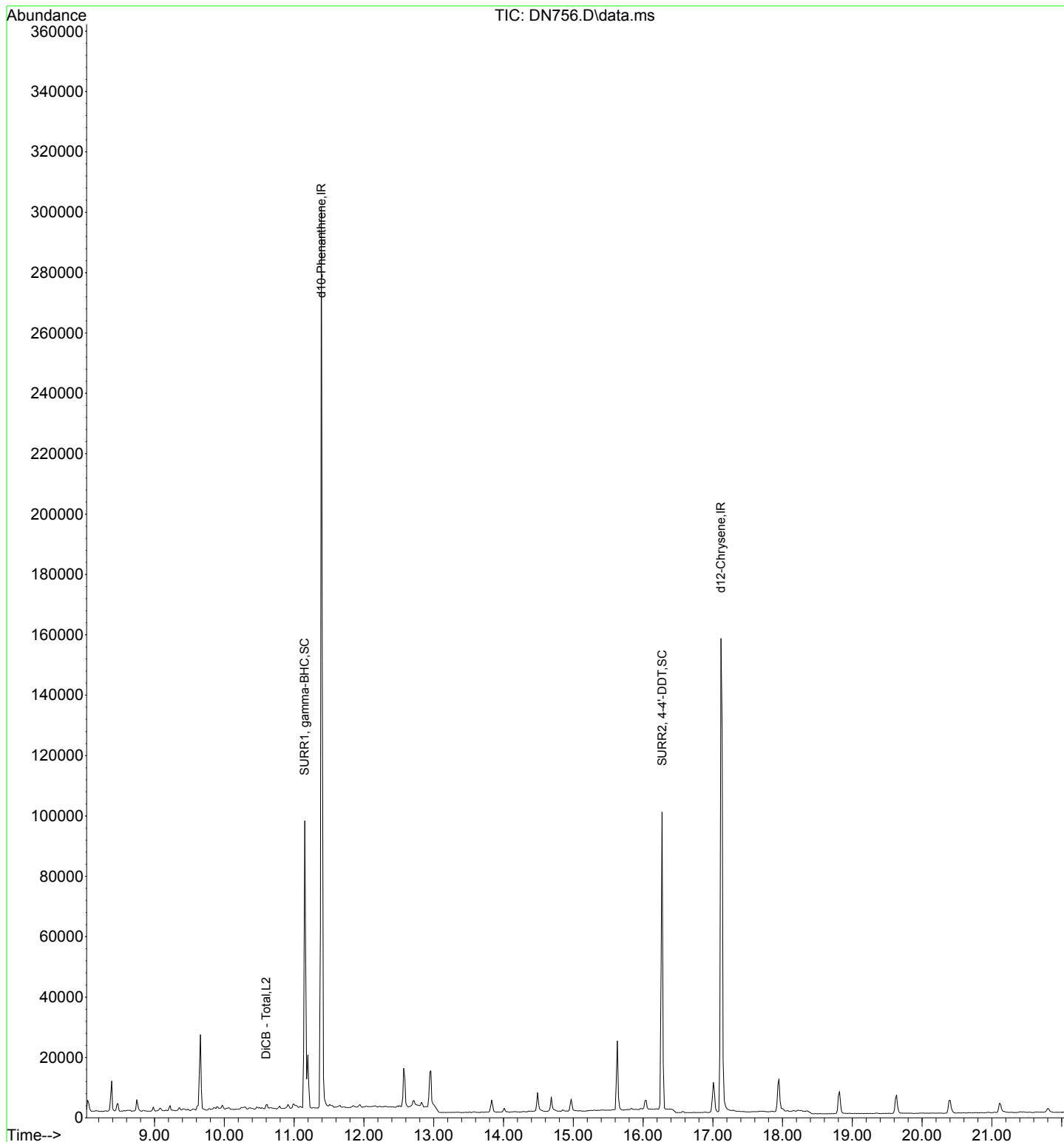
Quant Time: Feb 22 09:22:00 2019
 Quant Method : I:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

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						
38) DiCB - Total	10.598	222	2727m	0.013	ppm	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

APPENDIX D - Laboratory Reports
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



APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

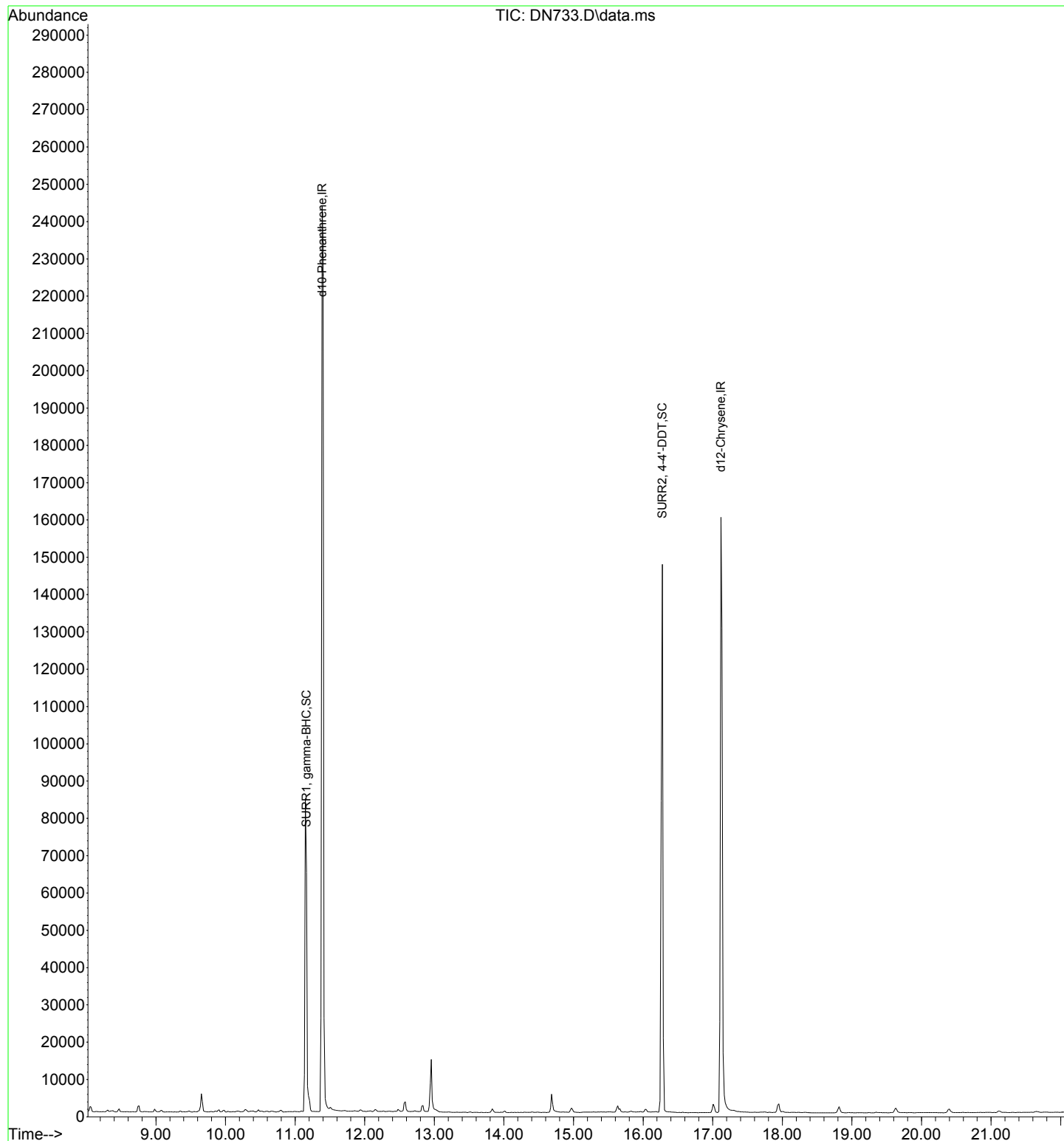
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.387	188	338565	0.75	ppm	0.00
2) d12-Chrysene	17.118	240	259077	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.163	219	34311	0.81	ppm	0.01
Spiked Amount	1.000	Range	55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports
Data Path : I:\ACQUADATA\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

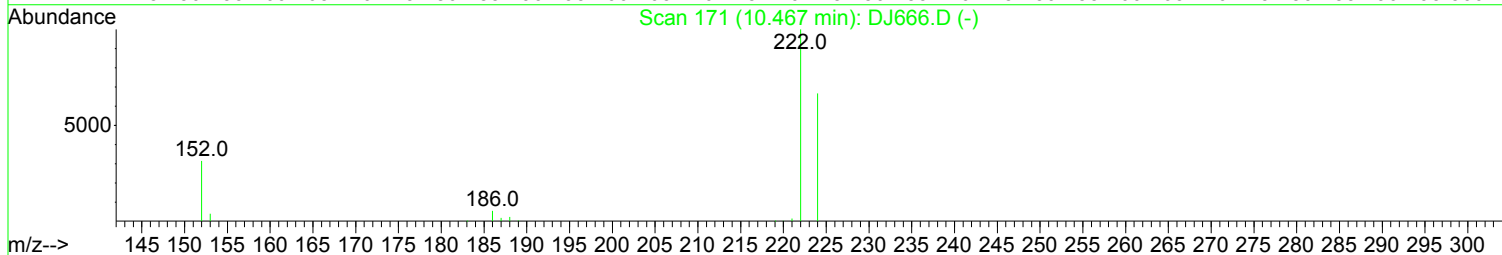
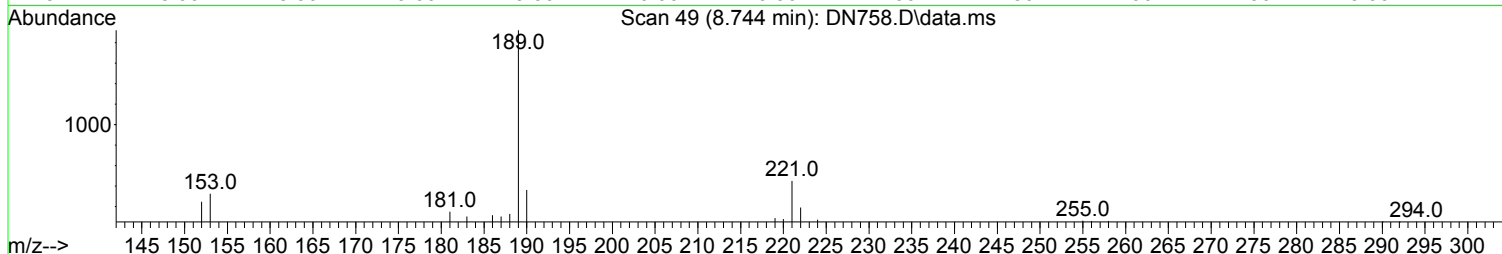
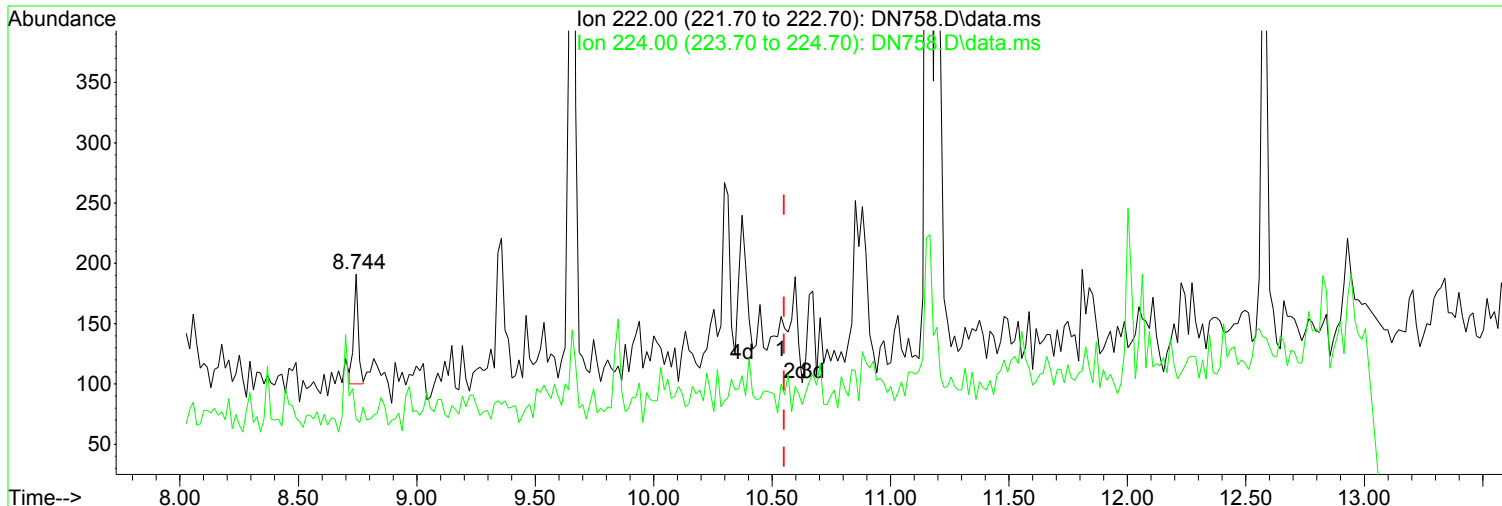
Quant Time: Feb 22 08:03:38 2019
Quant Method : I:\ACQUADATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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



(28) CL2 - #1 (L2)

Manual Integration:

8.744min (-1.807) 0.00 ppm m

After

response 124

Other -

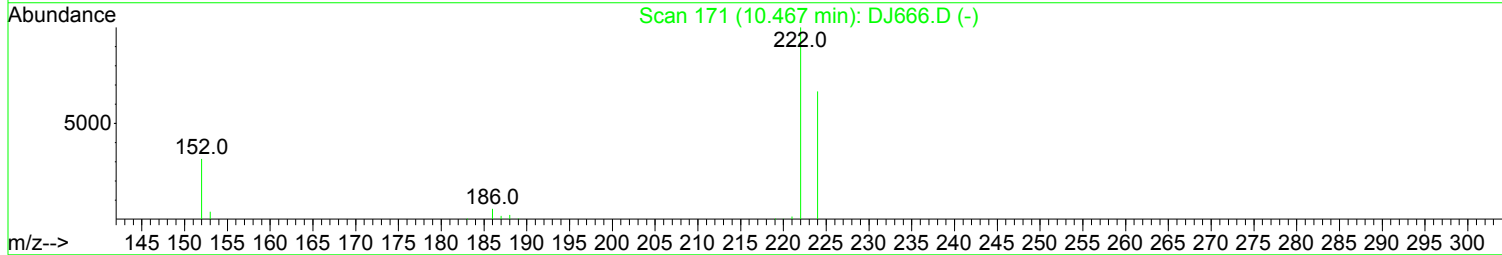
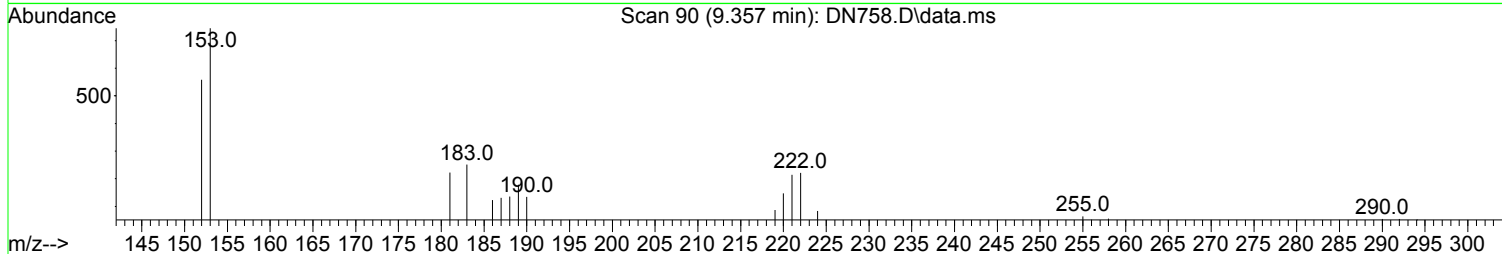
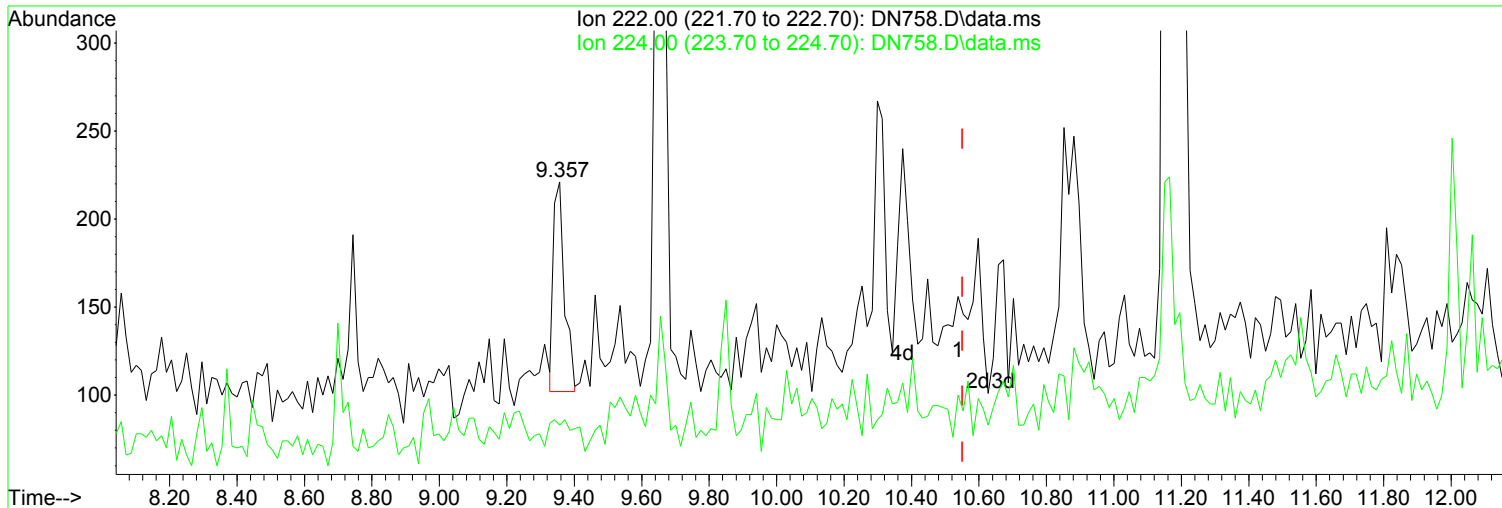
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	37.17
0.00	0.00	0.00
0.00	0.00	0.00

02/22/19

APPENDIX D - Laboratory Reports

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



(29) CL2 - #2 (L2)

Manual Integration:

9.357min (-1.194) 0.00 ppm m

After

response 275

Other -

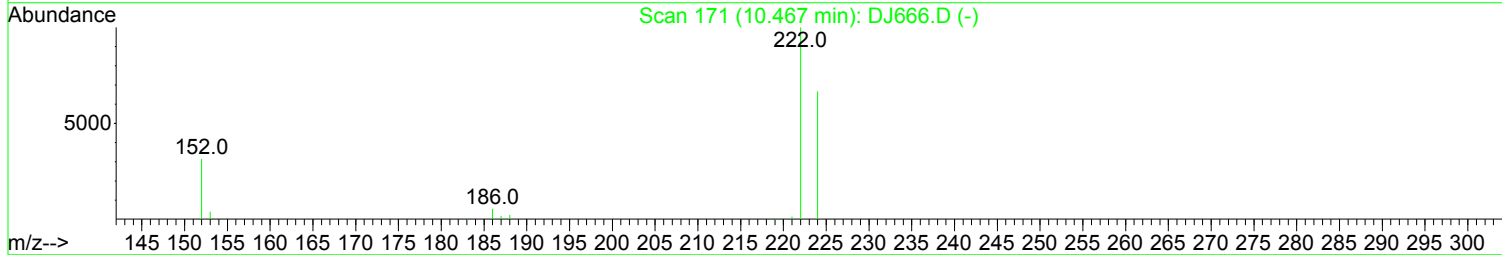
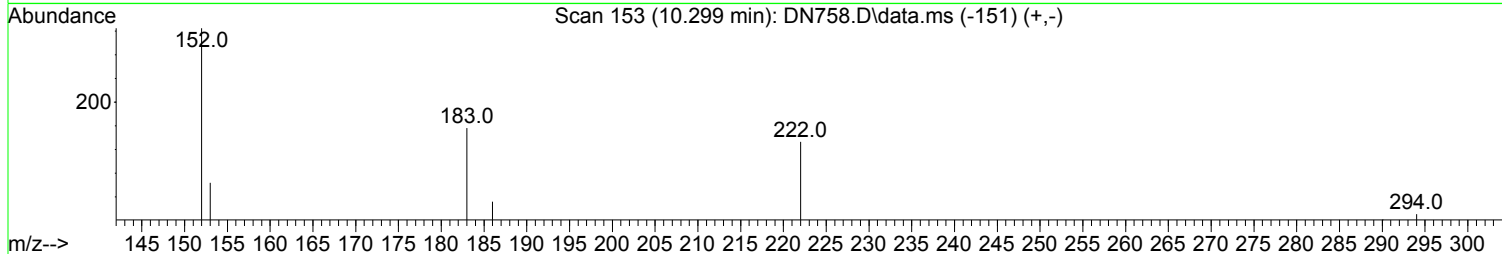
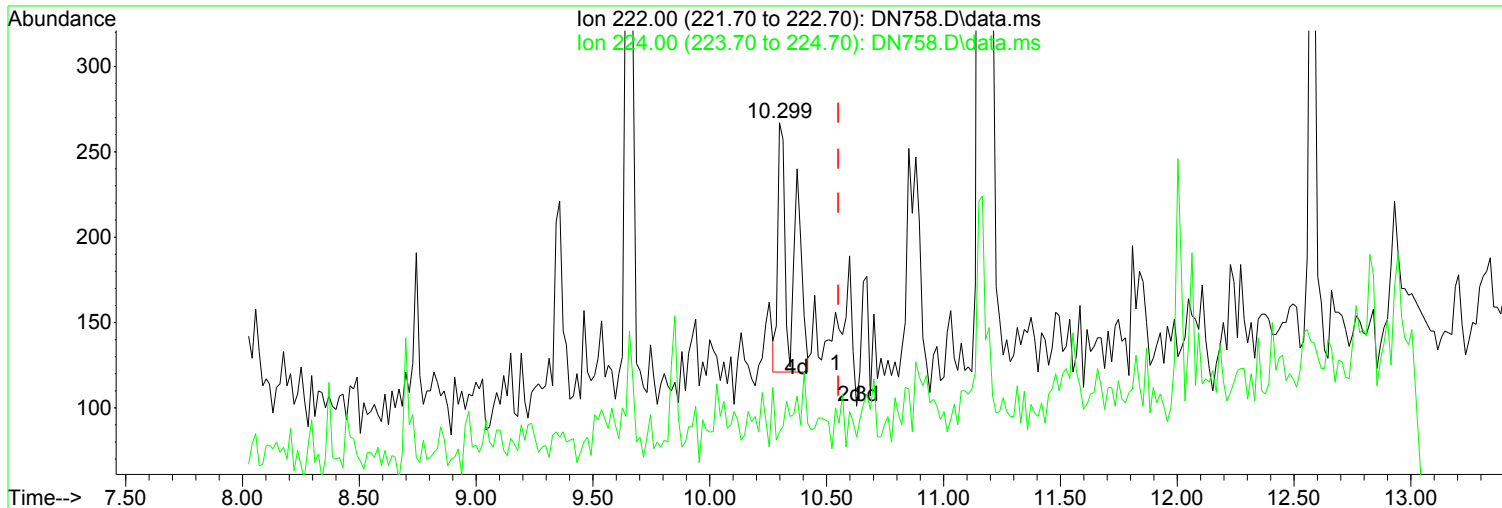
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	37.56
0.00	0.00	0.00
0.00	0.00	0.00

02/22/19

APPENDIX D - Laboratory Reports

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



(30) CL2 - #3 (L2)

10.299min (-0.252) 0.00 ppm m

response 575

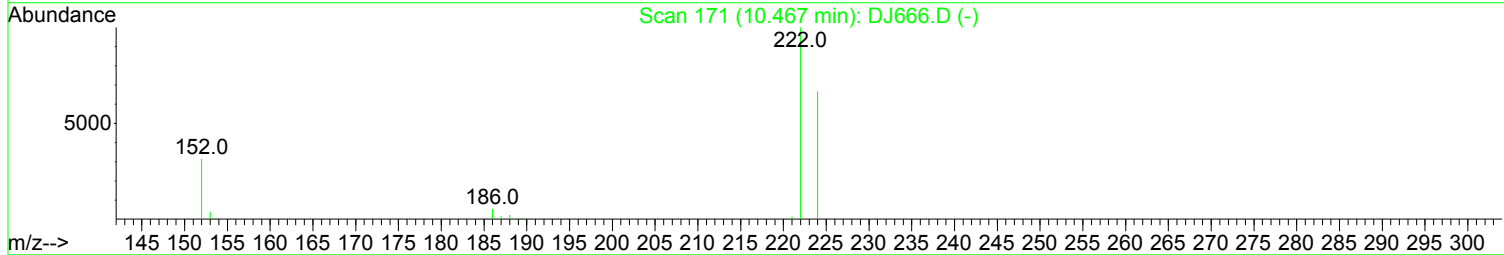
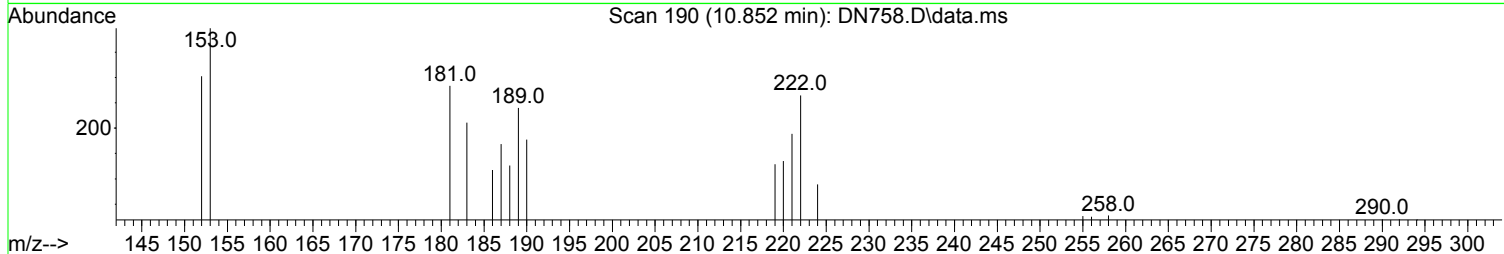
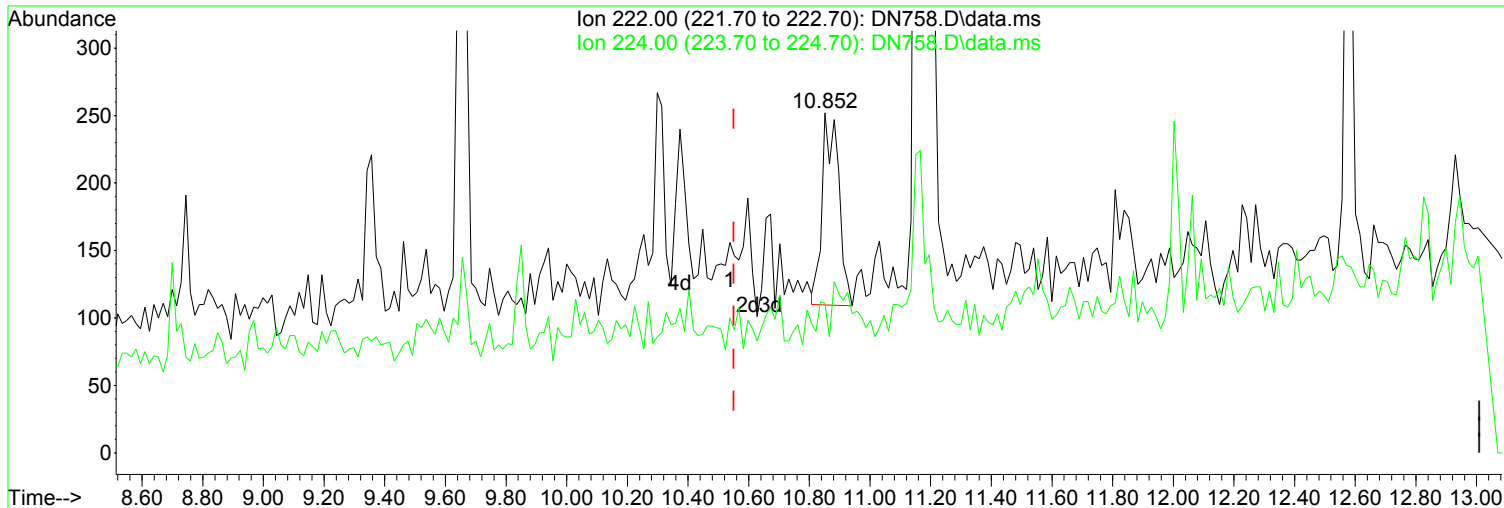
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	32.21
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
Other -
02/22/19

APPENDIX D - Laboratory Reports

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



(32) CL2 - #5 (L2) Manual Integration:

10.852min (+ 0.301) 0.00 ppm m After

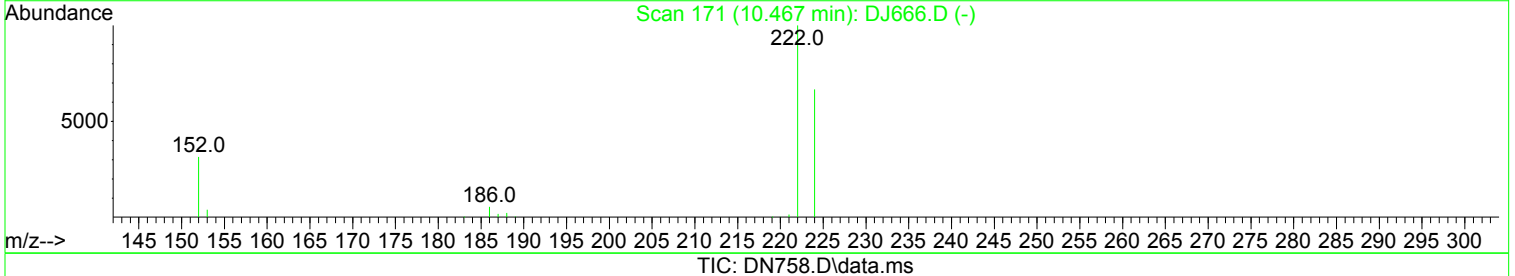
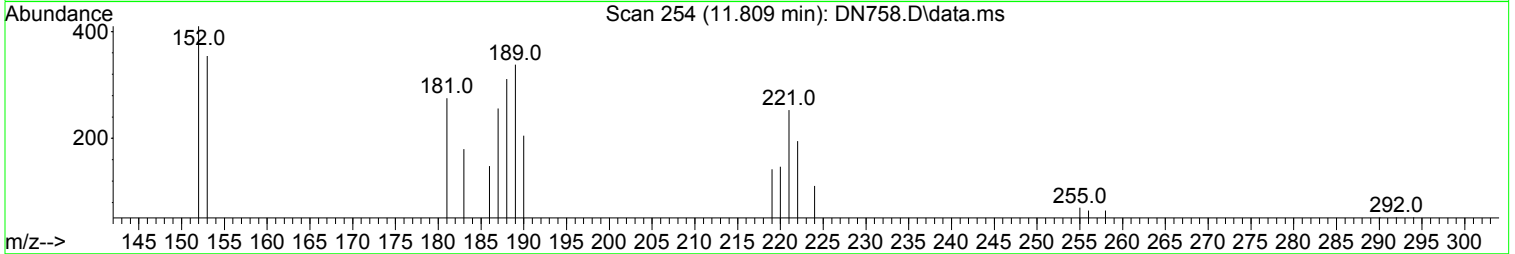
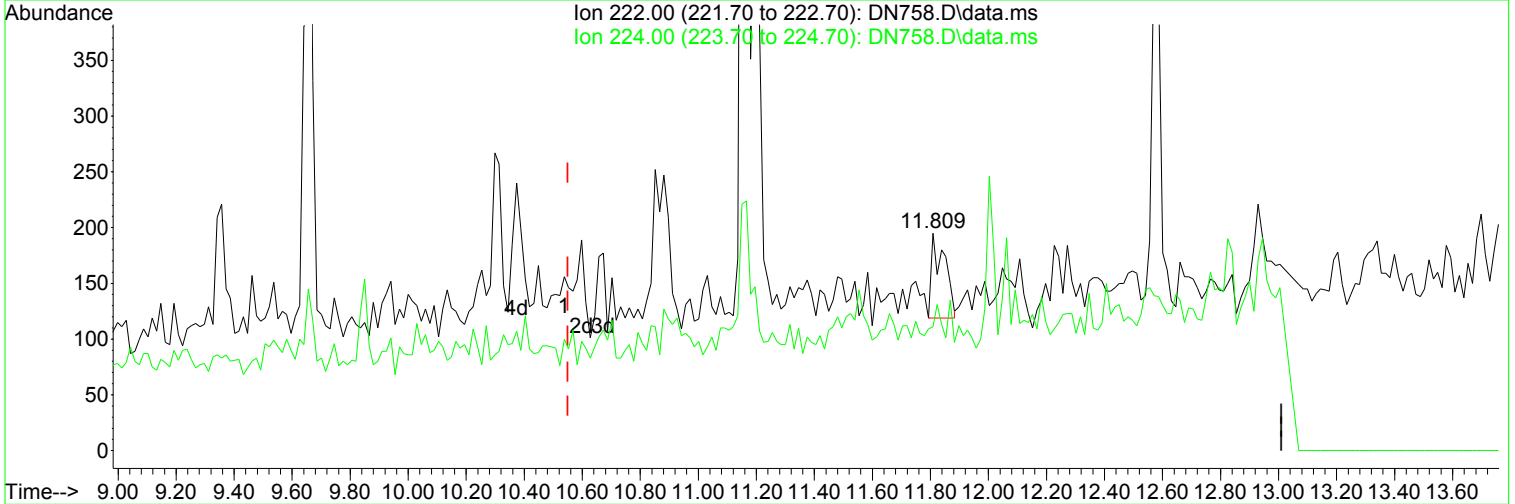
response 536 Other -

Ion	Exp%	Act%	02/22/19
222.00	100.00	100.00	
224.00	61.00	44.05	
0.00	0.00	0.00	
0.00	0.00	0.00	

APPENDIX D - Laboratory Reports

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

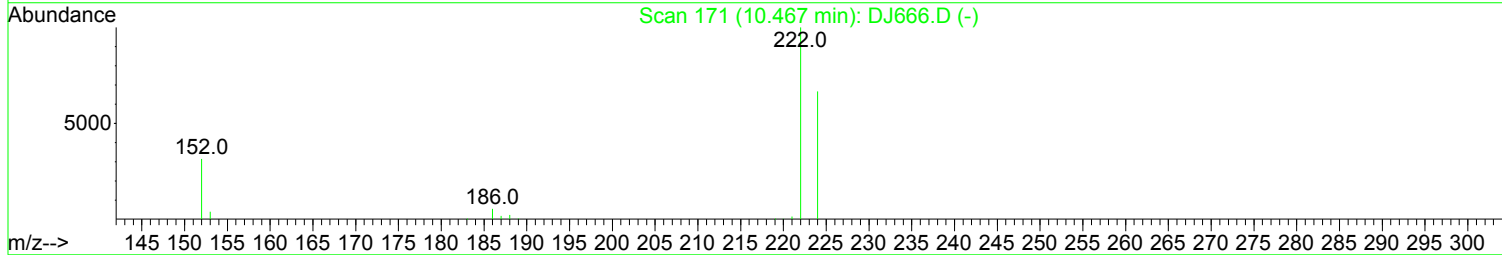
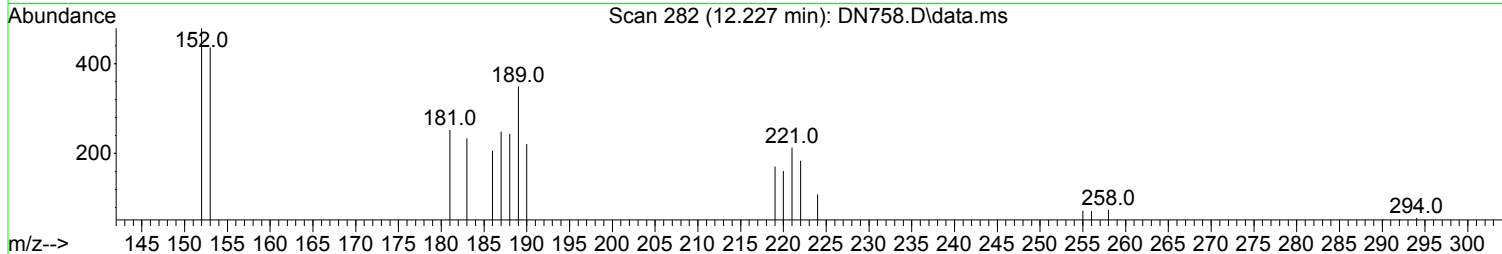
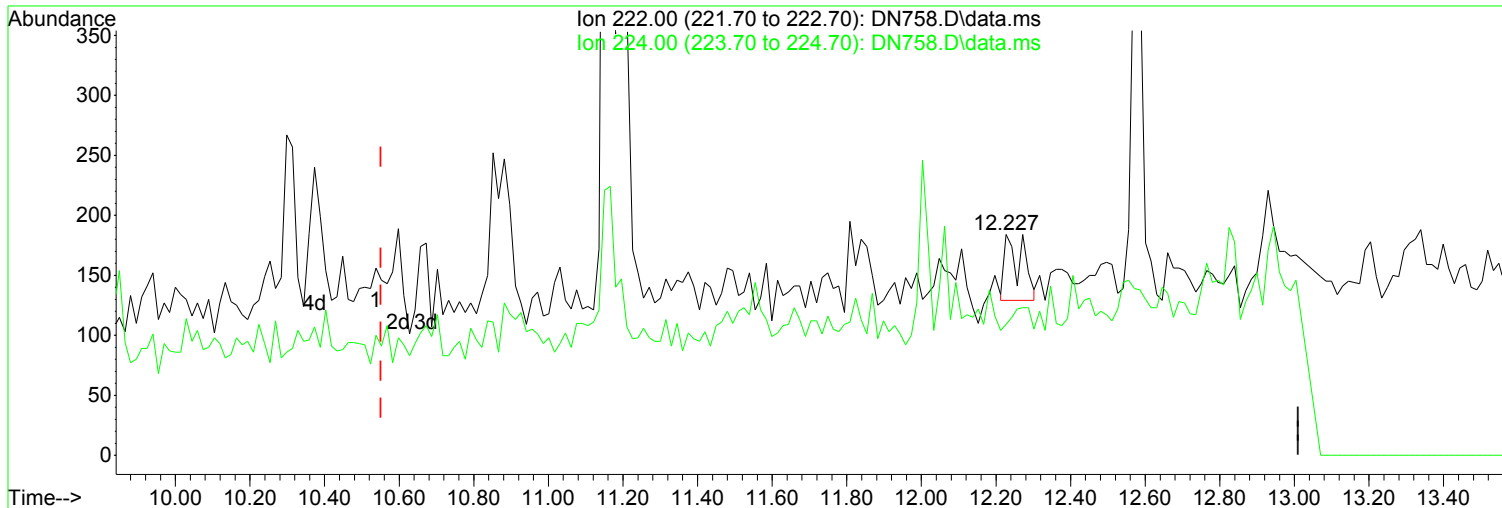


(33) CL2 - #6 (L2)			Manual Integration:
11.809min (+ 1.258)	0.00 ppm m		After
response	240		Other -
			02/22/19
Ion	Exp%	Act%	
222.00	100.00	100.00	
224.00	61.00	56.92	
0.00	0.00	0.00	
0.00	0.00	0.00	

APPENDIX D - Laboratory Reports

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)

Manual Integration:

12.227min (+ 1.676) 0.00 ppm m

After

response 178

Other -

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

02/22/19

APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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

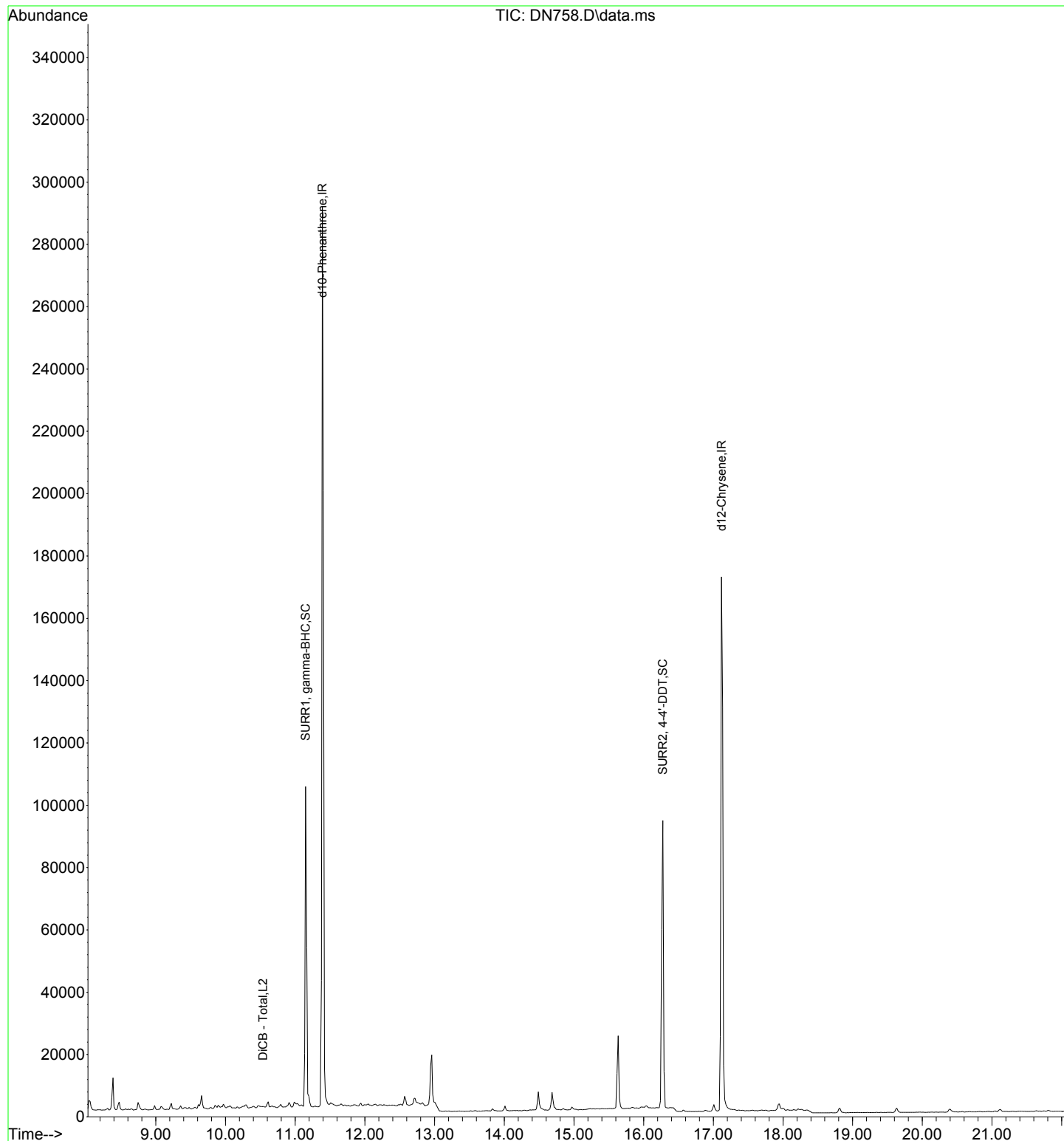
Quant Time: Feb 22 09:22:07 2019
 Quant Method : I:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

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						
38) DiCB - Total	10.538	222	2083m	0.009	ppm	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

APPENDIX D - Laboratory Reports
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

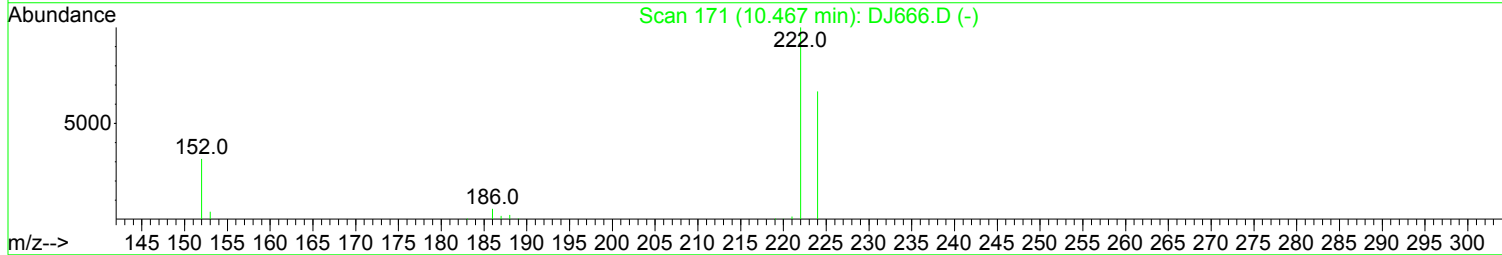
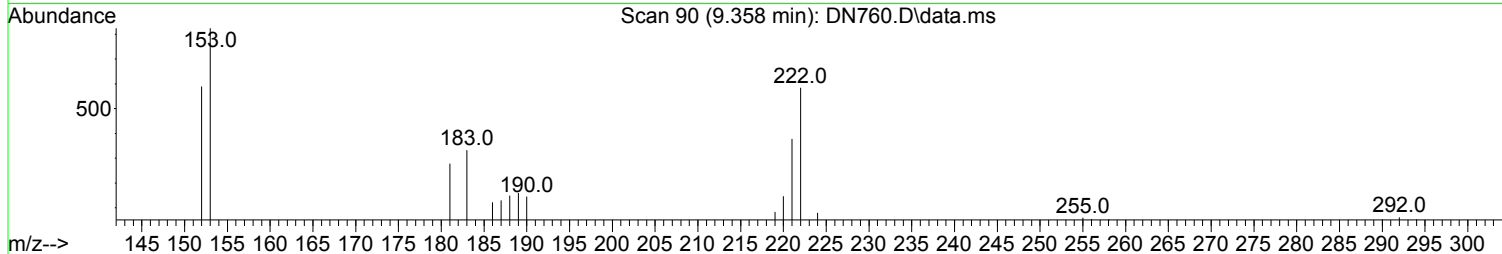
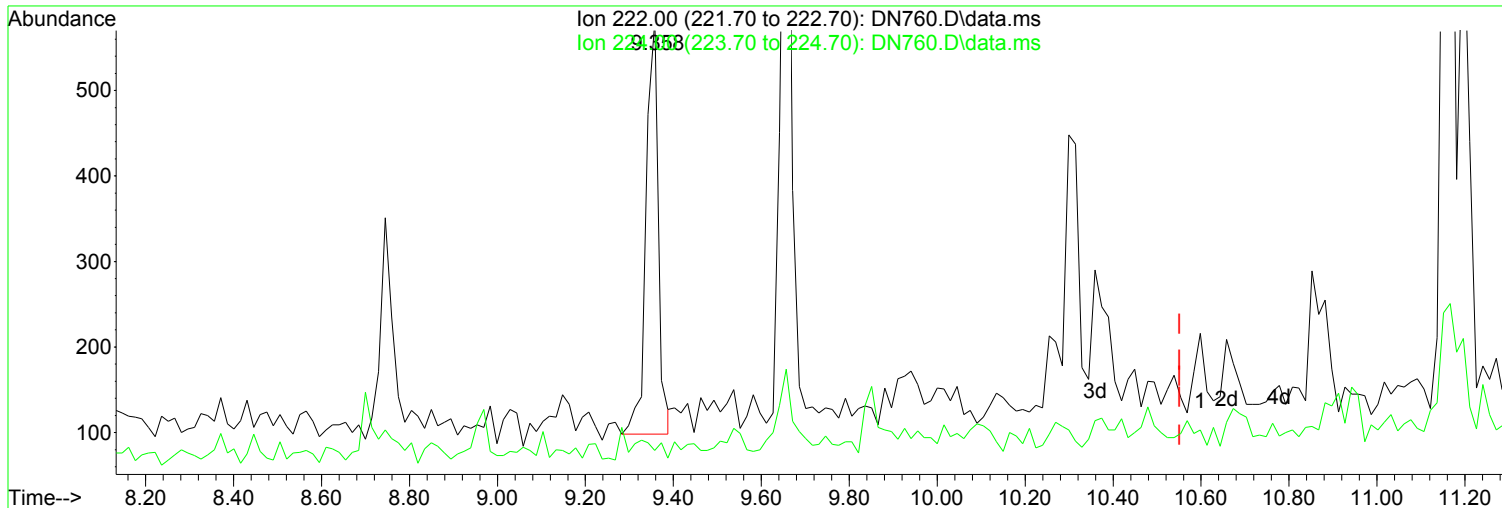
Quant Time: Feb 22 09:22:07 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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



(28) CL2 - #1 (L2)

9.358min (-1.193) 0.00 ppm m

response 930

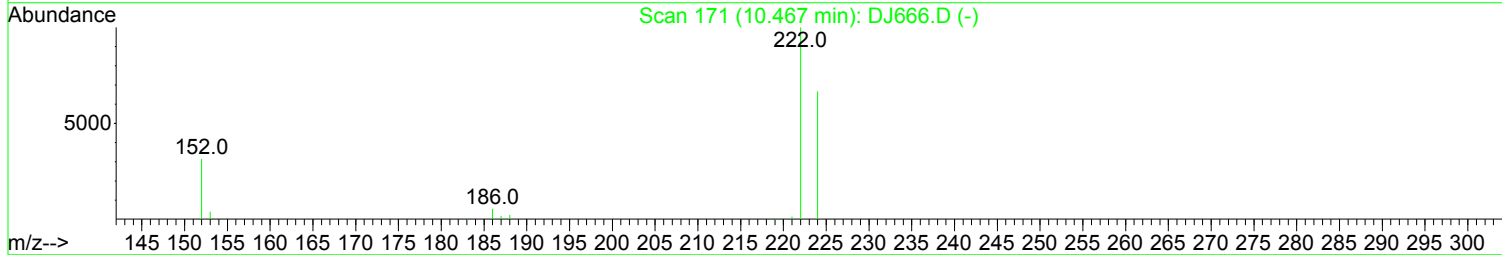
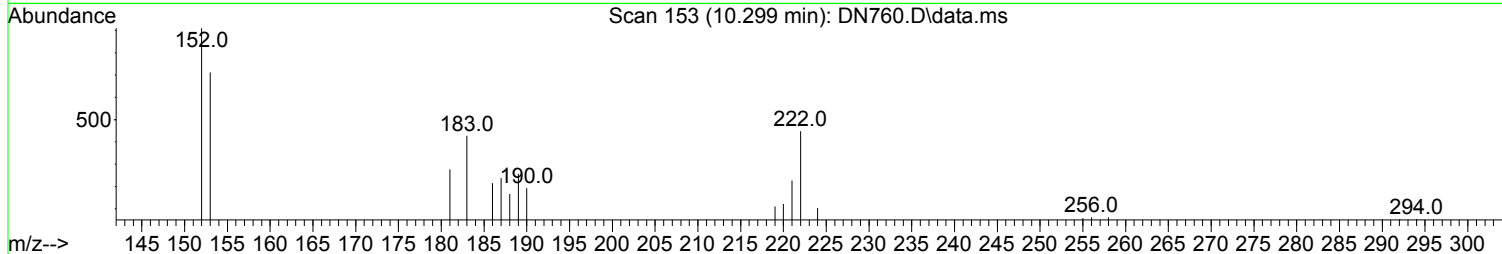
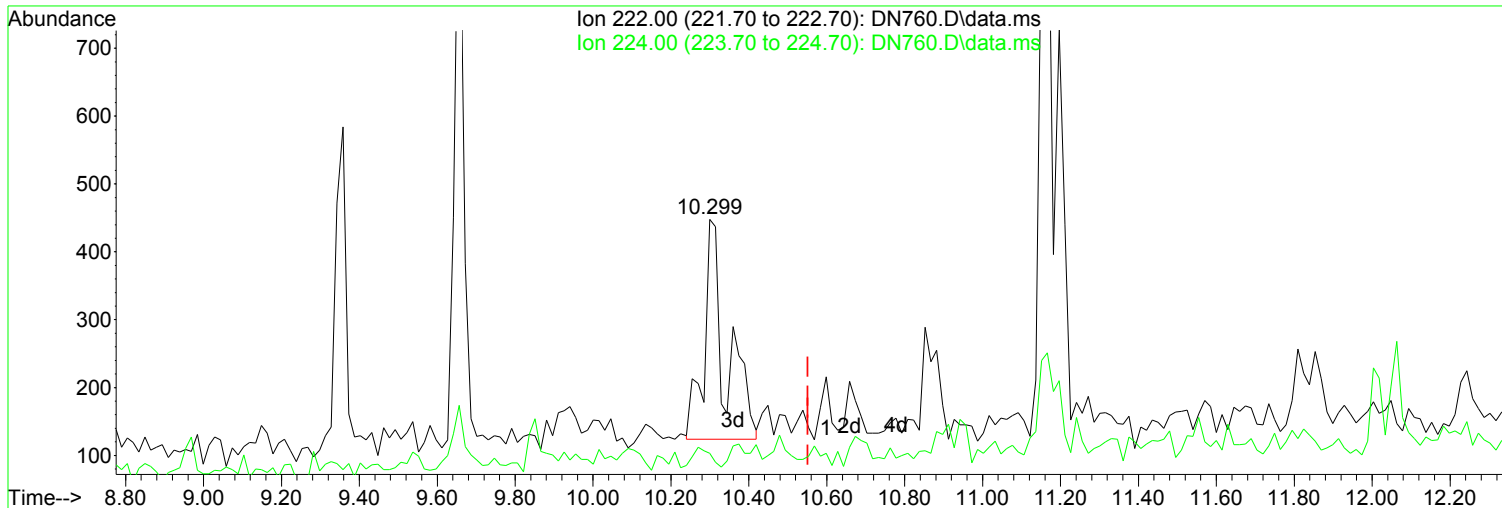
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	13.53#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
Other -
02/22/19

APPENDIX D - Laboratory Reports

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



(29) CL2 - #2 (L2)

Manual Integration:

10.299min (-0.252) 0.00 ppm m

After

response 1257

Other -

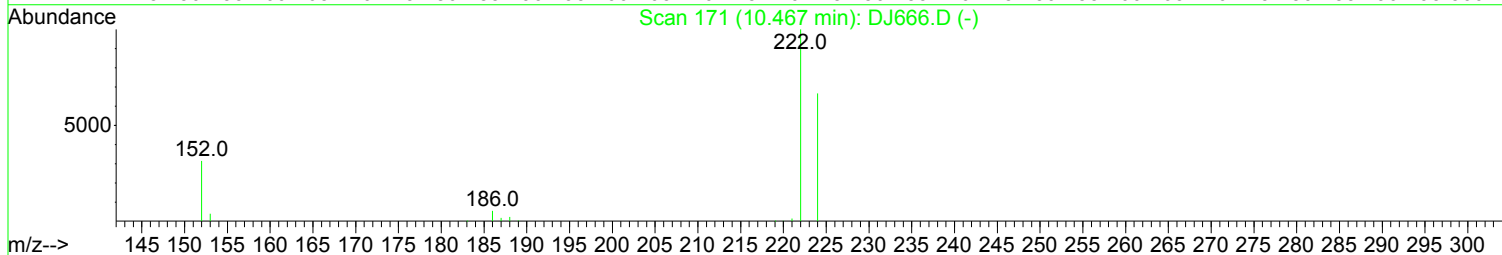
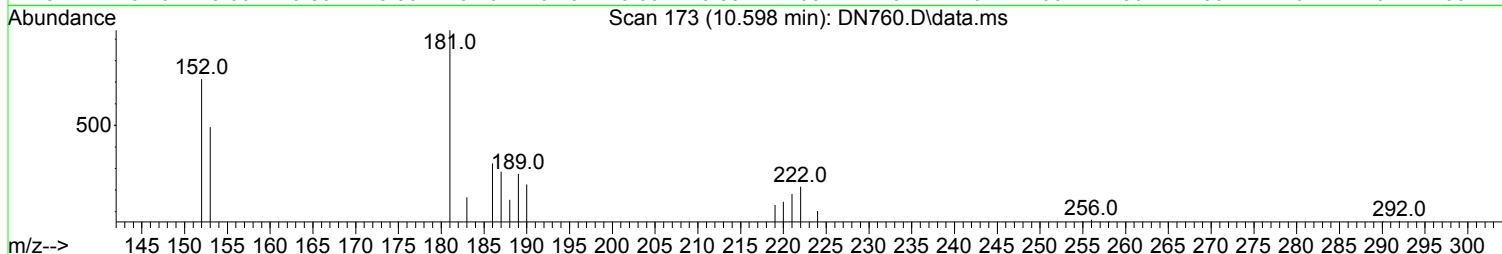
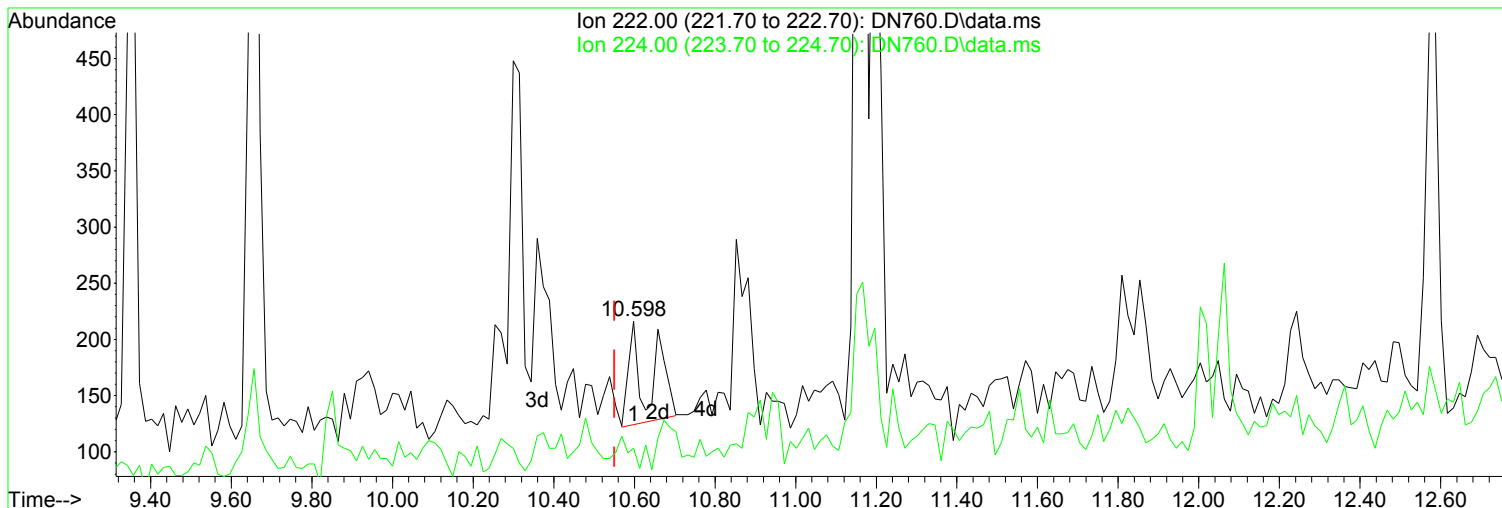
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	22.99#
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(30) CL2 - #3 (L2)

Manual Integration:

10.598min (+ 0.047) 0.00 ppm m

After

response 316

Other -

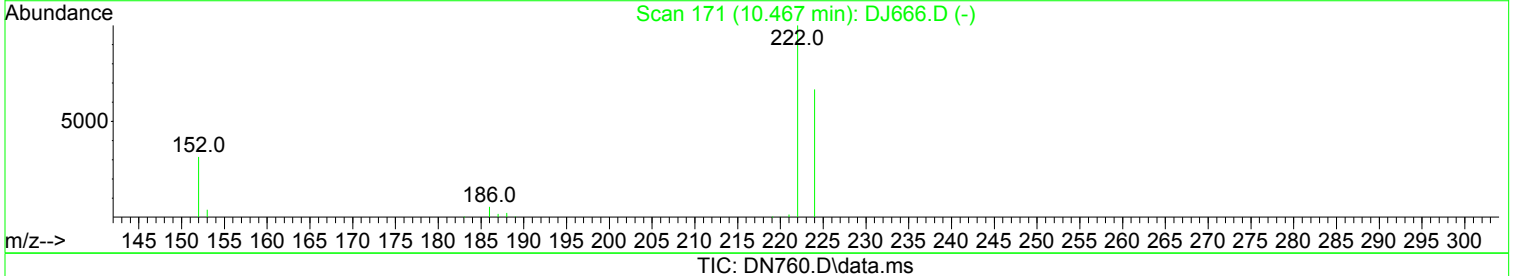
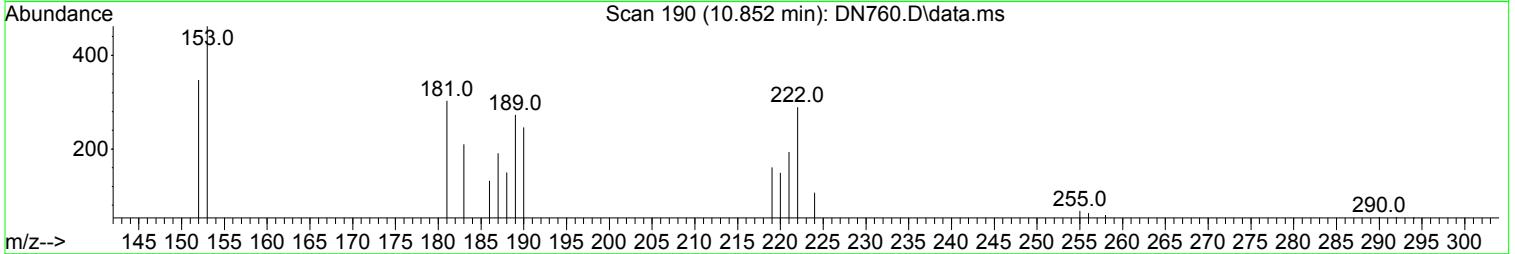
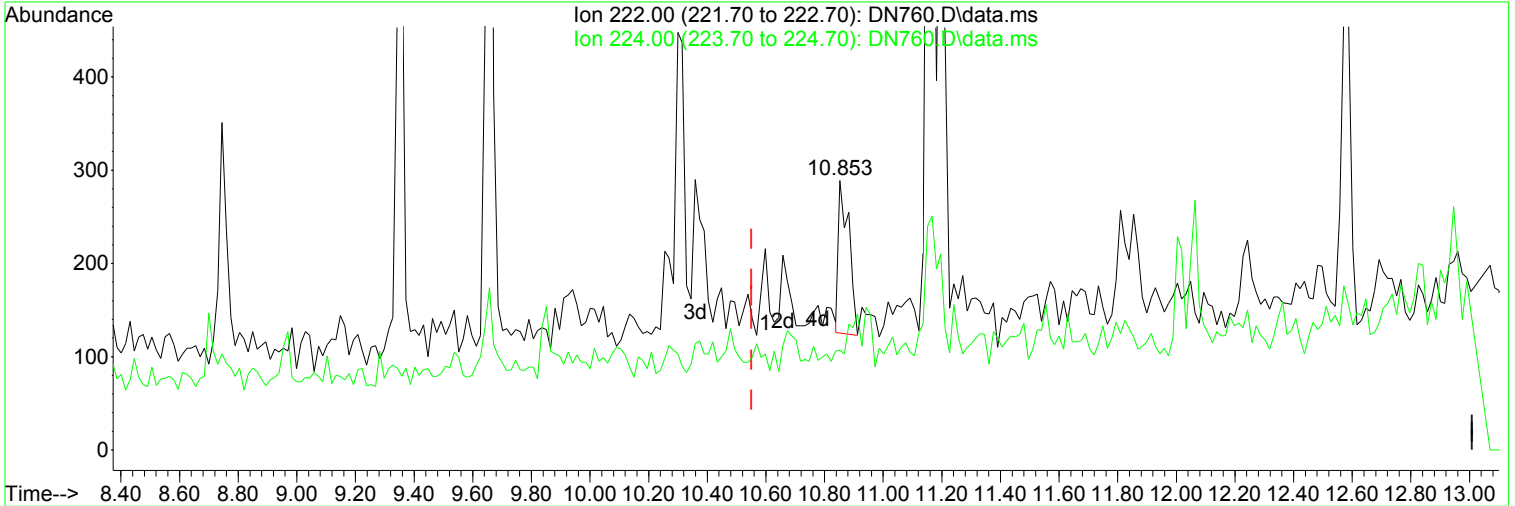
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	47.69
0.00	0.00	0.00
0.00	0.00	0.00

02/22/19

APPENDIX D - Laboratory Reports

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



(31) CL2 - #4 (L2) Manual Integration:

10.852min (+ 0.301) 0.00 ppm m After

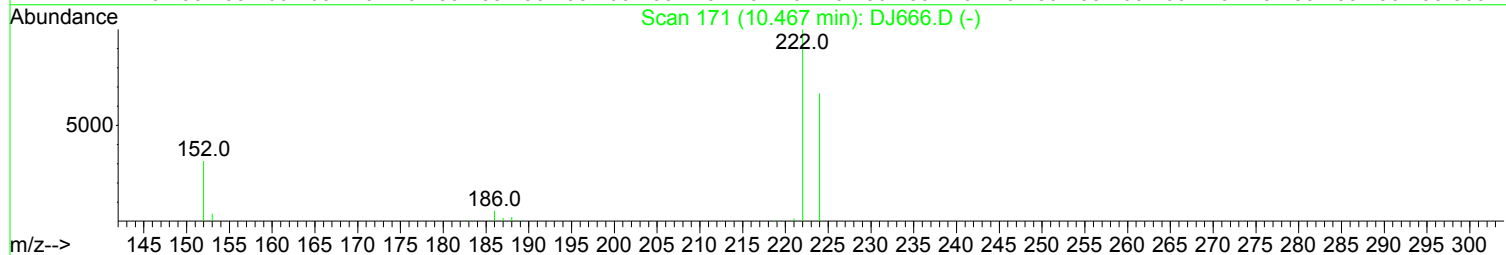
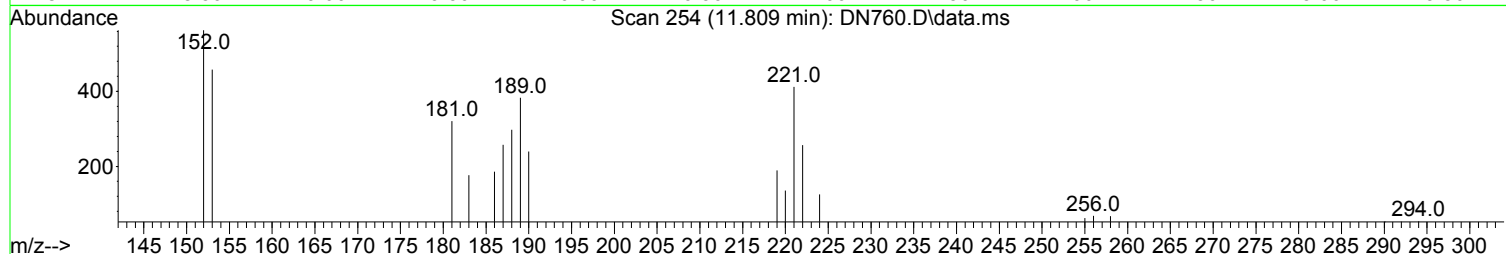
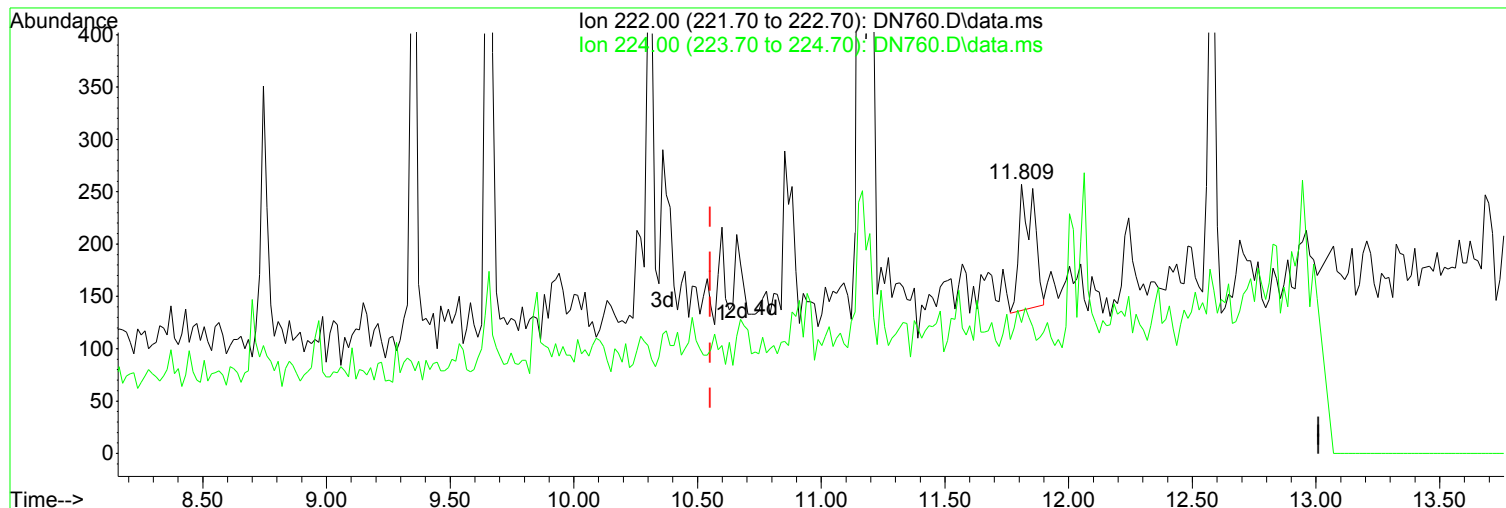
response 410 Other -

Ion	Exp%	Act%	
222.00	100.00	100.00	02/22/19
224.00	61.00	37.02	
0.00	0.00	0.00	
0.00	0.00	0.00	

APPENDIX D - Laboratory Reports

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



(32) CL2 - #5 (L2)

Manual Integration:

11.809min (+ 1.258) 0.00 ppm m

After

response 487

Other -

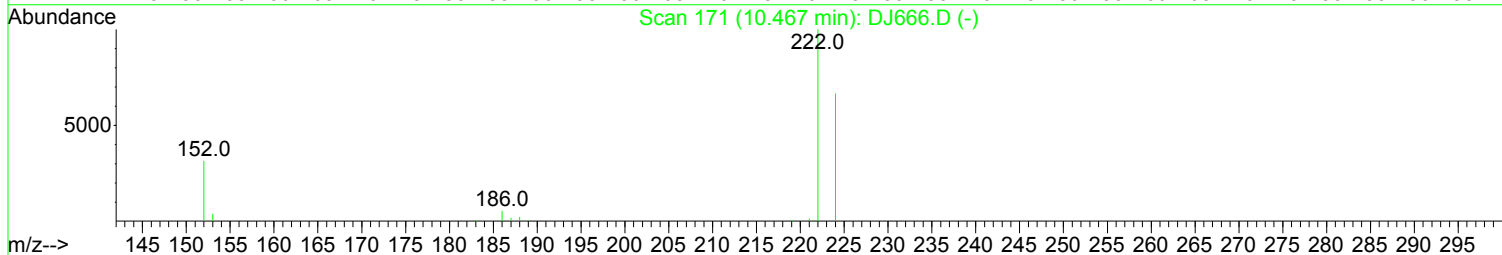
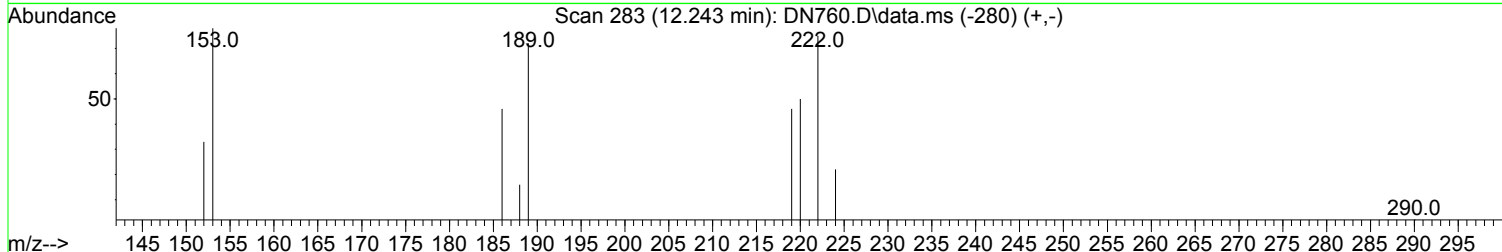
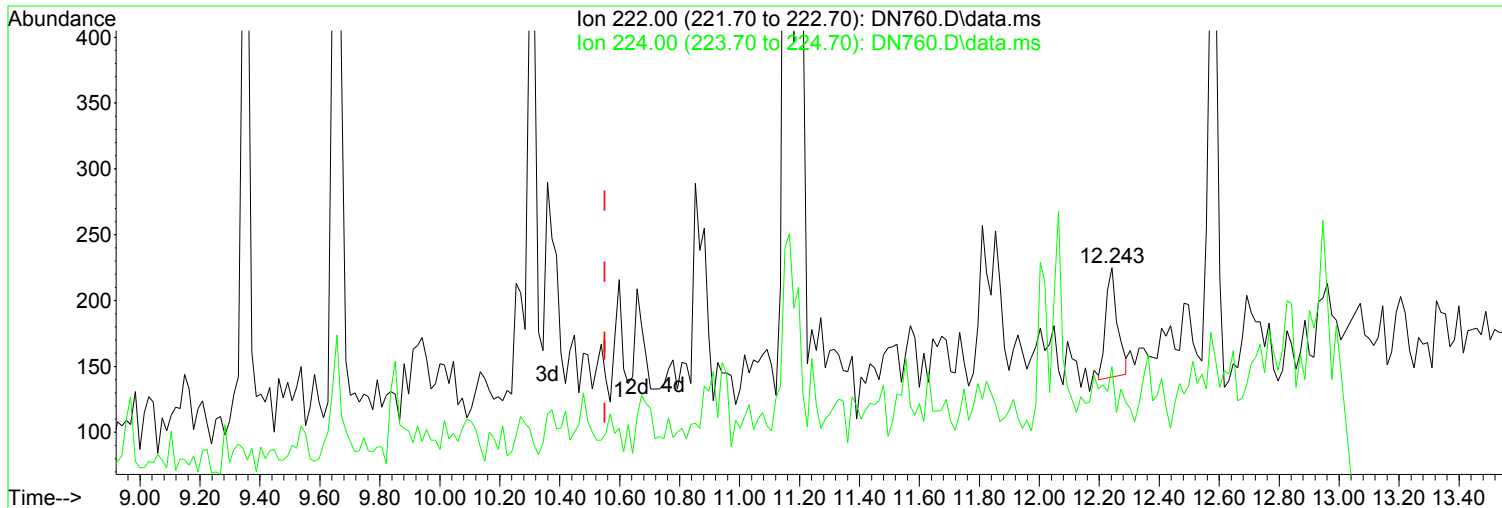
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	48.64
0.00	0.00	0.00
0.00	0.00	0.00

02/22/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

12.243min (+ 1.692) 0.00 ppm m

After

response 224

Other -

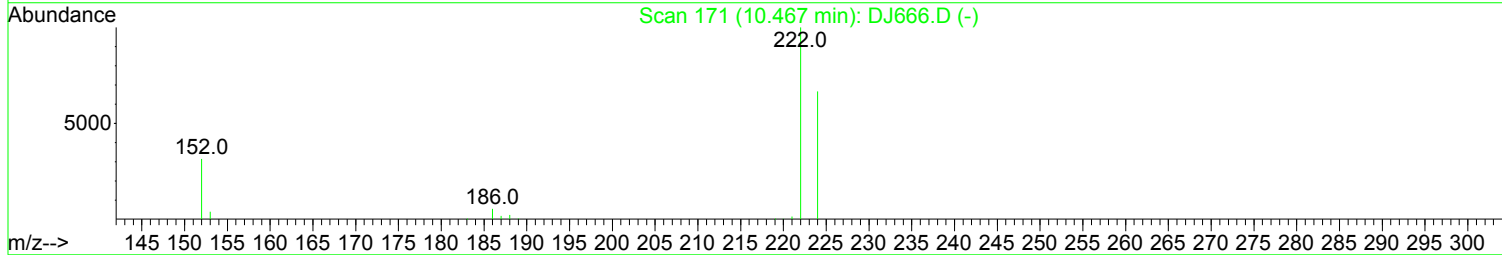
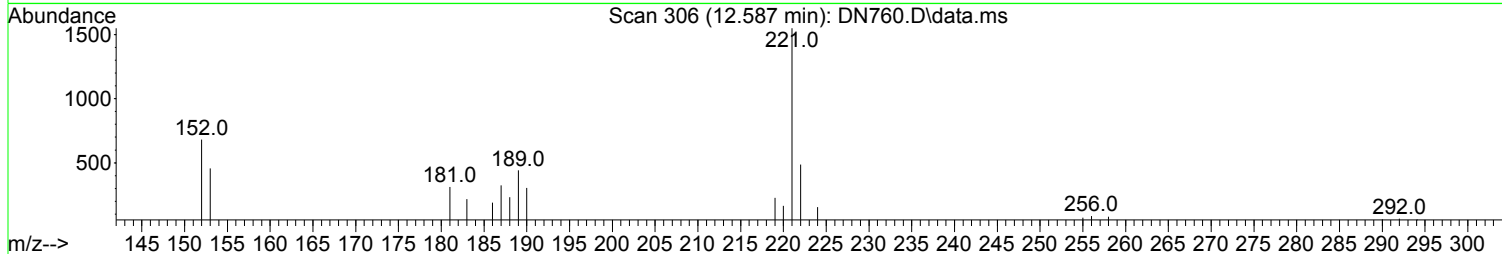
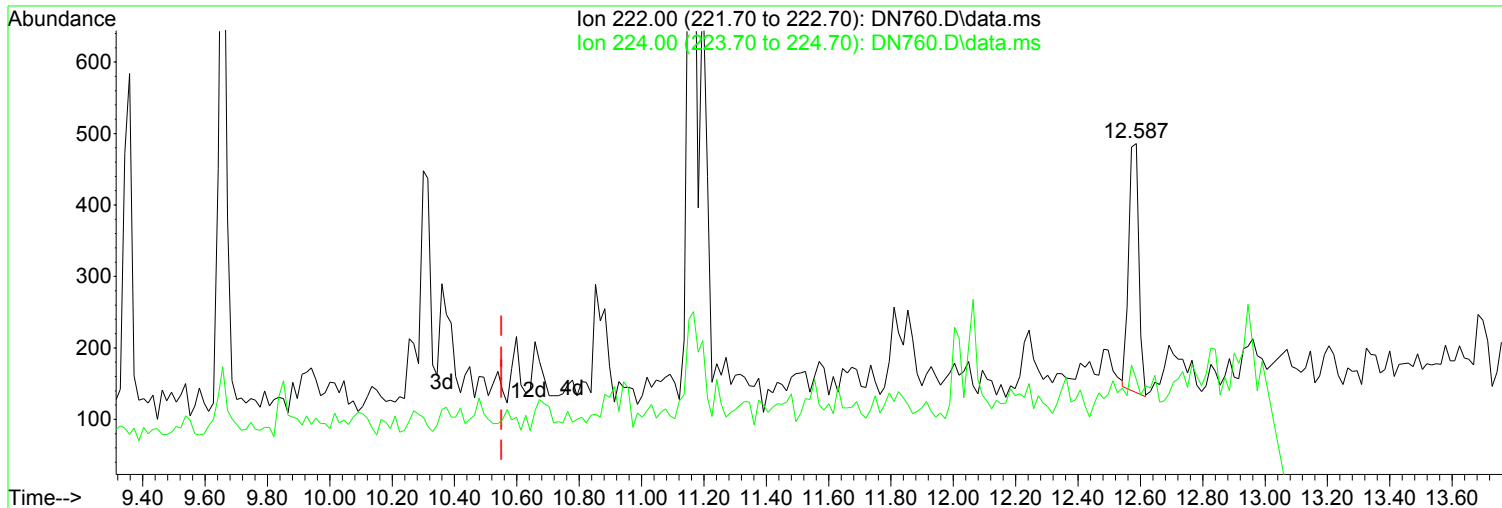
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	66.67
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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)

Manual Integration:

12.587min (+ 2.036) 0.00 ppm m

After

response 787

Other -

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

02/22/19

APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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

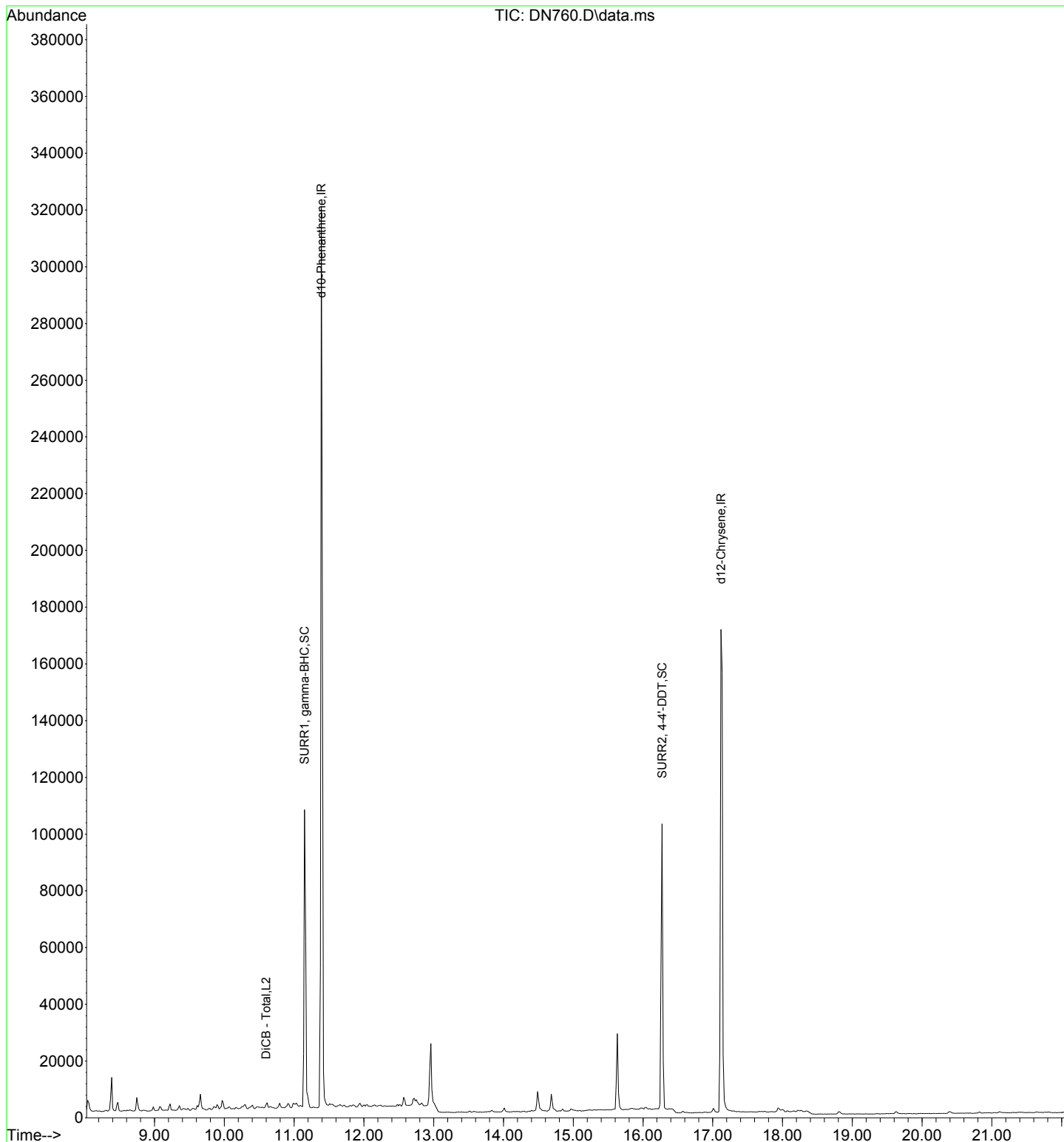
Quant Time: Feb 22 09:22:13 2019
 Quant Method : I:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

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						
38) DiCB - Total	10.598	222	4411m	0.018	ppm	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

APPENDIX D - Laboratory Reports
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



APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

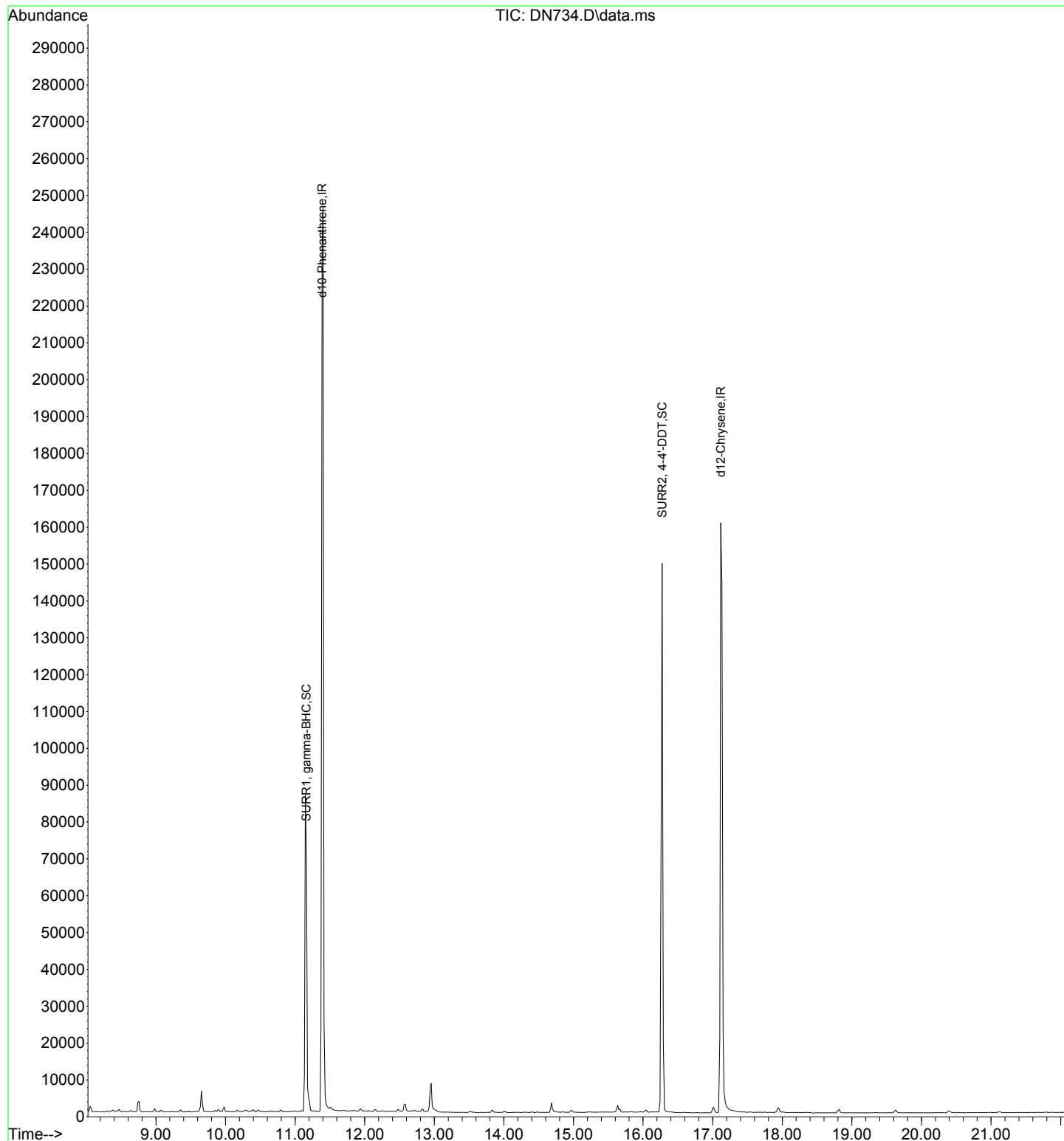
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.387	188	339399	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	283102	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.163	219	35454	0.77	ppm	0.01
Spiked Amount	1.000	Range	55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports
Data Path : I:\ACQUADATA\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

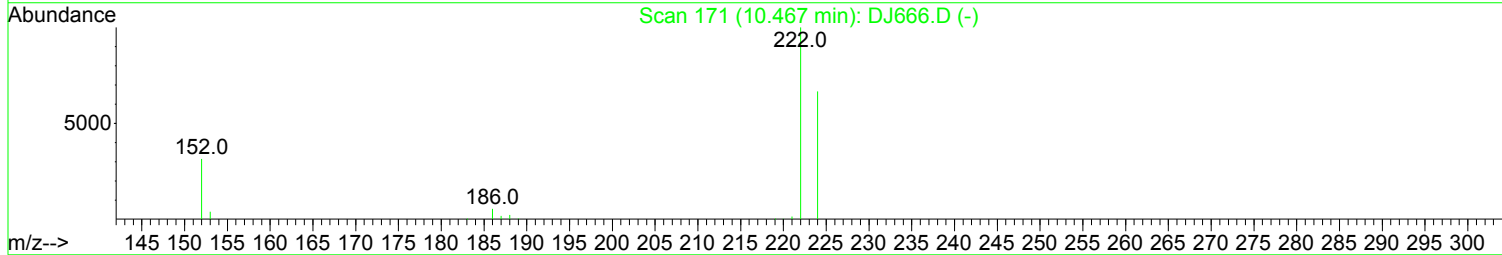
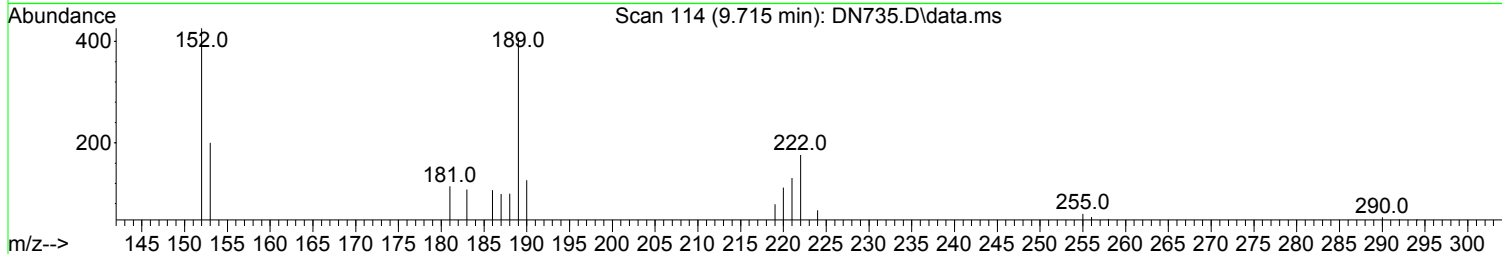
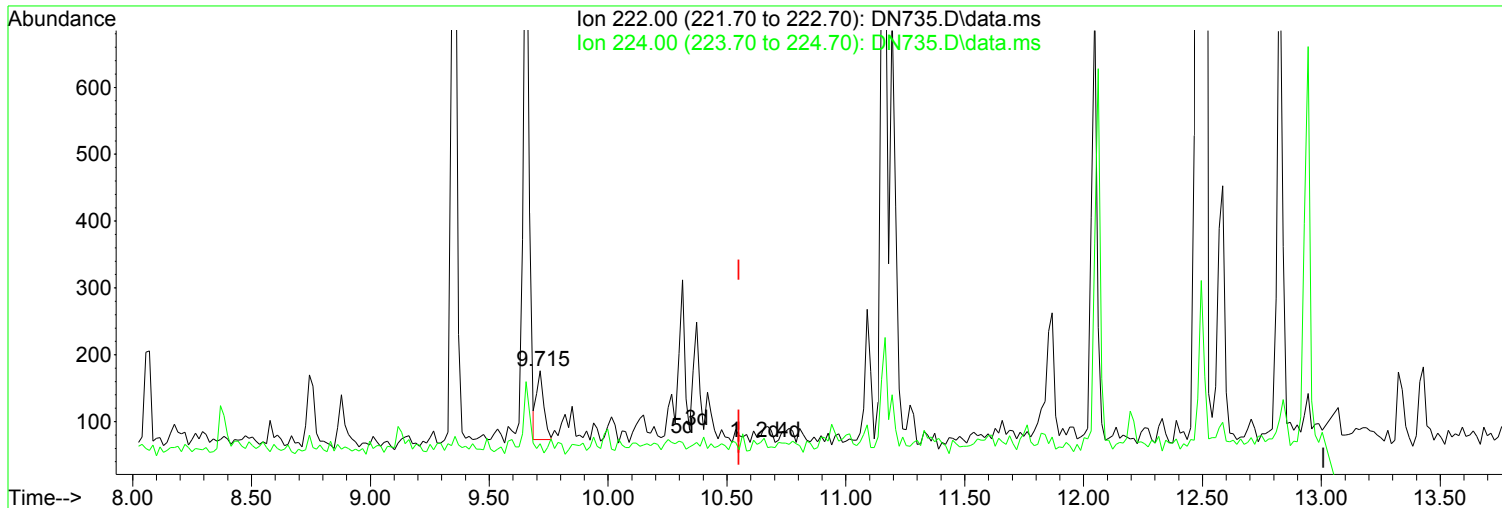
Quant Time: Feb 22 08:03:45 2019
Quant Method : I:\ACQUADATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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



(28) CL2 - #1 (L2)

Manual Integration:

9.715min (-0.836) 0.00 ppm m

After

response 215

Other -

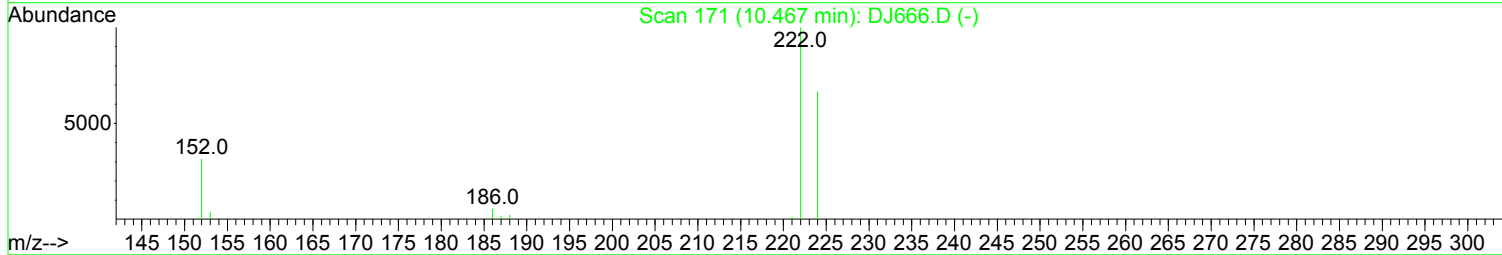
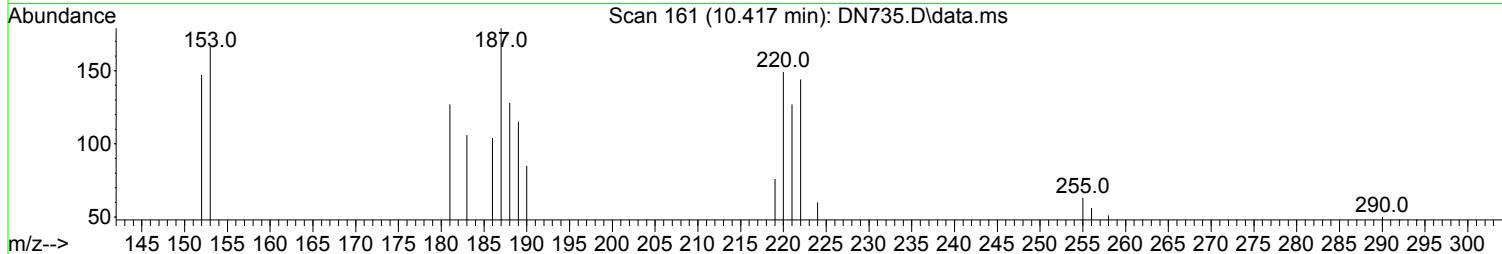
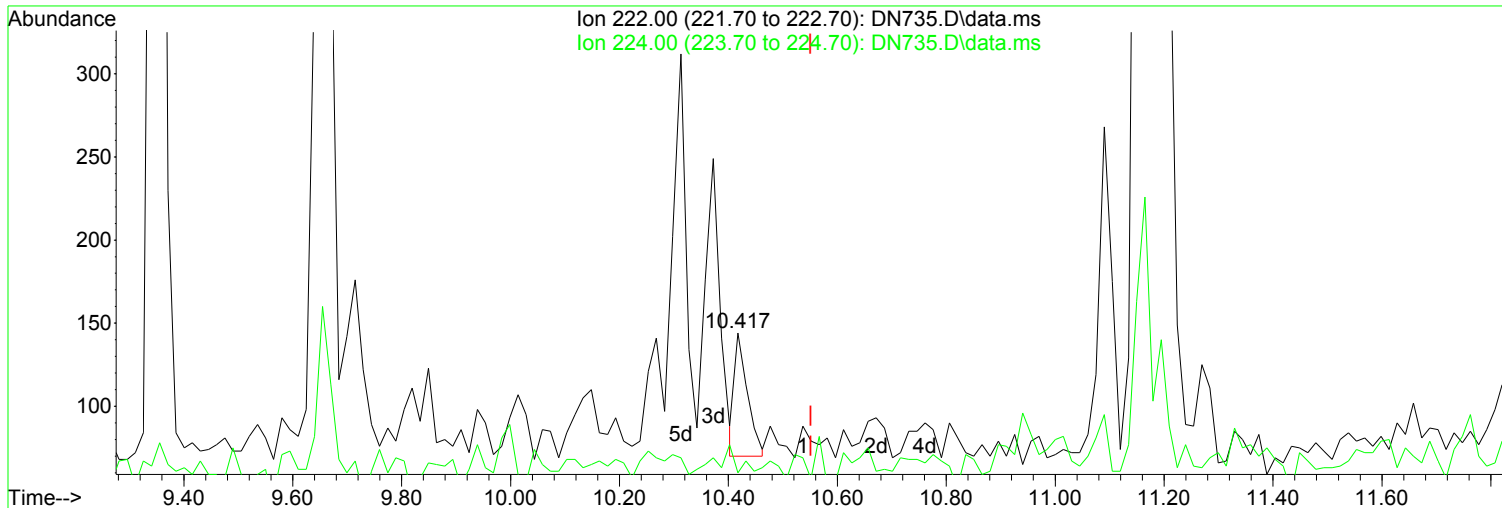
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	38.07
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(29) CL2 - #2 (L2)

10.417min (-0.134) 0.00 ppm m

response 124

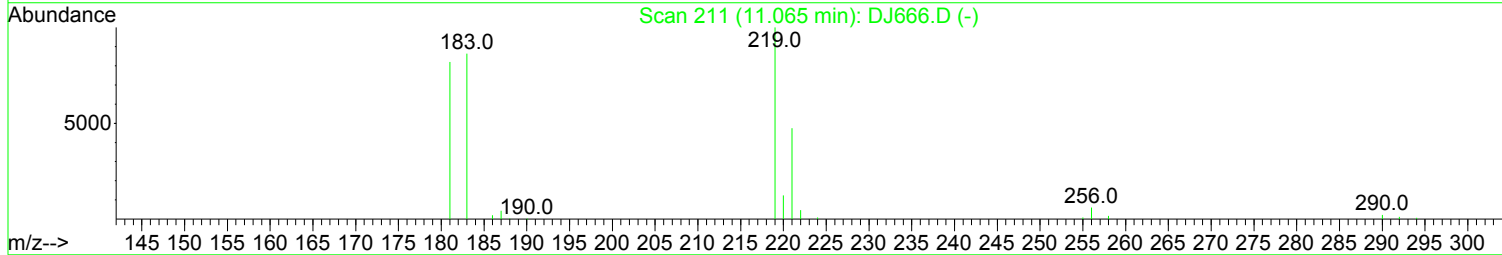
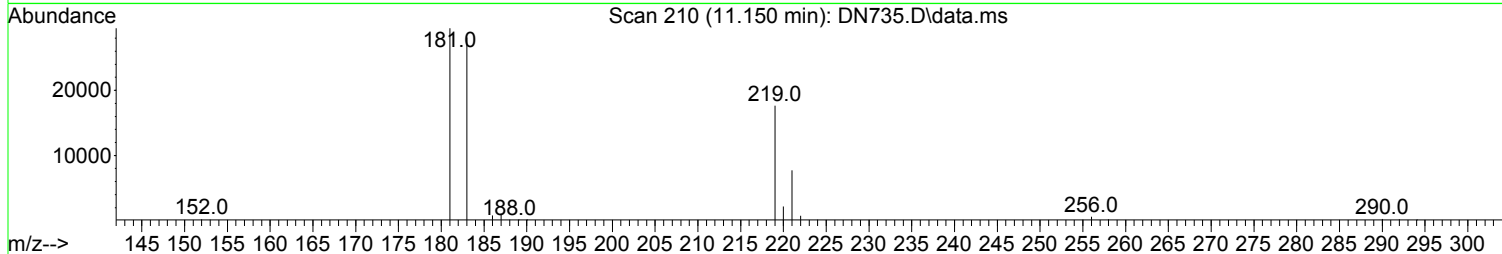
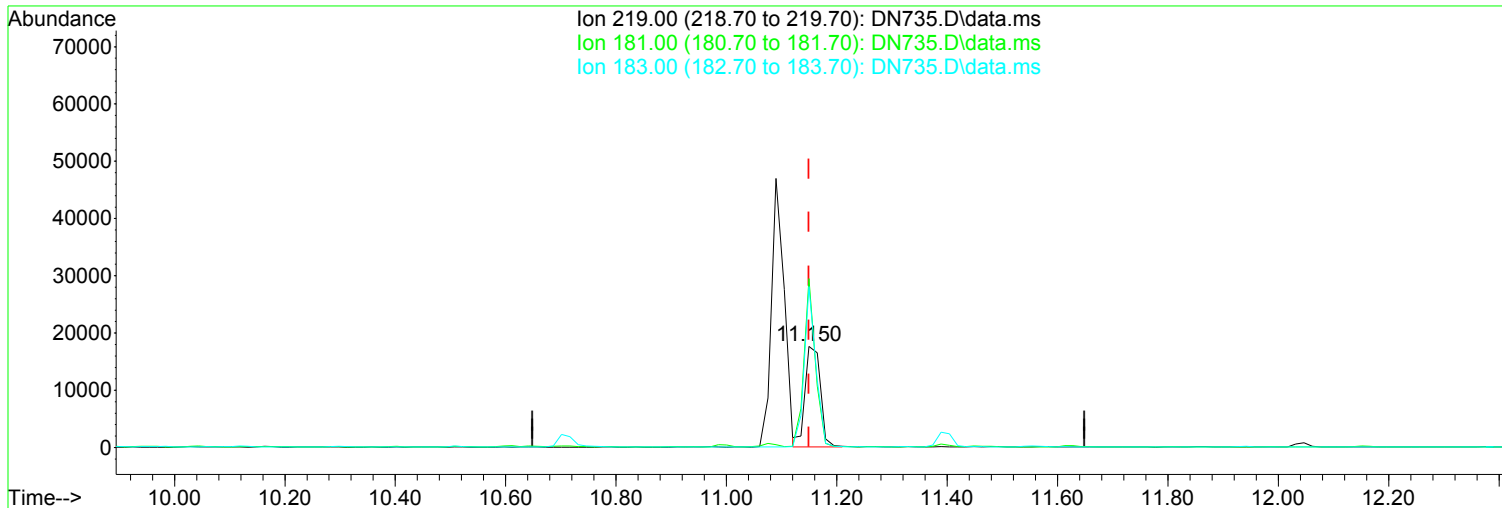
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	41.67
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
Other -
02/22/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

11.150min (+ 0.001) 0.82 ppm m

After

response 33839

Split Peak.

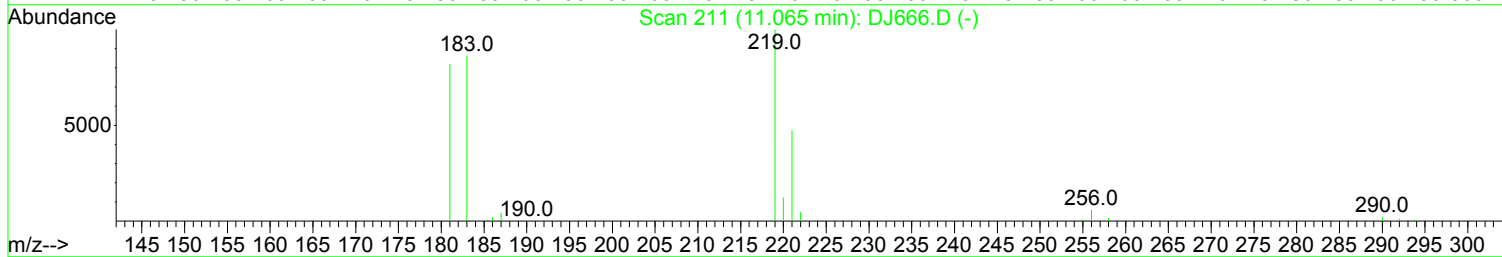
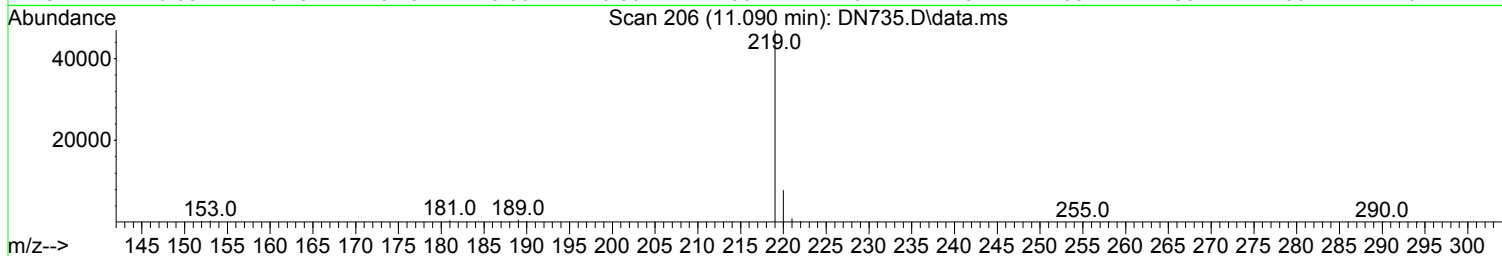
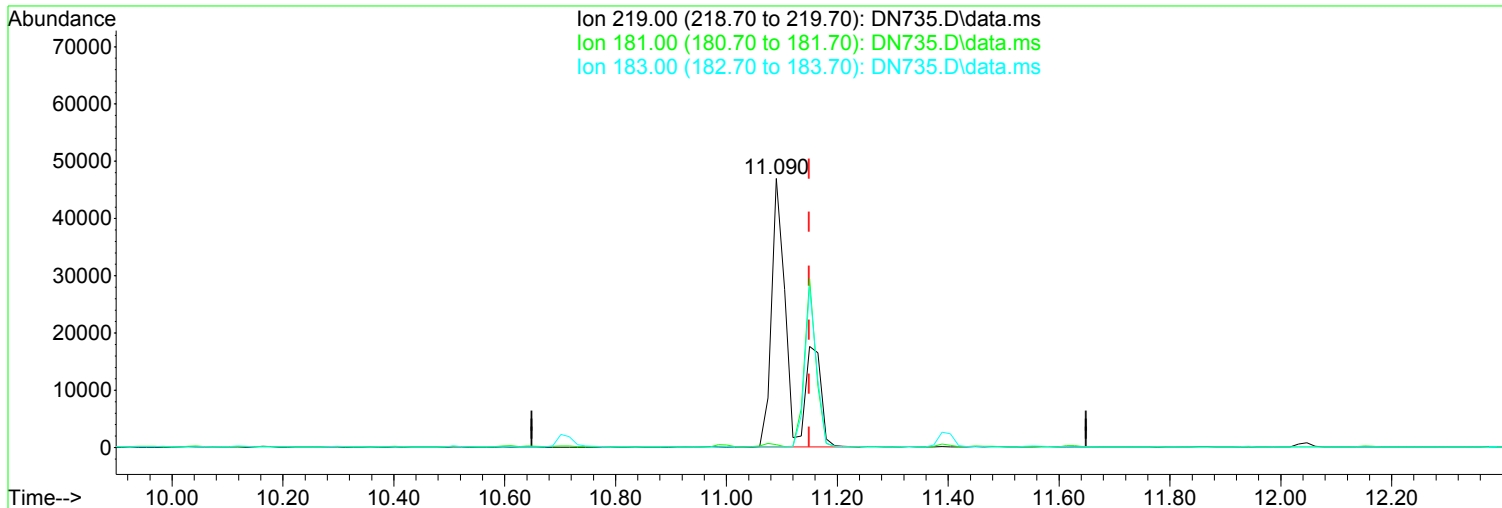
Ion	Exp%	Act%
219.00	100.00	100.00
181.00	137.20	167.16
183.00	135.20	159.01
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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)

Manual Integration:

11.090min (-0.059) 2.67 ppm

Before

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

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APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

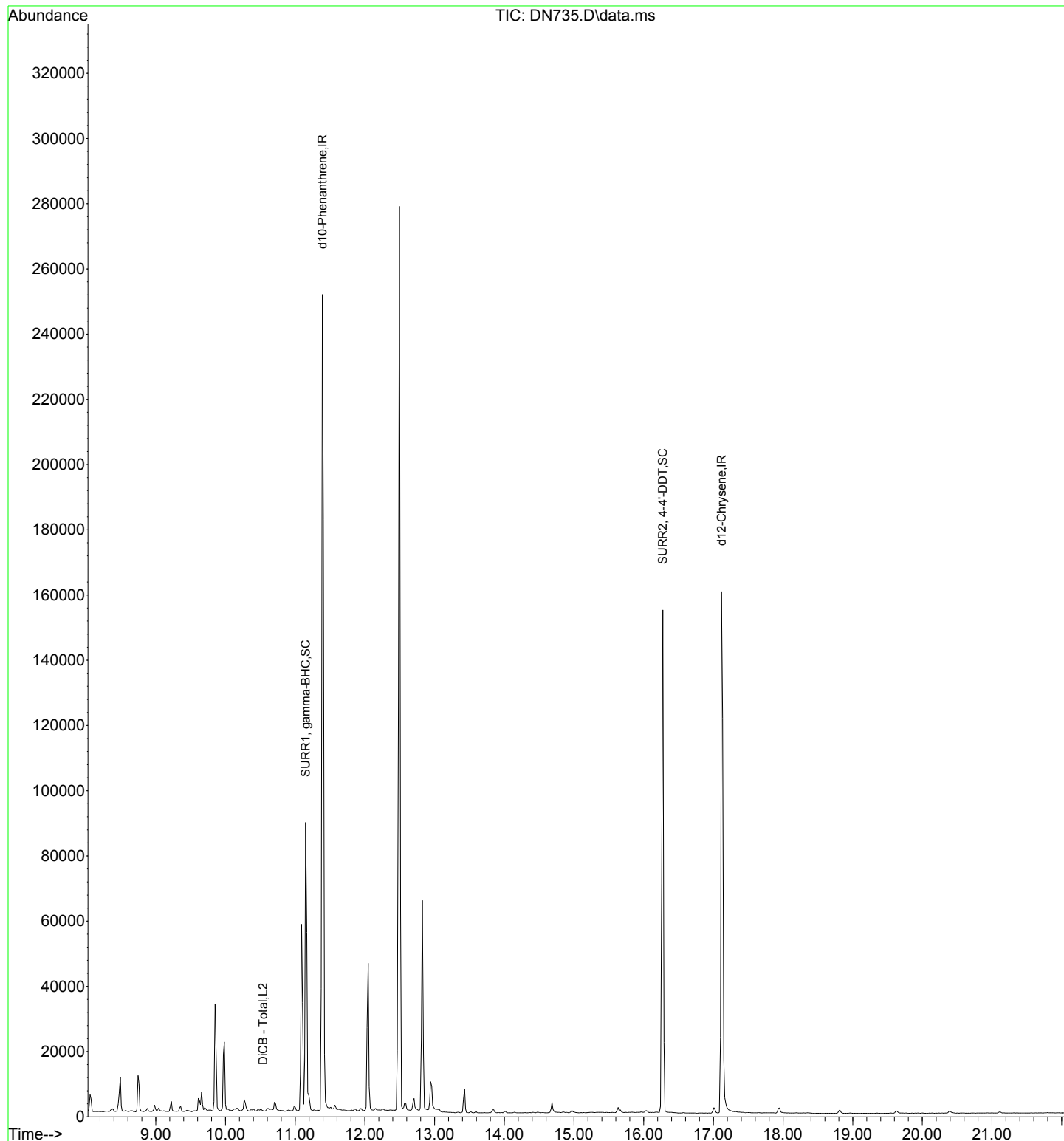
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.389	188	312927	0.75	ppm	0.00
2) d12-Chrysene	17.118	240	252061	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.150	219	33839m	0.82	ppm	0.00
Spiked Amount	1.000	Range 55 - 133	Recovery	=	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						
38) DiCB - Total	10.537	222	339m	0.002	ppm	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

APPENDIX D - Laboratory Reports

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

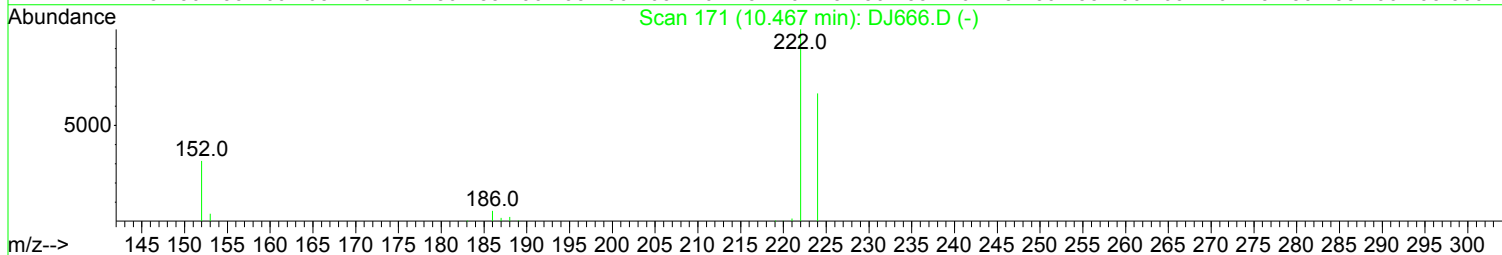
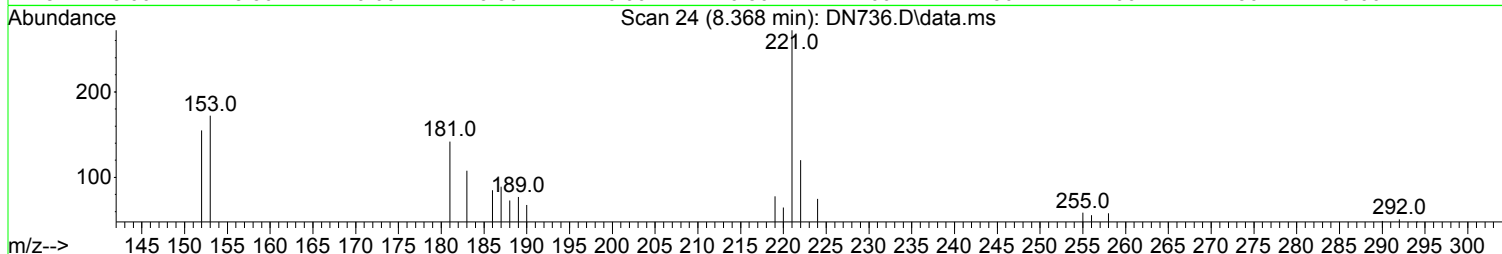
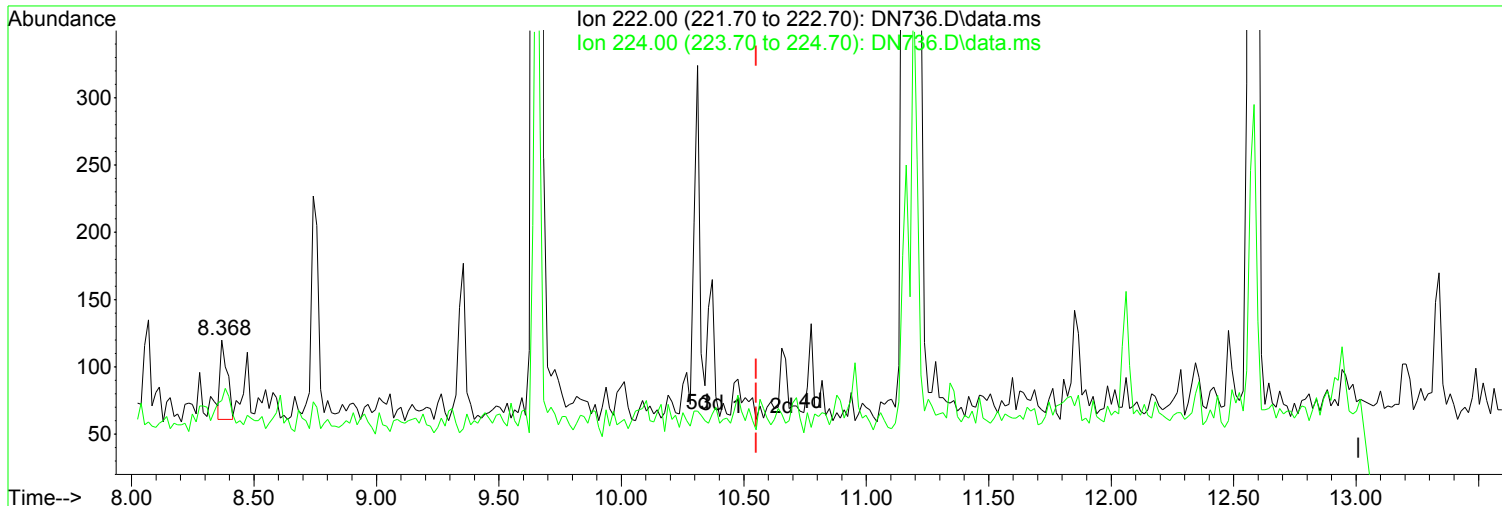
Quant Time: Feb 22 08:03:51 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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



(28) CL2 - #1 (L2)

Manual Integration:

8.368min (-2.183) 0.00 ppm m

After

response 118

Other -

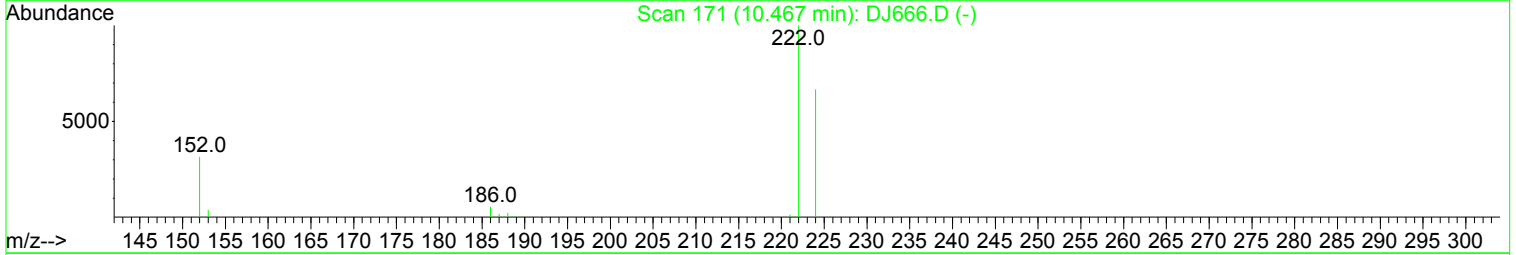
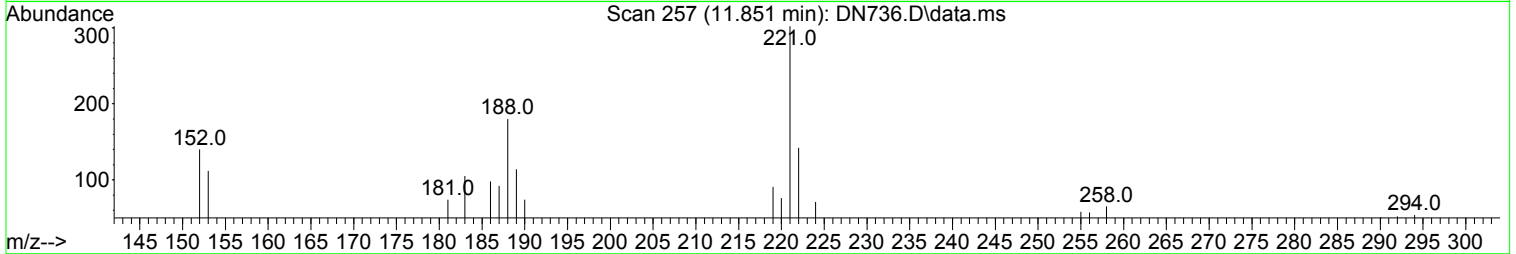
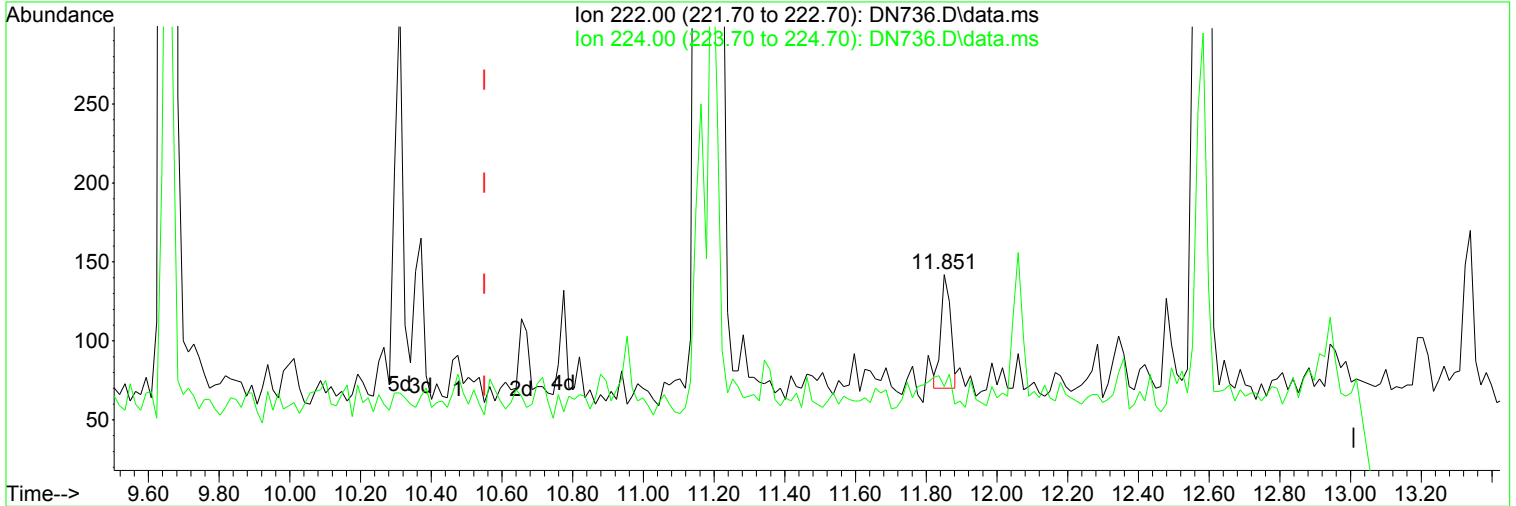
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	62.50
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(29) CL2 - #2 (L2)

11.851min (+ 1.300) 0.00 ppm m

response 138

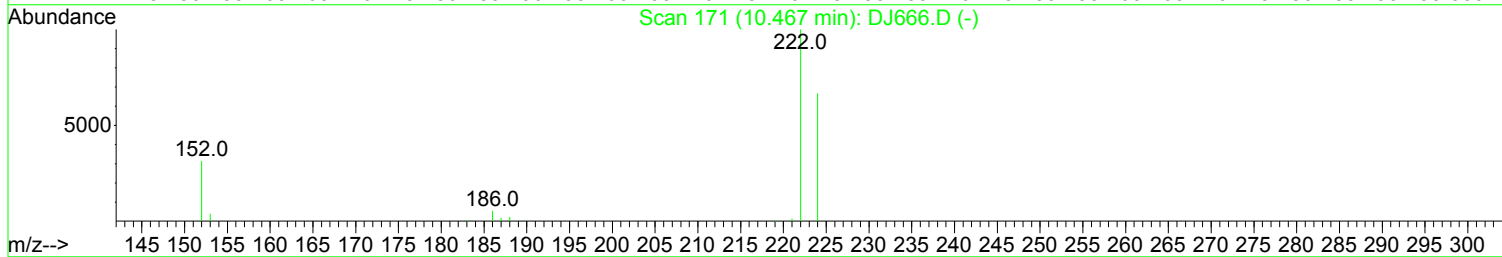
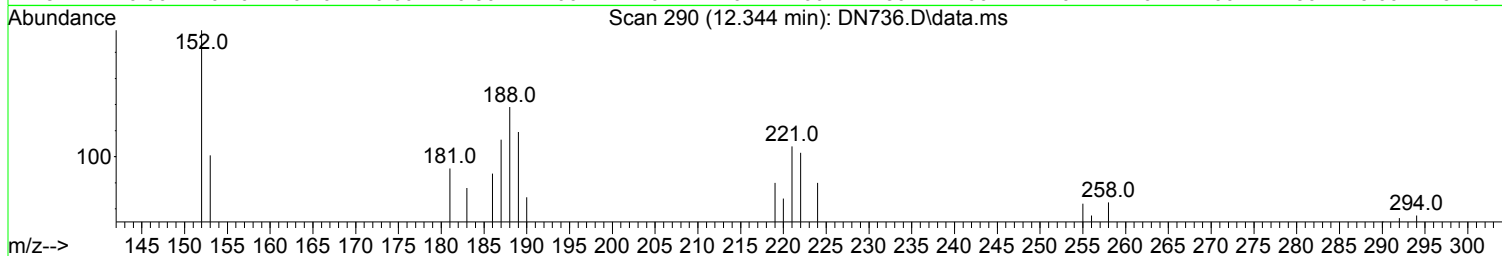
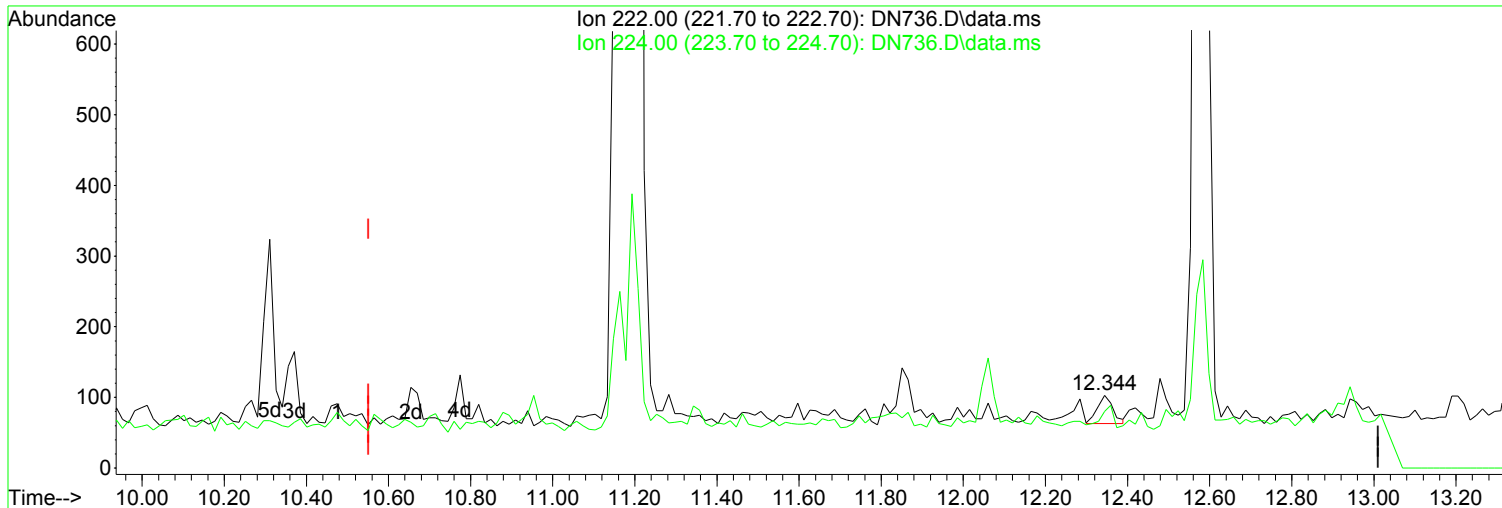
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	50.00
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
Other -
02/22/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

12.344min (+ 1.793) 0.00 ppm m

After

response 106

Other -

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

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APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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

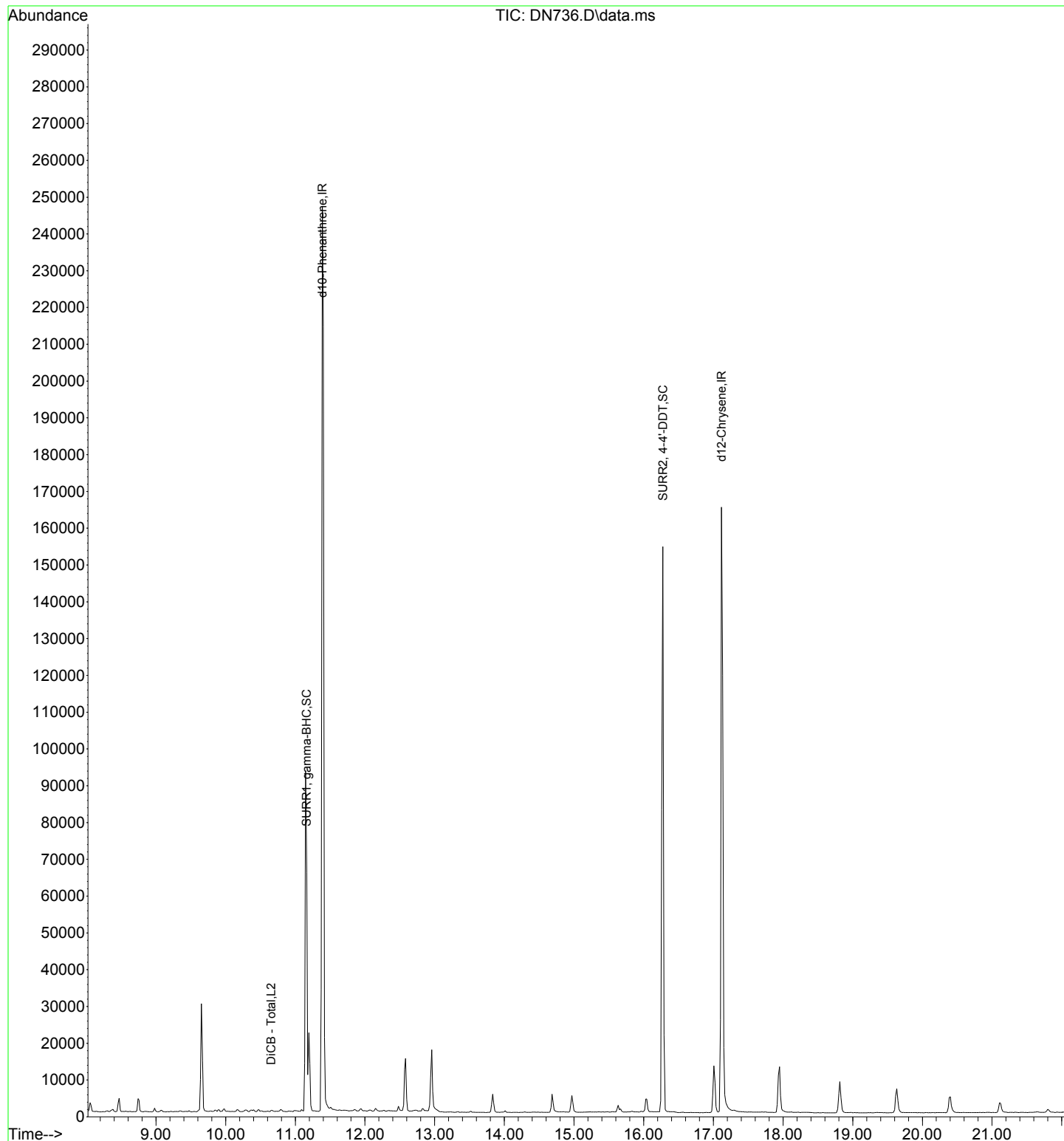
Quant Time: Feb 22 08:03:57 2019
 Quant Method : I:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

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						
38) DiCB - Total	10.655	222	362m	0.002	ppm	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

APPENDIX D - Laboratory Reports
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

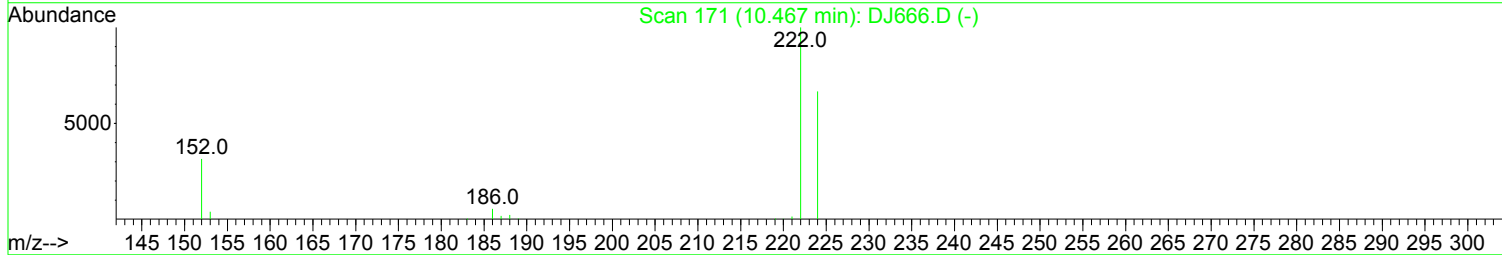
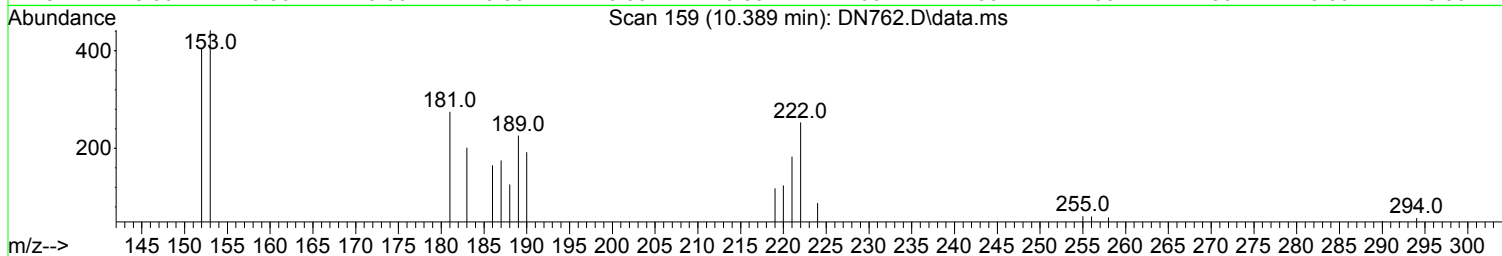
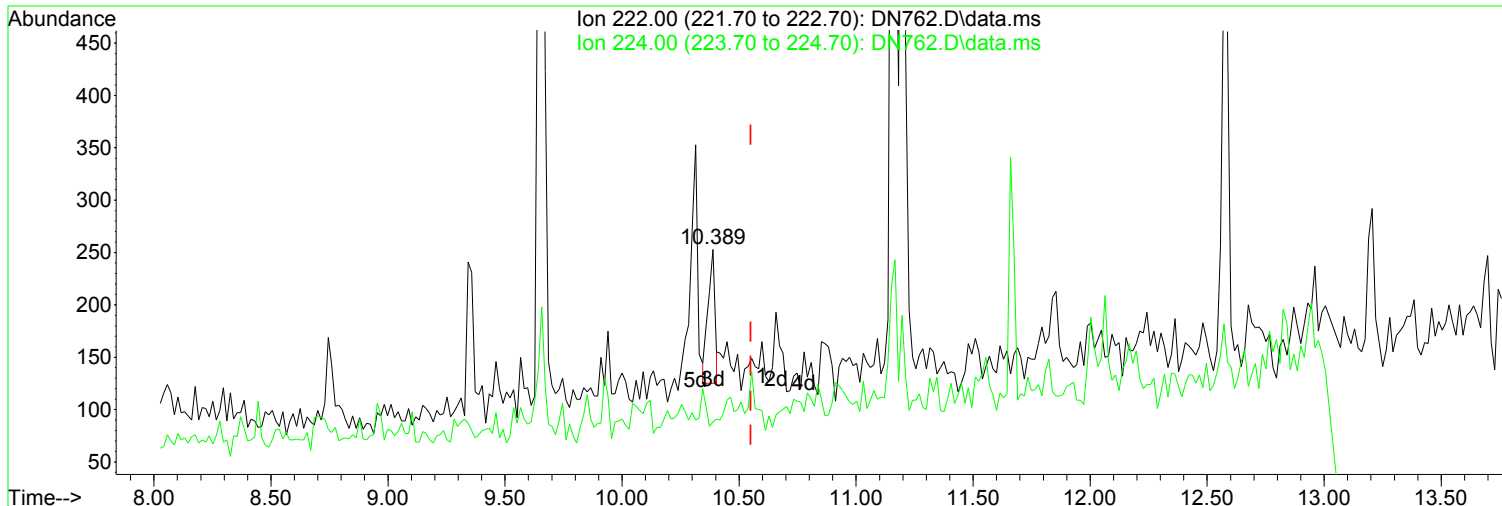
Quant Time: Feb 22 08:03:57 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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)

Manual Integration:

10.389min (-0.162) 0.00 ppm m

After

response 270

Other -

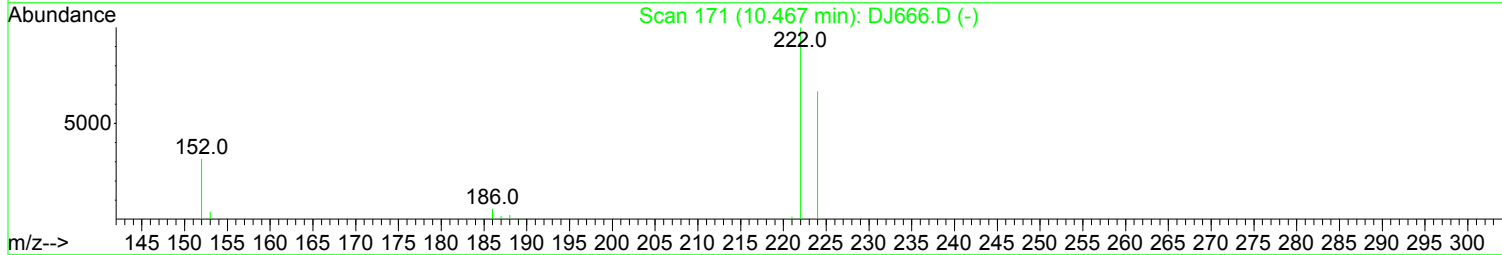
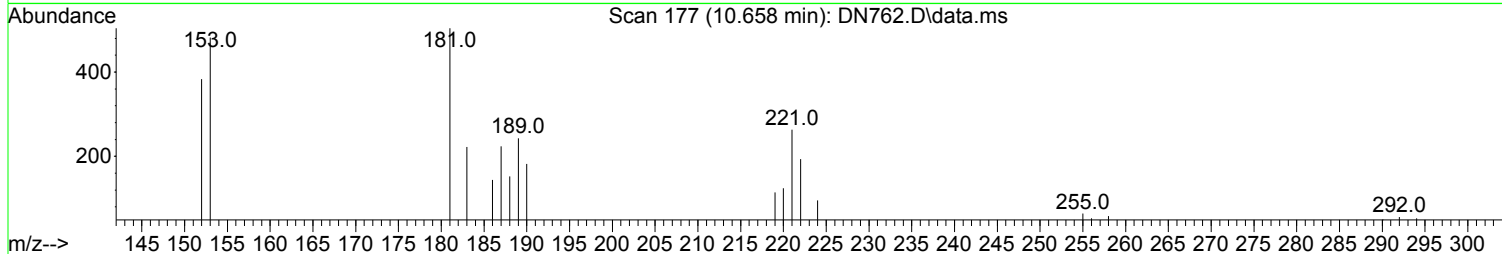
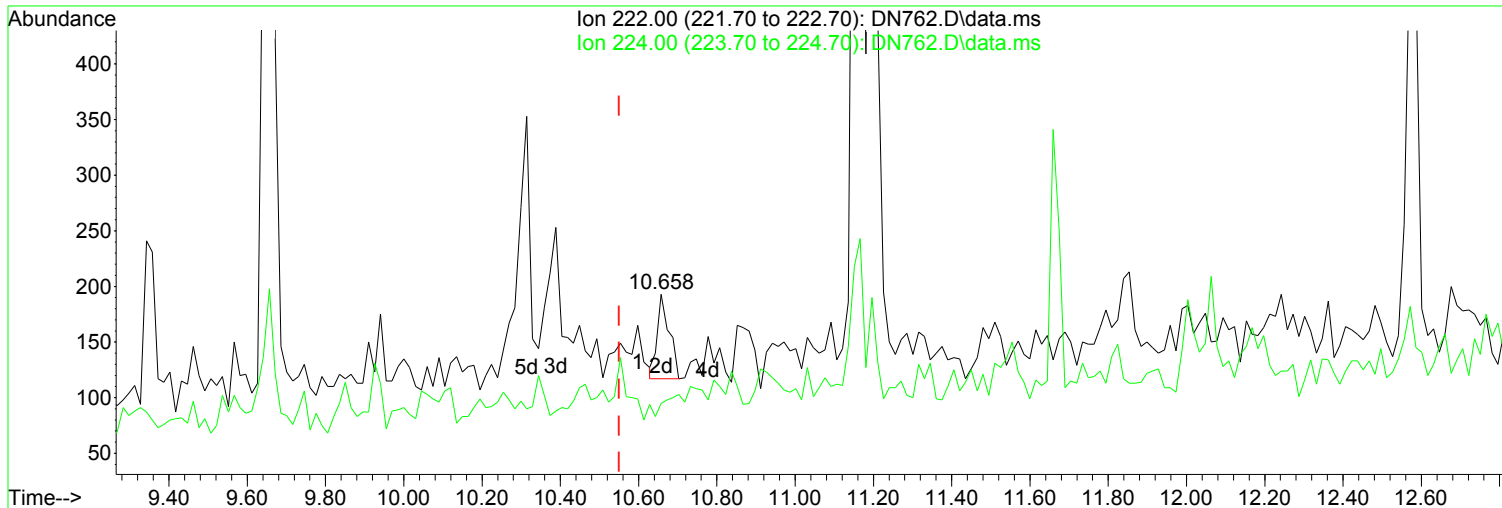
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	34.78
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(29) CL2 - #2 (L2)

Manual Integration:

10.658min (+ 0.107) 0.00 ppm m

After

response 161

Other -

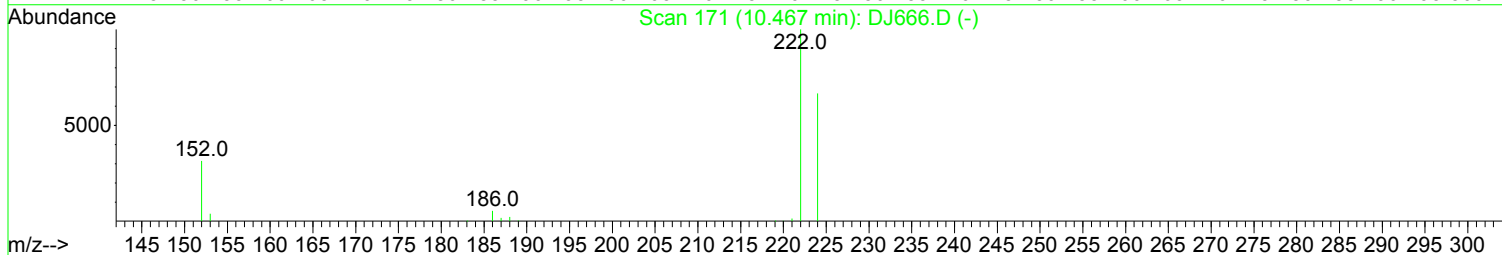
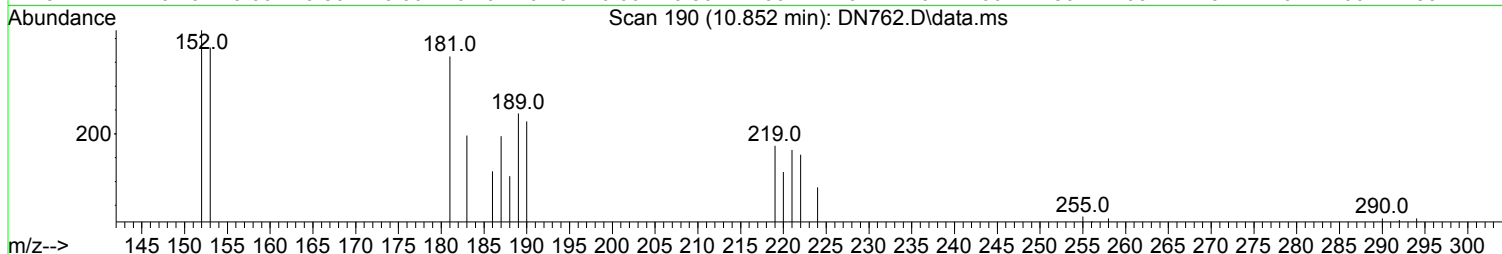
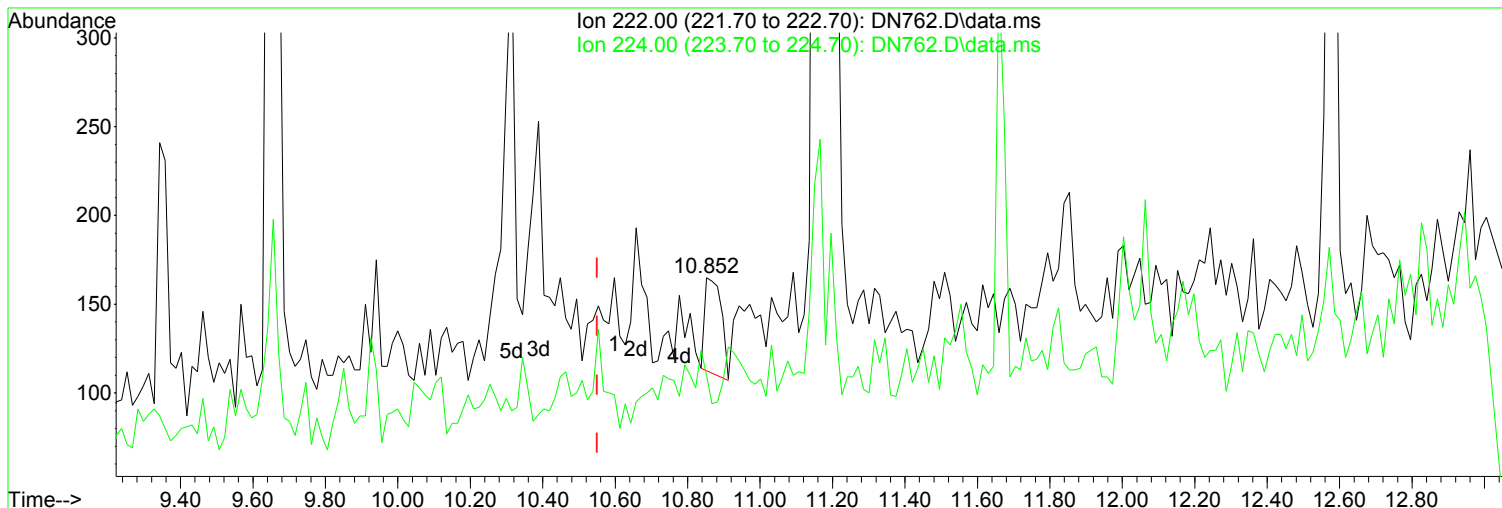
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	49.22
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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)

Manual Integration:

10.852min (+ 0.301) 0.00 ppm m

After

response 167

Other -

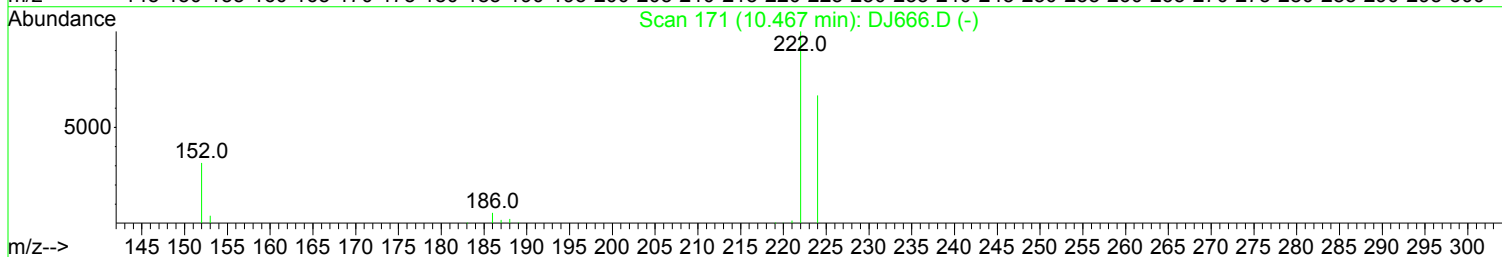
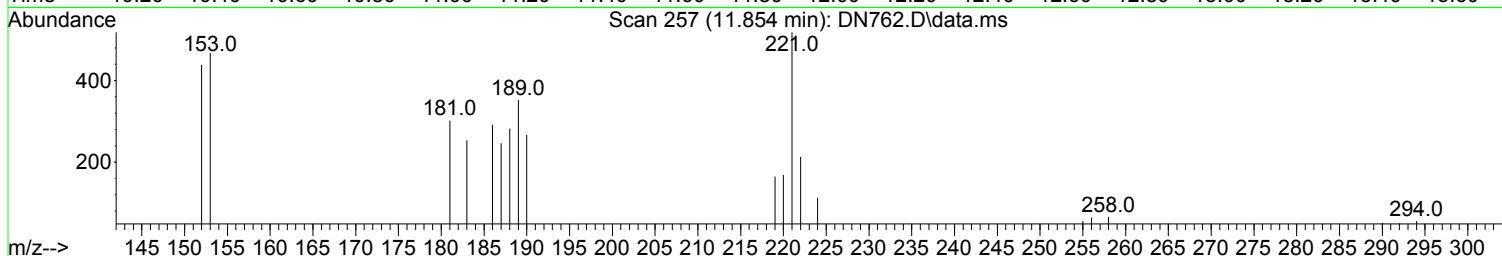
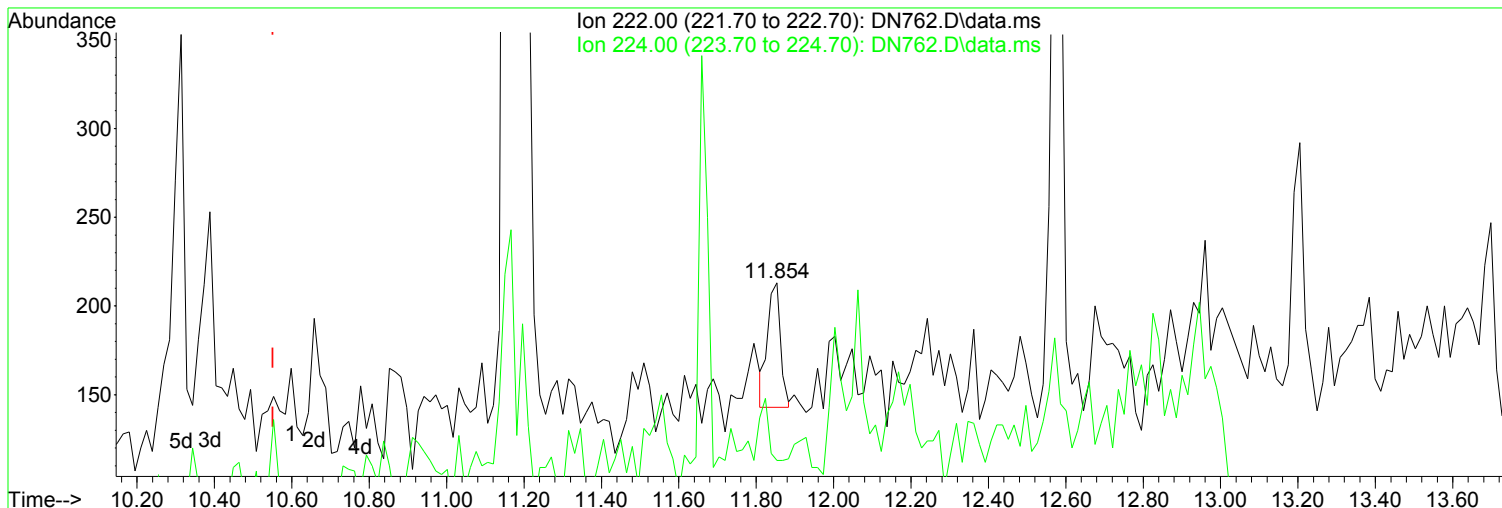
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	66.67
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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)

Manual Integration:

11.854min (+ 1.303) 0.00 ppm m

After

response 163

Other -

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

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APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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

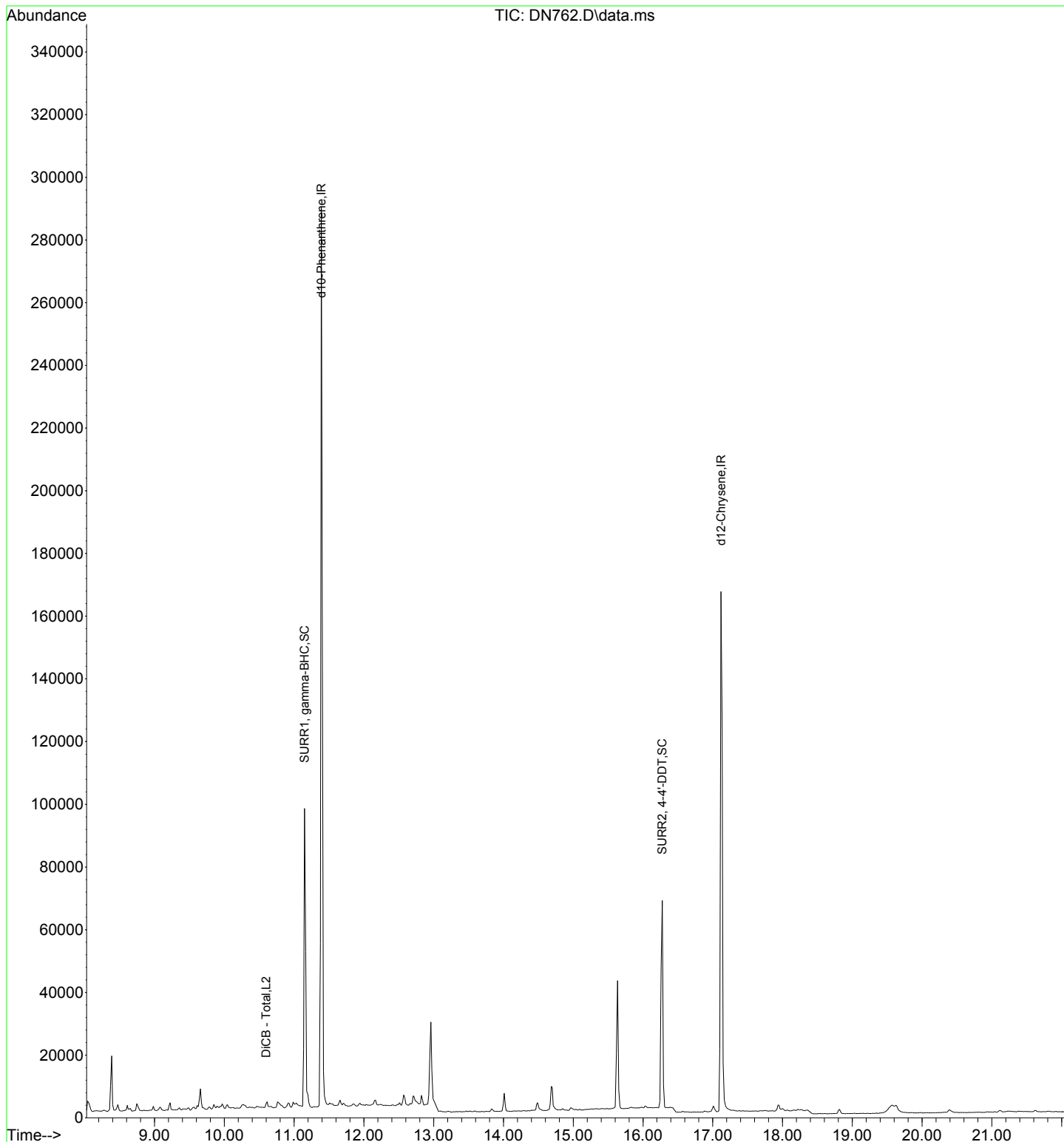
Quant Time: Feb 22 09:22:19 2019
 Quant Method : I:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

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						
38) DiCB - Total	10.598	222	761m	0.004	ppm	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

APPENDIX D - Laboratory Reports
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

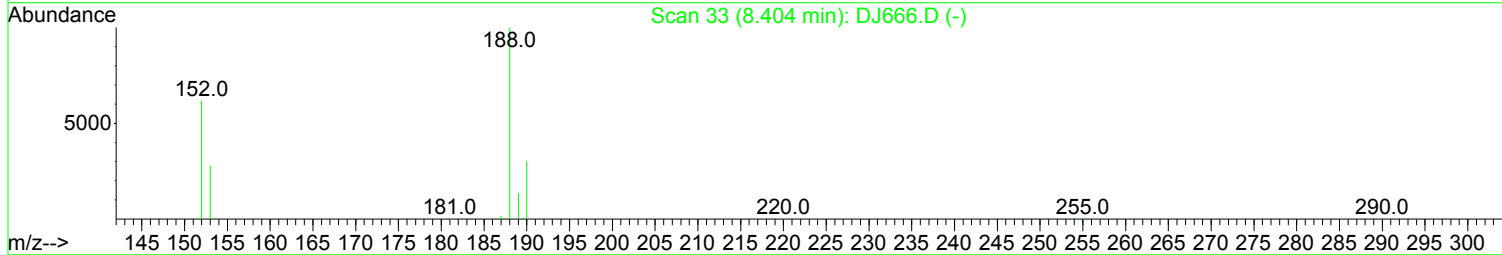
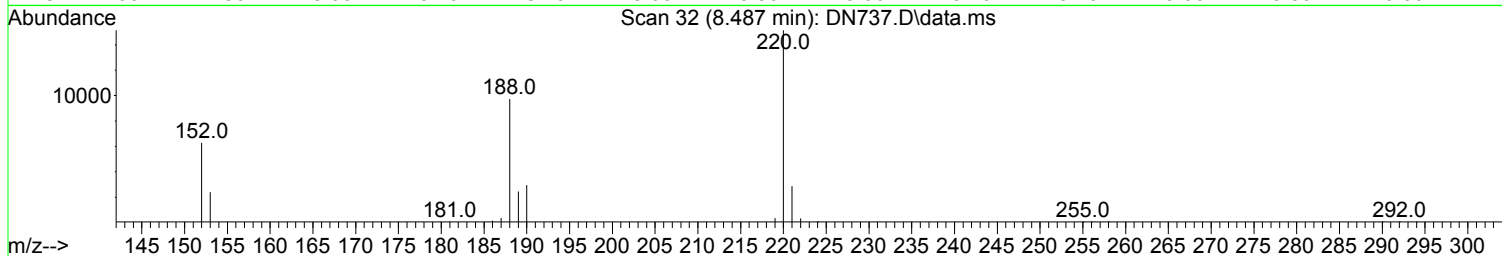
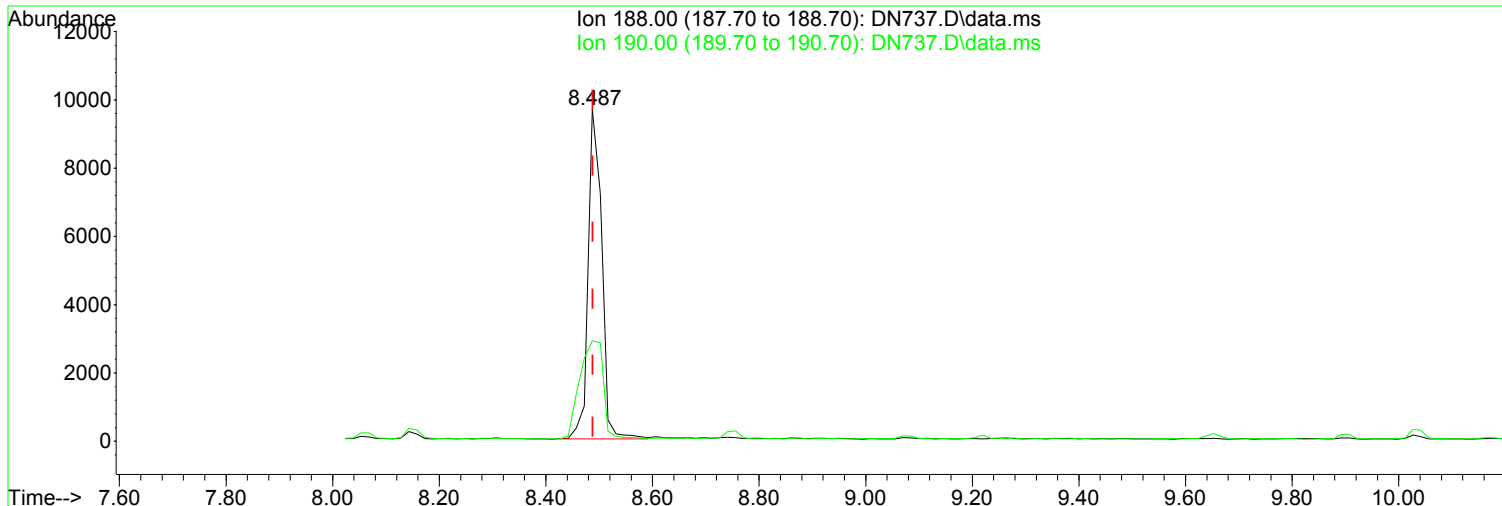
Quant Time: Feb 22 09:22:19 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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)

Manual Integration:

8.487min (-0.001) 0.00 ppm m

After

response 17245

Other -

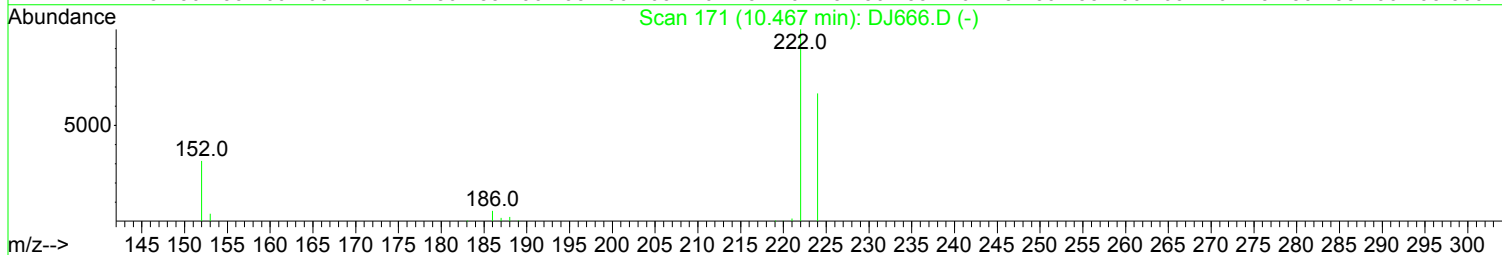
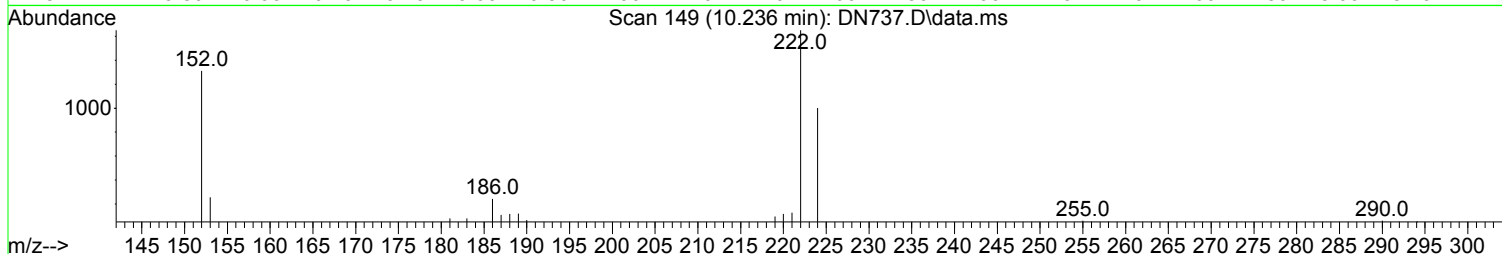
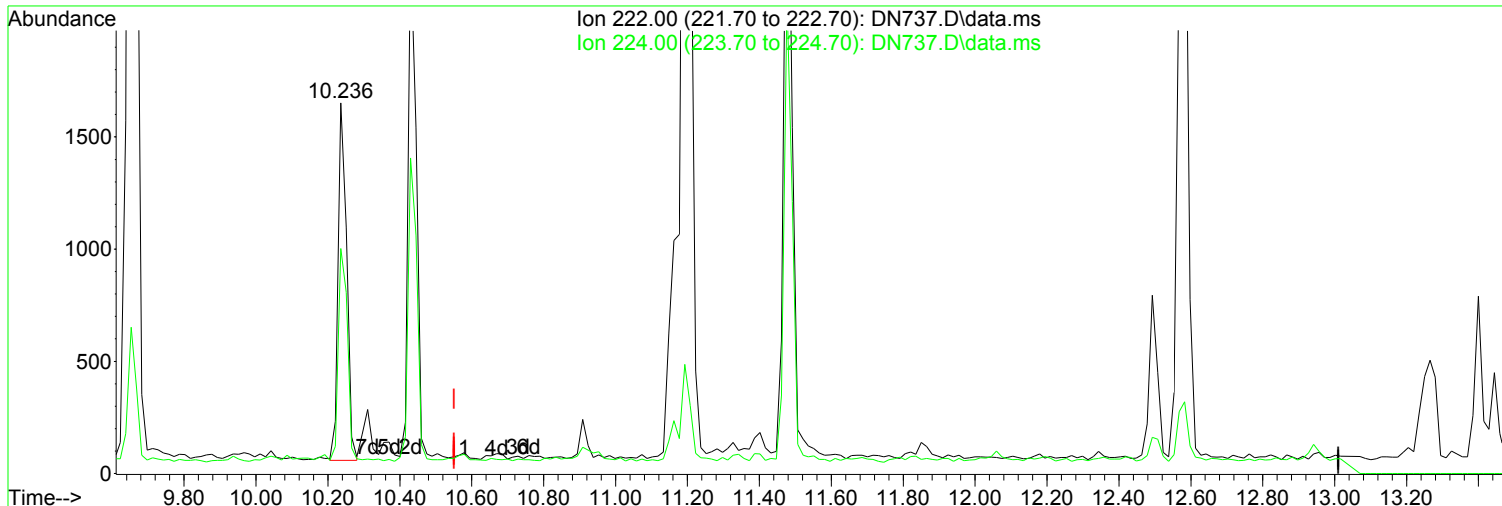
Ion	Exp%	Act%
188.00	100.00	100.00
190.00	33.30	30.30
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(28) CL2 - #1 (L2)

Manual Integration:

10.236min (-0.315) 0.00 ppm m

After

response 2624

Other -

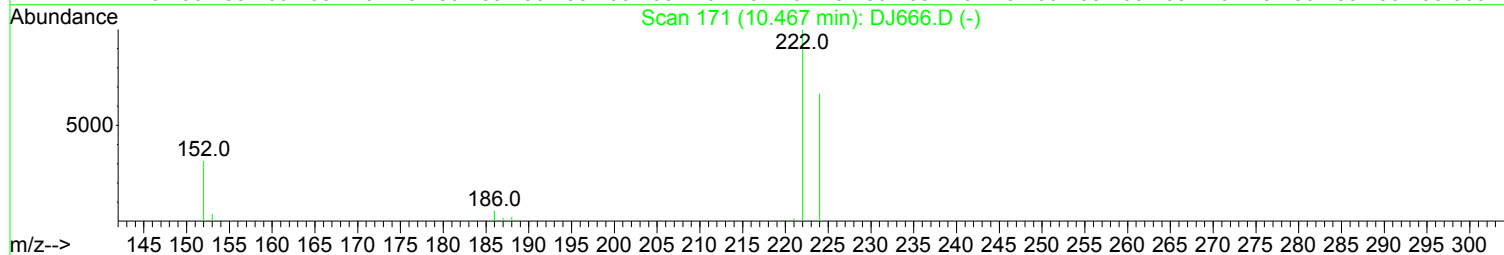
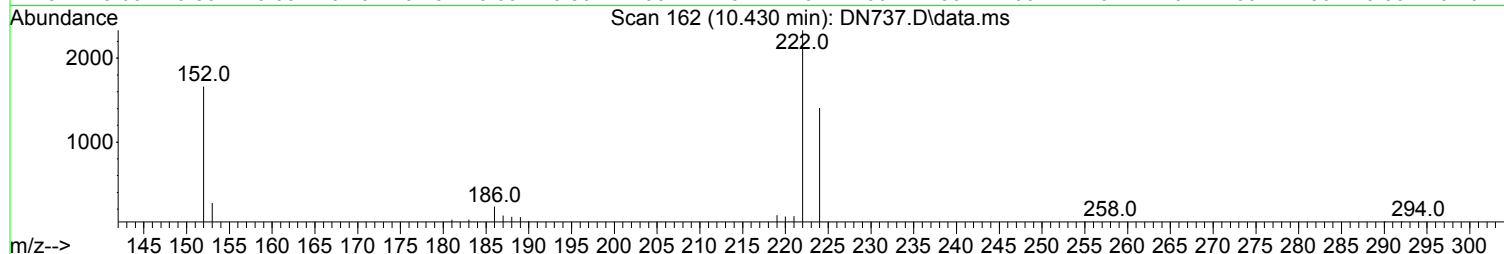
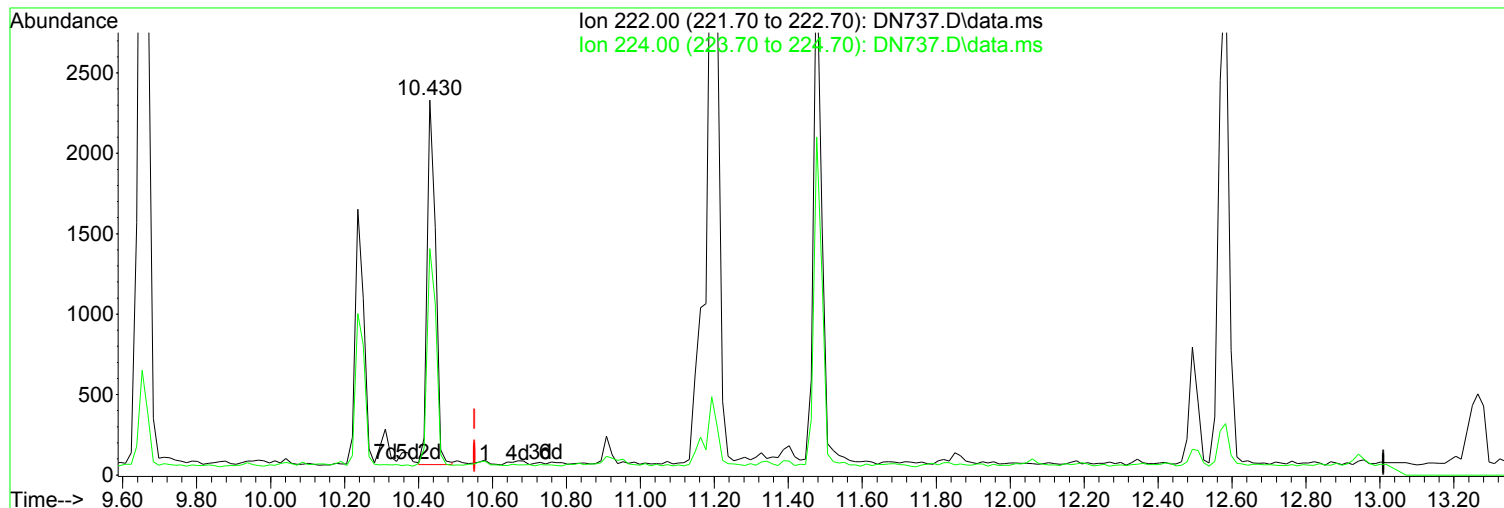
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	60.71
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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)

Manual Integration:

10.430min (-0.121) 0.00 ppm m

After

response 3617

Other -

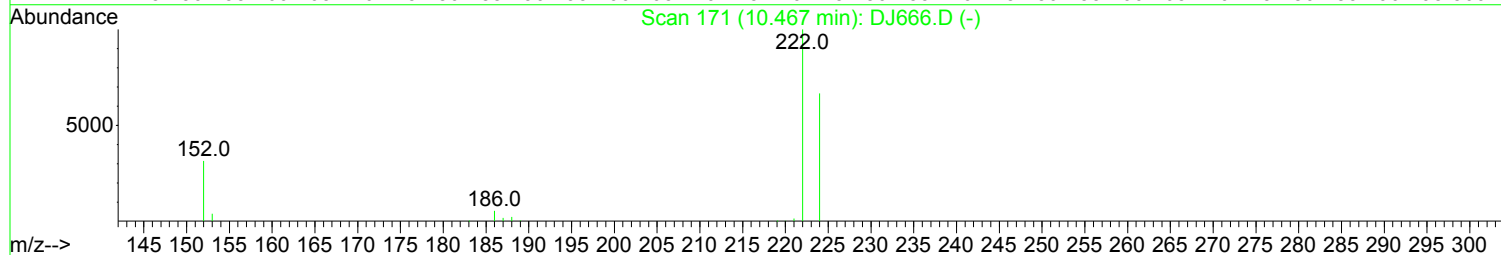
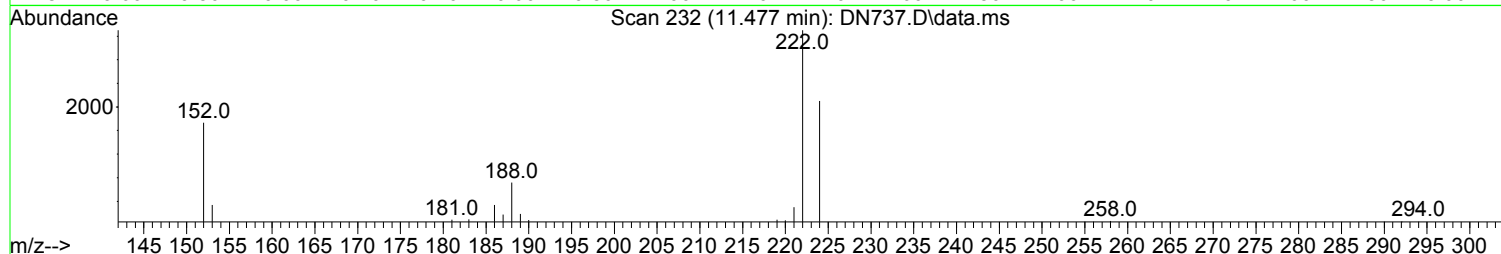
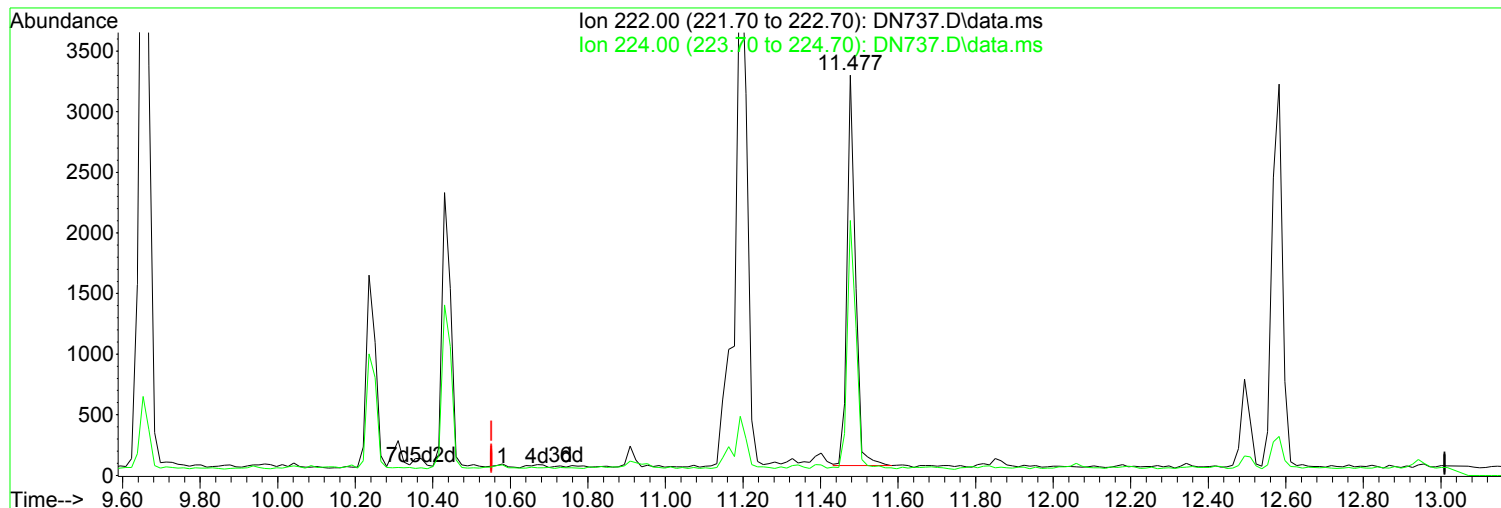
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	60.33
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(30) CL2 - #3 (L2)

Manual Integration:

11.477min (+ 0.926) 0.00 ppm m

After

response 4922

Other -

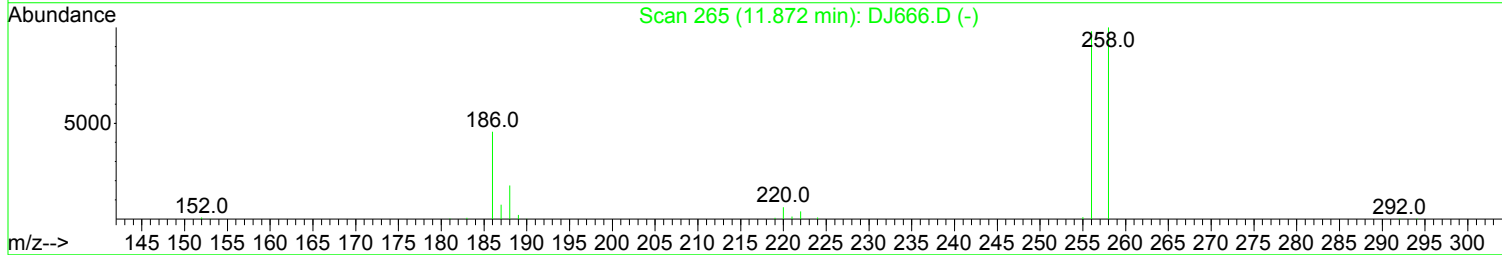
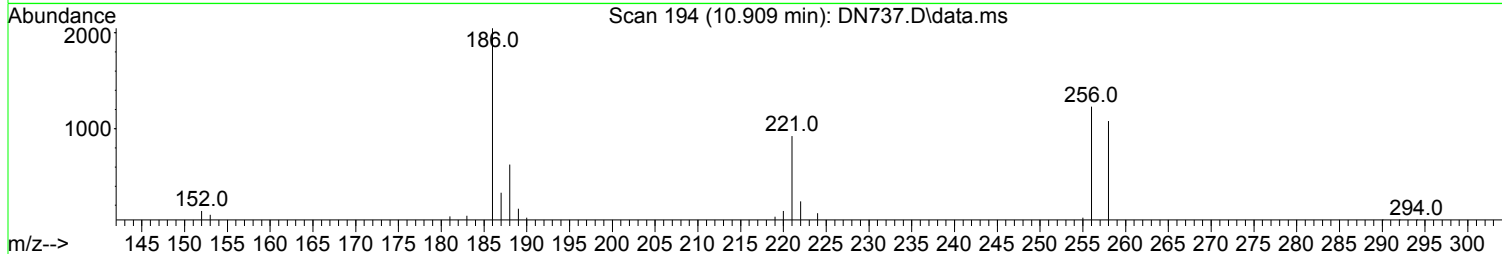
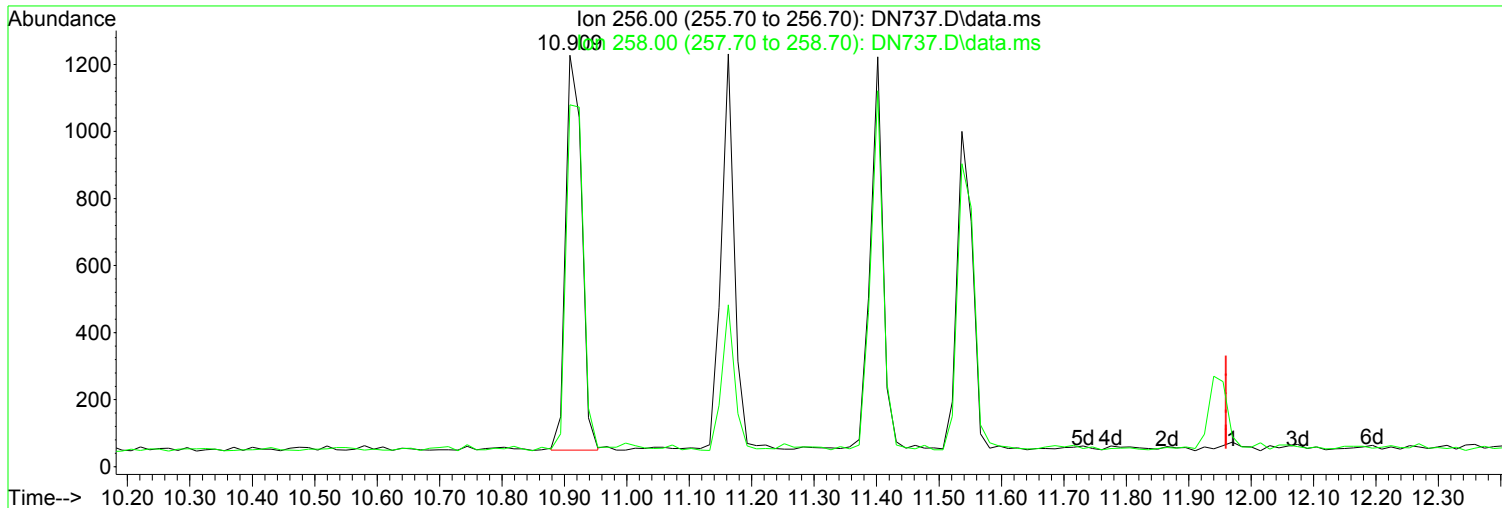
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	63.71
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(39) CL3 - #1 (L3)

Manual Integration:

10.909min (-1.051) 0.00 ppm m

After

response 2127

Other -

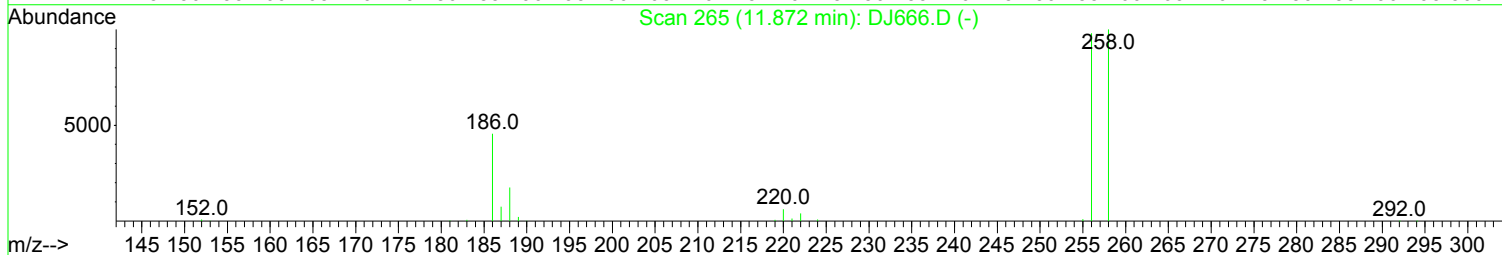
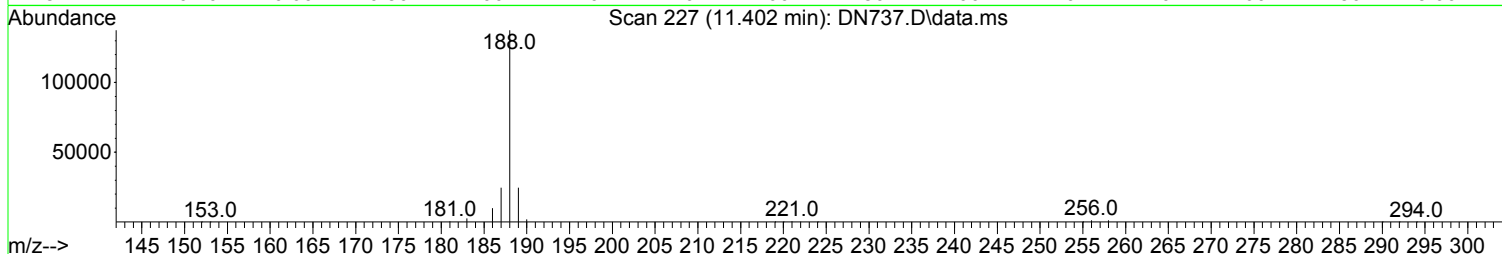
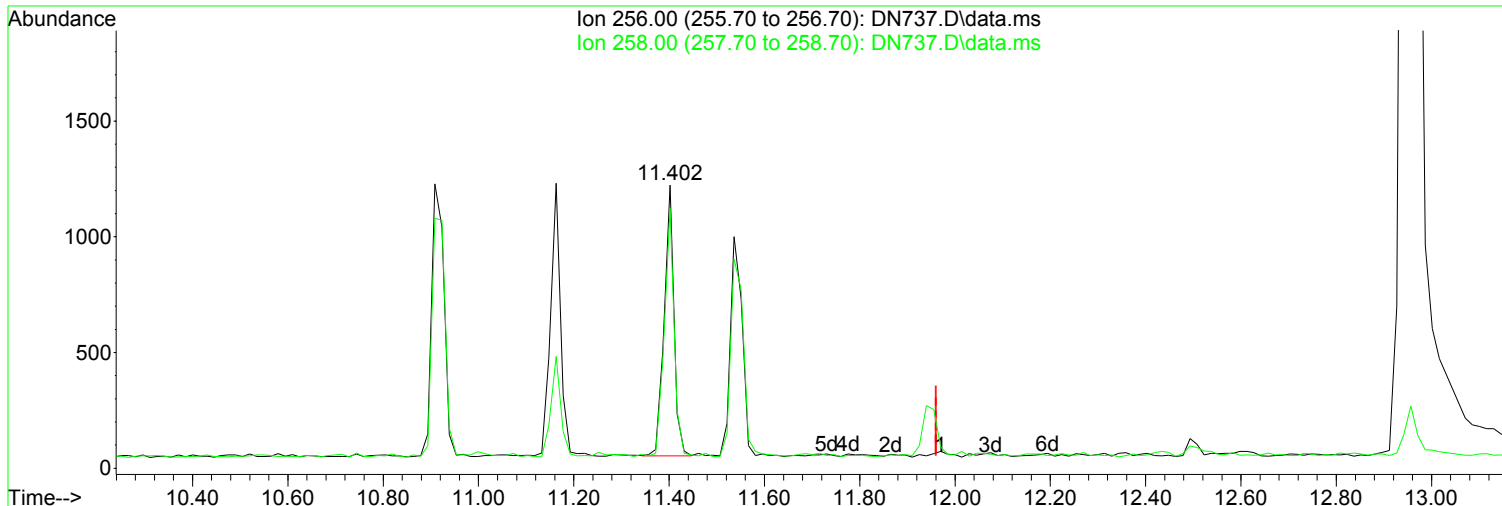
Ion	Exp%	Act%
256.00	100.00	100.00
258.00	92.70	87.95
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(40) CL3 - #2 (L3)

Manual Integration:

11.402min (-0.558) 0.00 ppm m

After

response 1668

Other -

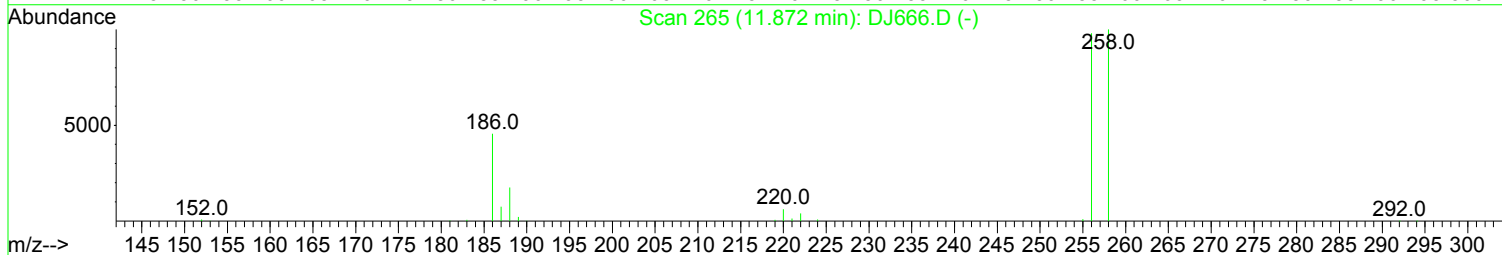
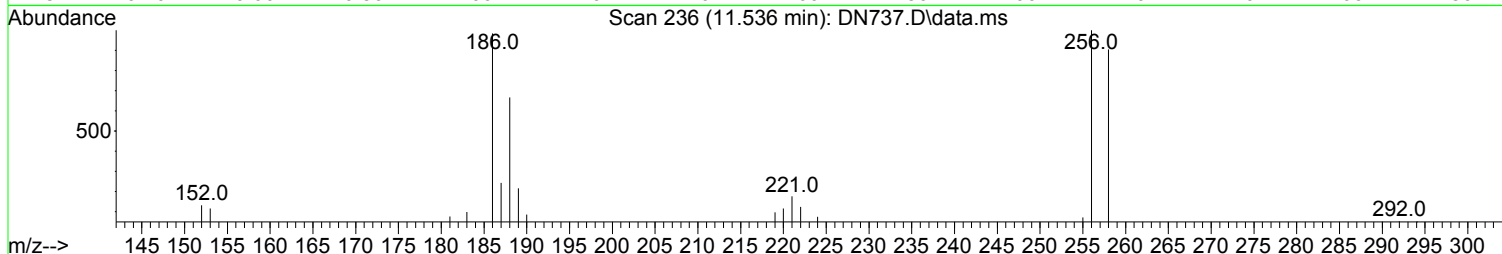
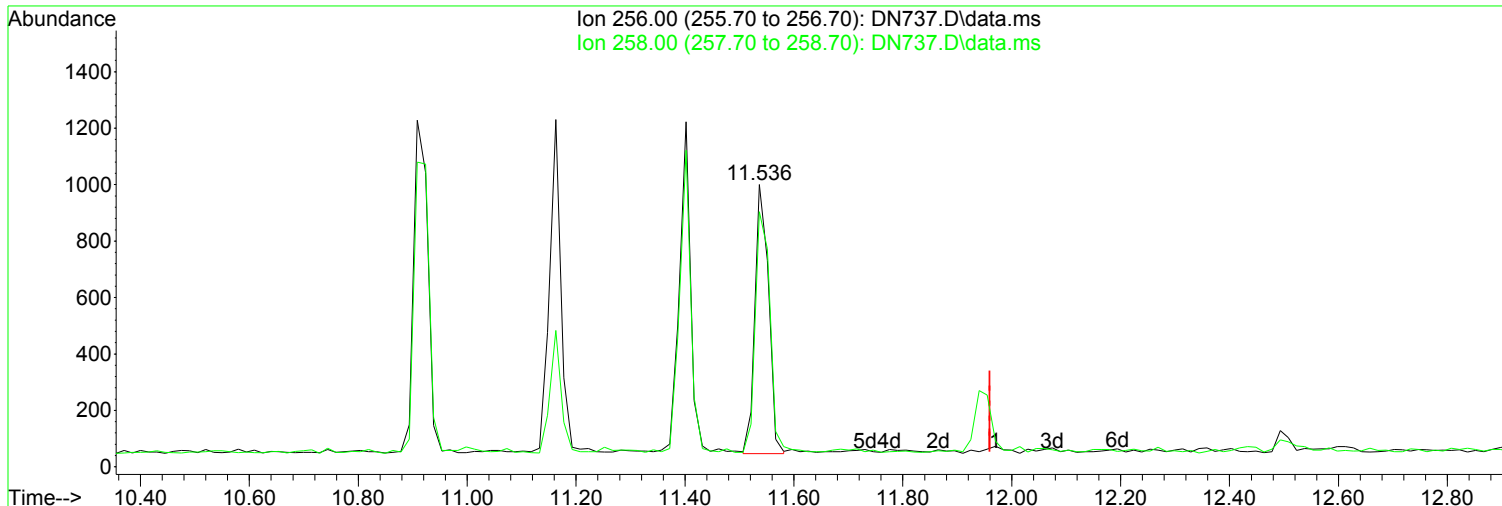
Ion	Exp%	Act%
256.00	100.00	100.00
258.00	92.70	91.74
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(41) CL3 - #3 (L3)

Manual Integration:

11.536min (-0.424) 0.00 ppm m

After

response 1654

Other -

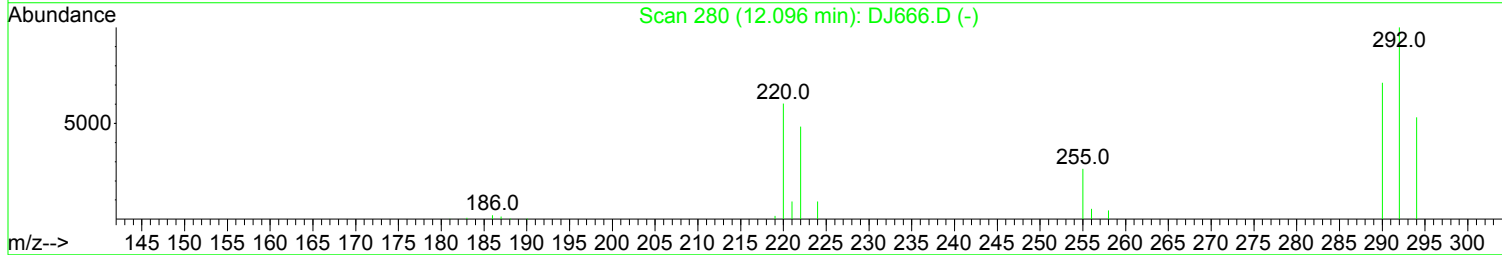
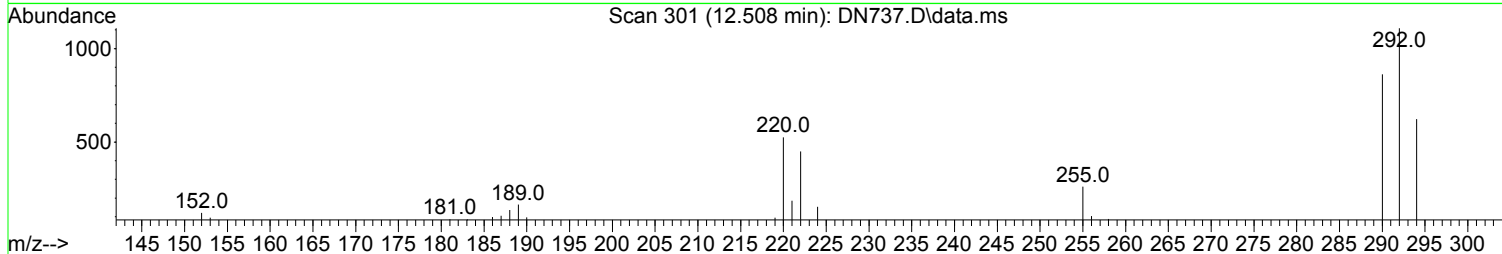
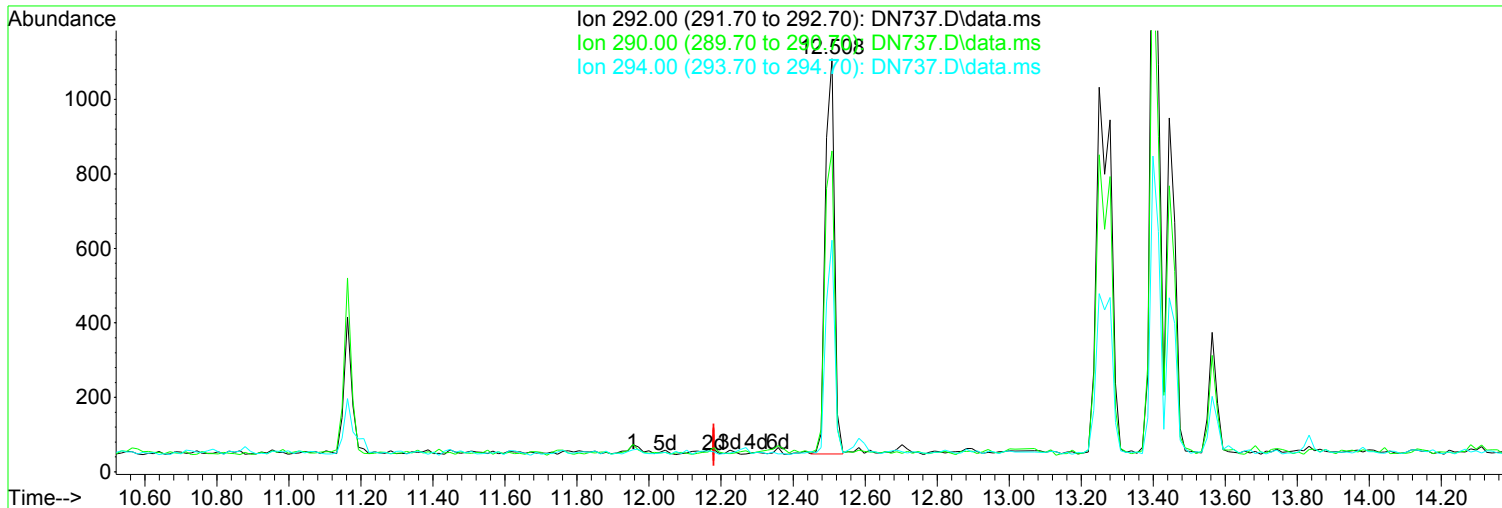
Ion	Exp%	Act%
256.00	100.00	100.00
258.00	92.70	90.40
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(53) CL4 - #1 (L4)

12.508min (+ 0.328) 0.00 ppm m

response 1867

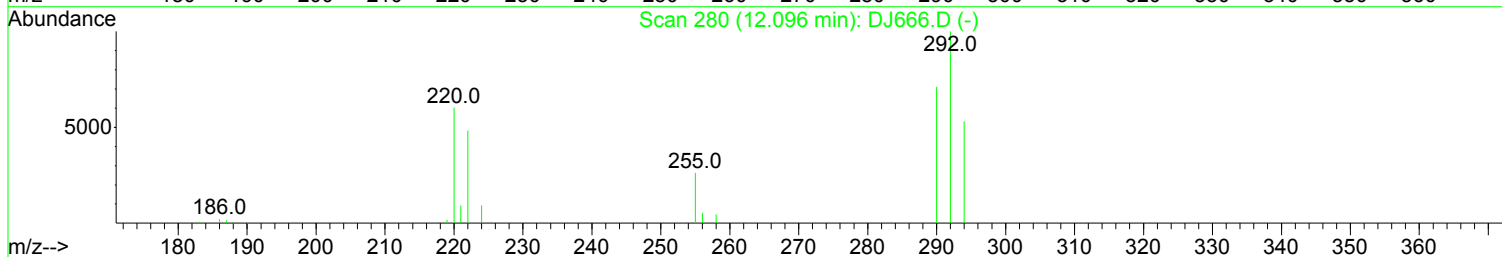
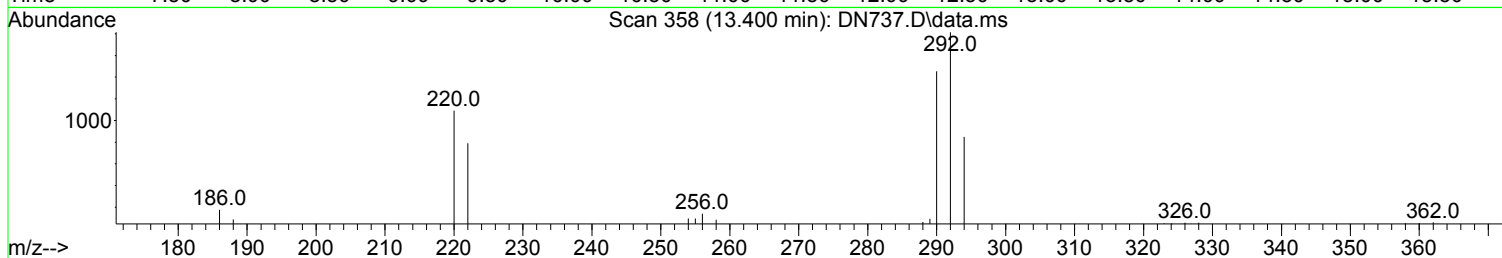
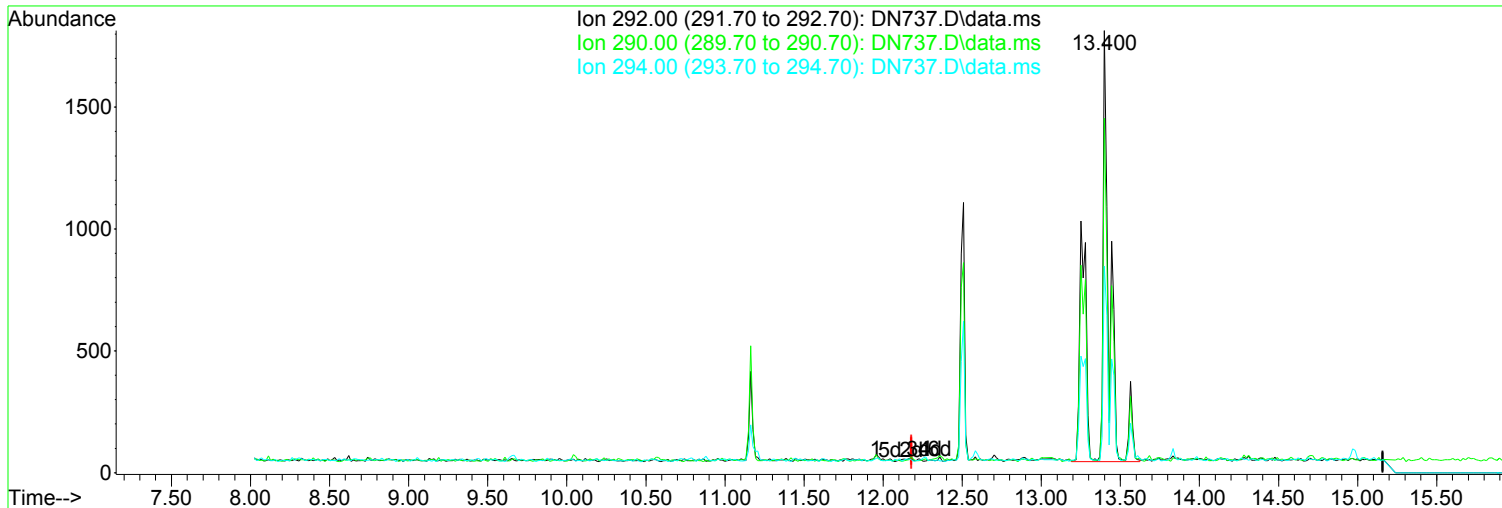
Ion	Exp%	Act%
292.00	100.00	100.00
290.00	78.40	77.73
294.00	48.00	56.09
0.00	0.00	0.00

Manual Integration:
After
Other -
02/22/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

13.400min (+ 1.220) 0.00 ppm m

After

response 7688

Other -

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

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APPENDIX D - Laboratory Reports

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

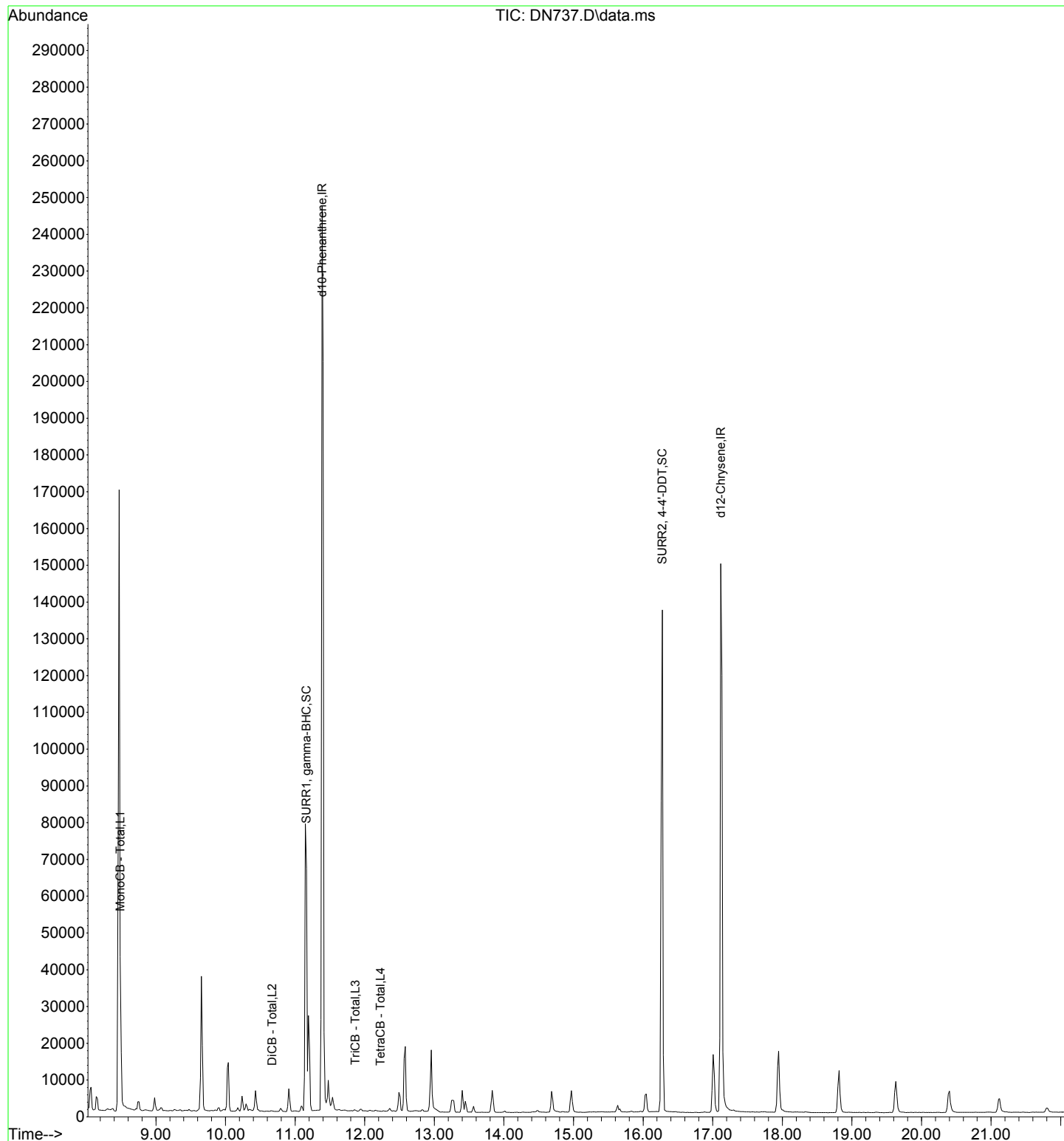
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

APPENDIX D - Laboratory Reports
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



APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

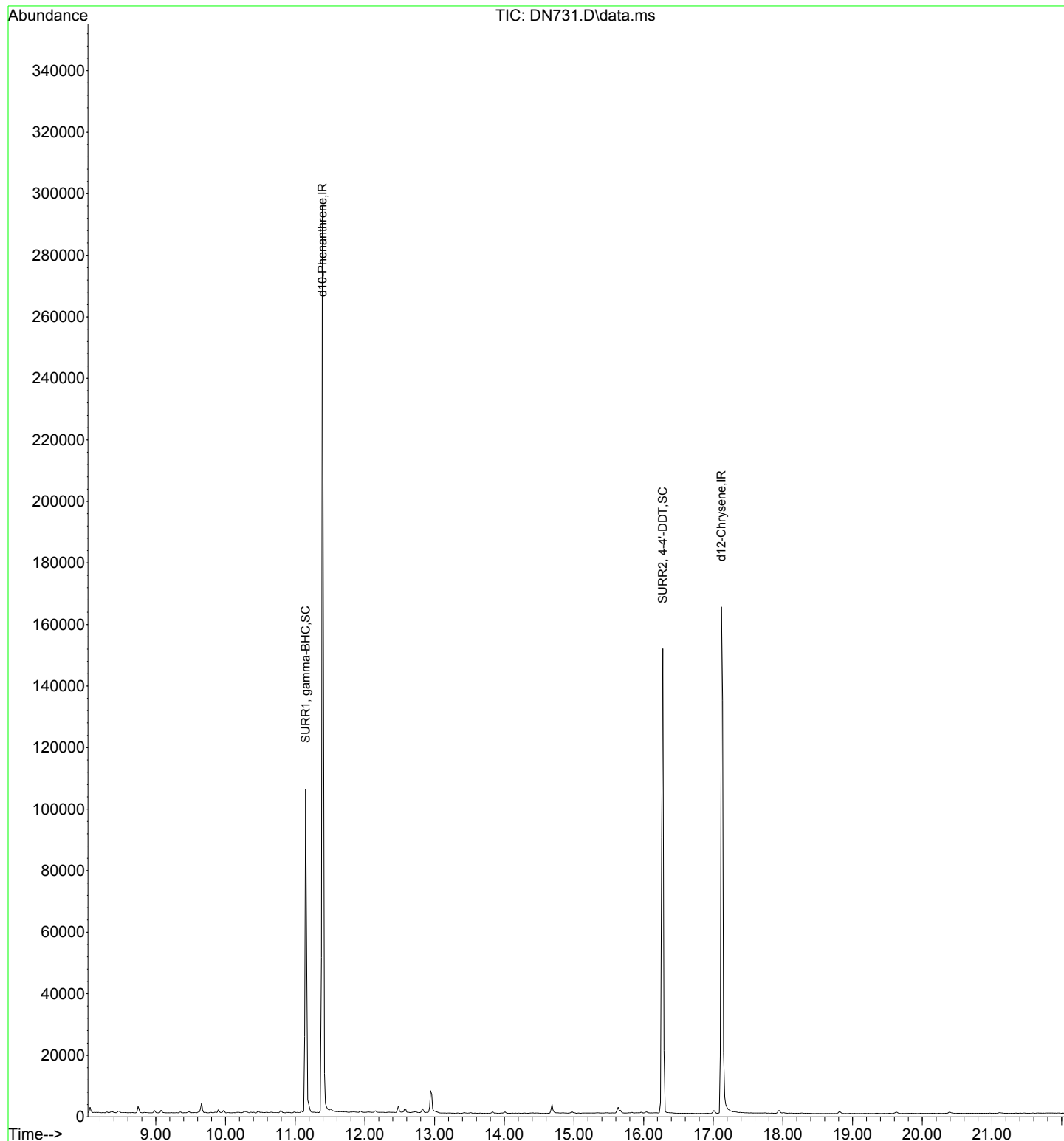
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.390	188	337322	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	271749	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.151	219	37867	0.85	ppm	0.00
Spiked Amount	1.000	Range 55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports
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



APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

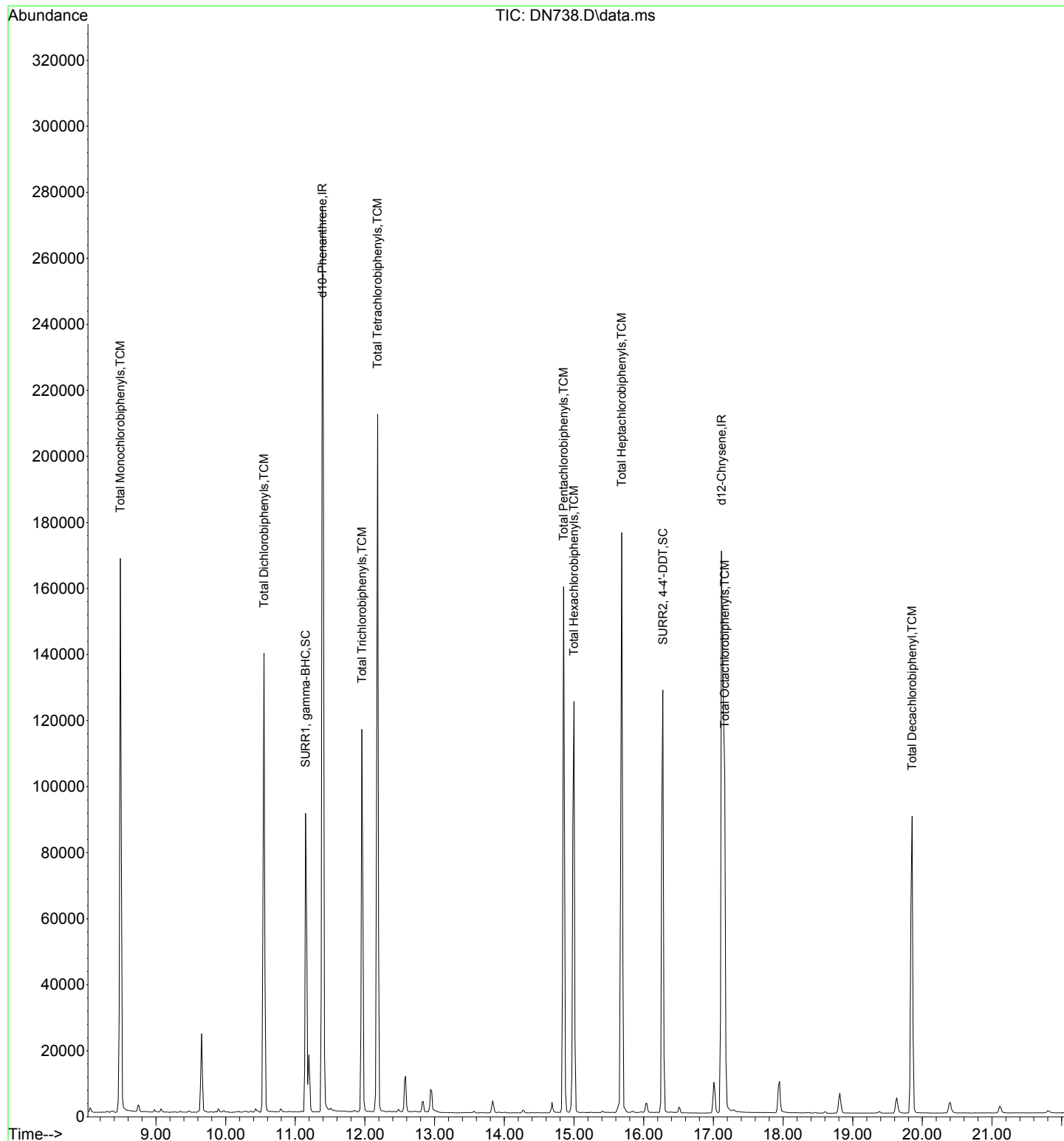
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	343081	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	277532	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.148	219	33406	0.74	ppm	0.00
Spiked Amount	1.000	Range 55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports

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



APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

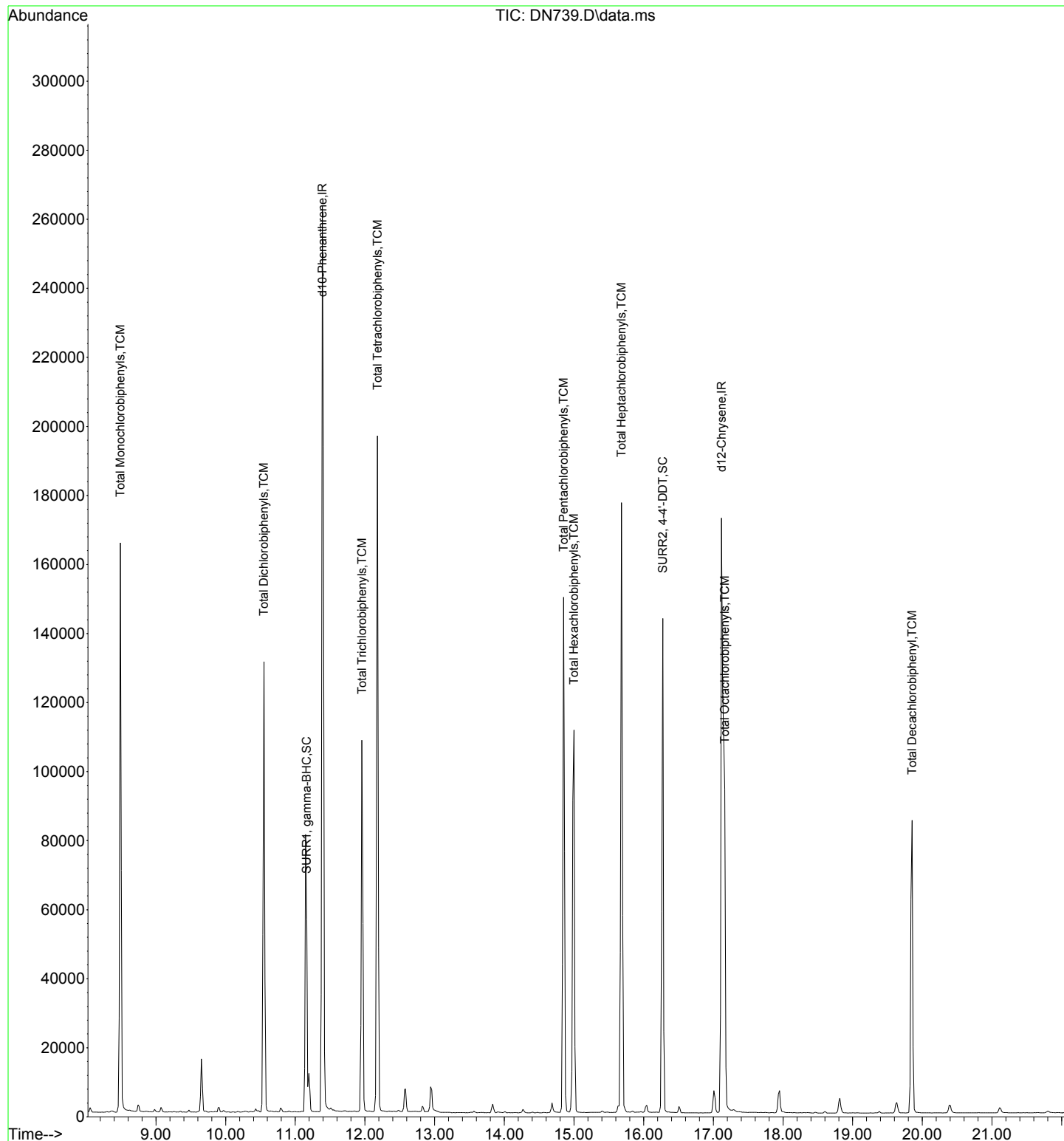
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	325819	0.75	ppm	0.00
2) d12-Chrysene	17.118	240	256398	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.164	219	31918	0.76	ppm	0.01
Spiked Amount	1.000	Range 55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports

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

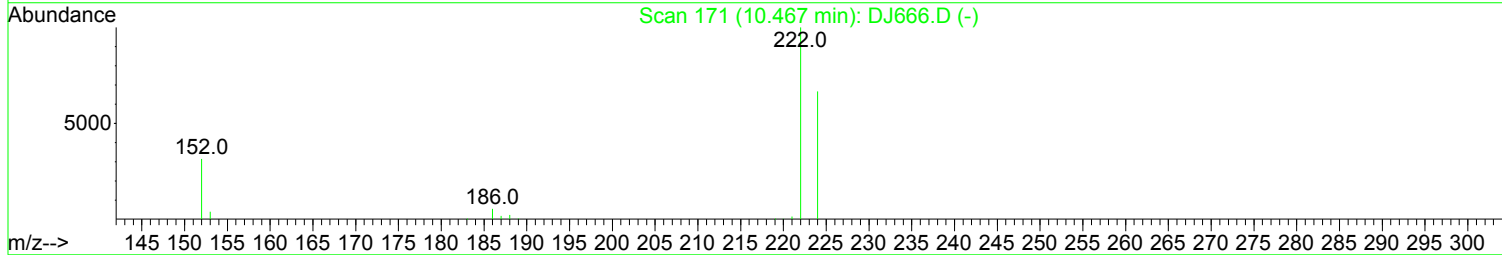
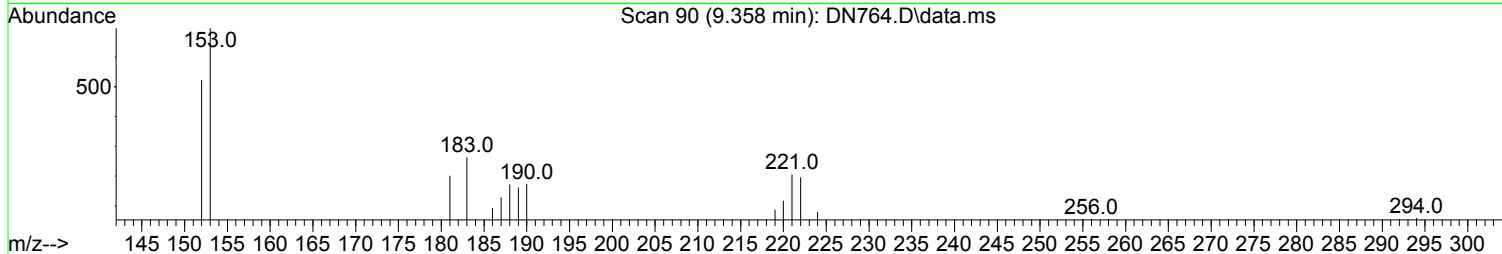
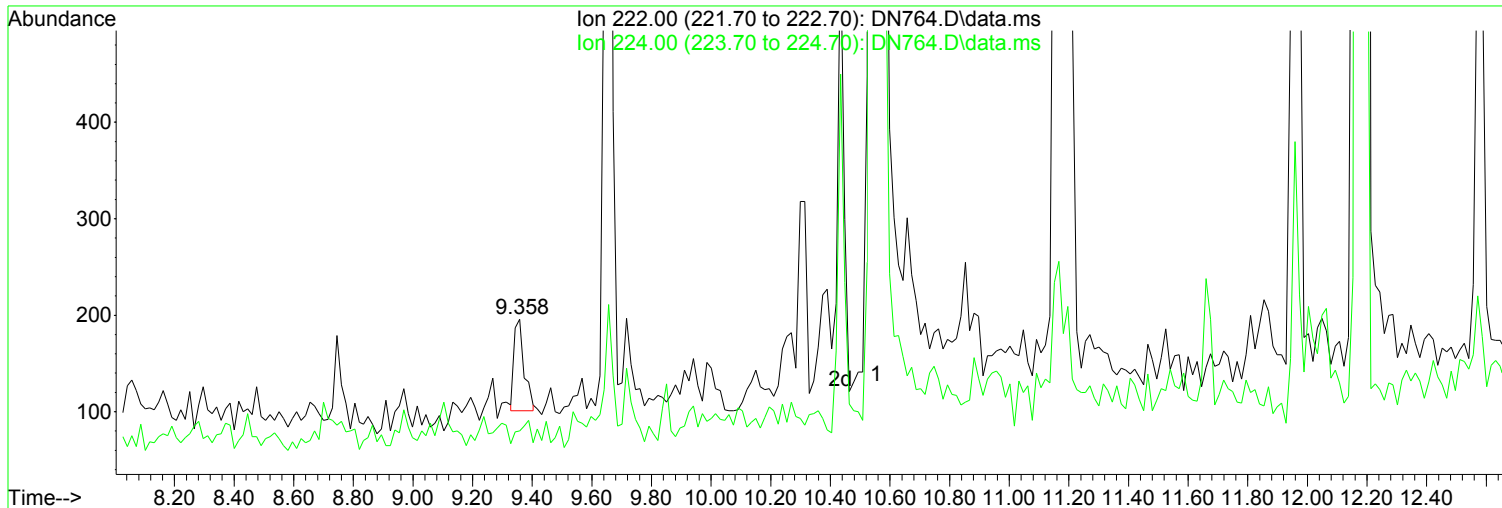
Quant Time: Feb 22 08:04:14 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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



(28) CL2 - #1 (L2)

Manual Integration:

9.358min (-1.193) 0.00 ppm m

After

response 225

Other -

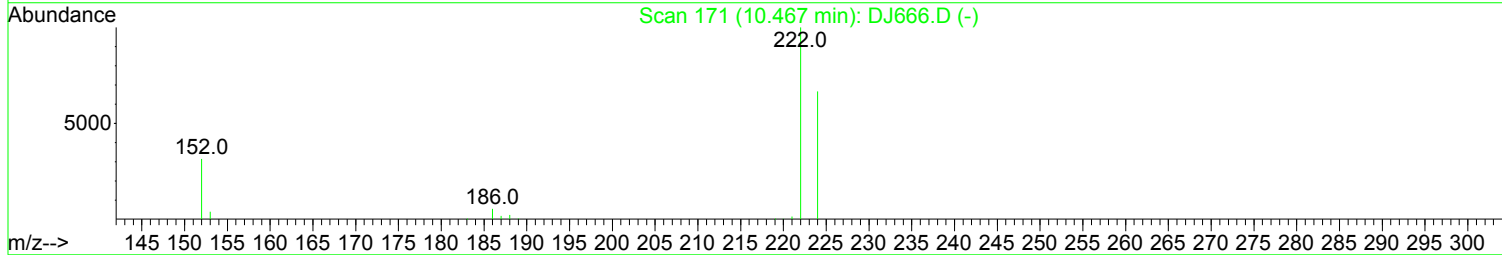
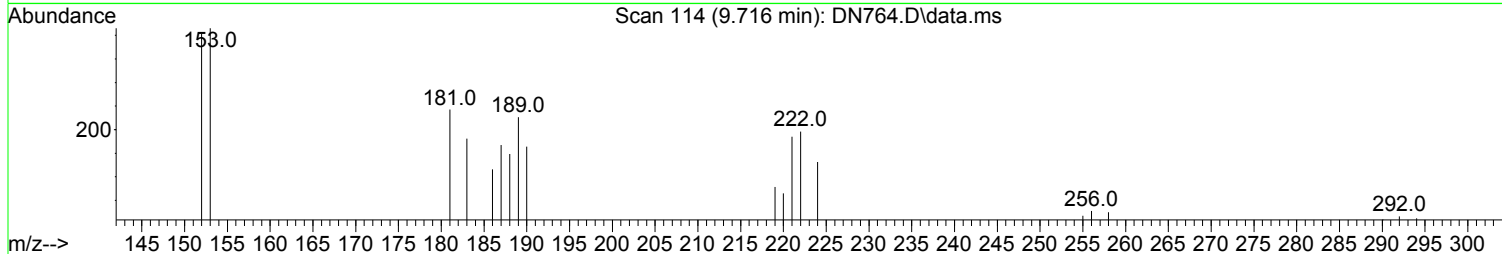
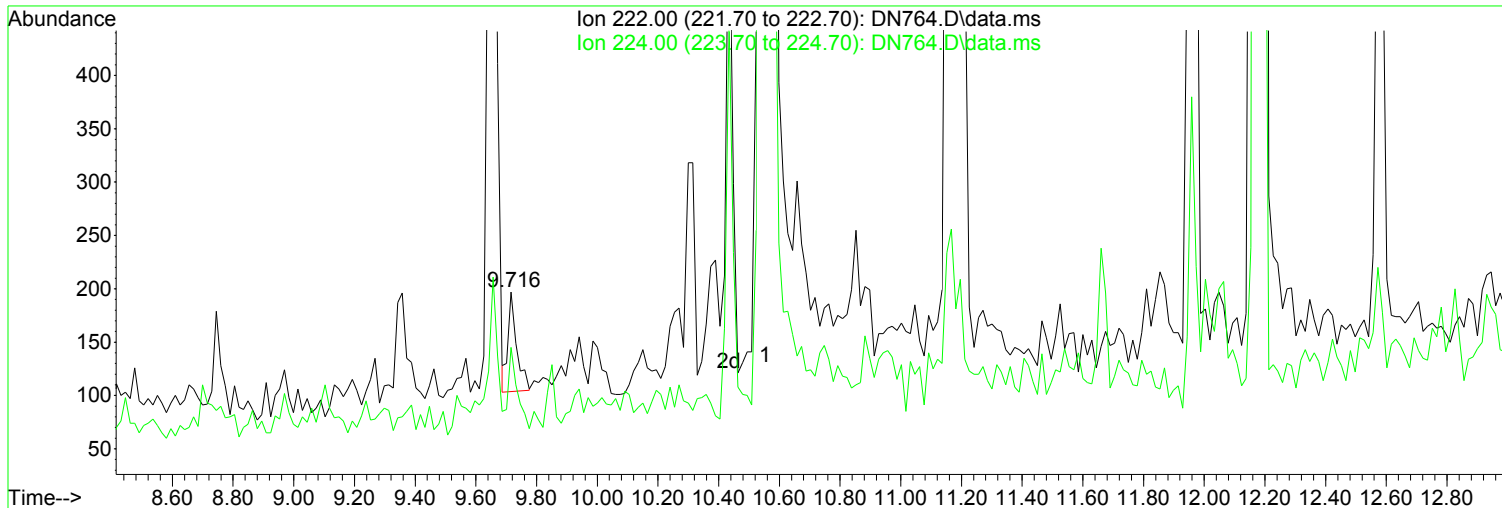
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	40.82
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(29) CL2 - #2 (L2)

Manual Integration:

9.716min (-0.835) 0.00 ppm m

After

response 184

Other -

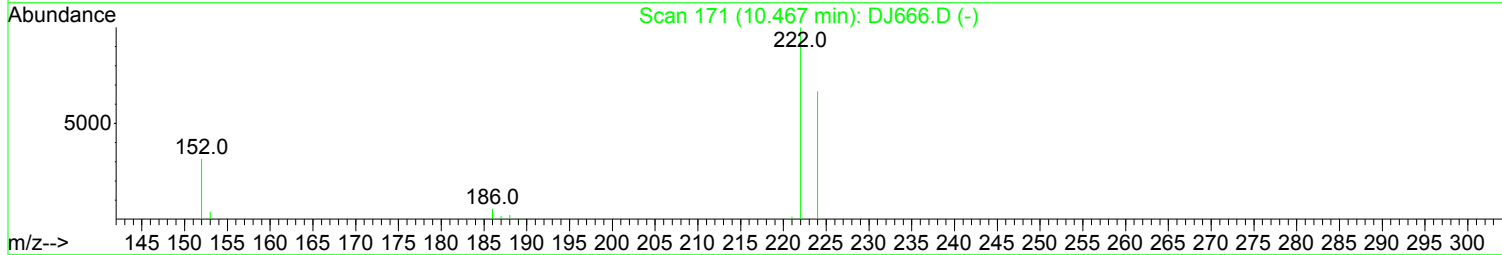
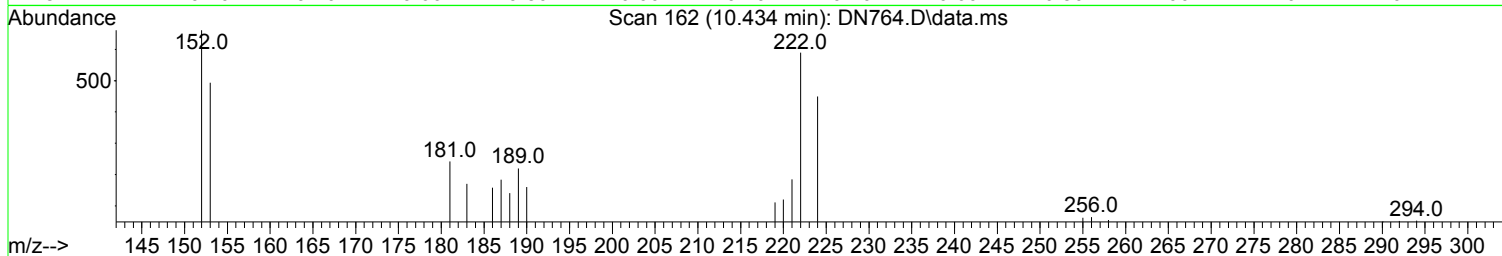
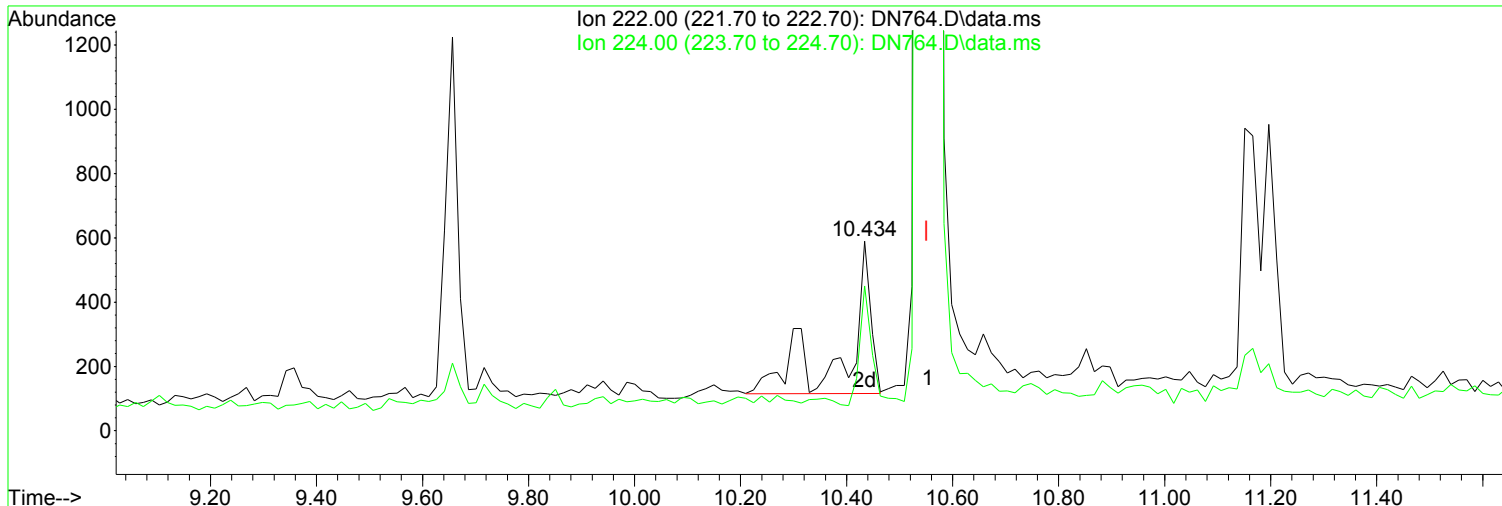
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	73.60
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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)

Manual Integration:

10.434min (-0.117) 0.00 ppm m

After

response 1545

Other -

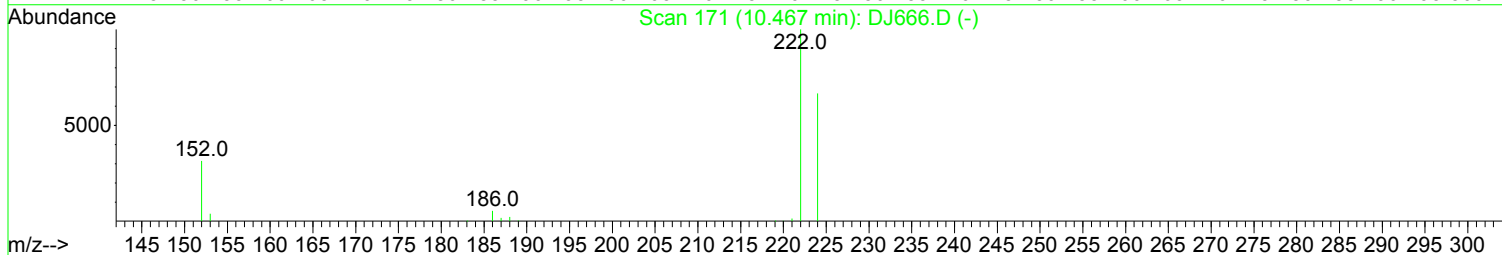
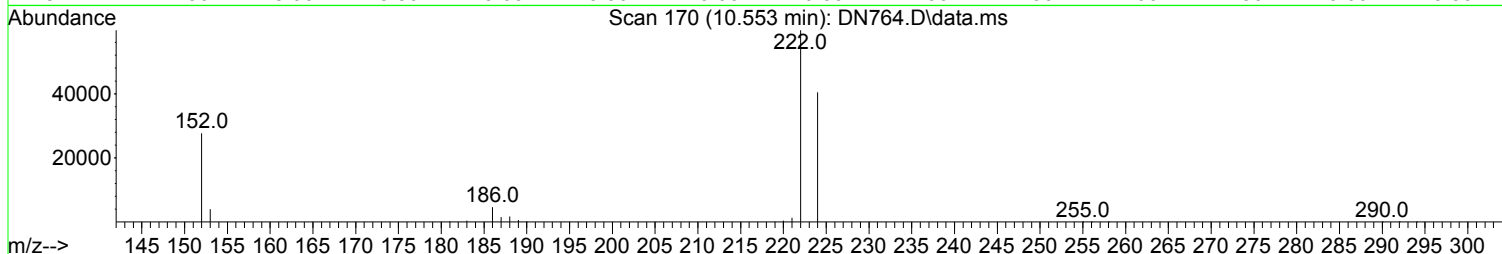
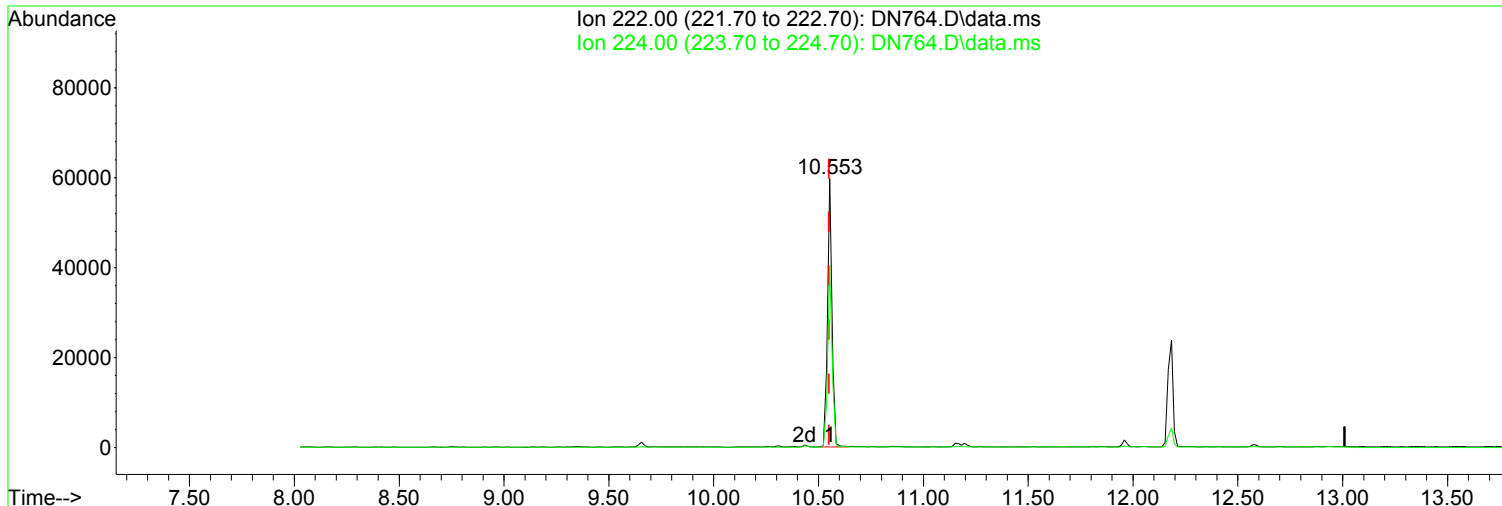
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	76.27
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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)

Manual Integration:

10.553min (+ 0.002) 0.00 ppm m

After

response 86450

Other -

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

02/22/19

APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

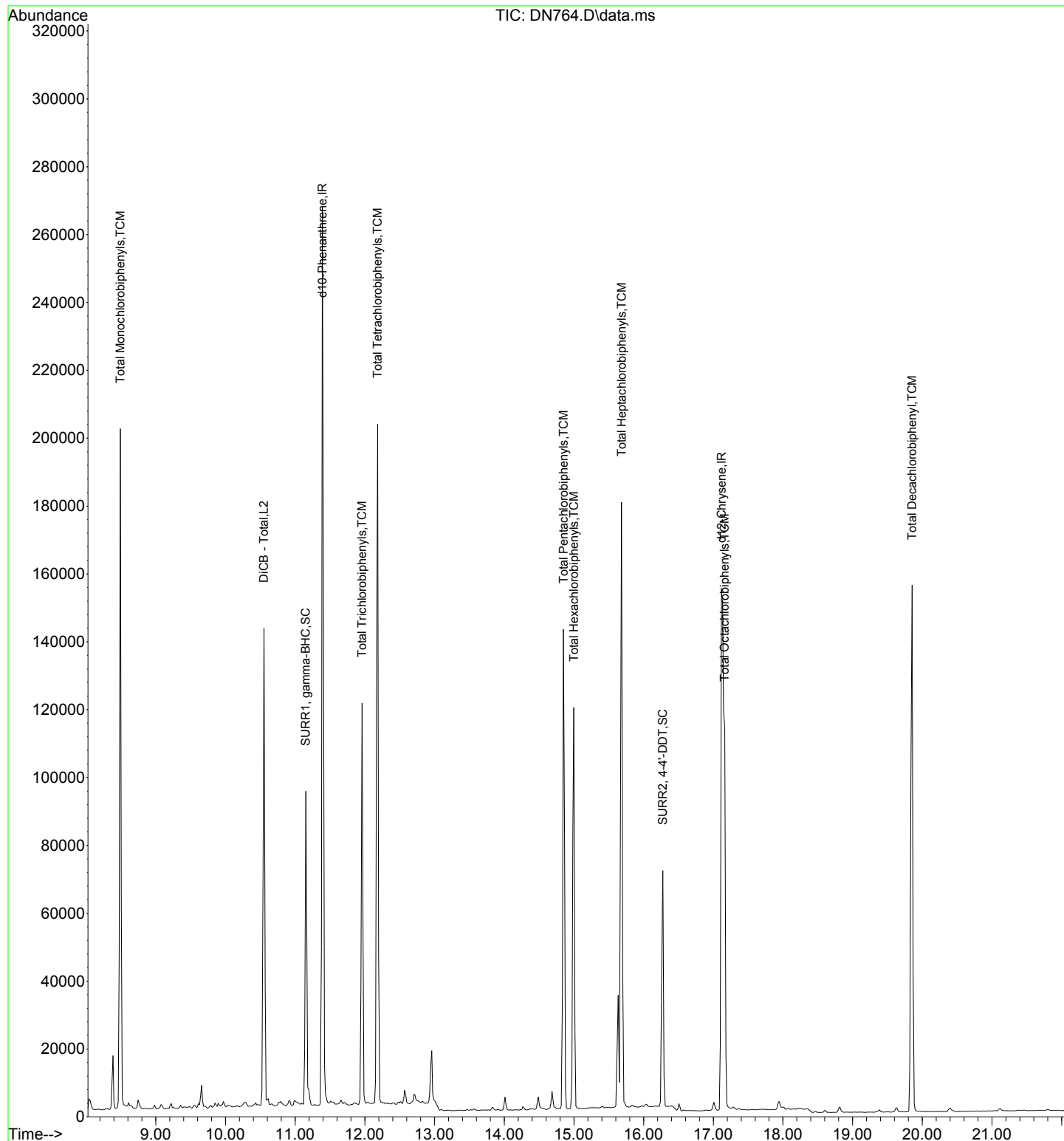
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.391	188	312215	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	250372	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.151	219	35445	0.87	ppm	0.00
Spiked Amount	1.000	Range	55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports

Data Path : I:\ACQDATA\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

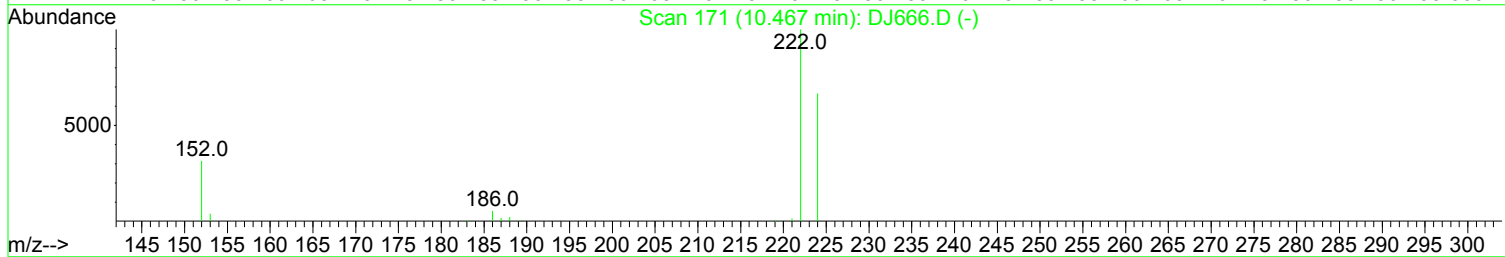
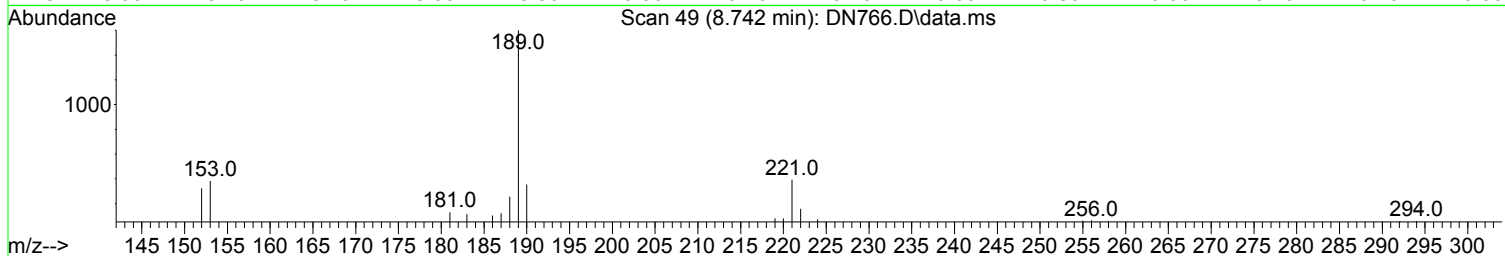
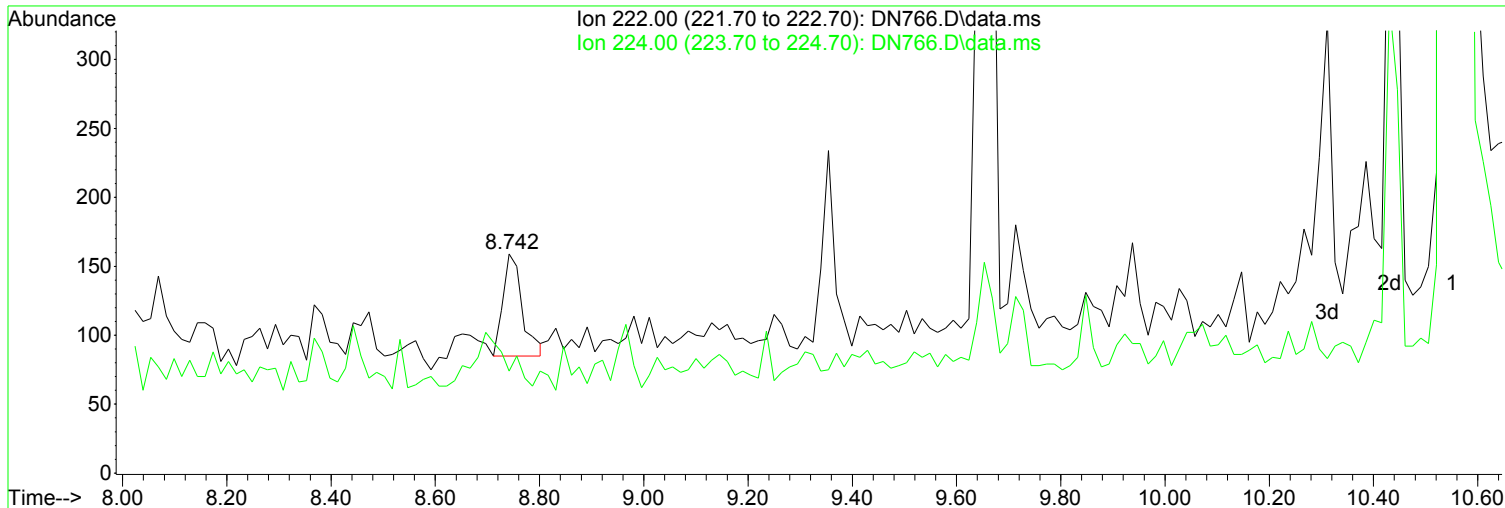
Quant Time: Feb 22 11:38:43 2019
Quant Method : I:\ACQDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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)

Manual Integration:

8.742min (-1.809) 0.00 ppm m

After

response 191

Other -

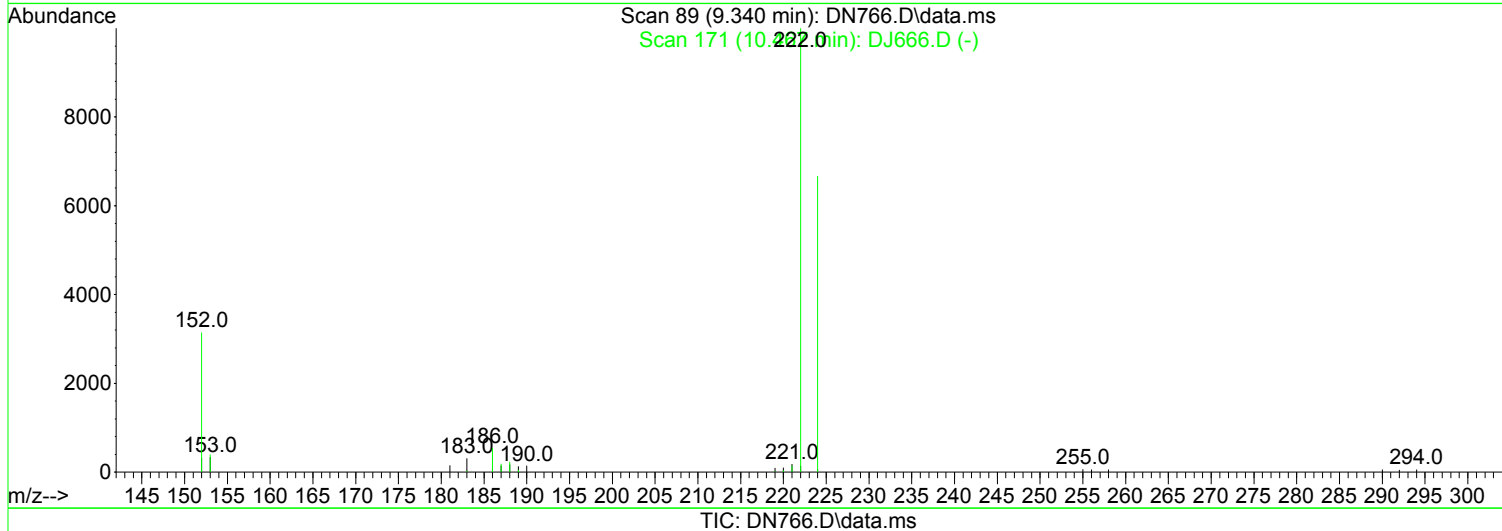
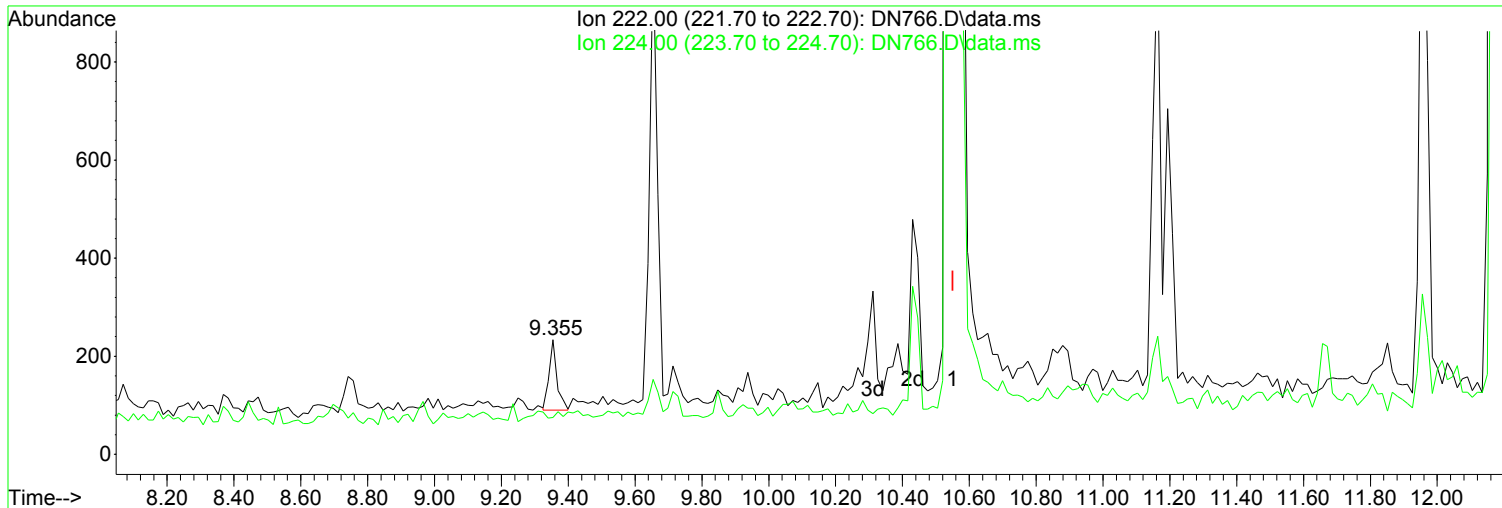
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	46.54
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(29) CL2 - #2 (L2)

Manual Integration:

9.355min (-1.196) 0.00 ppm m

After

response 238

Other -

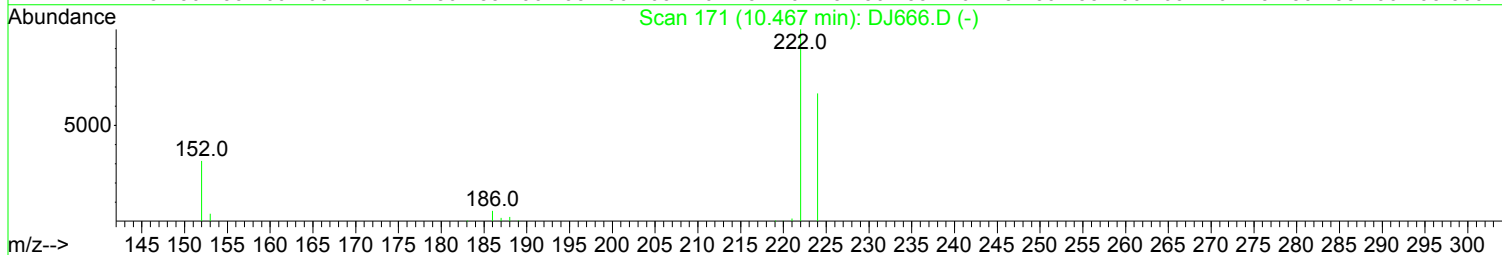
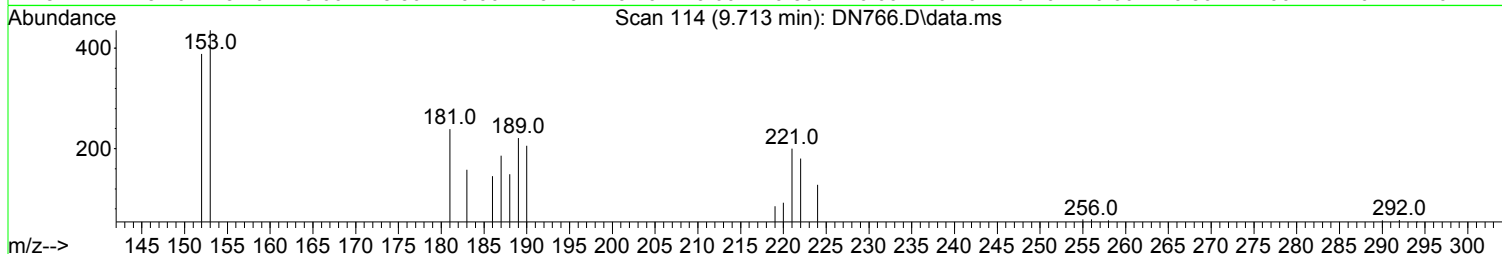
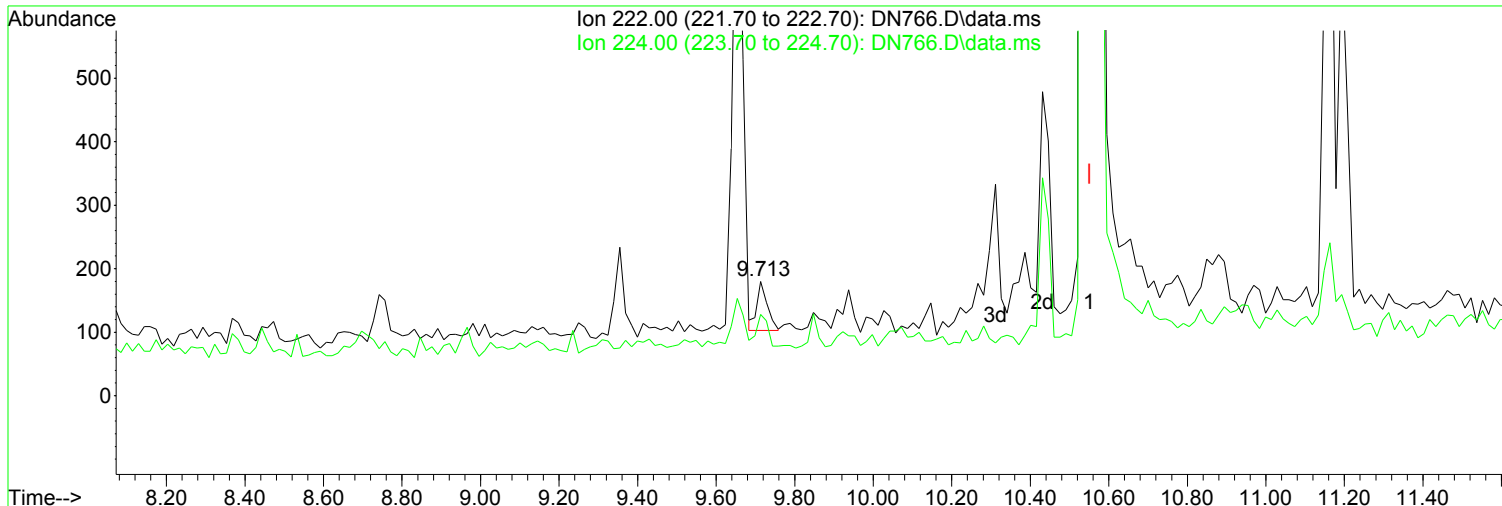
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	32.05
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(30) CL2 - #3 (L2)

Manual Integration:

9.713min (-0.838) 0.00 ppm m

After

response 143

Other -

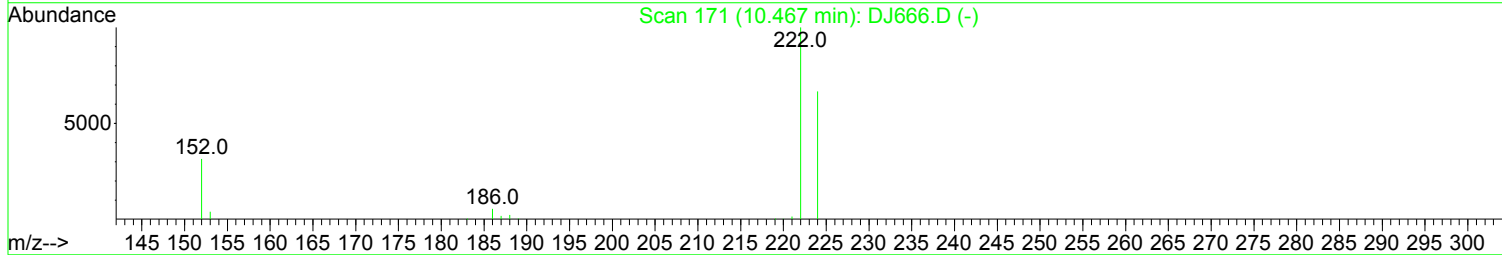
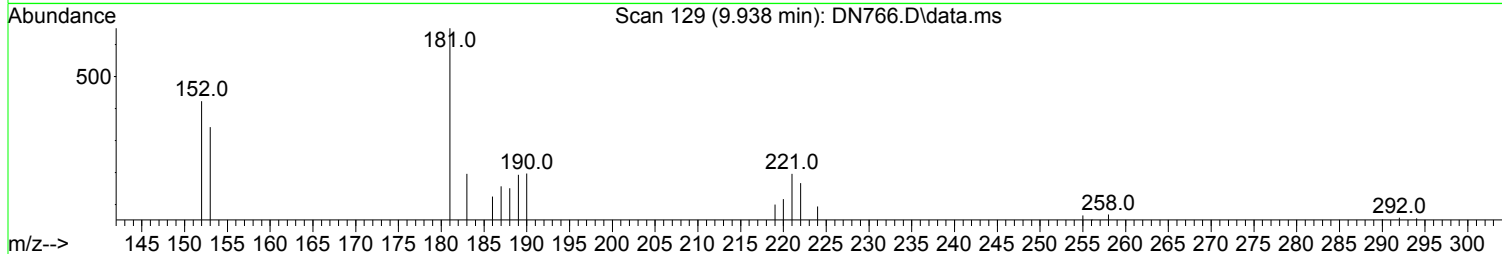
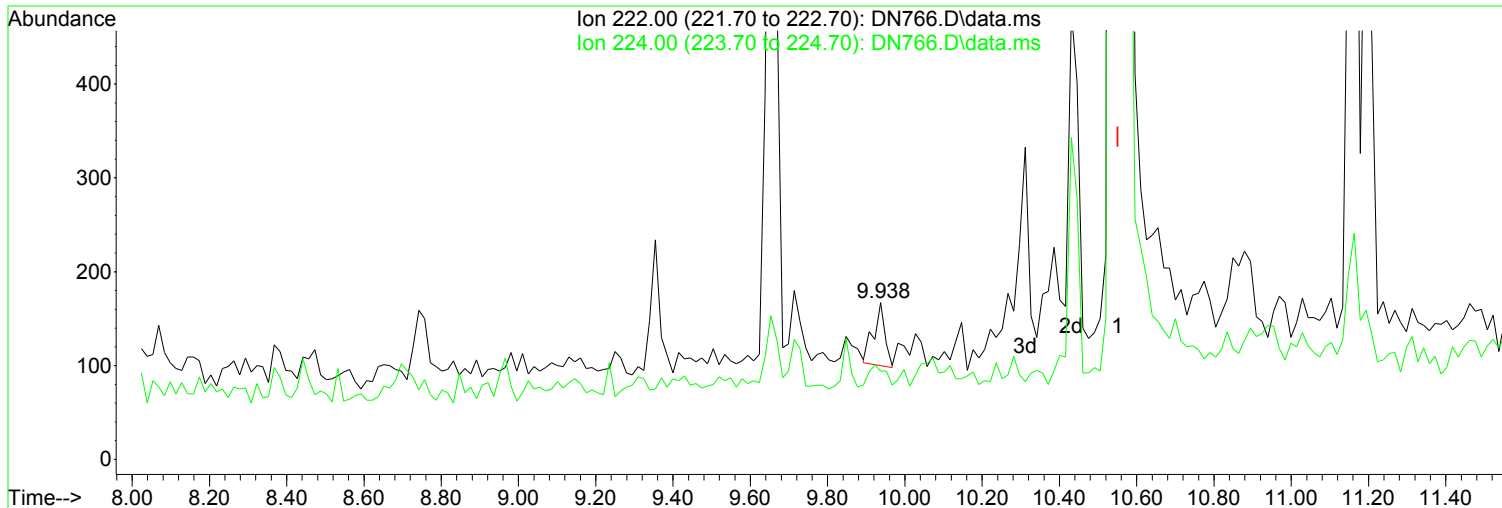
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	71.11
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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)

Manual Integration:

9.938min (-0.613) 0.00 ppm m

After

response 136

Other -

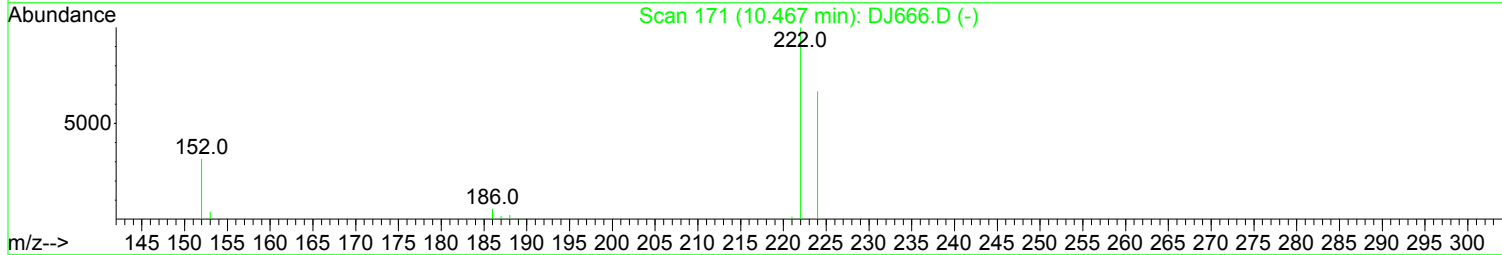
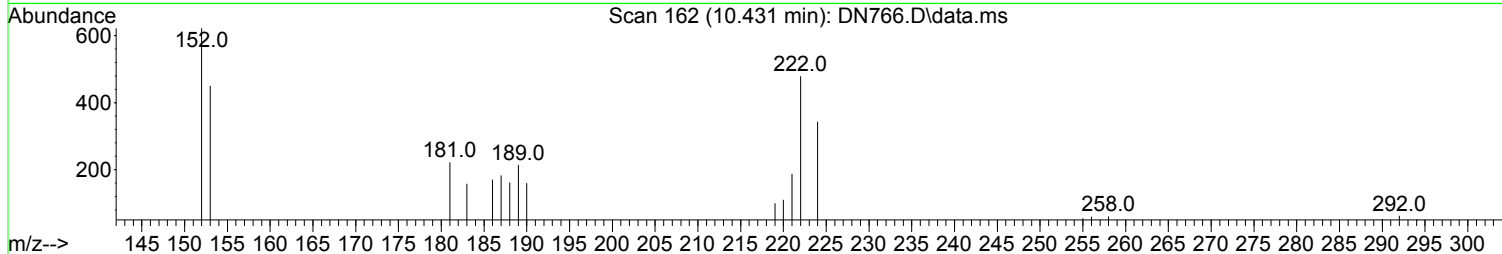
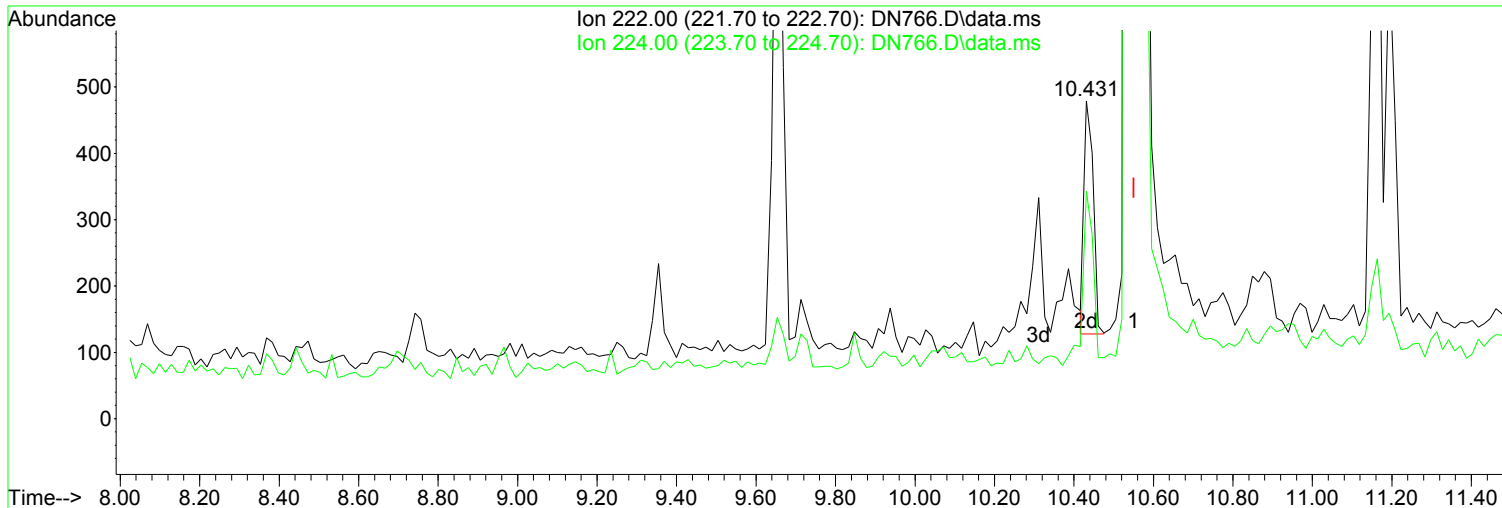
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	56.29
0.00	0.00	0.00
0.00	0.00	0.00

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APPENDIX D - Laboratory Reports

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



(32) CL2 - #5 (L2)

10.431min (-0.120) 0.00 ppm m

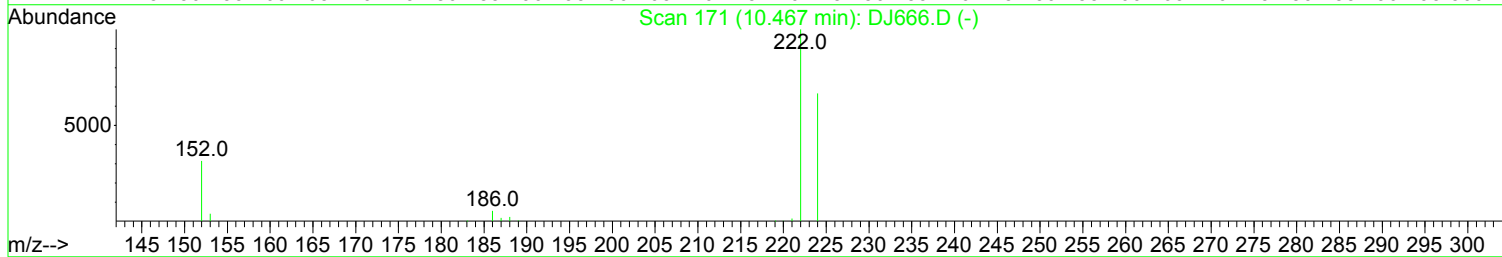
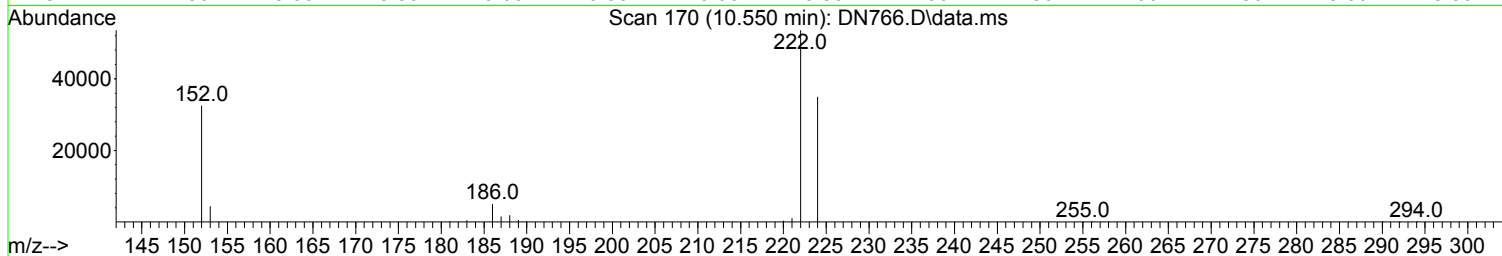
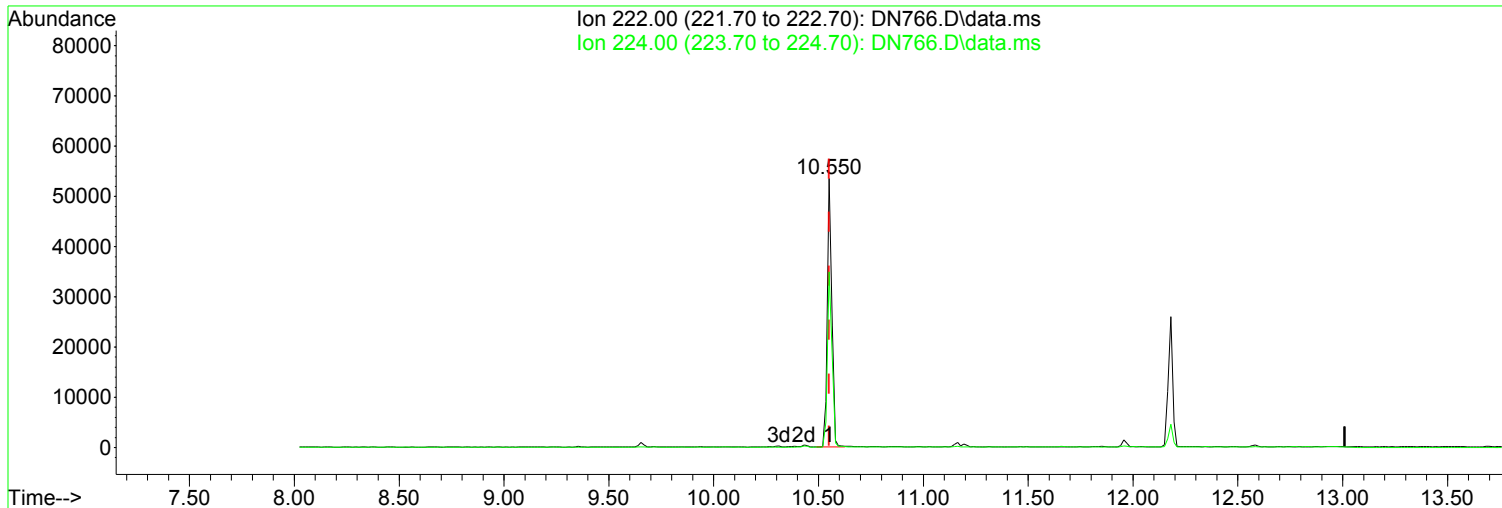
response	571
Ion	Exp% Act%
222.00	100.00 100.00
224.00	61.00 71.61
0.00	0.00 0.00
0.00	0.00 0.00

Manual Integration:
After
Other -
02/22/19

APPENDIX D - Laboratory Reports

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



(33) CL2 - #6 (L2)

Manual Integration:

10.550min (-0.001) 0.00 ppm m

After

response 79451

Other -

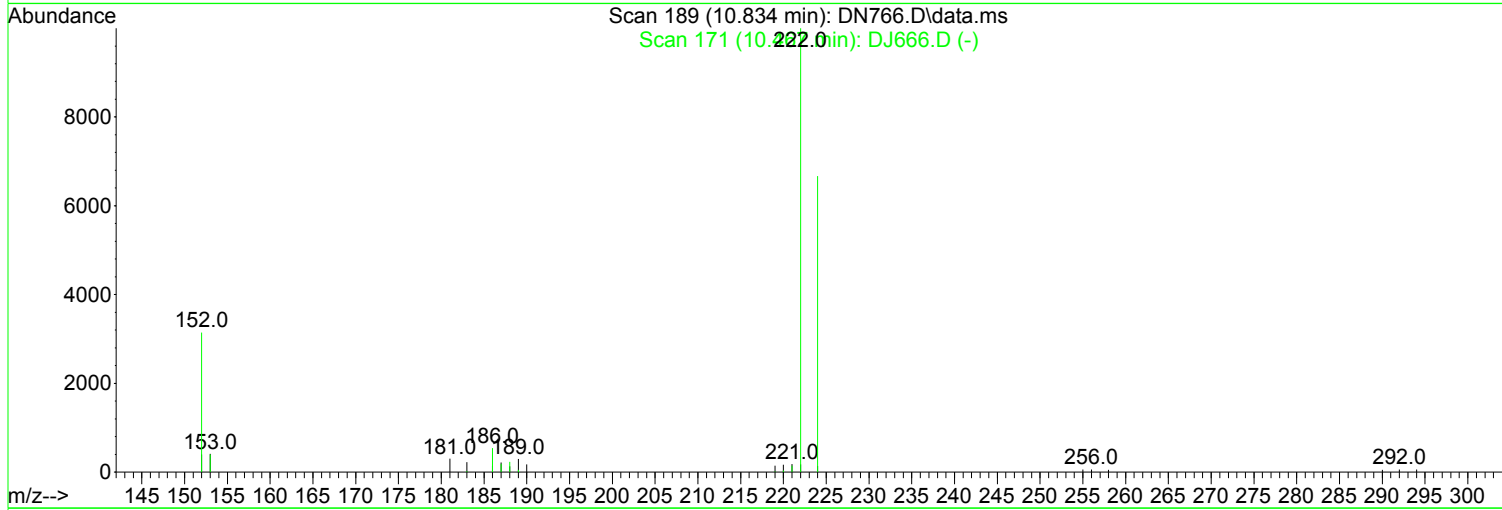
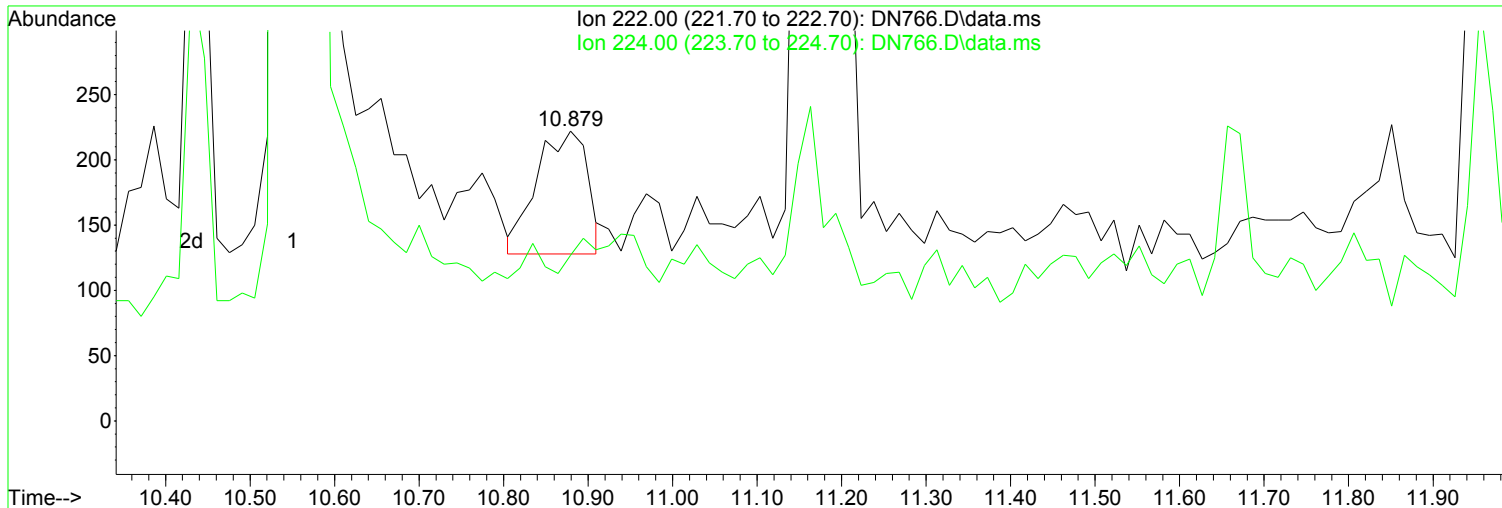
Ion	Exp%	Act%
222.00	100.00	100.00
224.00	61.00	65.35
0.00	0.00	0.00
0.00	0.00	0.00

02/22/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

10.879min (+ 0.328) 0.00 ppm m

After

response 392

Other -

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

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APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

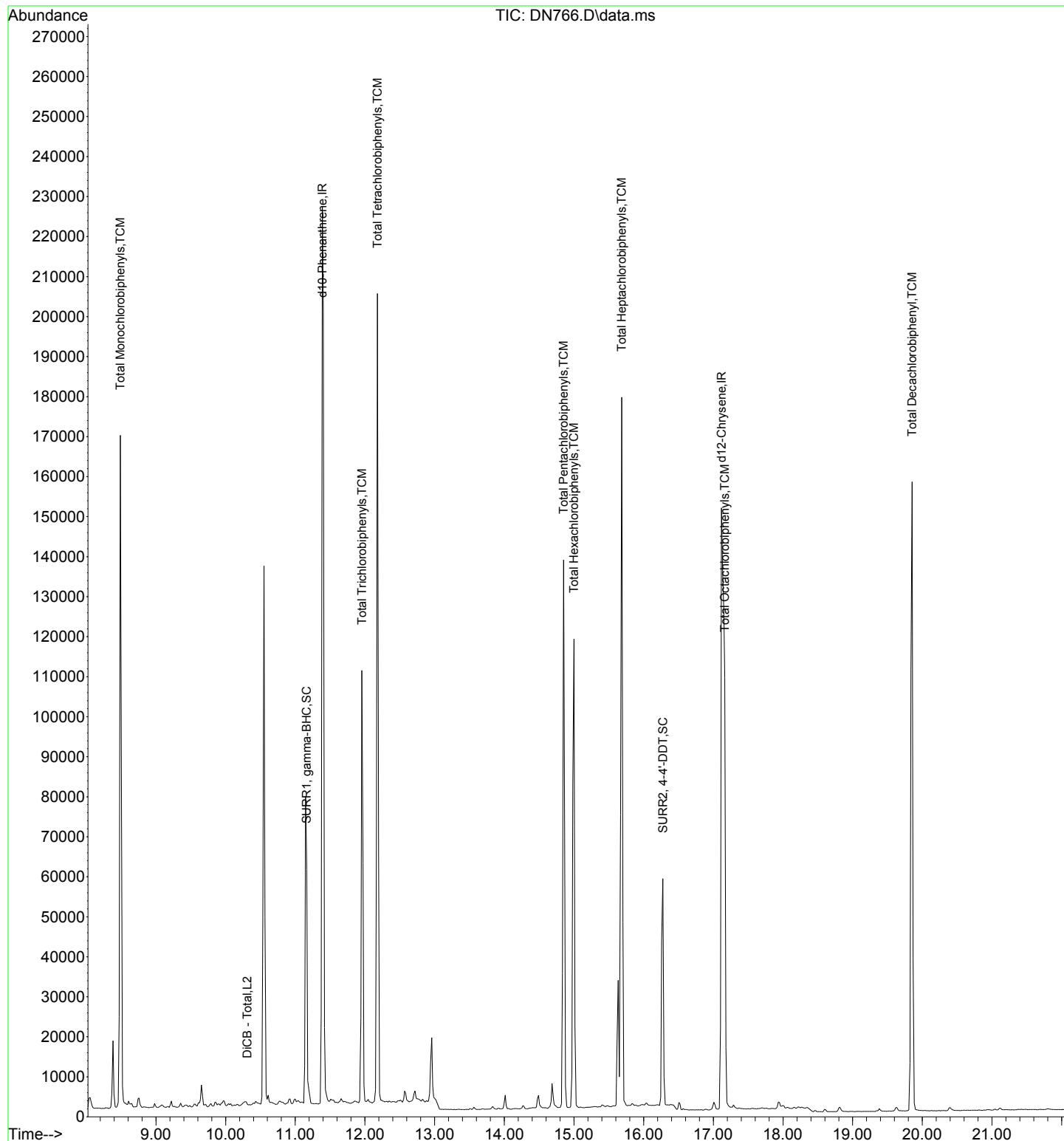
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	298278	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	237185	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.163	219	31748	0.82	ppm	0.01
Spiked Amount	1.000	Range 55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports

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

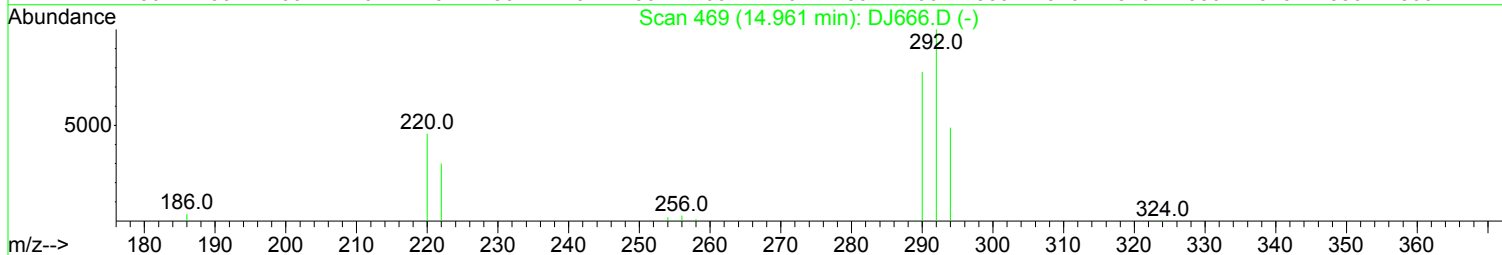
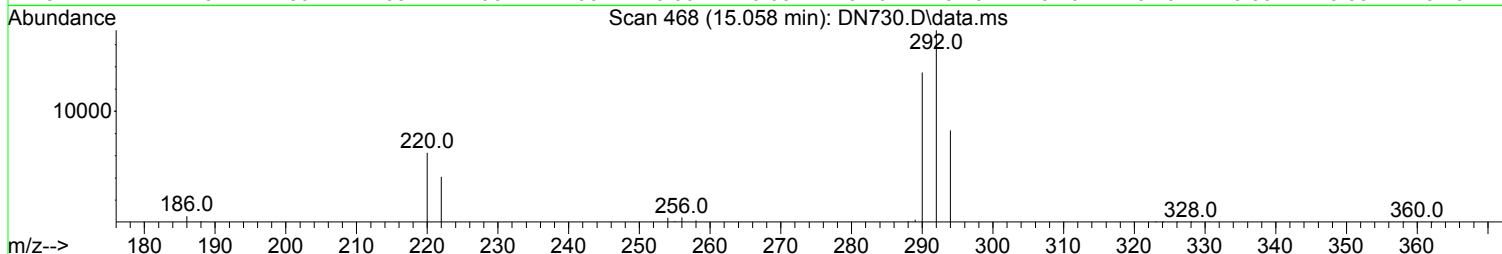
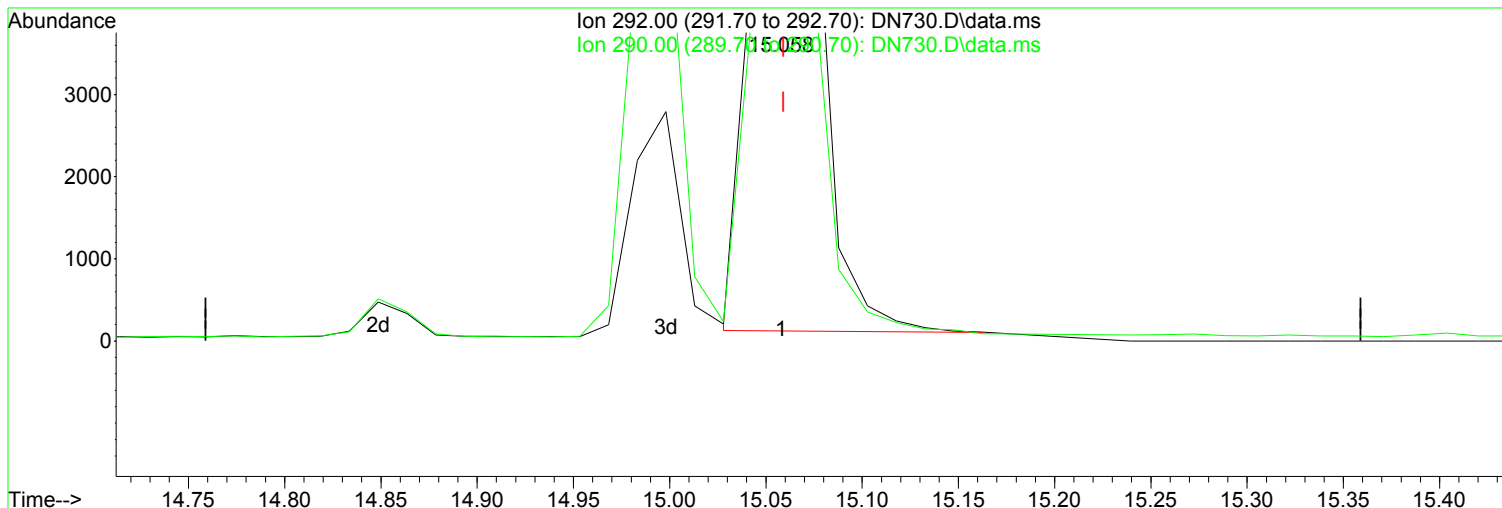
Quant Time: Feb 22 11:44:02 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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

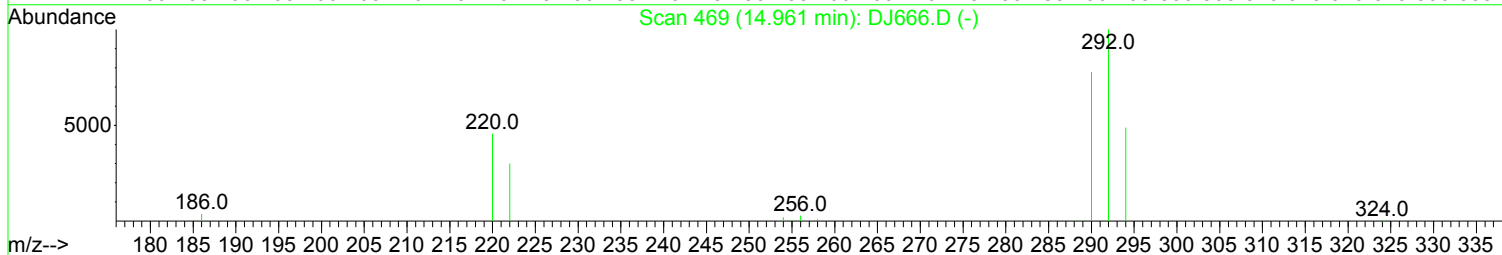
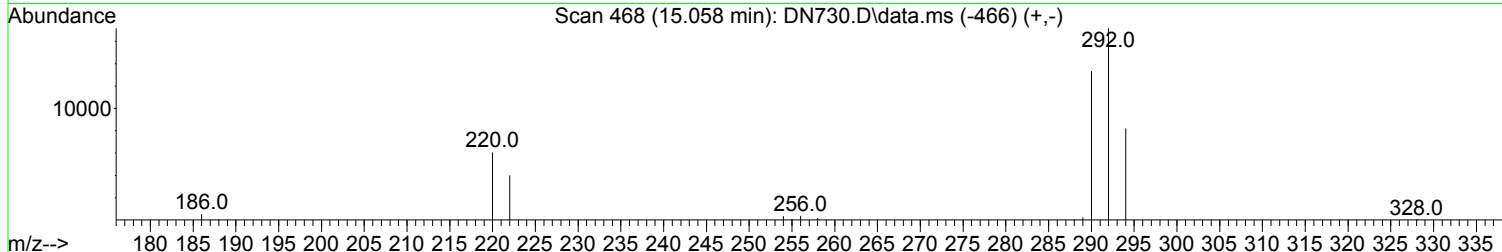
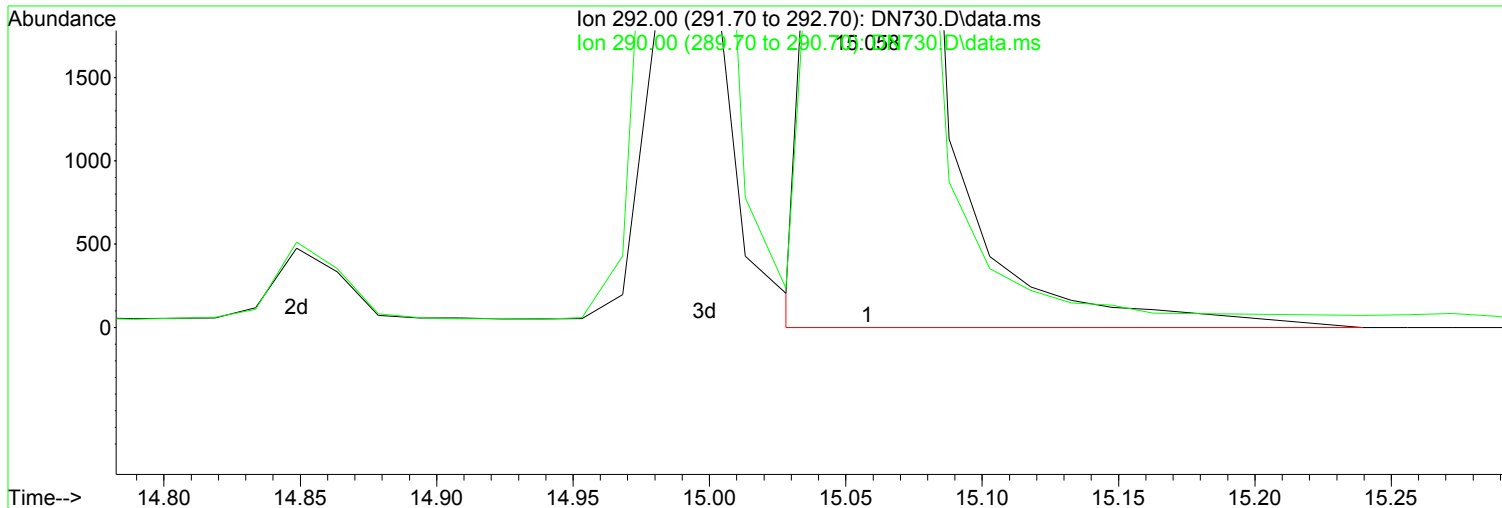
(11)	RT #77 (CL4)	(TC)
15.058min	(-0.001)	0.20 ppm m
response	26885	
Ion	Exp%	Act%
292.00	100.00	100.00
290.00	78.40	78.03
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
 After
 Poor integration.
 02/22/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

15.058min (-0.001) 0.30 ppm

Before

response 39324

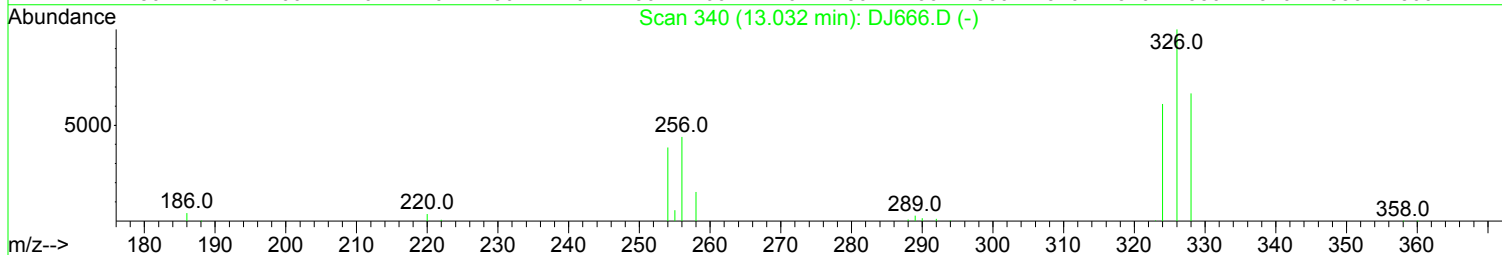
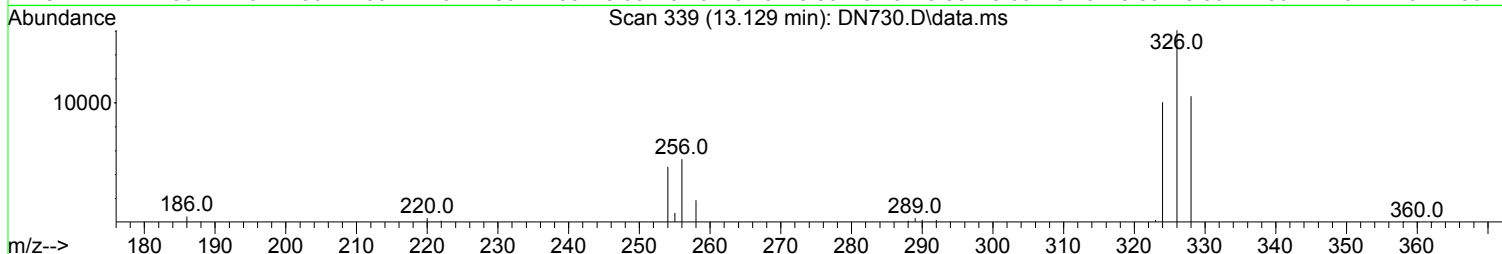
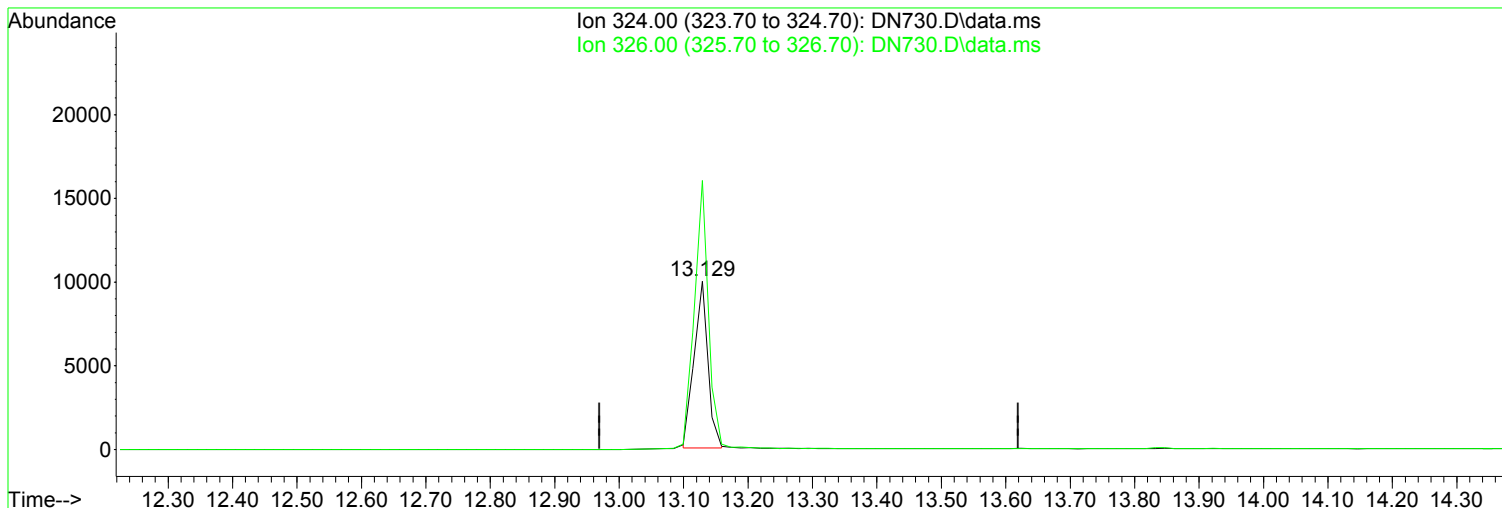
Ion	Exp%	Act%
292.00	100.00	100.00
290.00	78.40	77.60
0.00	0.00	0.00
0.00	0.00	0.00

02/22/19

APPENDIX D - Laboratory Reports

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

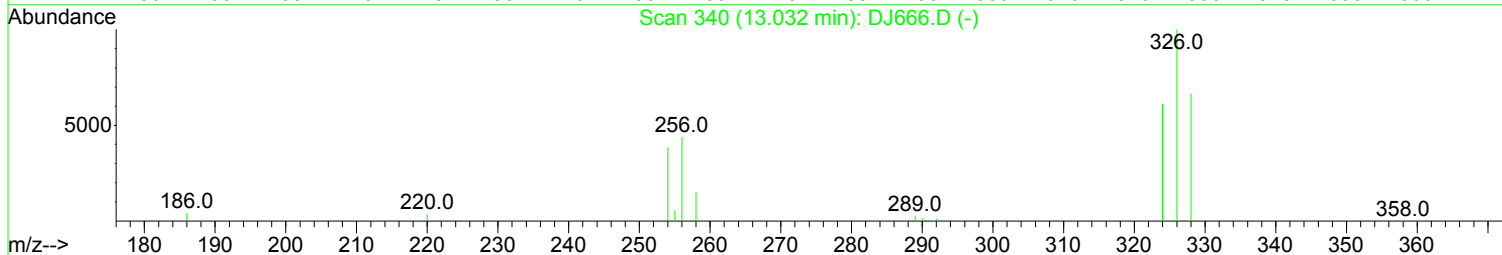
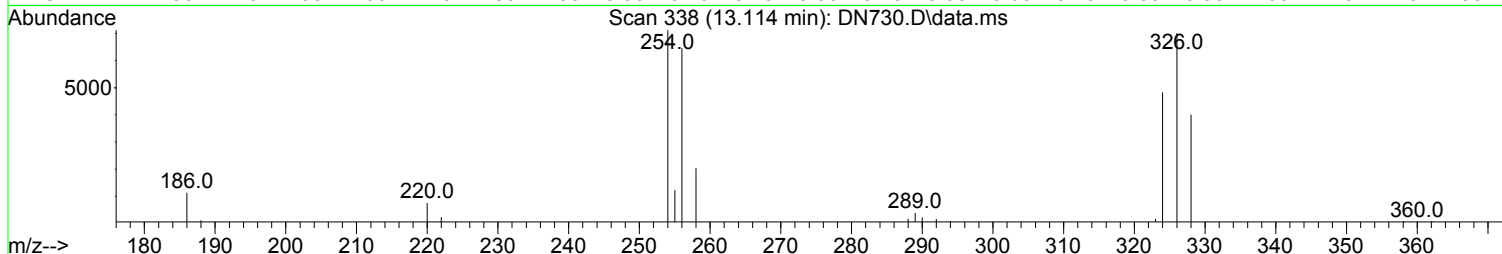
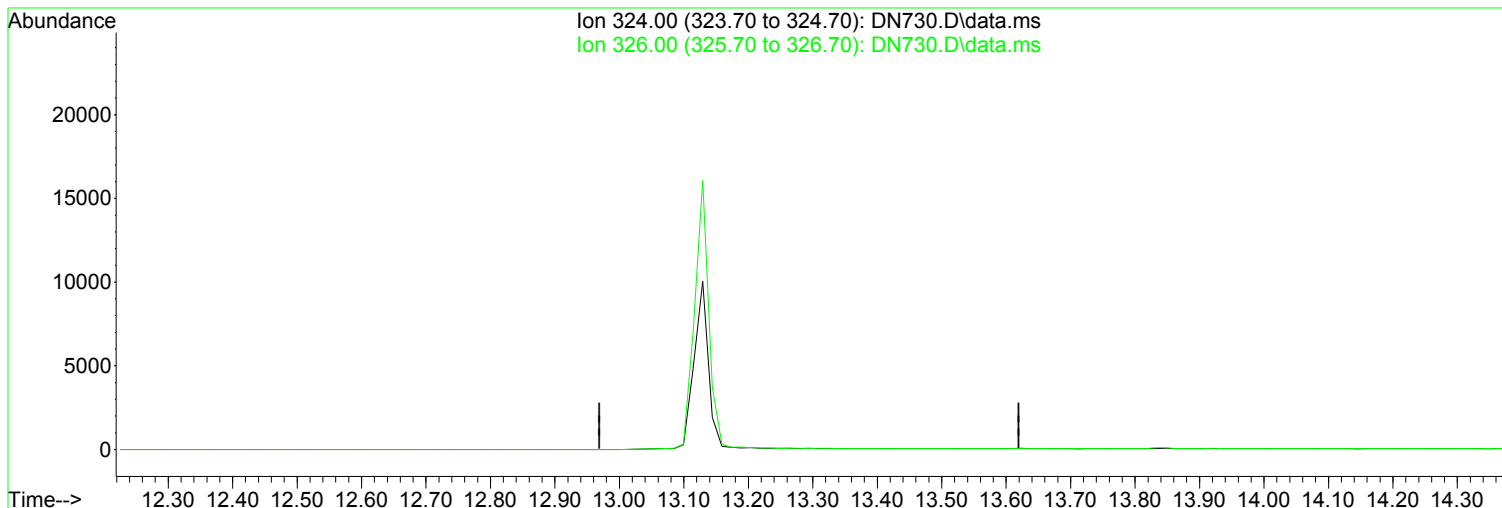
response	14916
Ion	Exp% Act%
324.00	100.00 100.00
326.00	158.00 159.85
0.00	0.00 0.00
0.00	0.00 0.00

Manual Integration:
After
Peak not found.
02/22/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

13.119min (-13.119) 0.00 ppm

Before

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

02/22/19

APPENDIX D - Laboratory Reports

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#

APPENDIX D - Laboratory Reports

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#

APPENDIX D - Laboratory Reports

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

APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

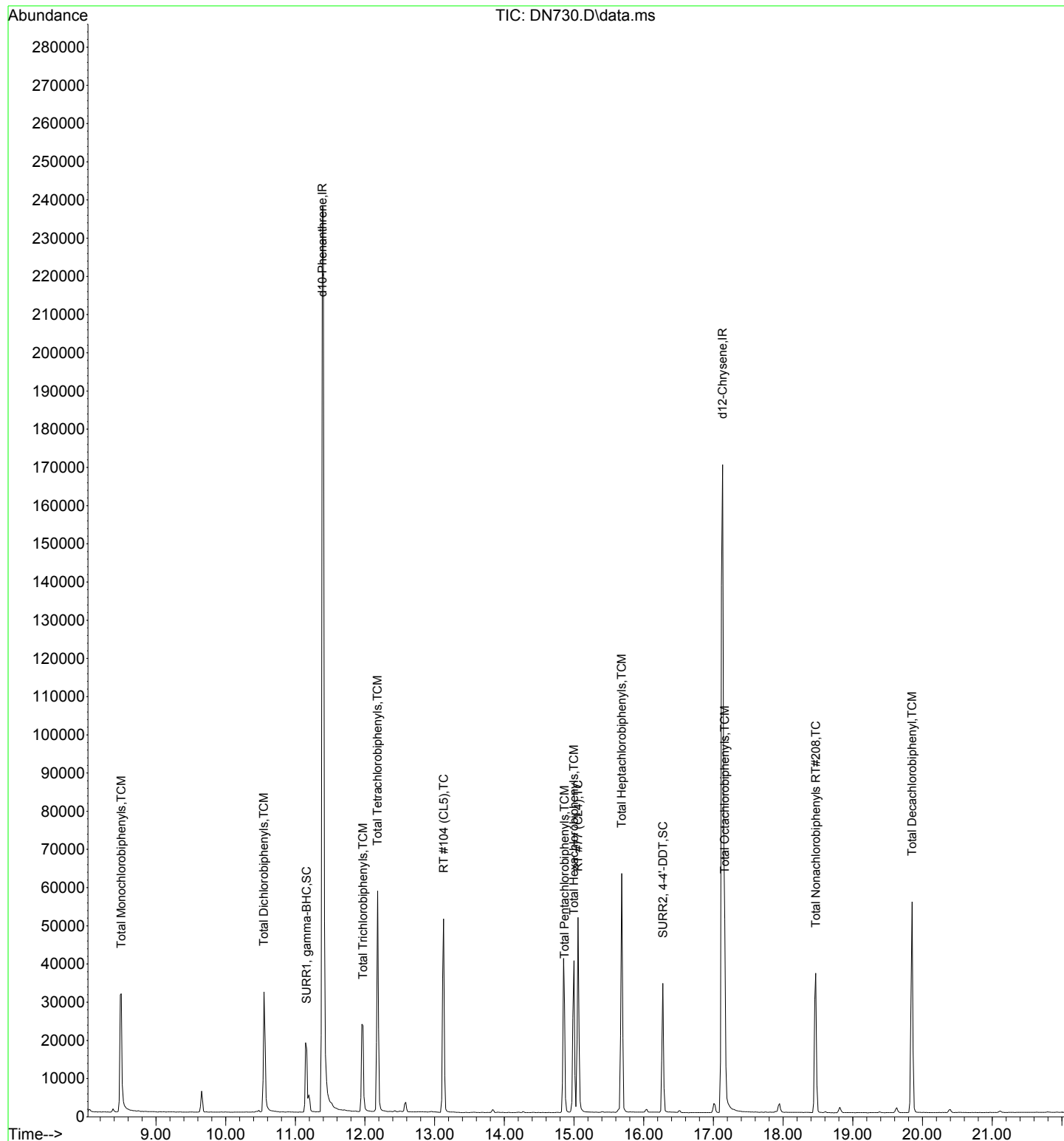
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	378563	0.75	ppm	0.00
2) d12-Chrysene	17.132	240	297634	0.75	ppm	0.01
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.164	219	8293	0.17	ppm	0.01
Spiked Amount	1.000	Range 55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports

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



APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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:\ACQUADATA\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#

APPENDIX D - Laboratory Reports

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#

APPENDIX D - Laboratory Reports

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

APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

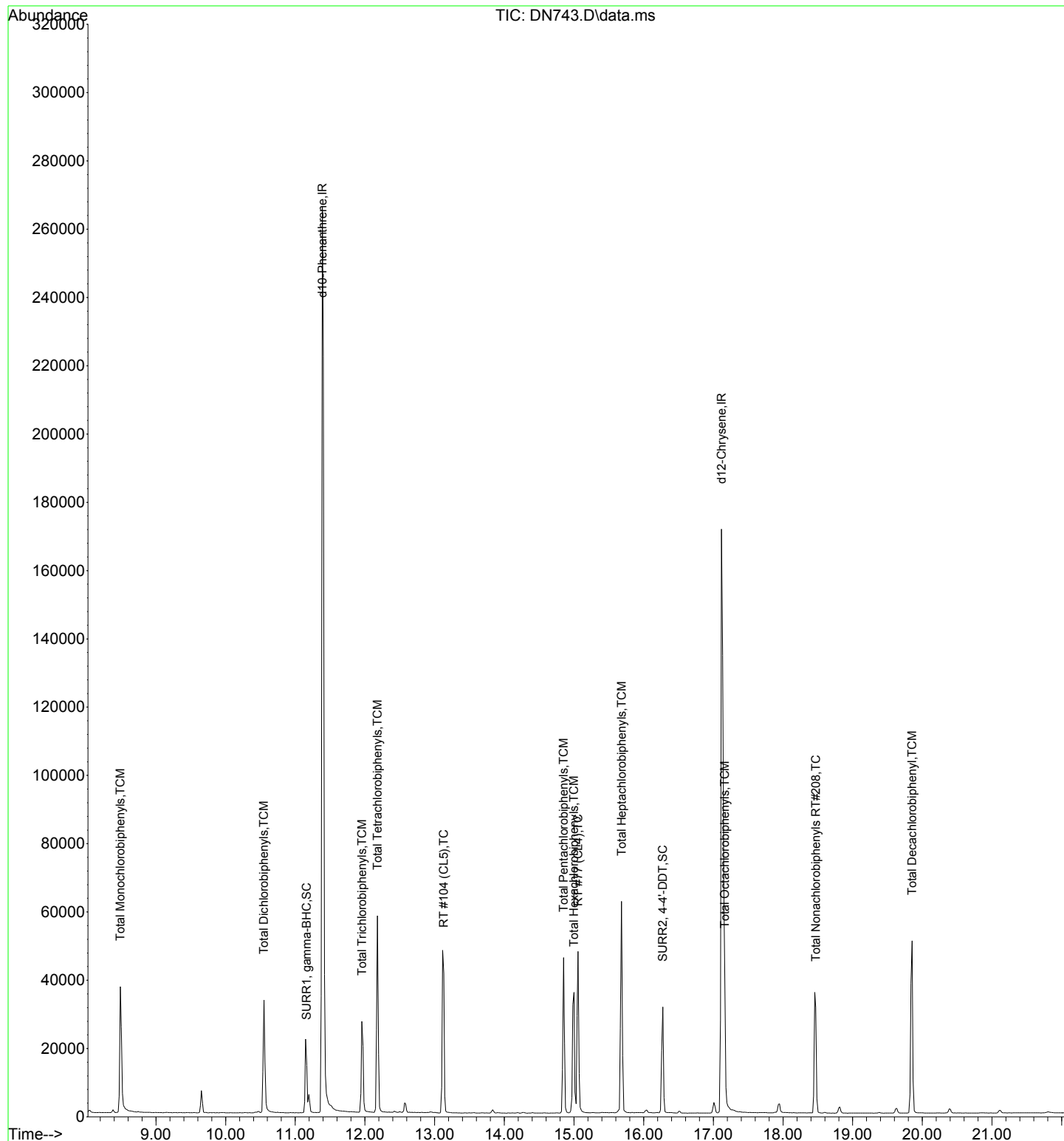
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	382699	0.75	ppm	0.00
2) d12-Chrysene	17.118	240	292048	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.164	219	8467	0.18	ppm	0.01
Spiked Amount	1.000	Range 55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports

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



APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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:\ACQUADATA\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#

APPENDIX D - Laboratory Reports

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#

APPENDIX D - Laboratory Reports

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

APPENDIX D - Laboratory Reports

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

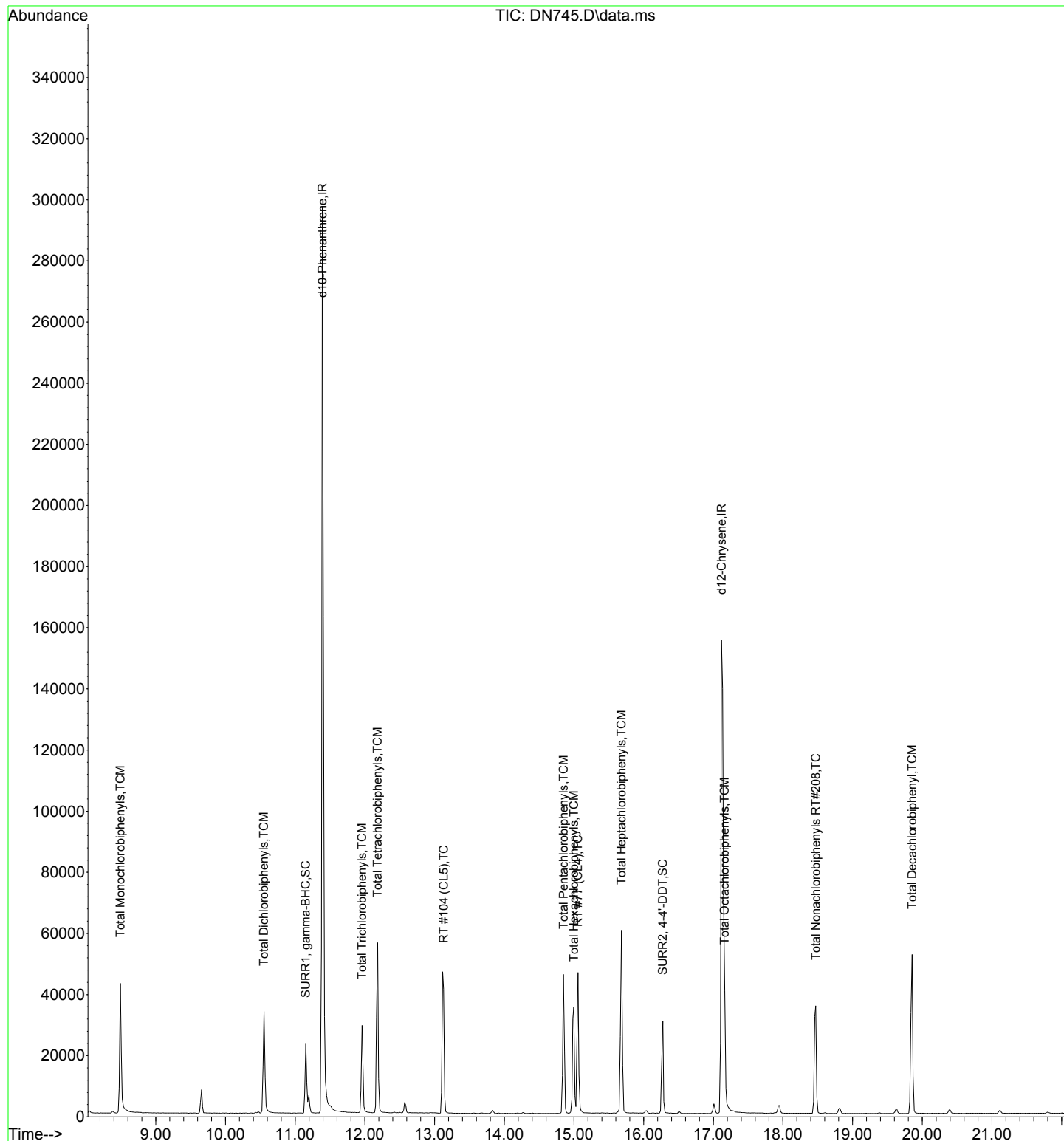
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.390	188	371071	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	283971	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.151	219	8182	0.18	ppm	0.00
Spiked Amount	1.000	Range 55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports

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

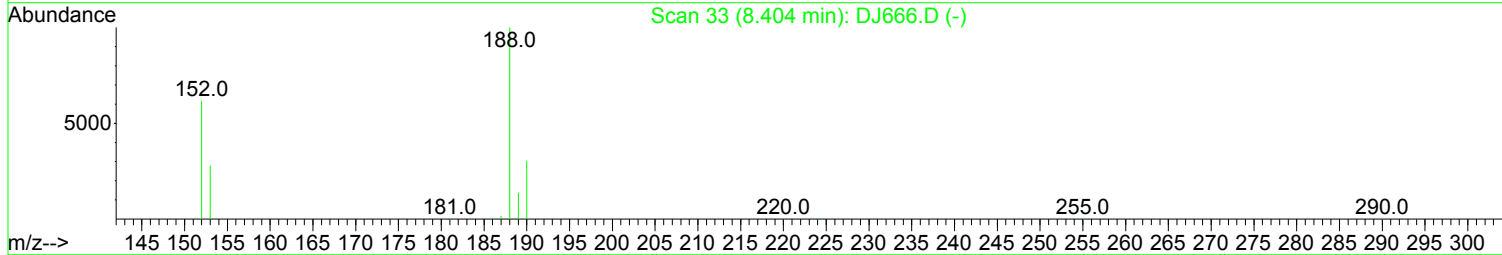
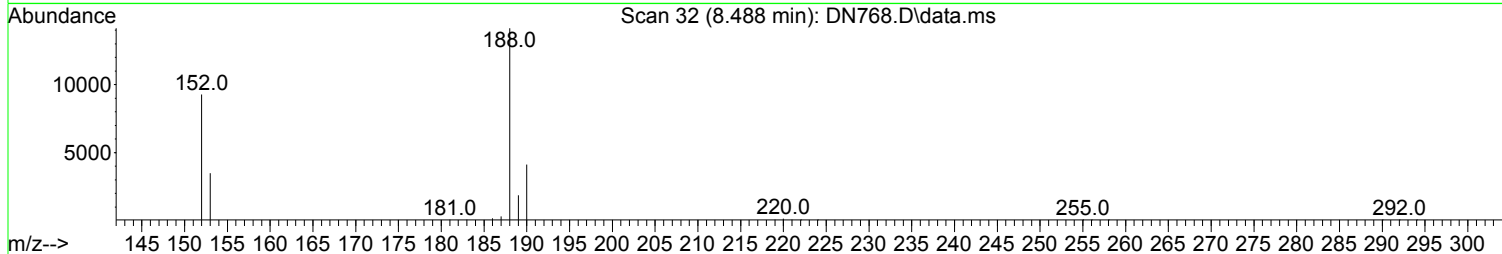
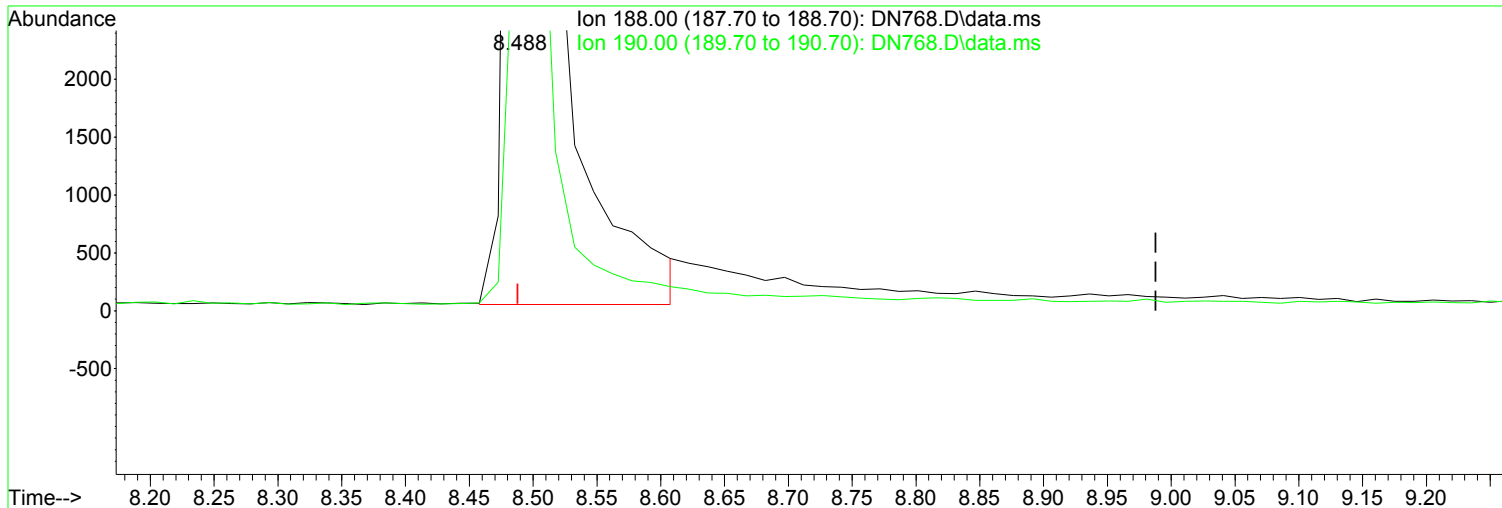
Quant Time: Feb 22 07:32:39 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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

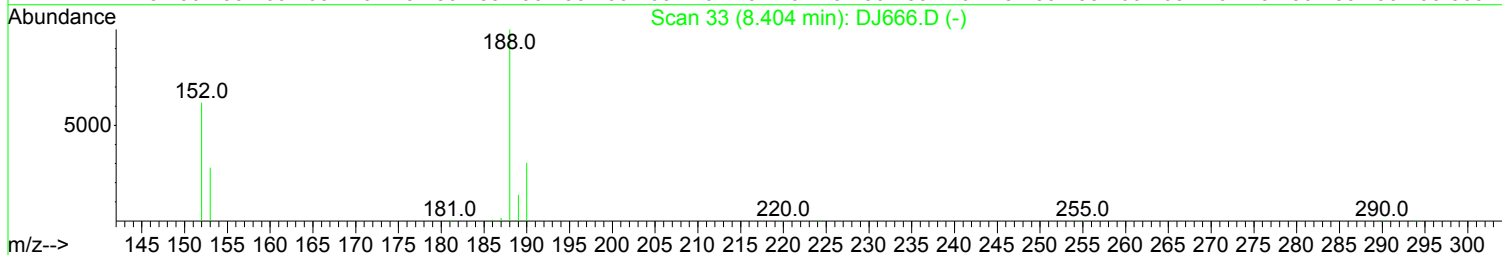
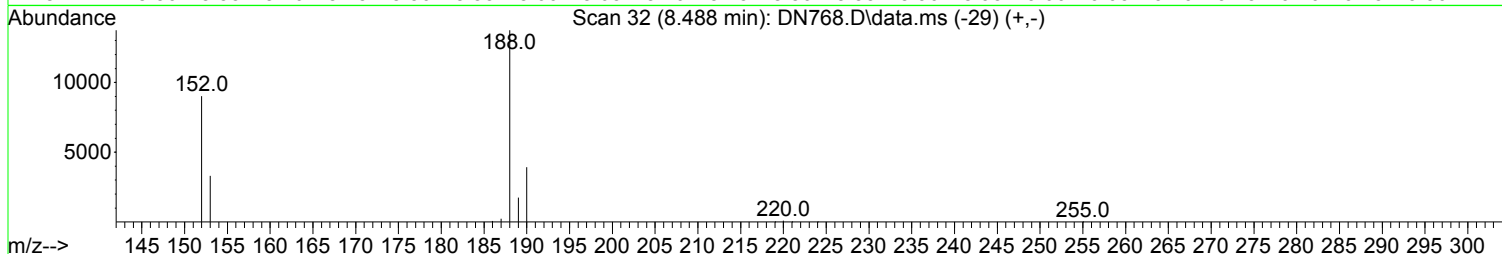
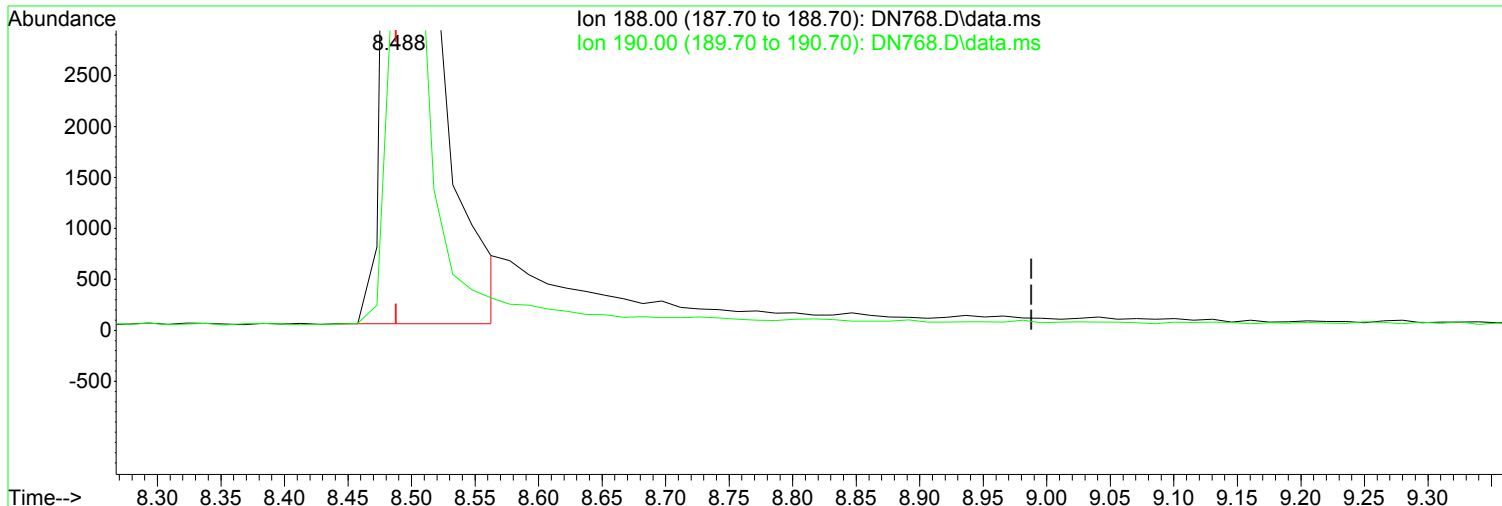
Poor integration.

02/22/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

8.488min (-0.000) 0.08 ppm

Before

response 31620

Ion Exp% Act%

02/22/19

188.00 100.00 100.00

190.00 30.00 28.61

0.00 0.00 0.00

0.00 0.00 0.00

APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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:\ACQUADATA\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#

APPENDIX D - Laboratory Reports

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#

APPENDIX D - Laboratory Reports

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

APPENDIX D - Laboratory Reports

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

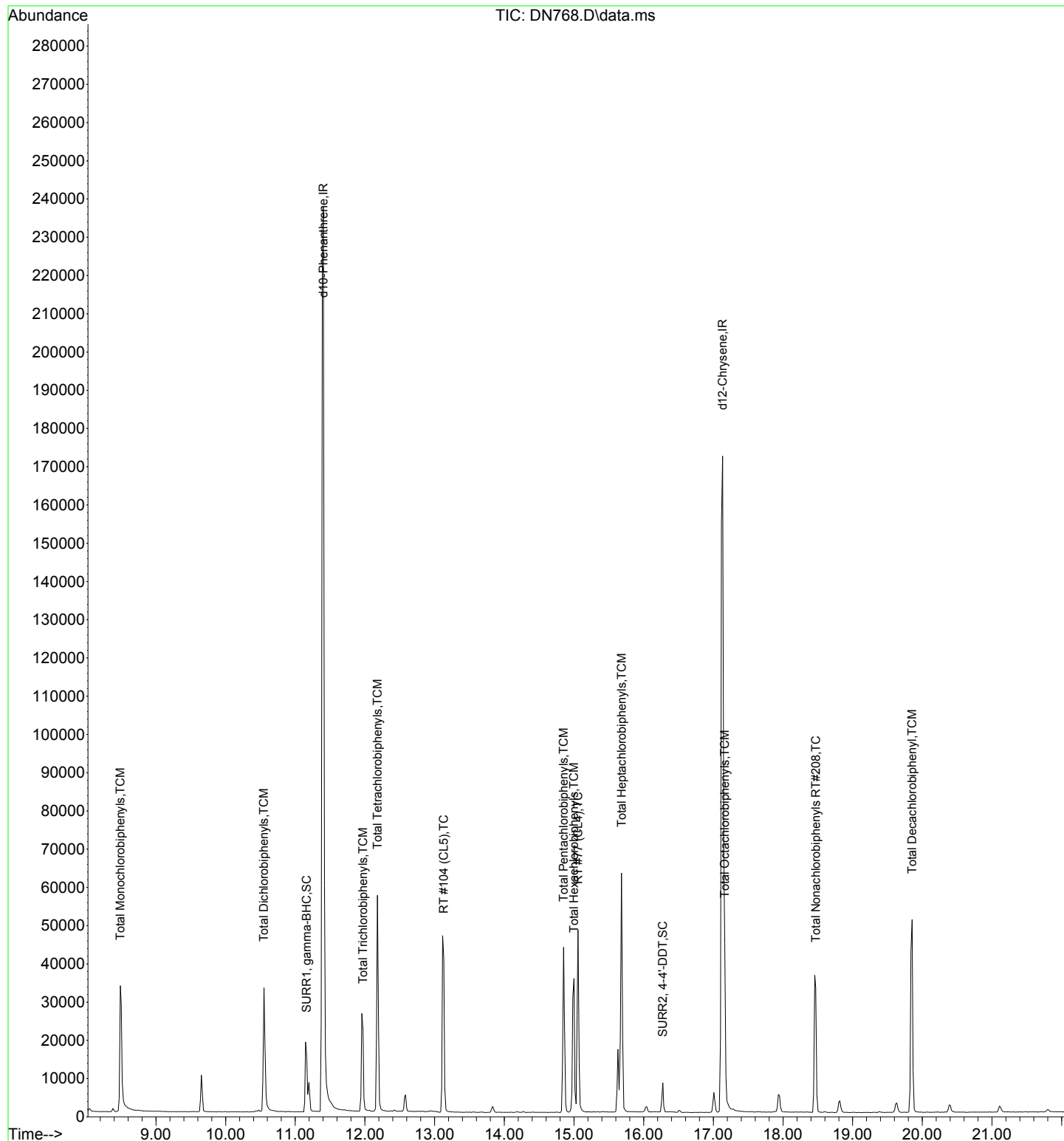
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.403	188	373582	0.75	ppm	0.01
2) d12-Chrysene	17.133	240	305185	0.75	ppm	0.02
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.164	219	8119	0.16	ppm	0.01
Spiked Amount	1.000	Range 55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports

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

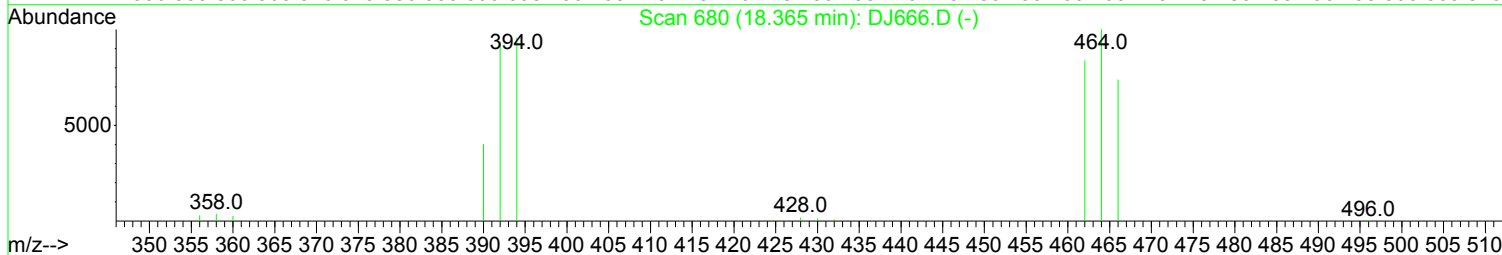
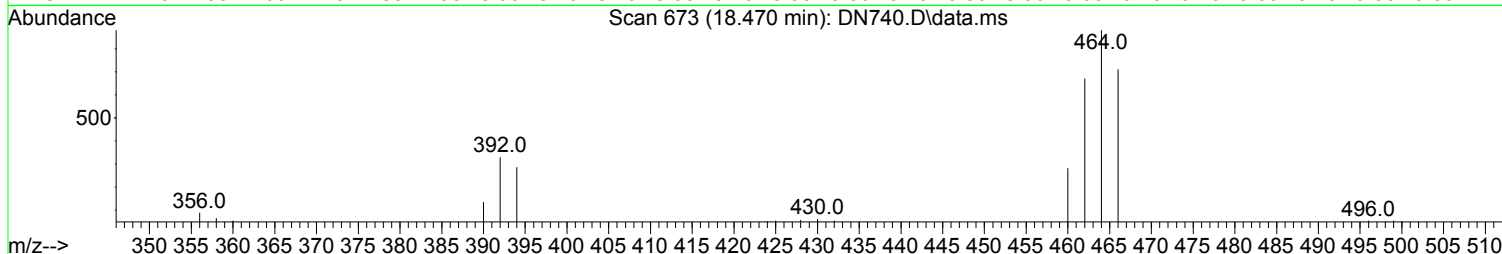
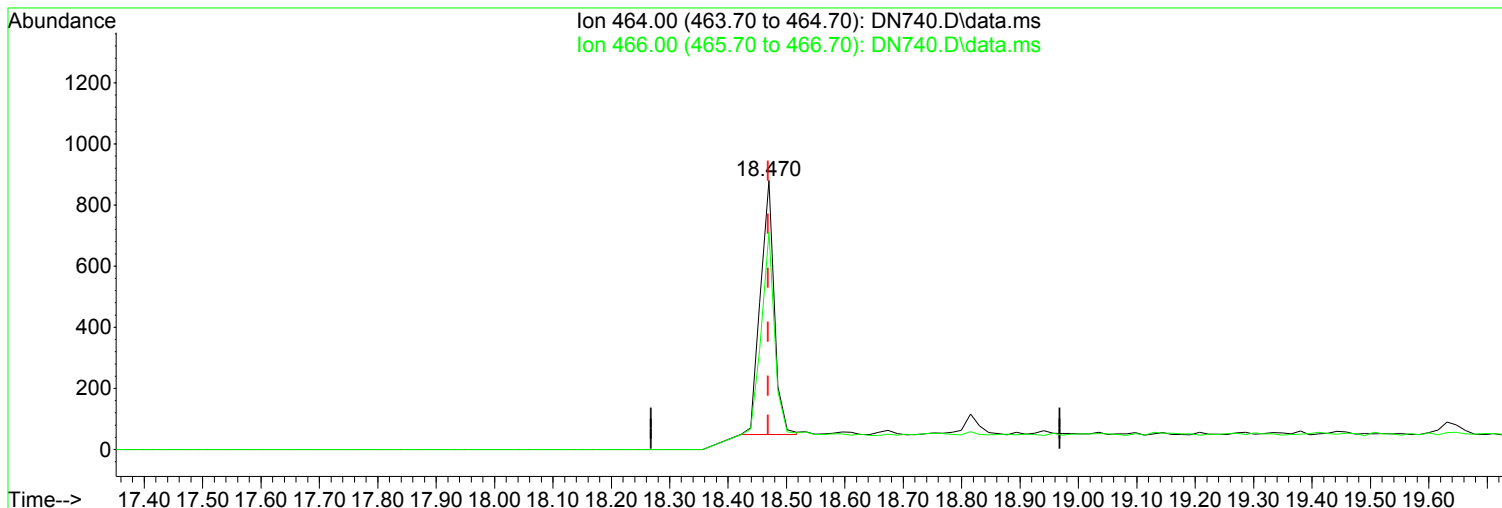
Quant Time: Feb 22 11:29:23 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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)

Manual Integration:

18.470min (+ 0.001) 0.04 ppm m

After

response 1380

Poor integration.

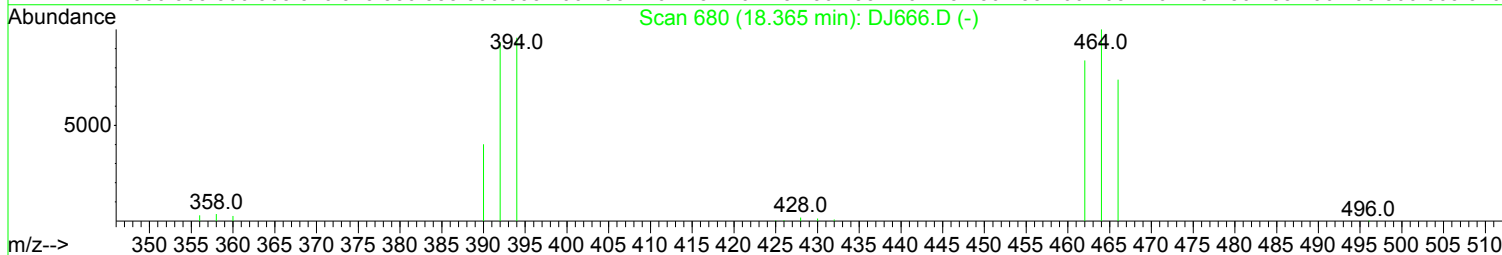
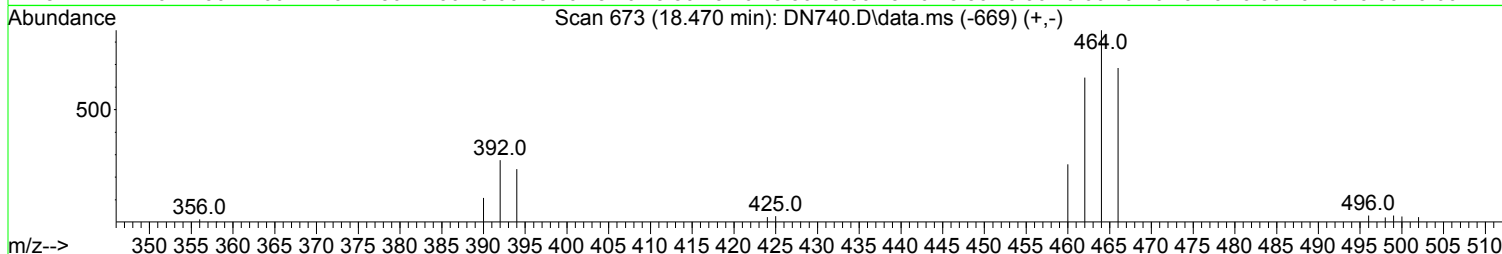
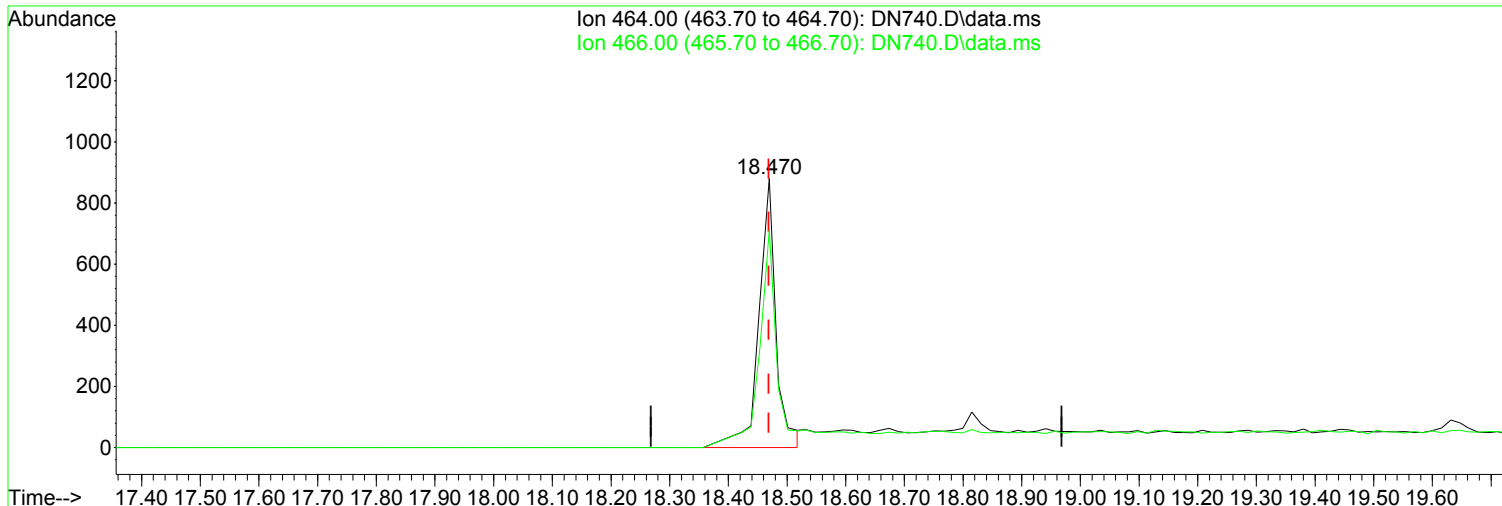
Ion	Exp%	Act%
464.00	100.00	100.00
466.00	78.30	80.80
0.00	0.00	0.00
0.00	0.00	0.00

02/22/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

18.470min (+ 0.001) 0.06 ppm

Before

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

02/22/19

APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

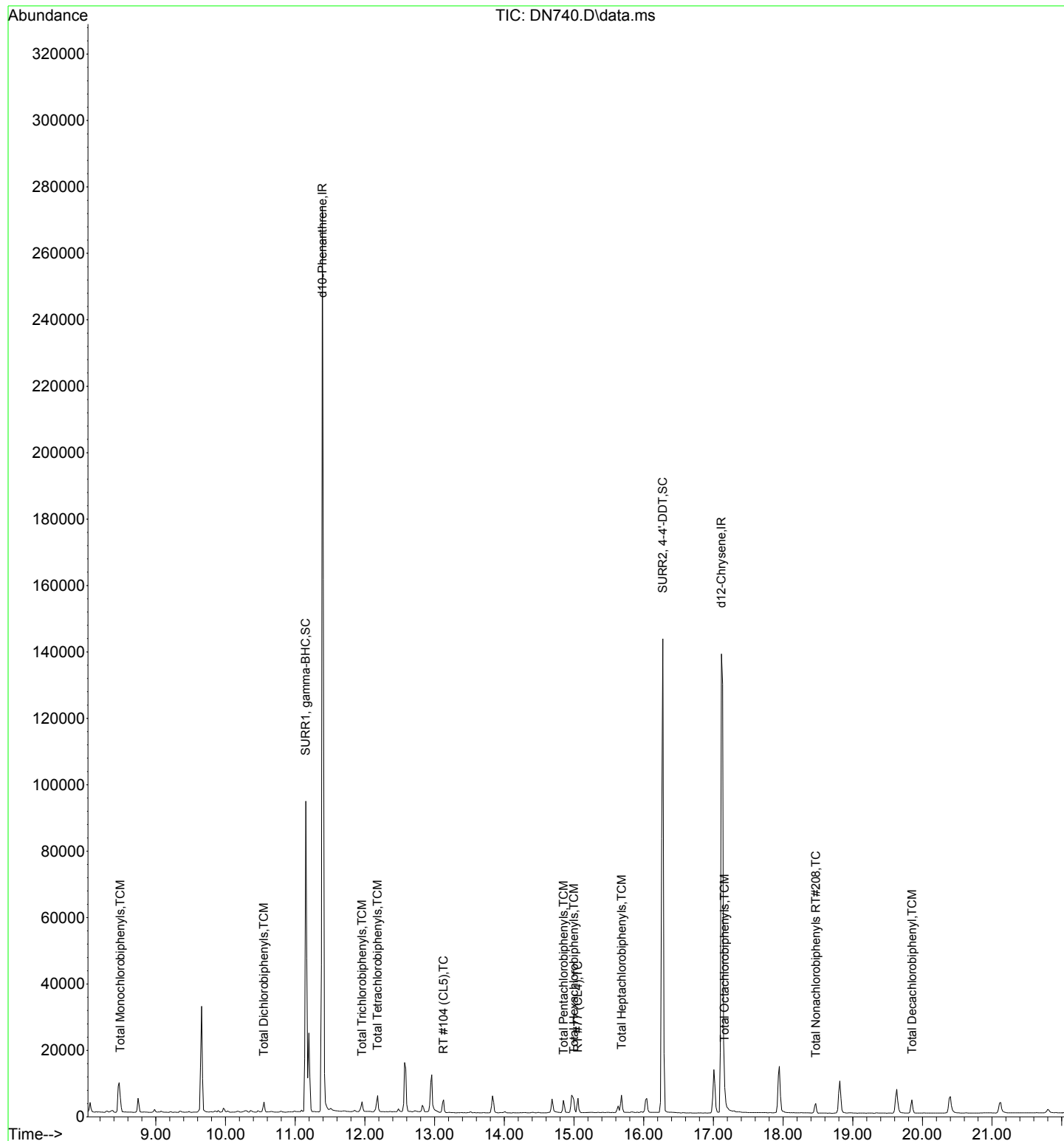
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.390	188	314234	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	245812	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.151	219	34073	0.85	ppm	0.00
Spiked Amount	1.000	Range 55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports

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

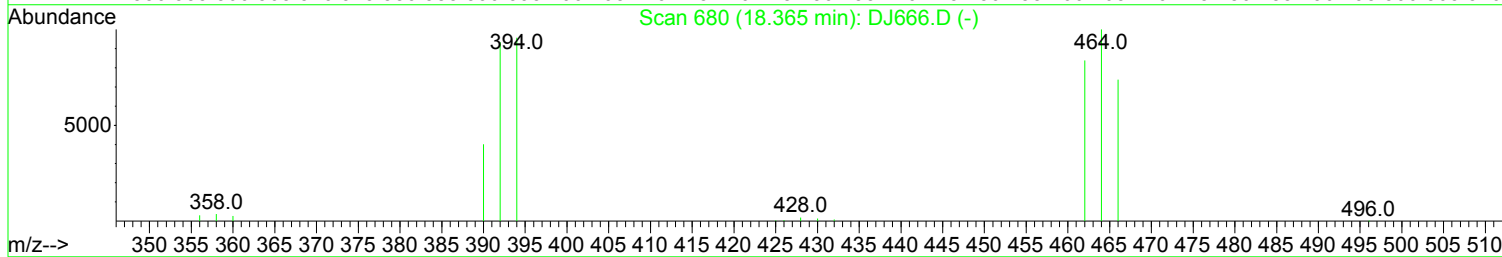
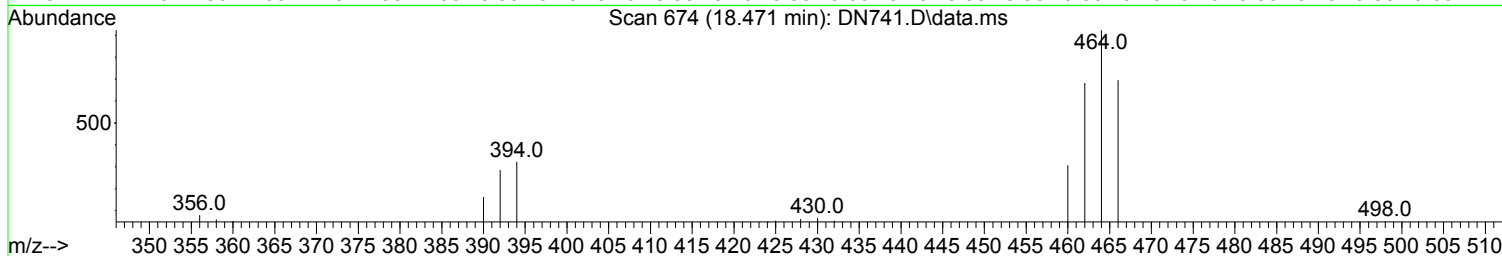
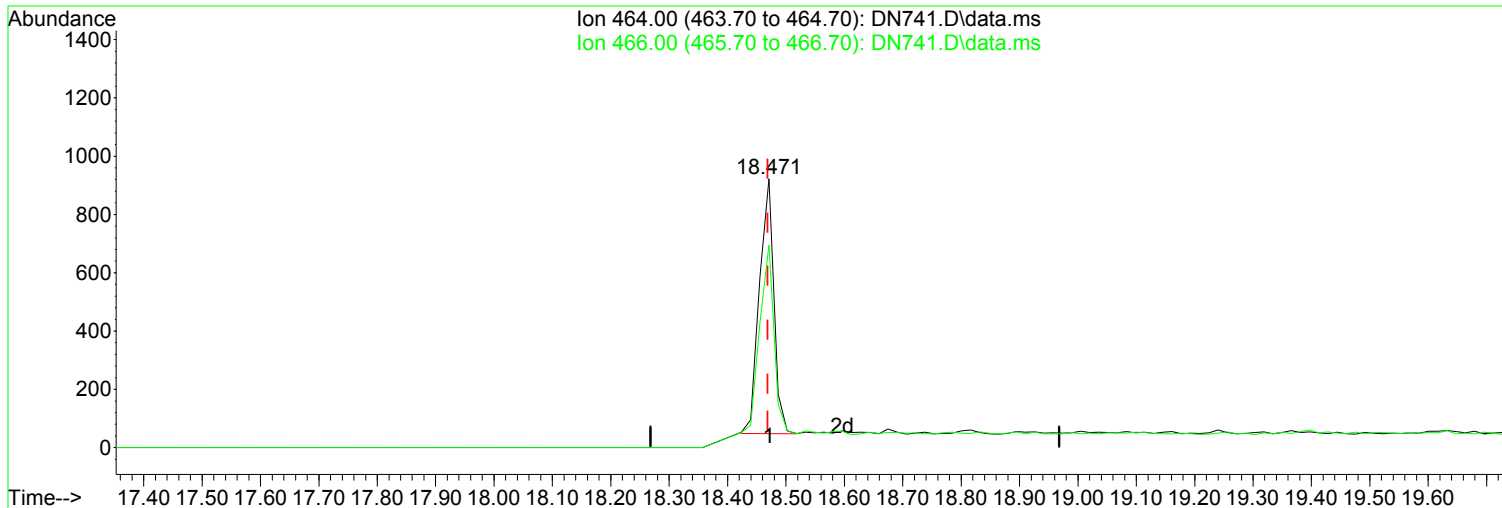
Quant Time: Feb 22 08:04:20 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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

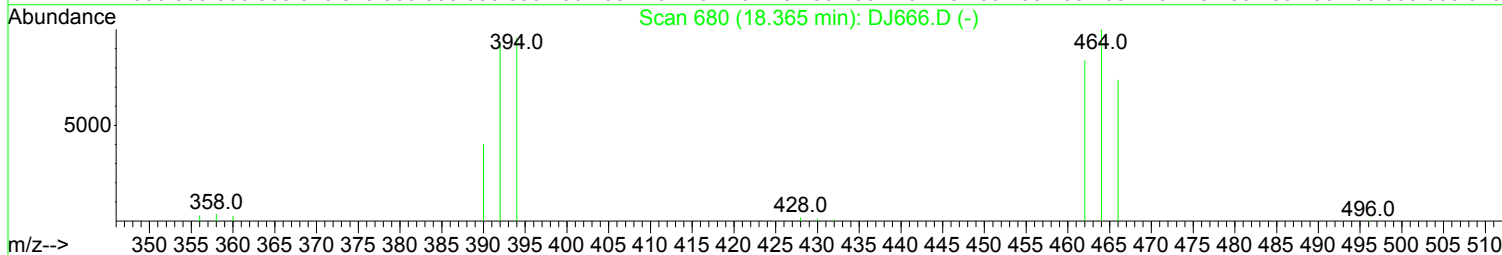
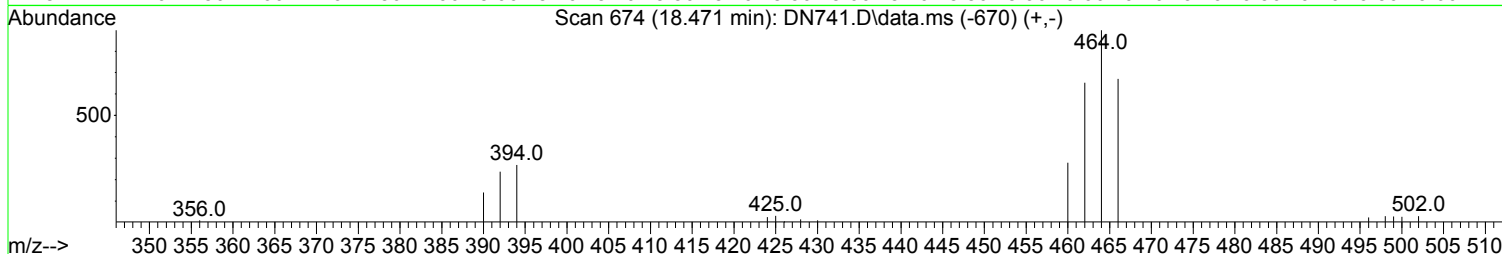
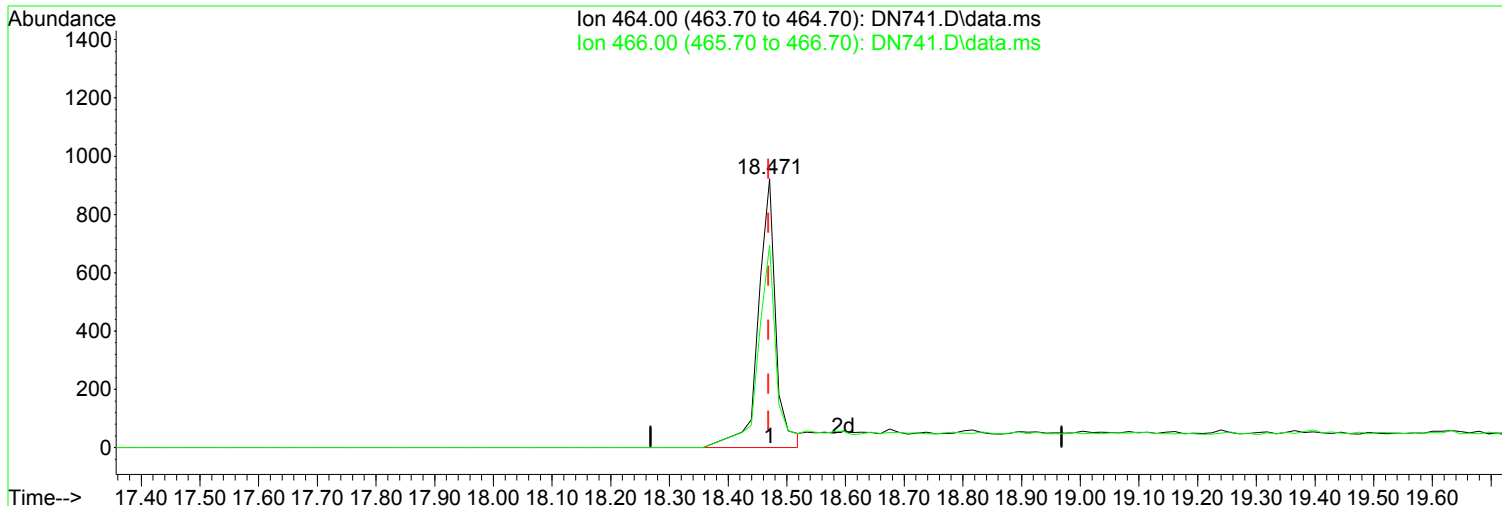
Poor integration.

02/22/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

18.471min (+ 0.002) 0.07 ppm

Before

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

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APPENDIX D - Laboratory Reports

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

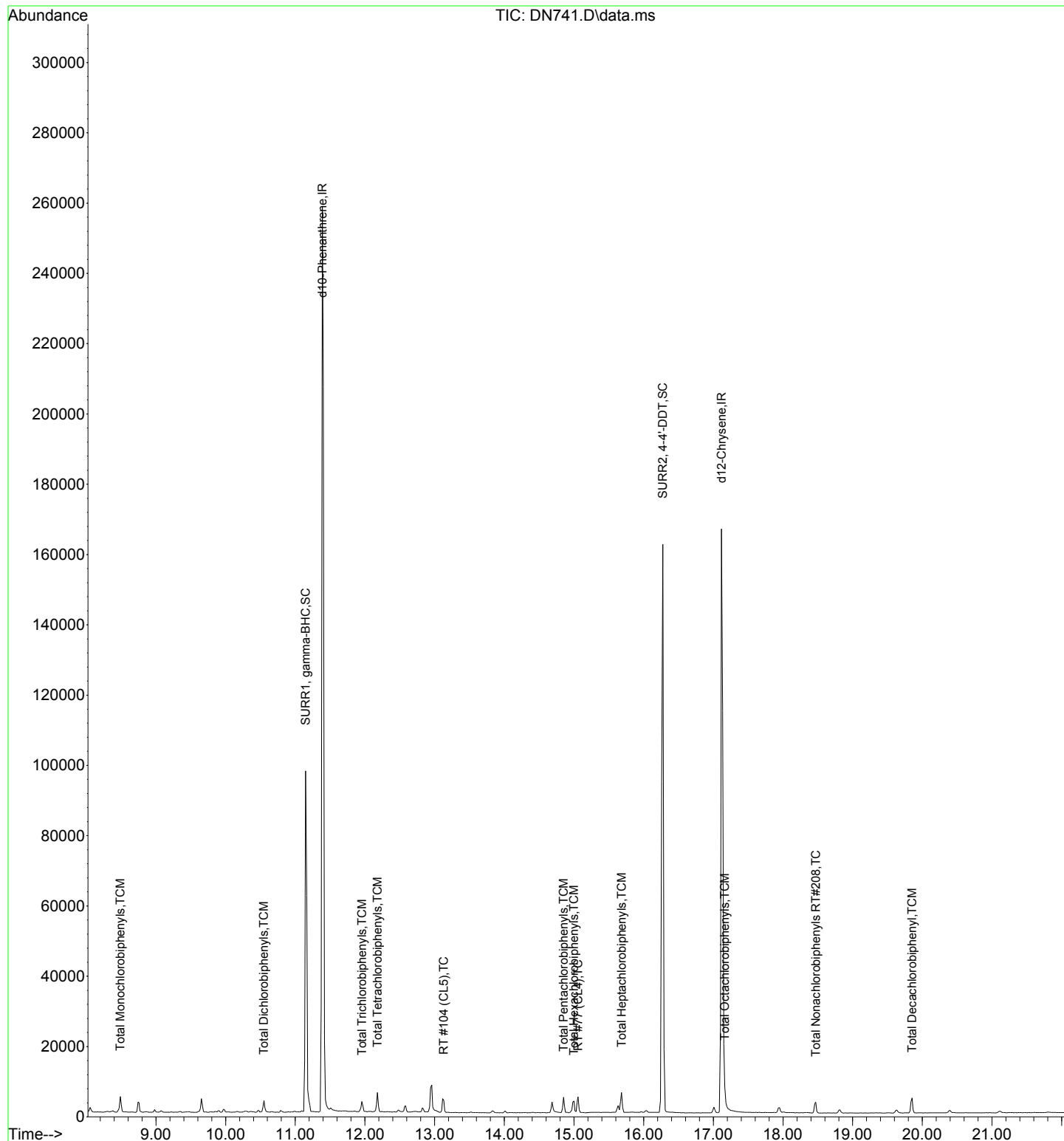
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	330596	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	252545	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.149	219	37135	0.90	ppm	0.00
Spiked Amount	1.000	Range 55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports

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

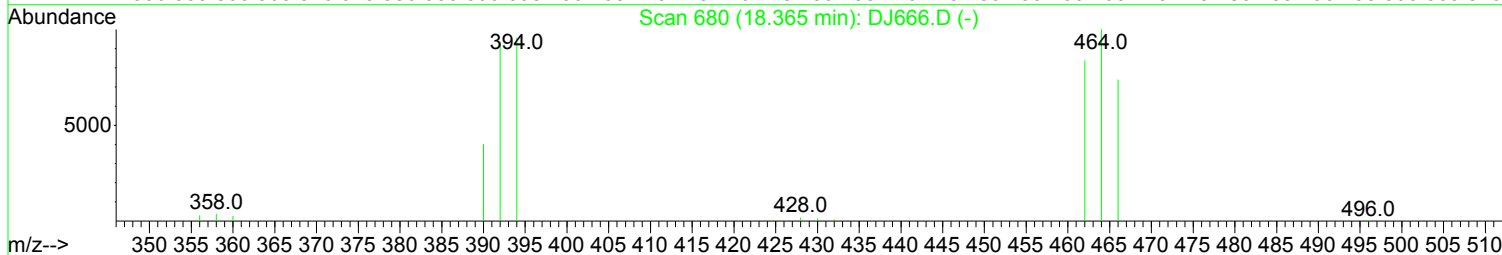
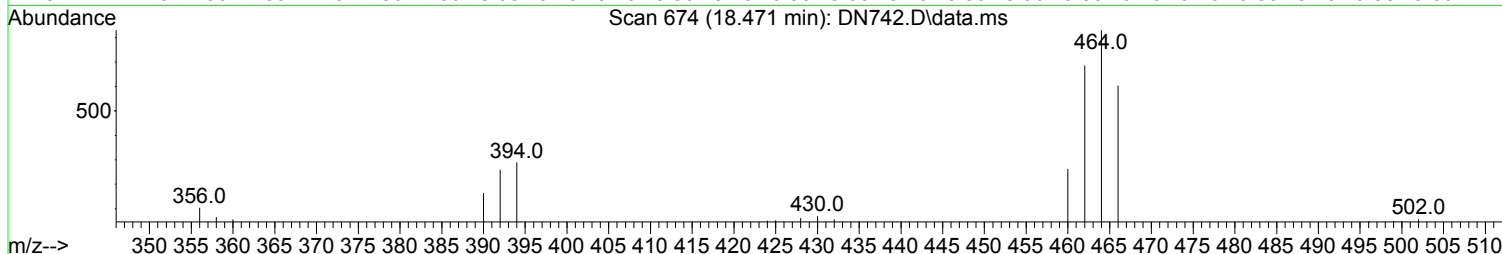
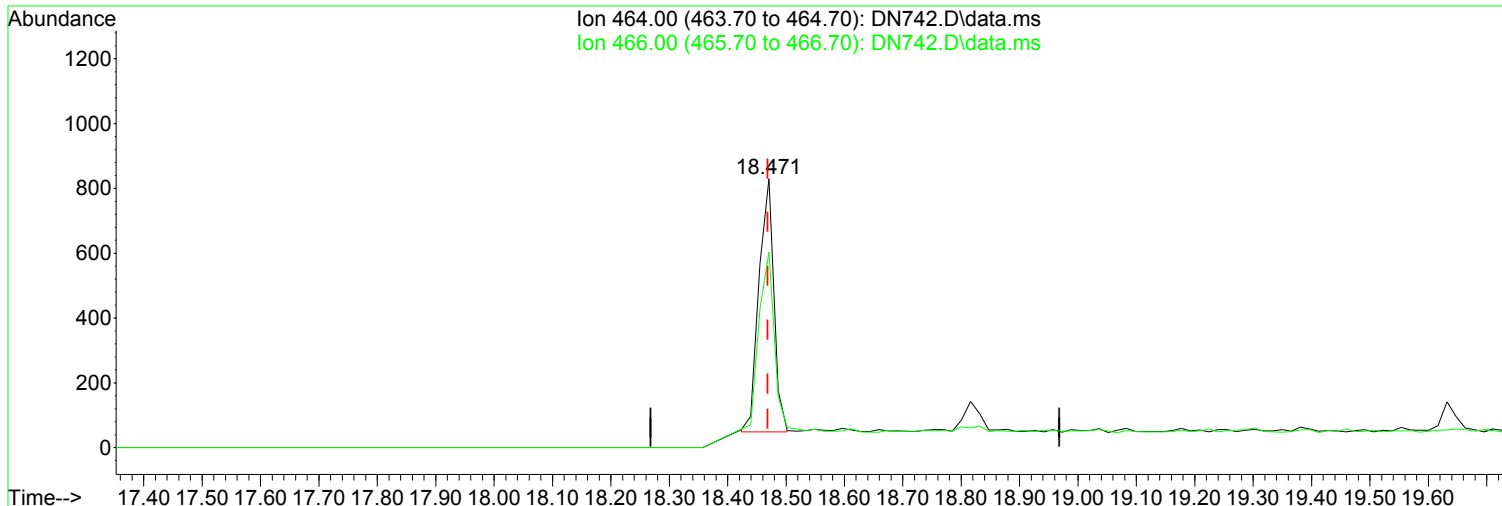
Quant Time: Feb 22 08:04:26 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Thu Feb 21 12:03:45 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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)

Manual Integration:

18.471min (+ 0.002) 0.04 ppm m

After

response 1395

Poor integration.

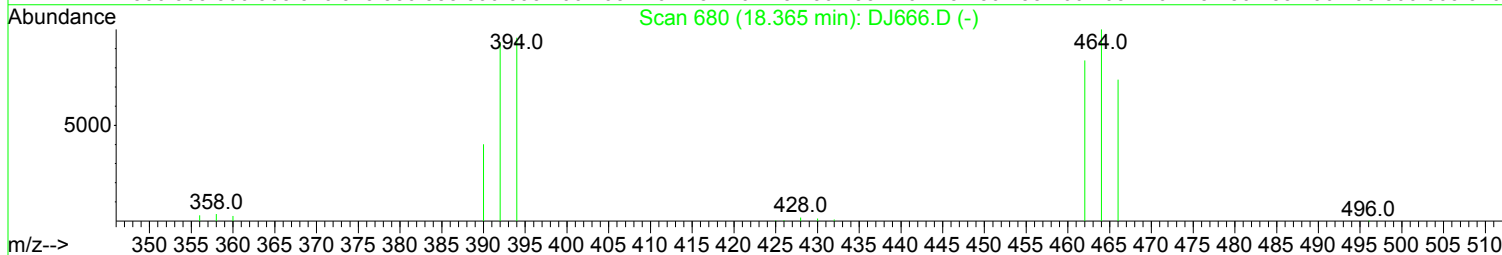
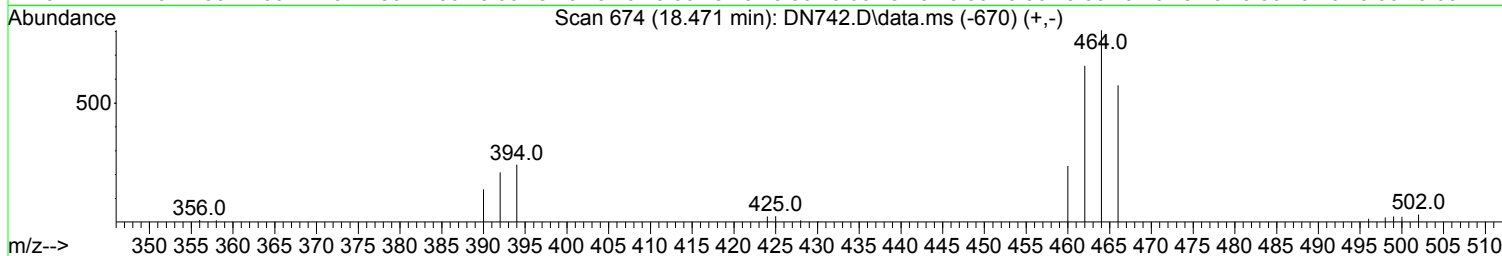
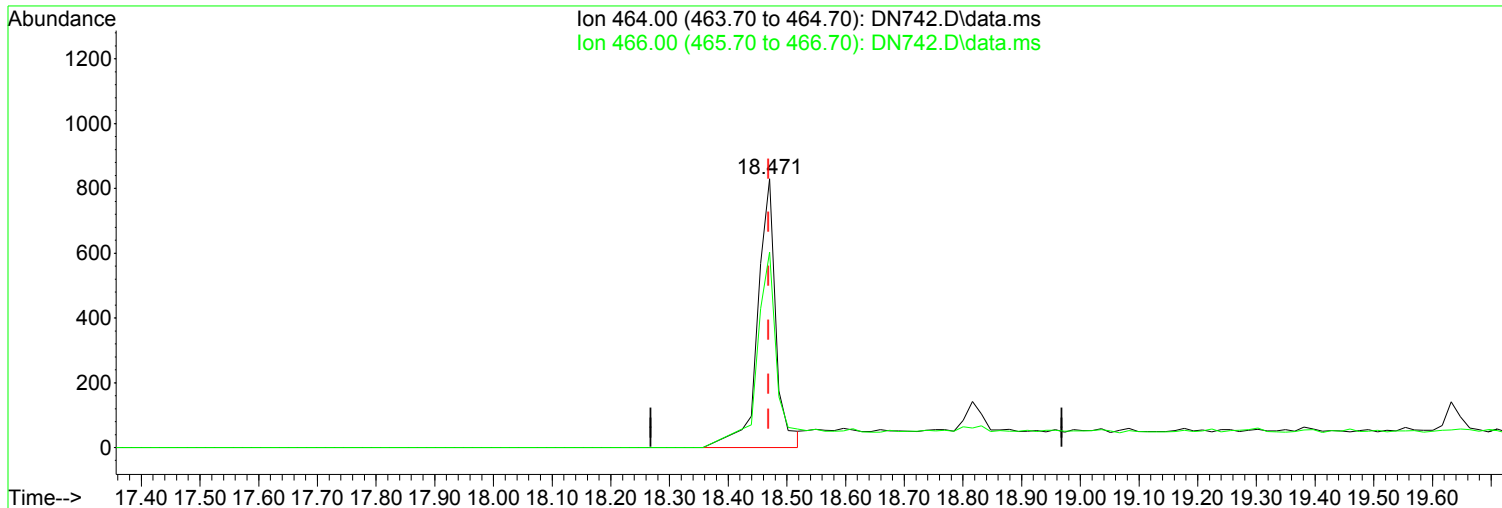
02/22/19

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

APPENDIX D - Laboratory Reports

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)

Manual Integration:

18.471min (+ 0.002) 0.06 ppm

Before

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

02/22/19

APPENDIX D - Laboratory Reports

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

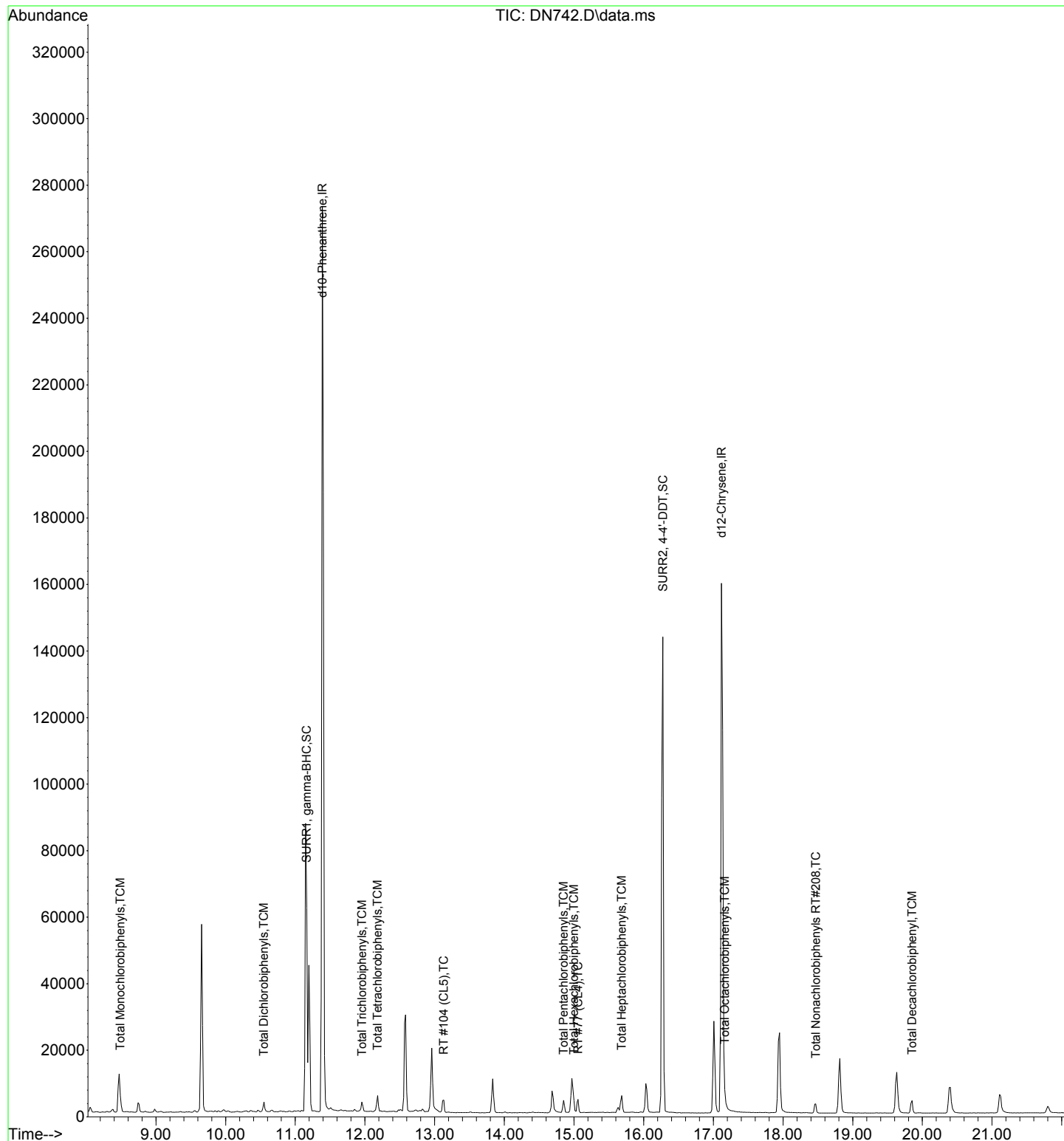
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	326782	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	248882	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.164	219	35225	0.87	ppm	0.01
Spiked Amount	1.000	Range 55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports

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

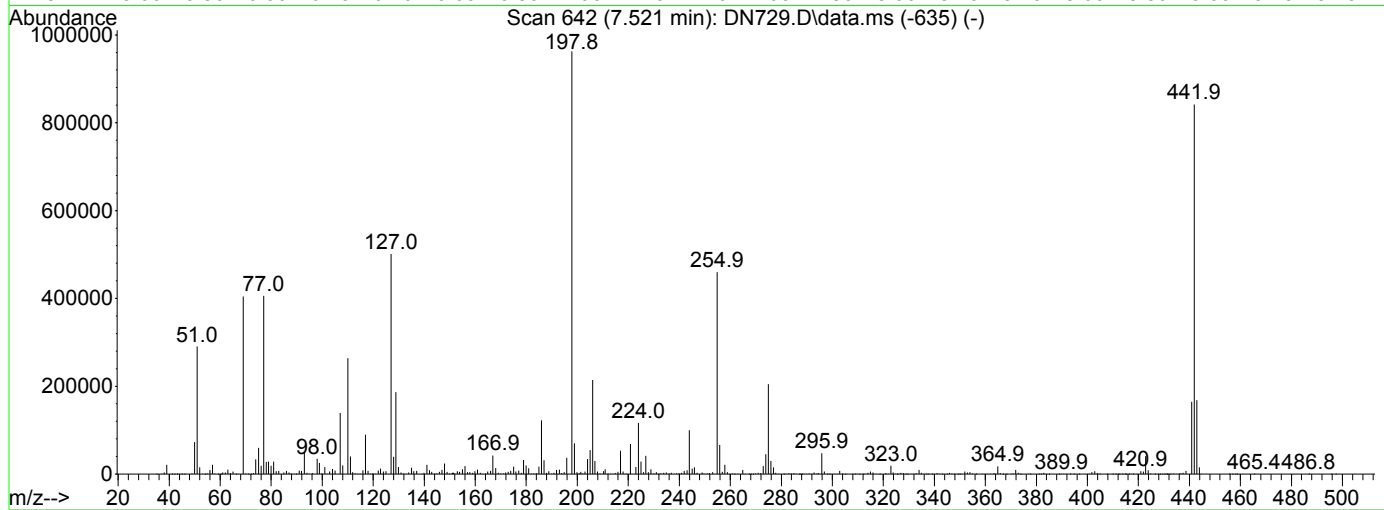
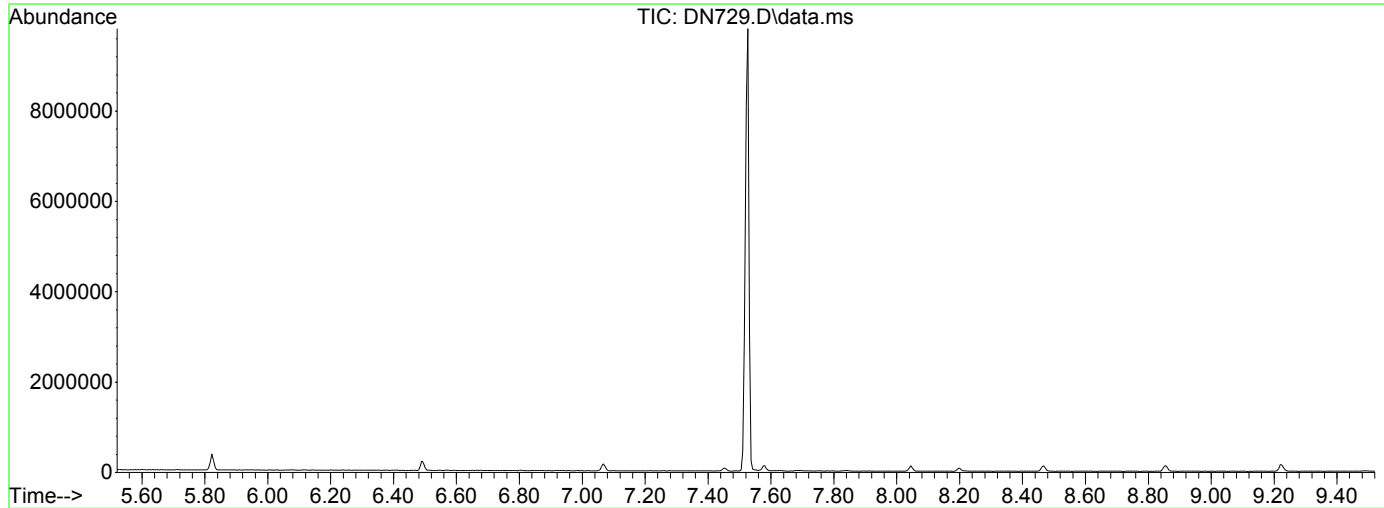


APPENDIX D - Laboratory Reports

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

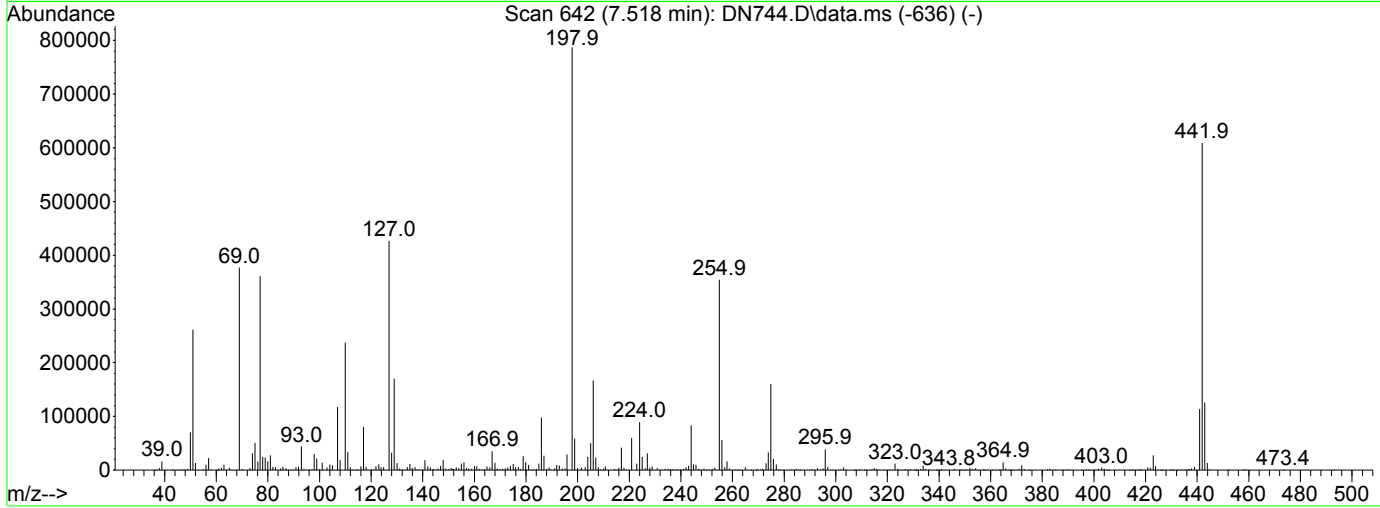
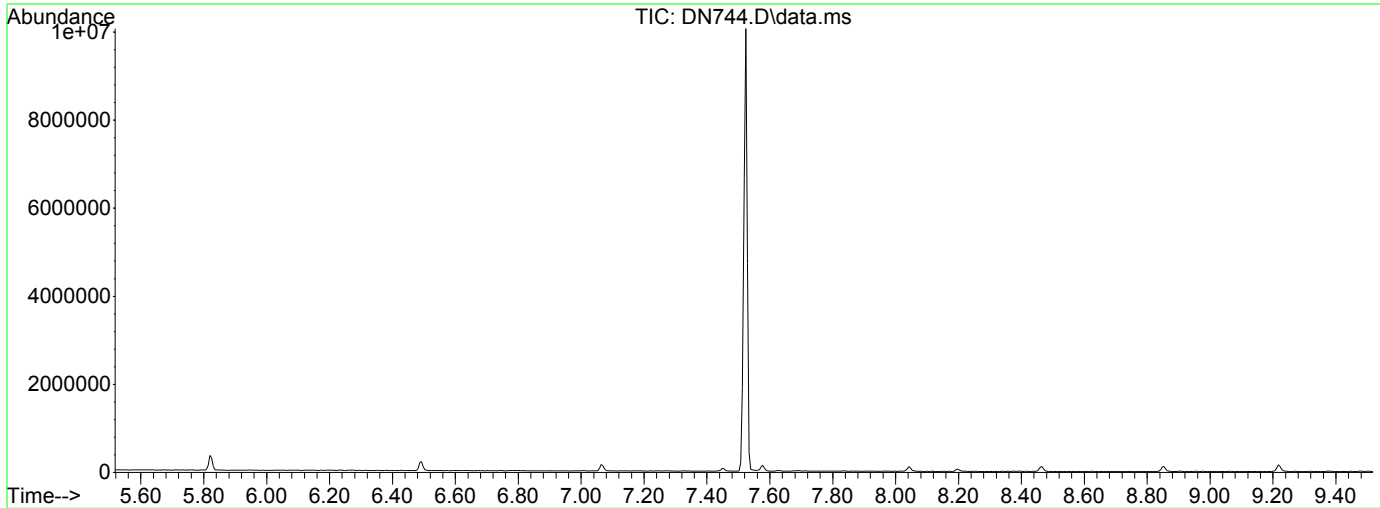
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
127	198	40	60	52.1	501120	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	962582	PASS
199	198	5	9	7.3	69944	PASS
275	198	10	30	21.3	204992	PASS
365	198	1	100	1.8	17568	PASS
441	443	0.01	100	97.8	164544	PASS
442	198	50	110	87.5	841856	PASS
443	442	17	23	20.0	168192	PASS

APPENDIX D - Laboratory Reports

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

APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

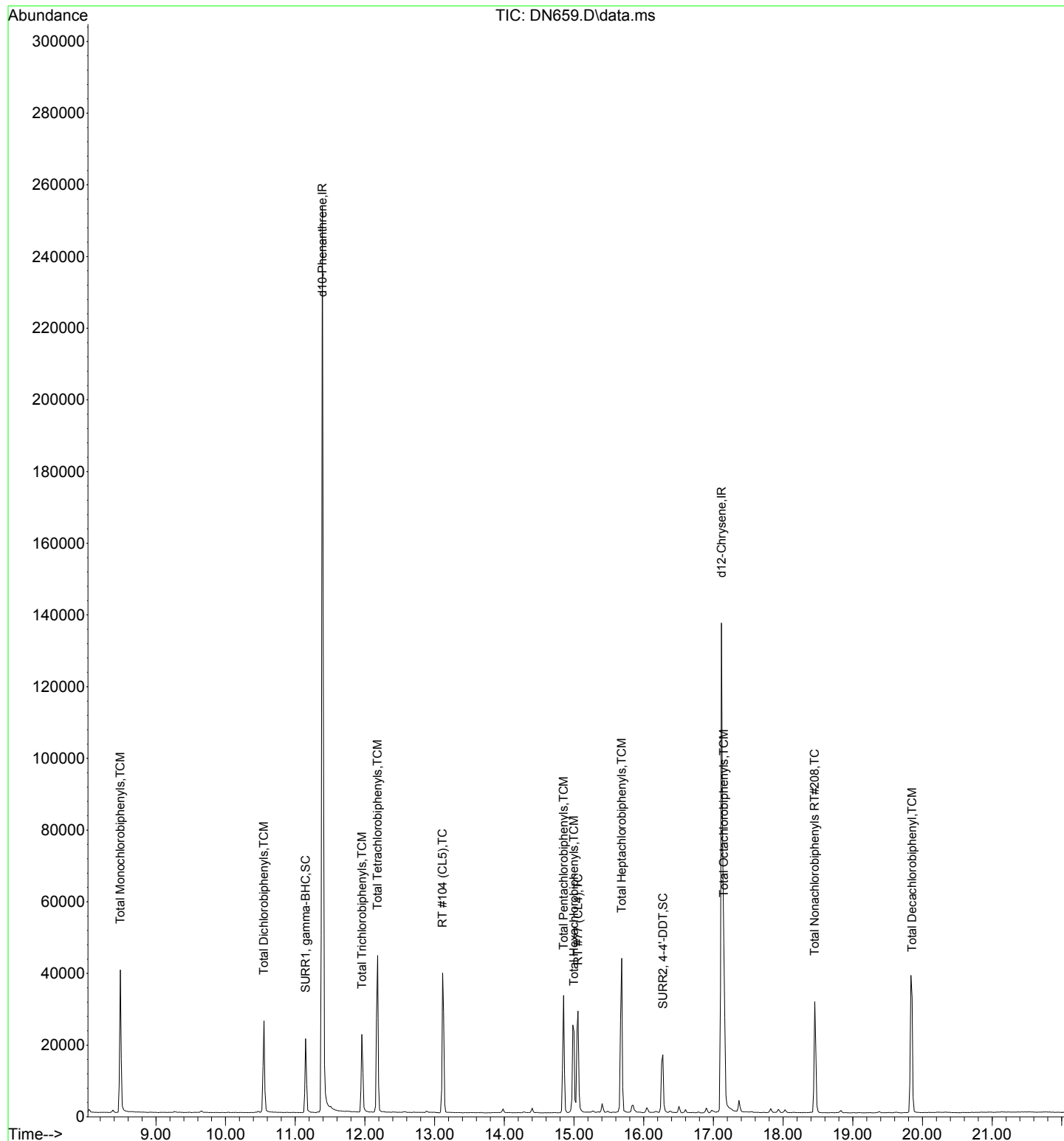
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.389	188	292260	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	209335	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.149	219	6428	0.19	ppm	0.00
Spiked Amount	1.000	Range 55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports

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



APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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:\ACQUADATA\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#

APPENDIX D - Laboratory Reports

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#

APPENDIX D - Laboratory Reports

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#

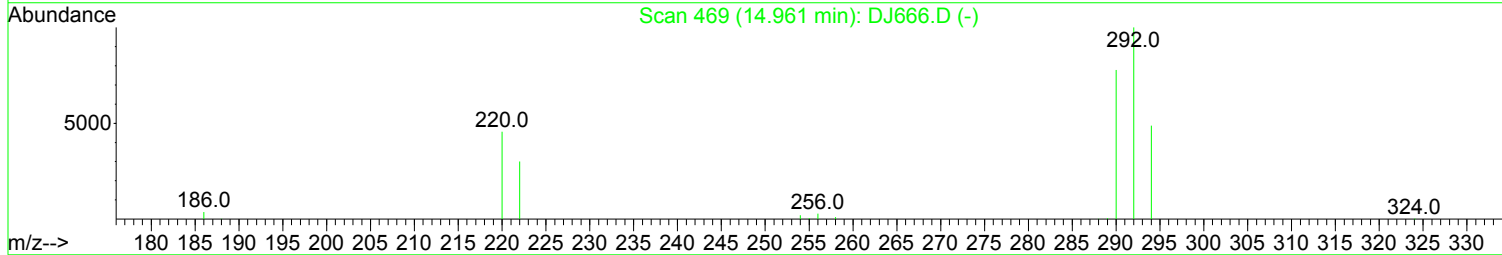
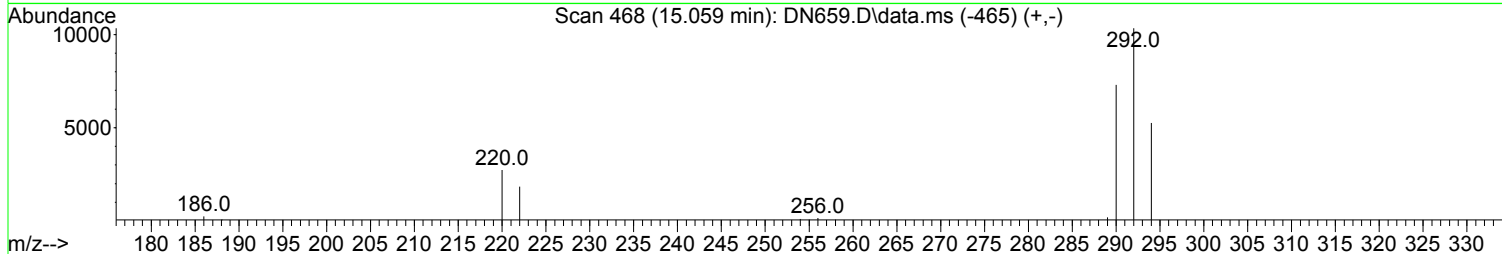
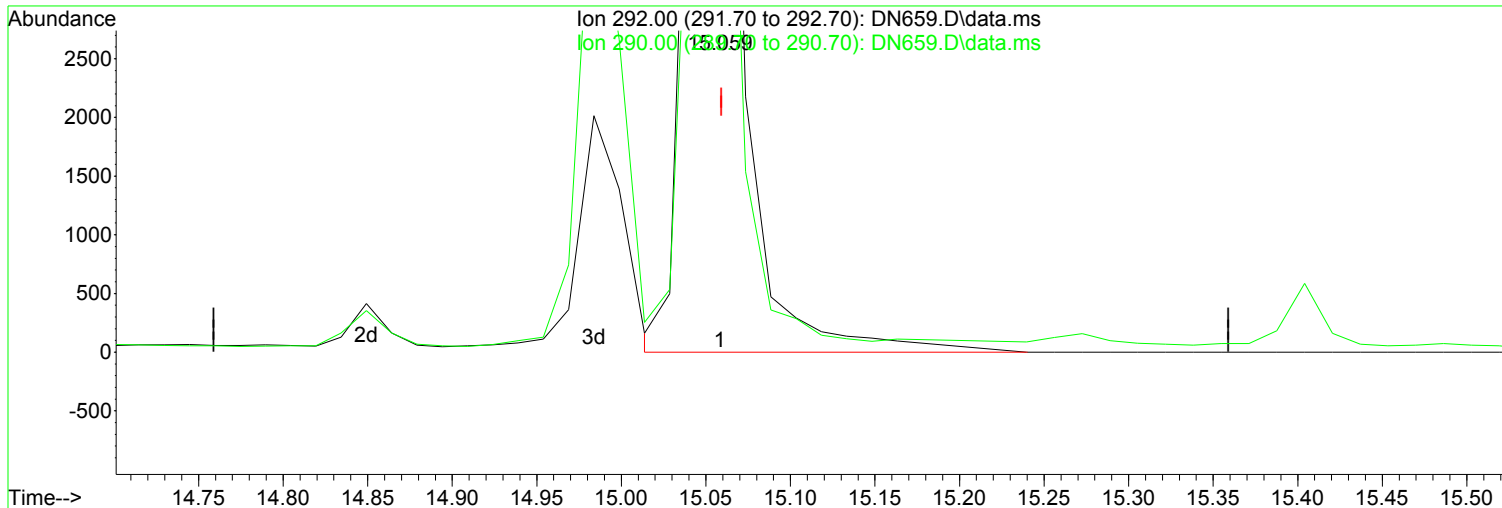
(#) = Out of Range

SPCC's out = 0 CCC's out = 0

APPENDIX D - Laboratory Reports

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)

Manual Integration:

15.059min (-0.001) 0.28 ppm

Before

response 26053

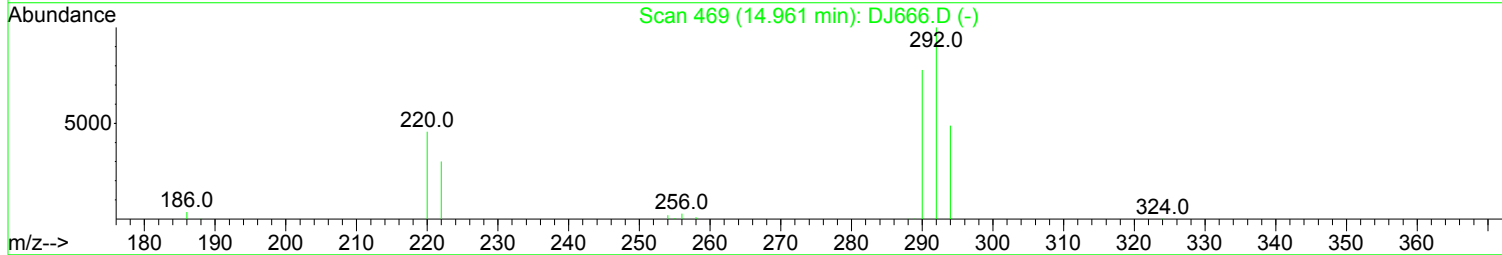
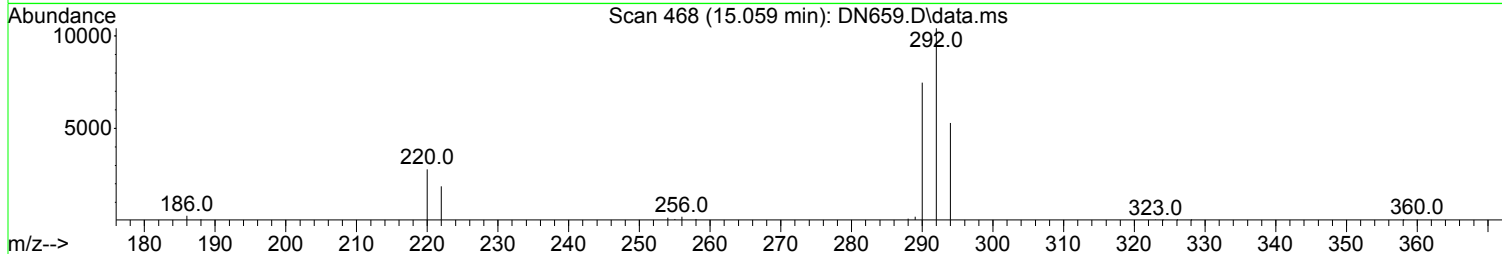
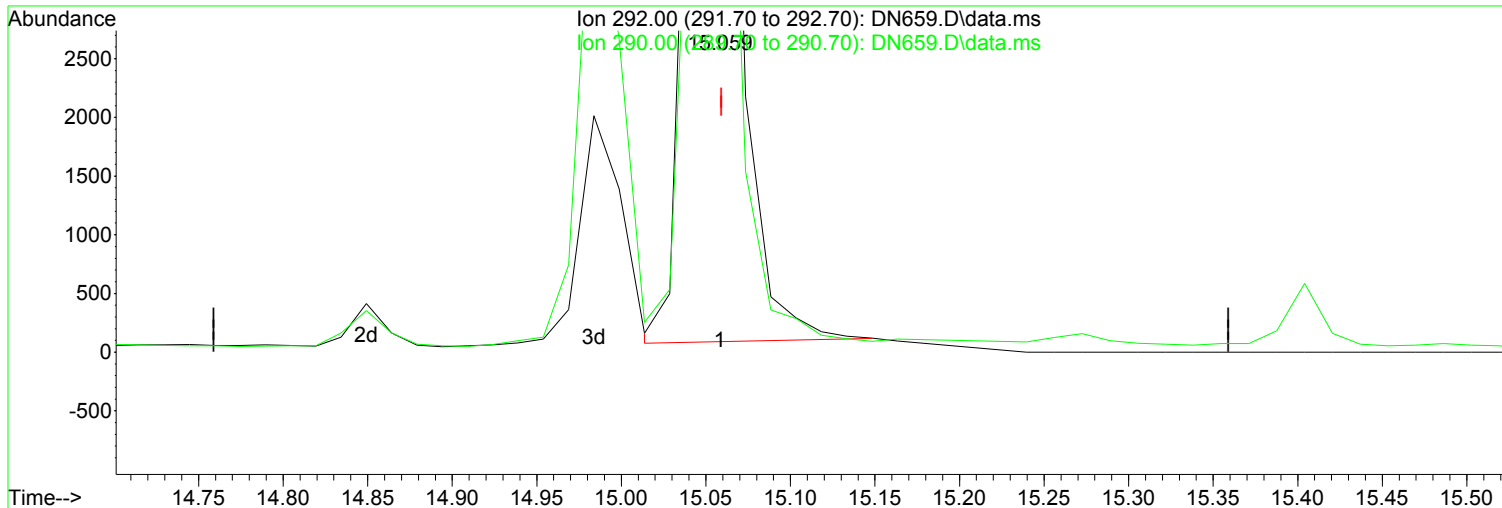
Ion	Exp%	Act%
292.00	100.00	100.00
290.00	78.40	70.65
0.00	0.00	0.00
0.00	0.00	0.00

02/21/19

APPENDIX D - Laboratory Reports

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

APPENDIX D - Laboratory Reports

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

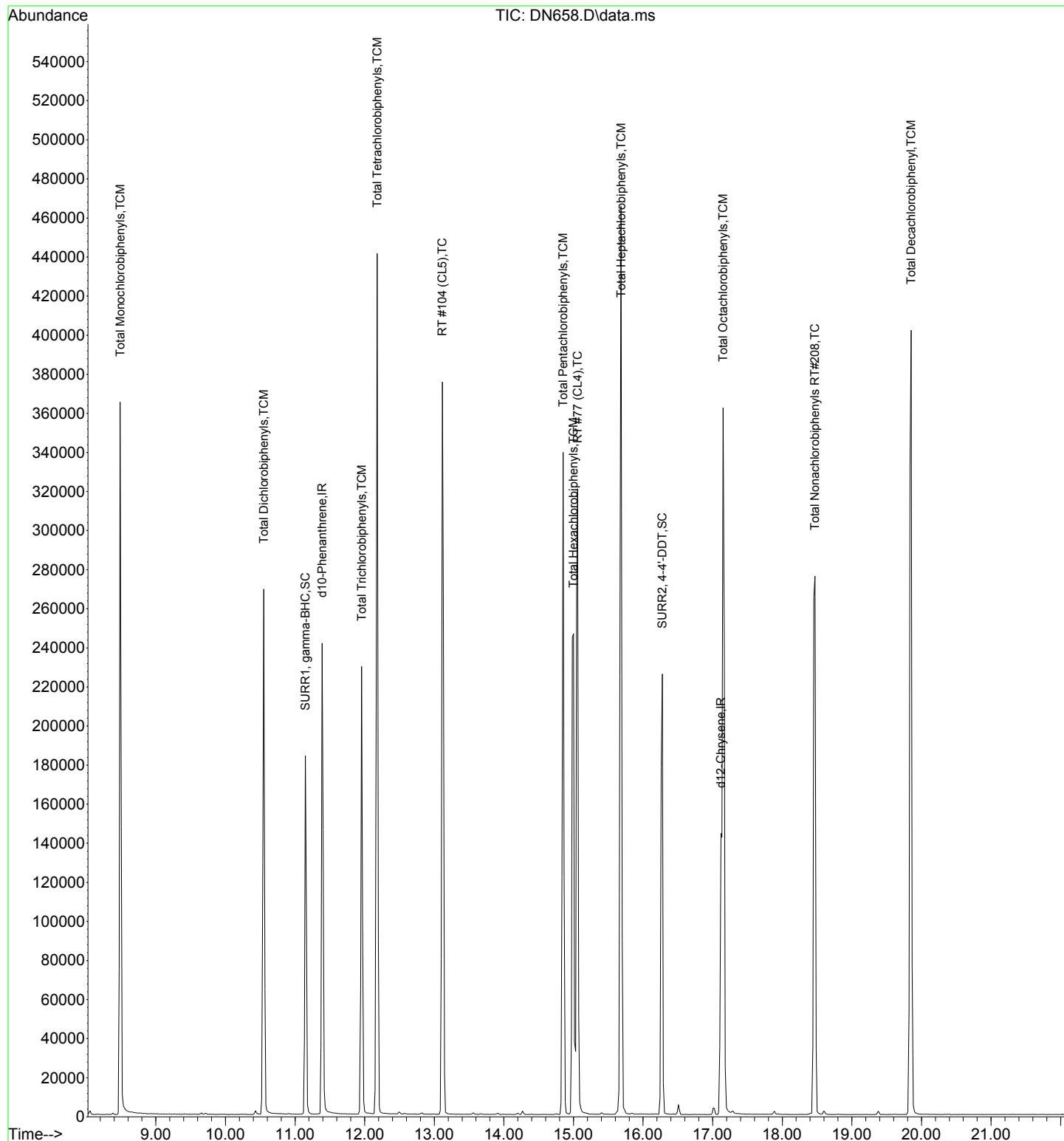
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	285136	0.75	ppm	0.00
2) d12-Chrysene	17.118	240	217072	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.148	219	64612	1.84	ppm	0.00
Spiked Amount	1.000	Range 55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports

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



APPENDIX D - Laboratory Reports

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

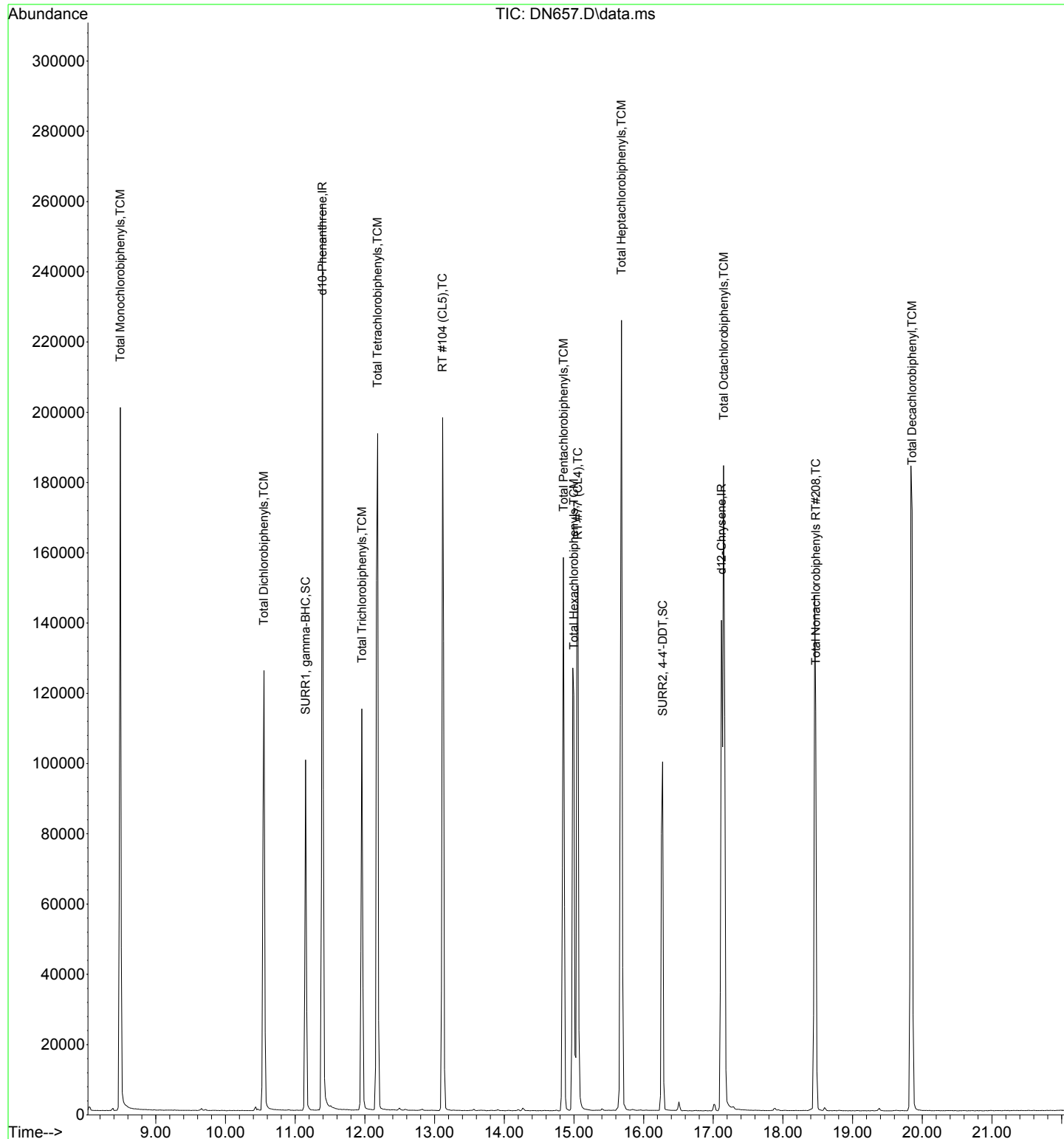
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.391	188	280609	0.75	ppm	0.00
2) d12-Chrysene	17.118	240	206682	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.151	219	32242	0.96	ppm	0.00
Spiked Amount	1.000	Range 55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports

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



APPENDIX D - Laboratory Reports

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

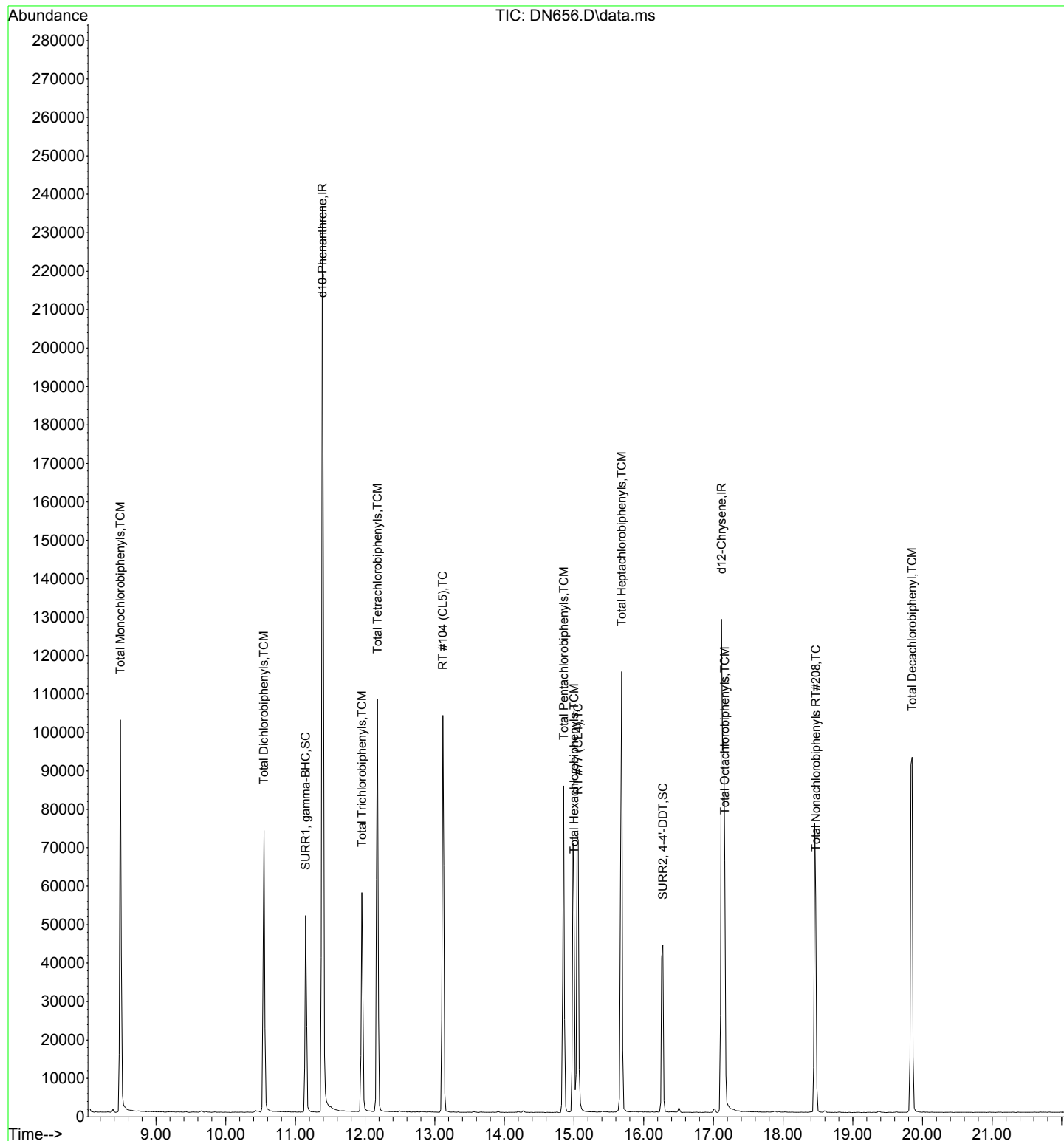
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.387	188	291048	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	206113	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.148	219	16932	0.51	ppm	0.00
Spiked Amount	1.000	Range 55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports

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

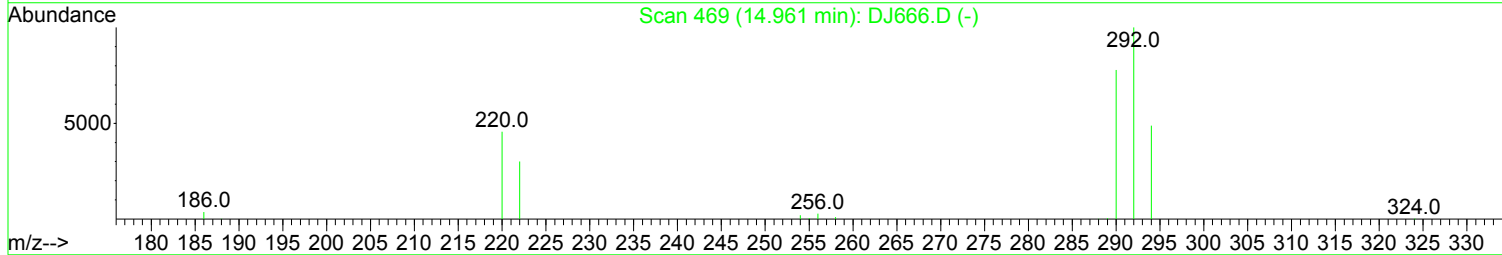
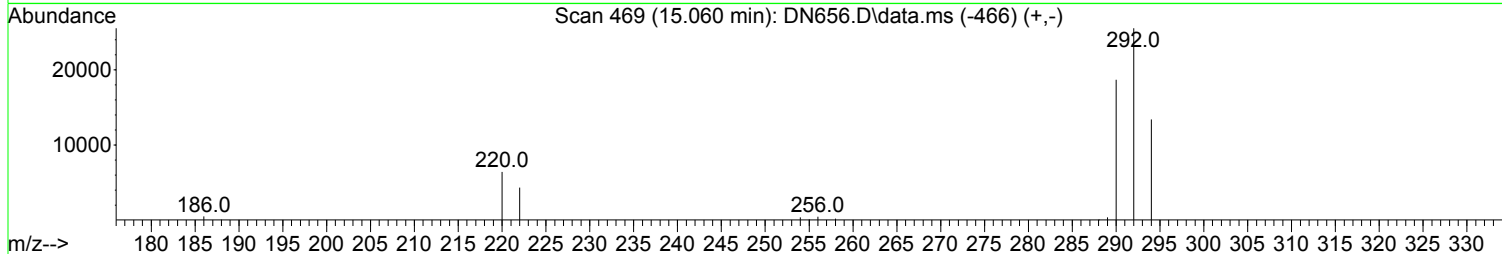
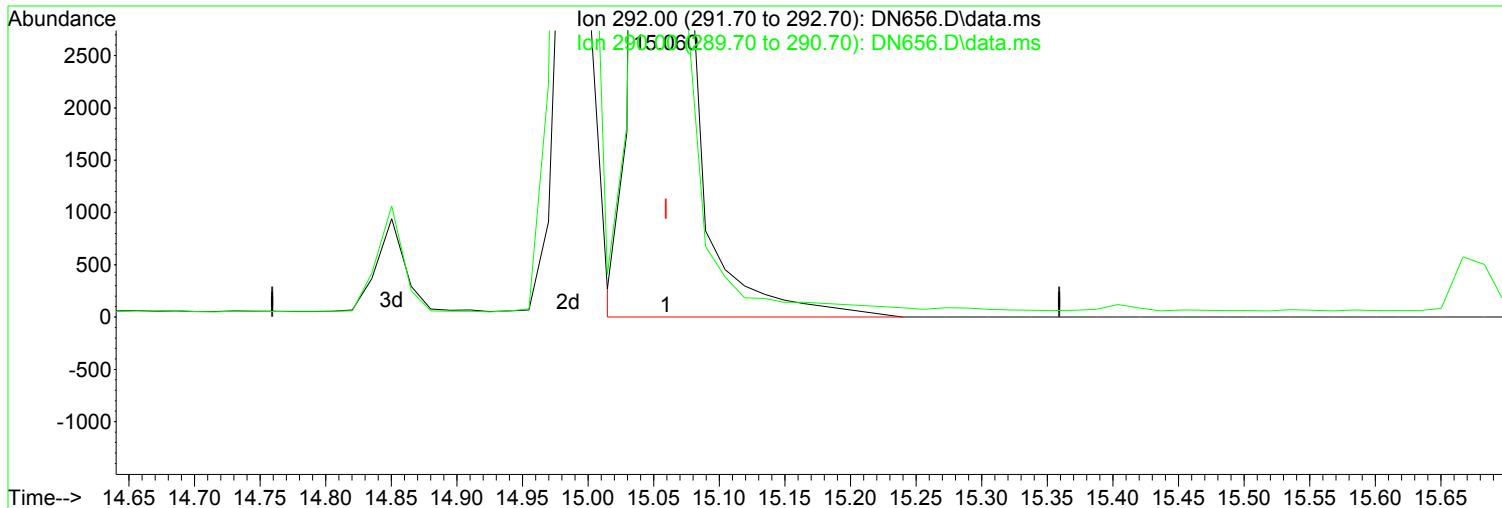
Quant Time: Feb 21 11:54:59 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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)

Manual Integration:

15.060min (+ 0.000) 0.73 ppm

Before

response 66987

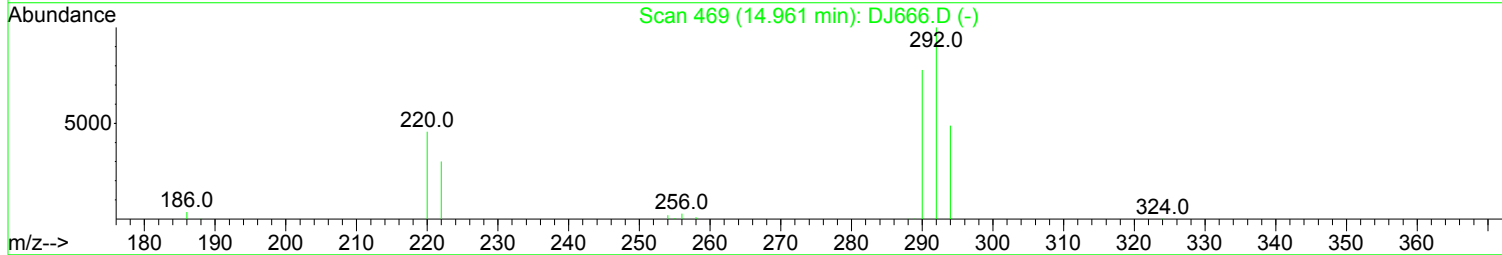
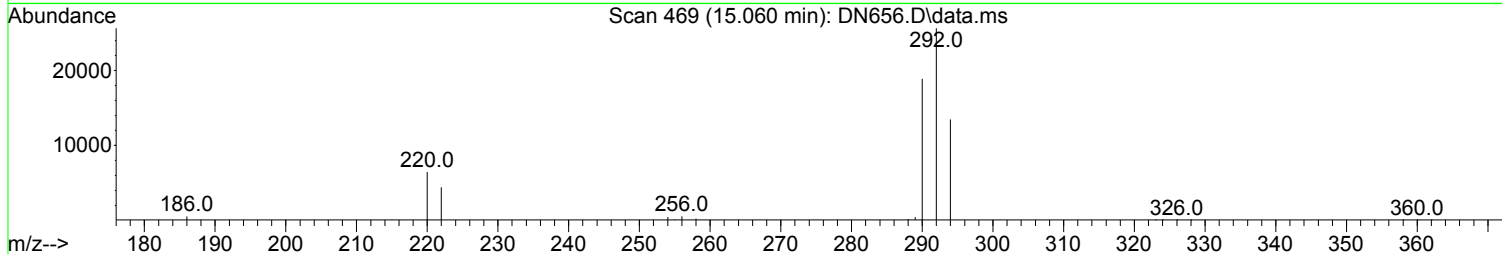
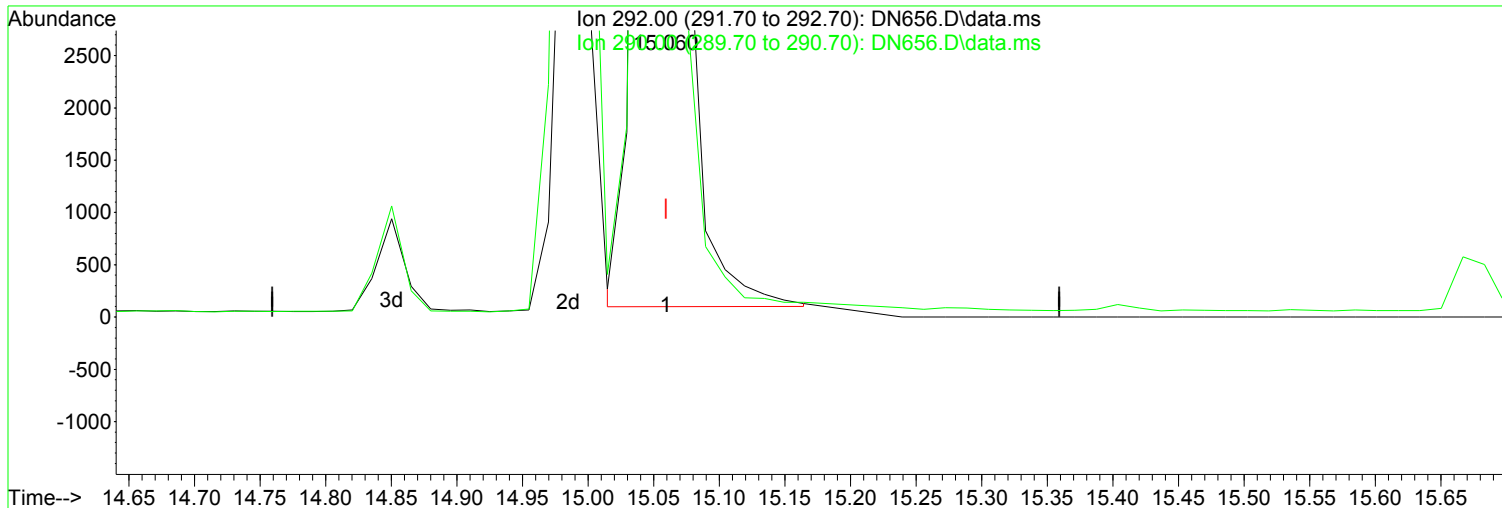
Ion	Exp%	Act%
292.00	100.00	100.00
290.00	78.40	73.09
0.00	0.00	0.00
0.00	0.00	0.00

02/21/19

APPENDIX D - Laboratory Reports

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



(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

APPENDIX D - Laboratory Reports

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

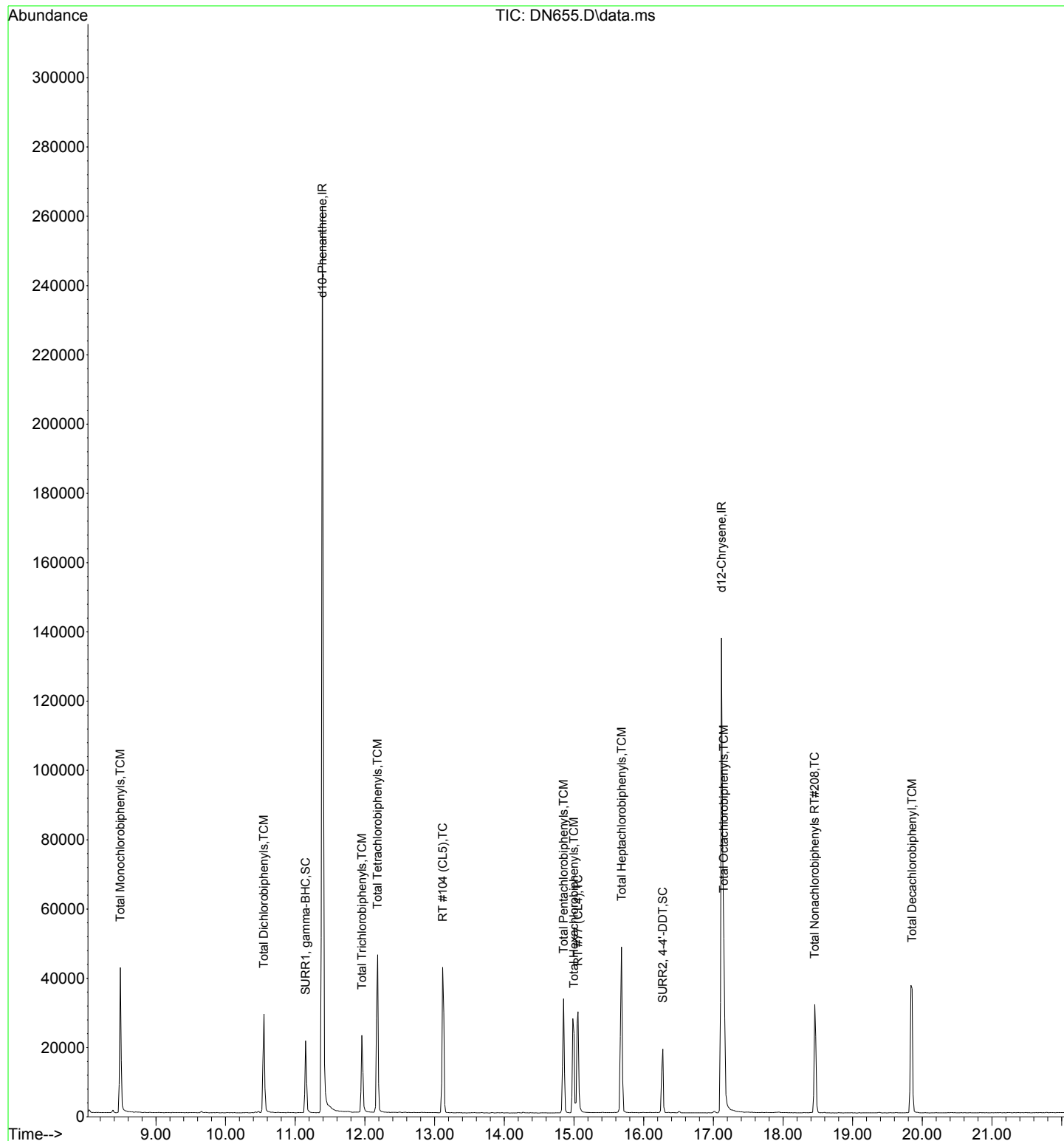
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	306820	0.75	ppm	0.00
2) d12-Chrysene	17.118	240	212029	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.149	219	7048	0.21	ppm	0.00
Spiked Amount	1.000	Range 55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports

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



APPENDIX D - Laboratory Reports

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

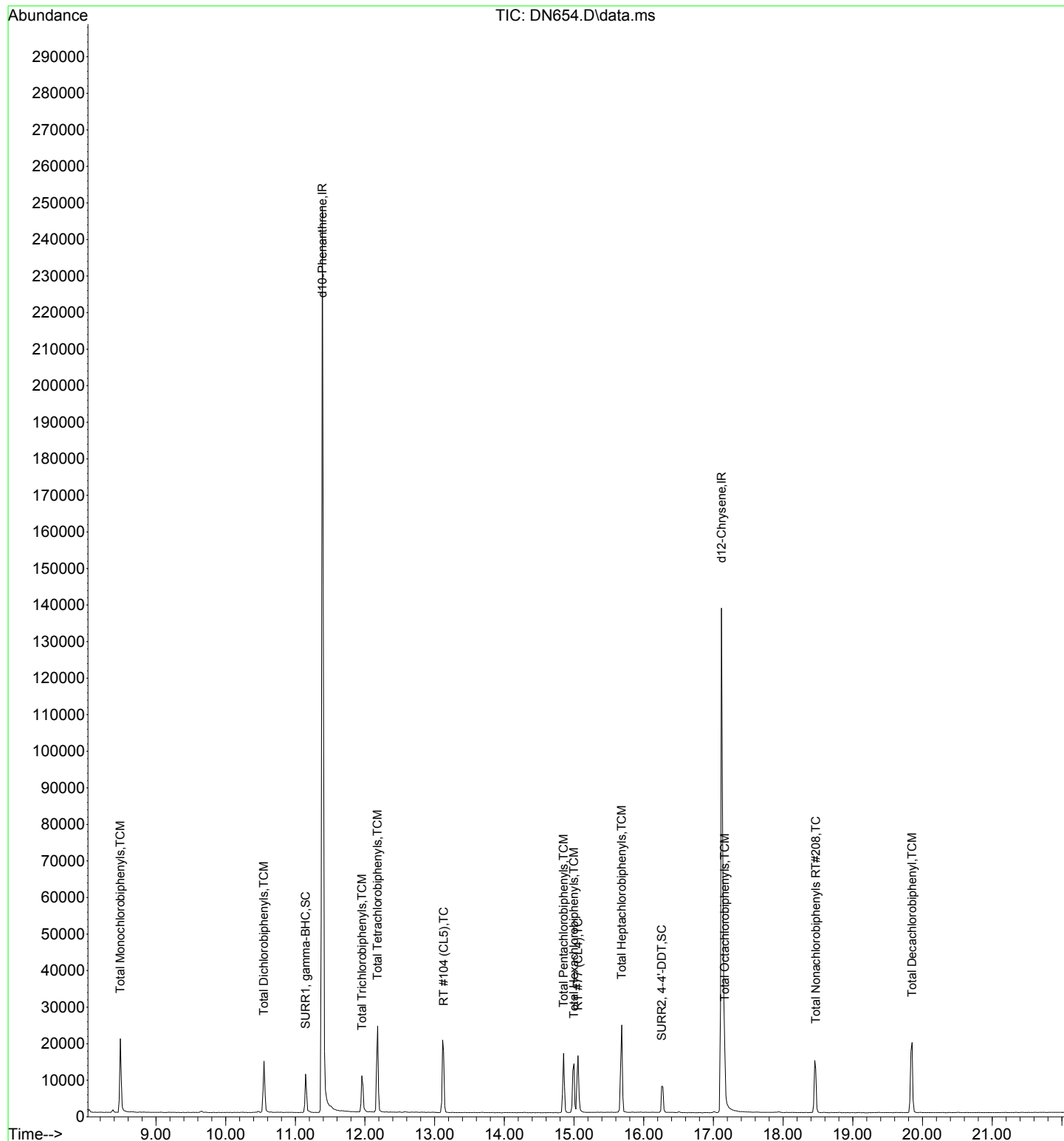
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	303818	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	212429	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.149	219	3476	0.10	ppm	0.00
Spiked Amount	1.000	Range 55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports

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

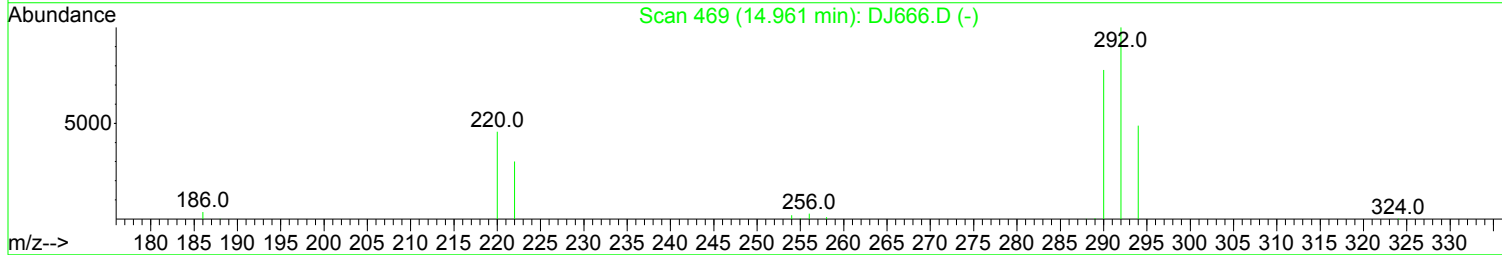
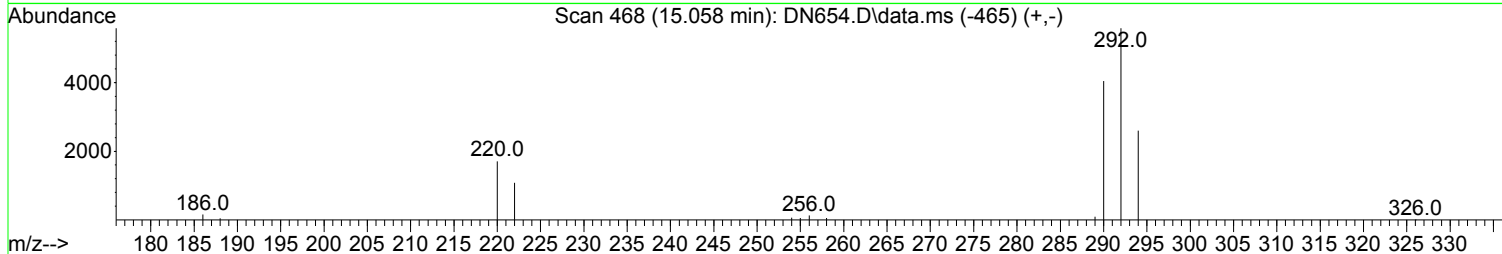
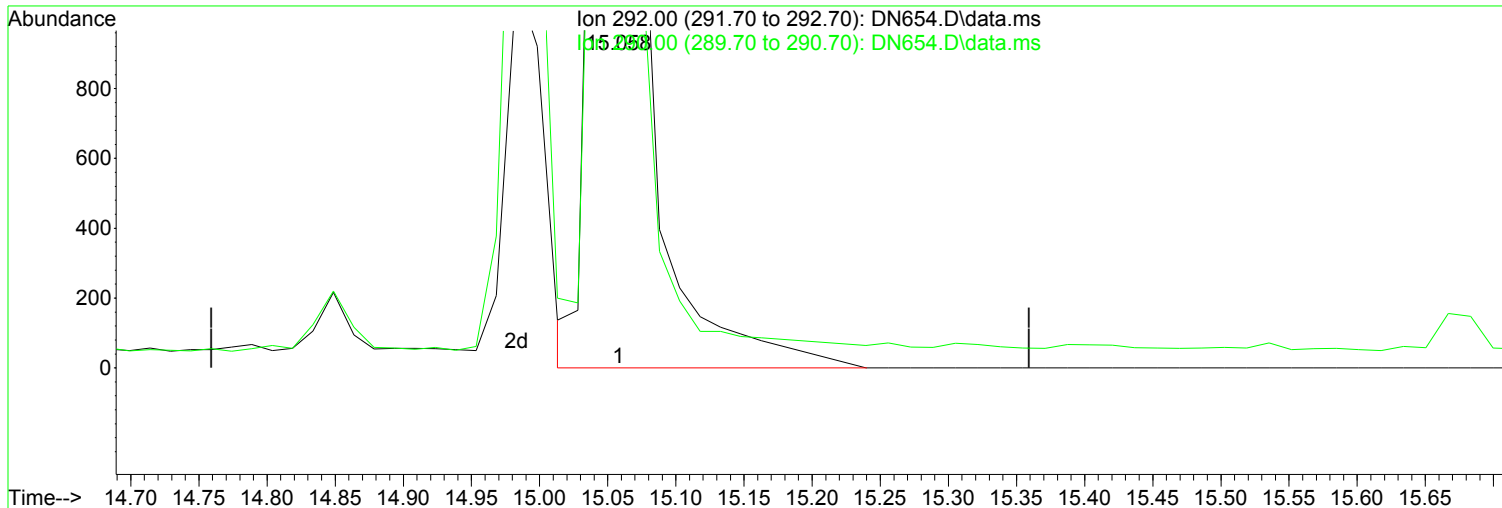
Quant Time: Feb 21 11:54:44 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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

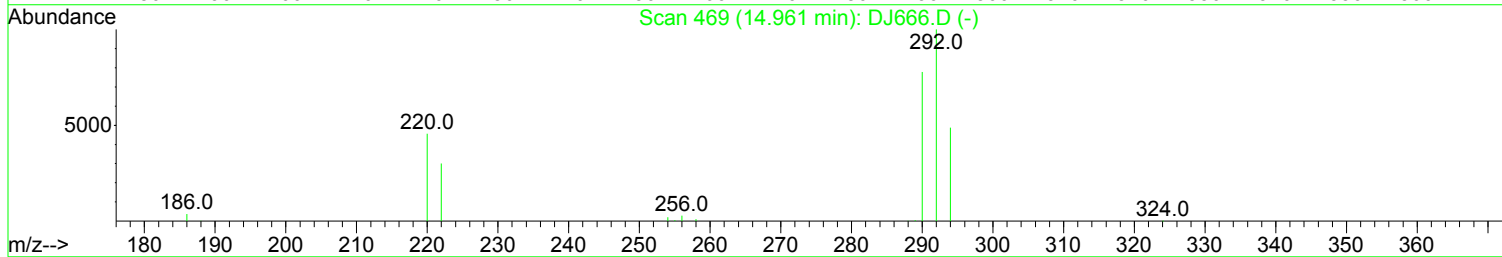
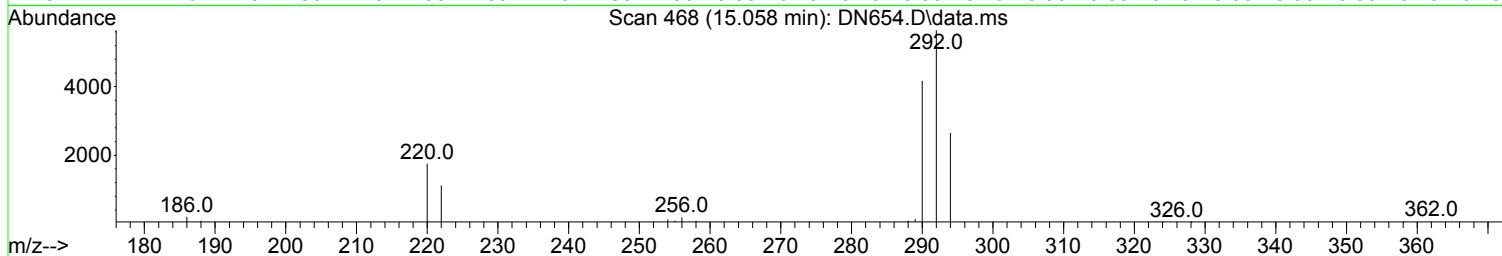
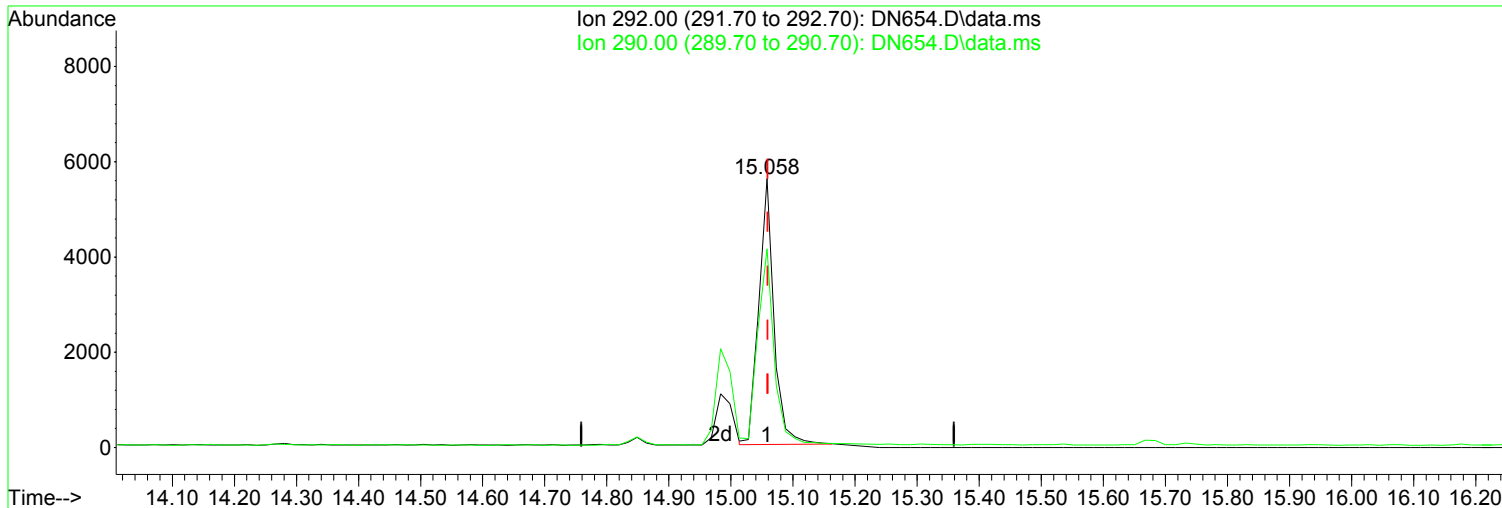
(11)	RT #77 (CL4) (TC)	
15.058min (-0.001)	0.15 ppm	
response	13853	
Ion	Exp%	Act%
292.00	100.00	100.00
290.00	78.40	72.41
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
Before
02/21/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

15.058min (-0.001) 0.10 ppm m

After

response 9457

Poor integration.

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

02/21/19

APPENDIX D - Laboratory Reports

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

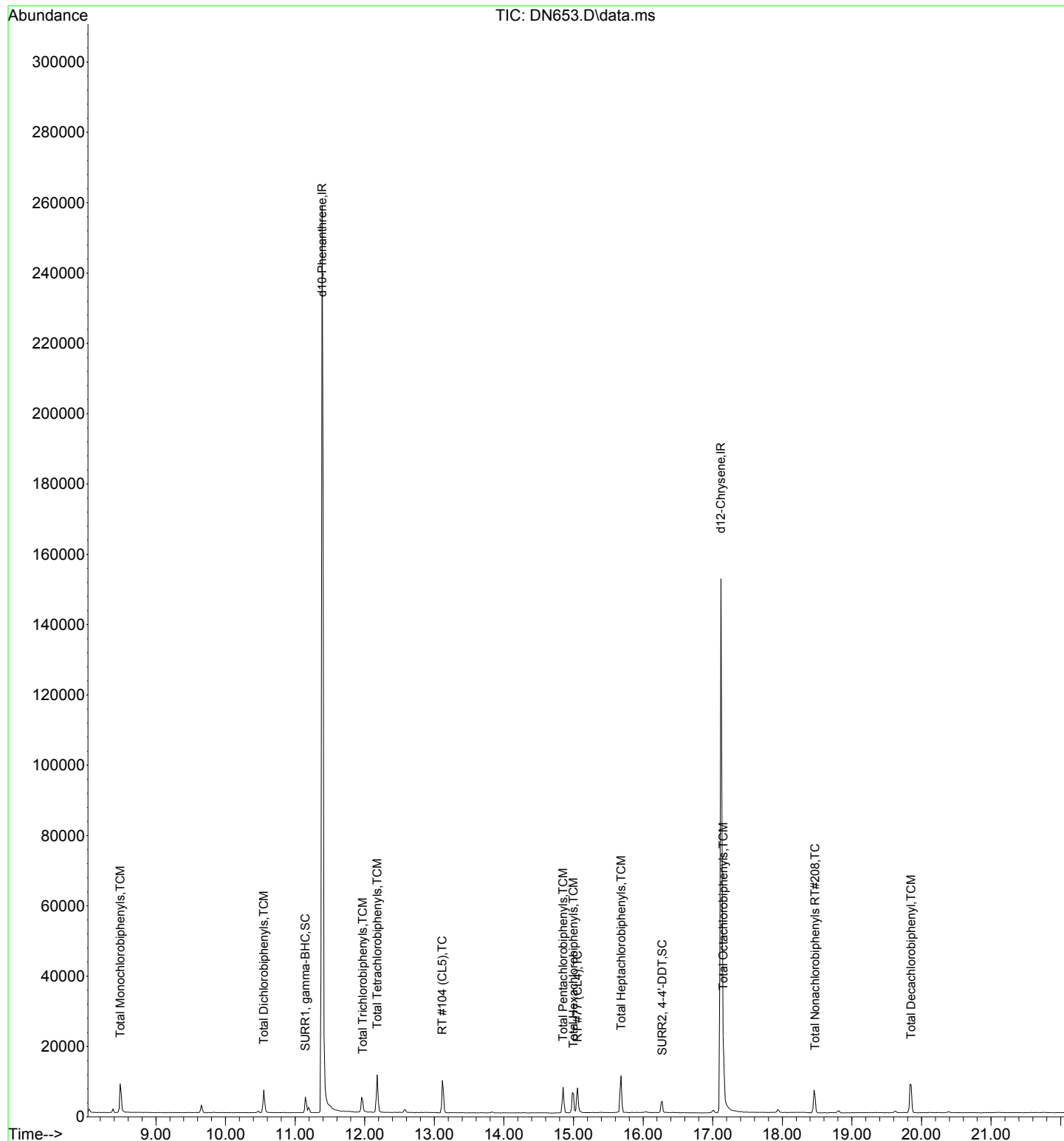
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.386	188	331954	0.75	ppm	0.00
2) d12-Chrysene	17.118	240	231294	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.147	219	1502	0.04	ppm	0.00
Spiked Amount	1.000	Range 55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports

Data Path : I:\ACQDATA\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

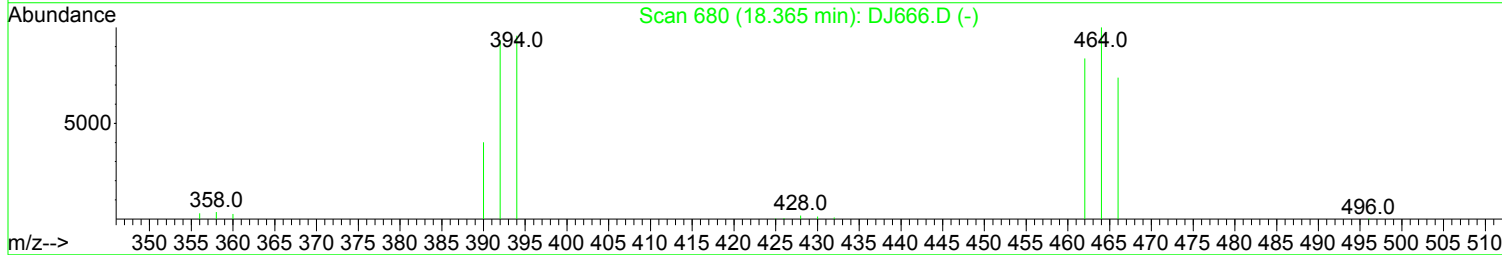
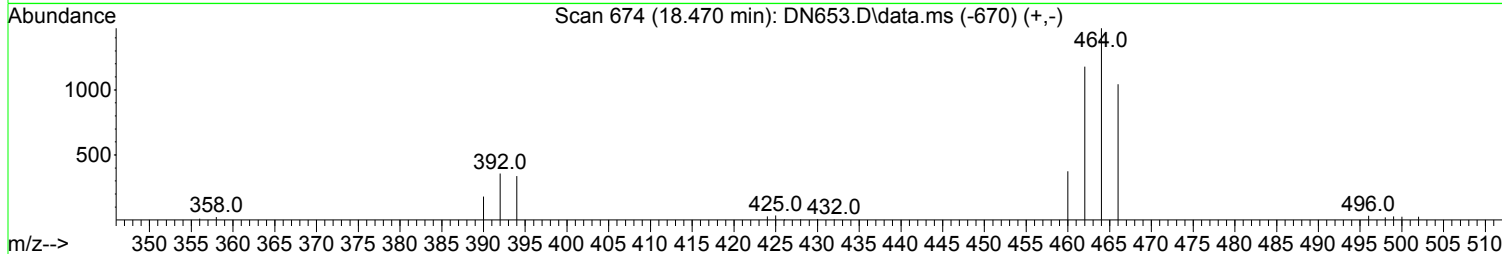
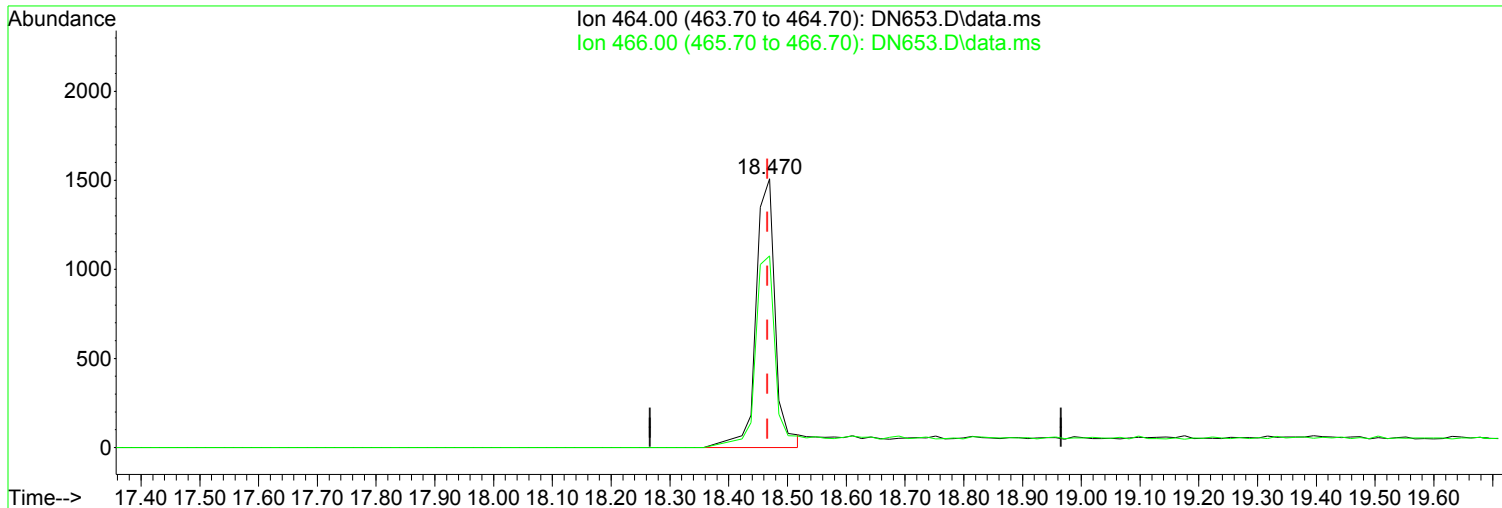
Quant Time: Feb 21 11:54:37 2019
Quant Method : I:\ACQDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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)

Manual Integration:

18.470min (+ 0.004) 0.13 ppm

Before

response 4804

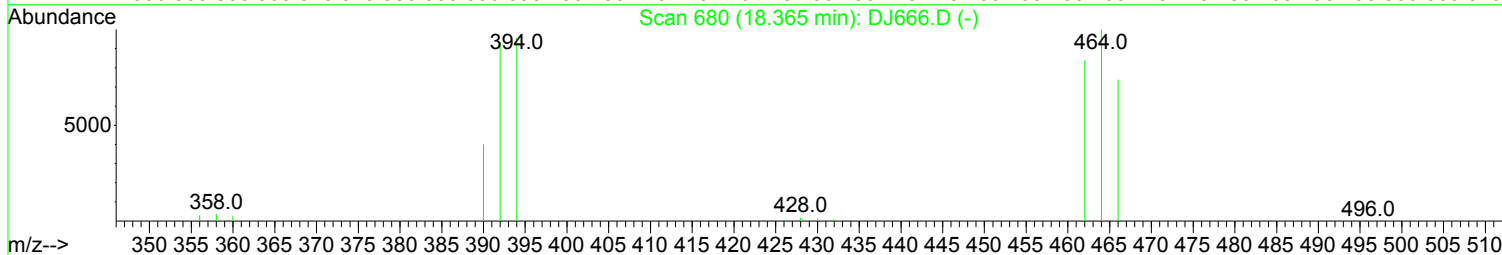
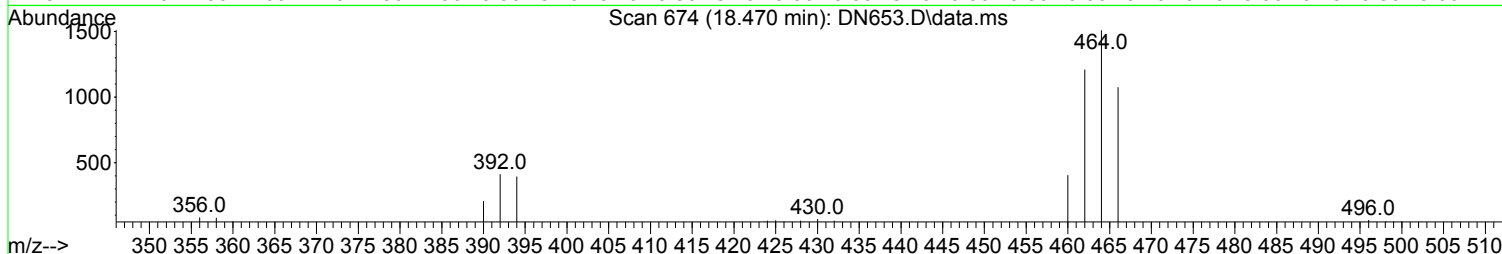
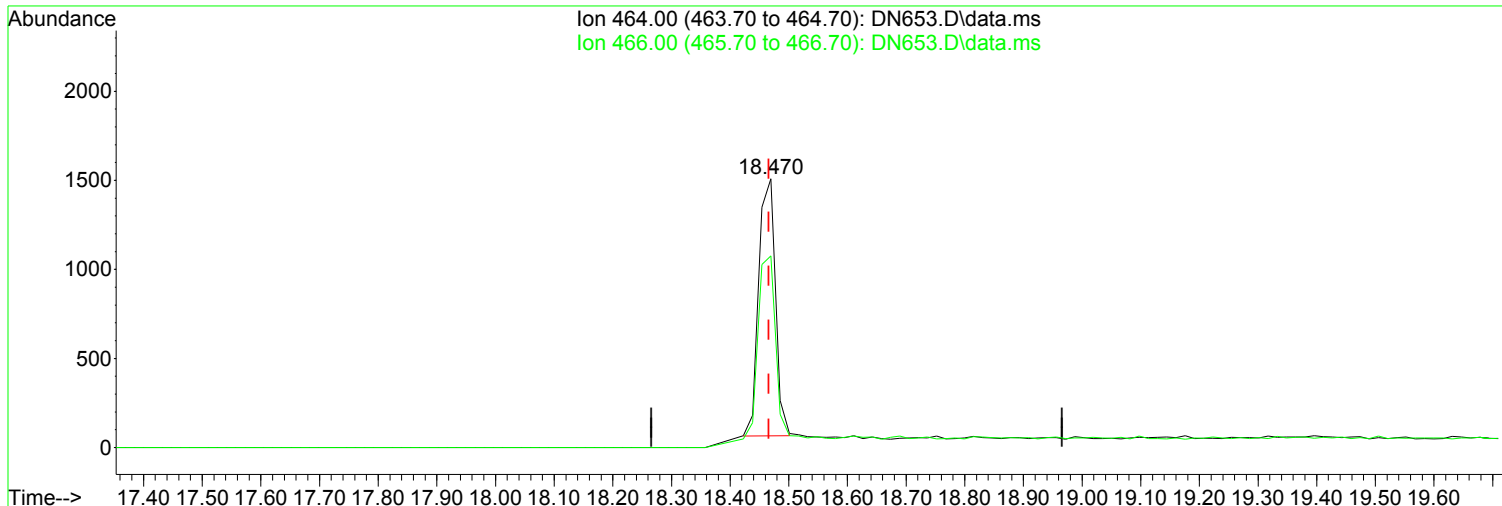
Ion	Exp%	Act%
464.00	100.00	100.00
466.00	78.30	70.77
0.00	0.00	0.00
0.00	0.00	0.00

02/21/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

18.470min (+ 0.004) 0.08 ppm m

After

response 2876

Poor integration.

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

02/21/19

APPENDIX D - Laboratory Reports

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

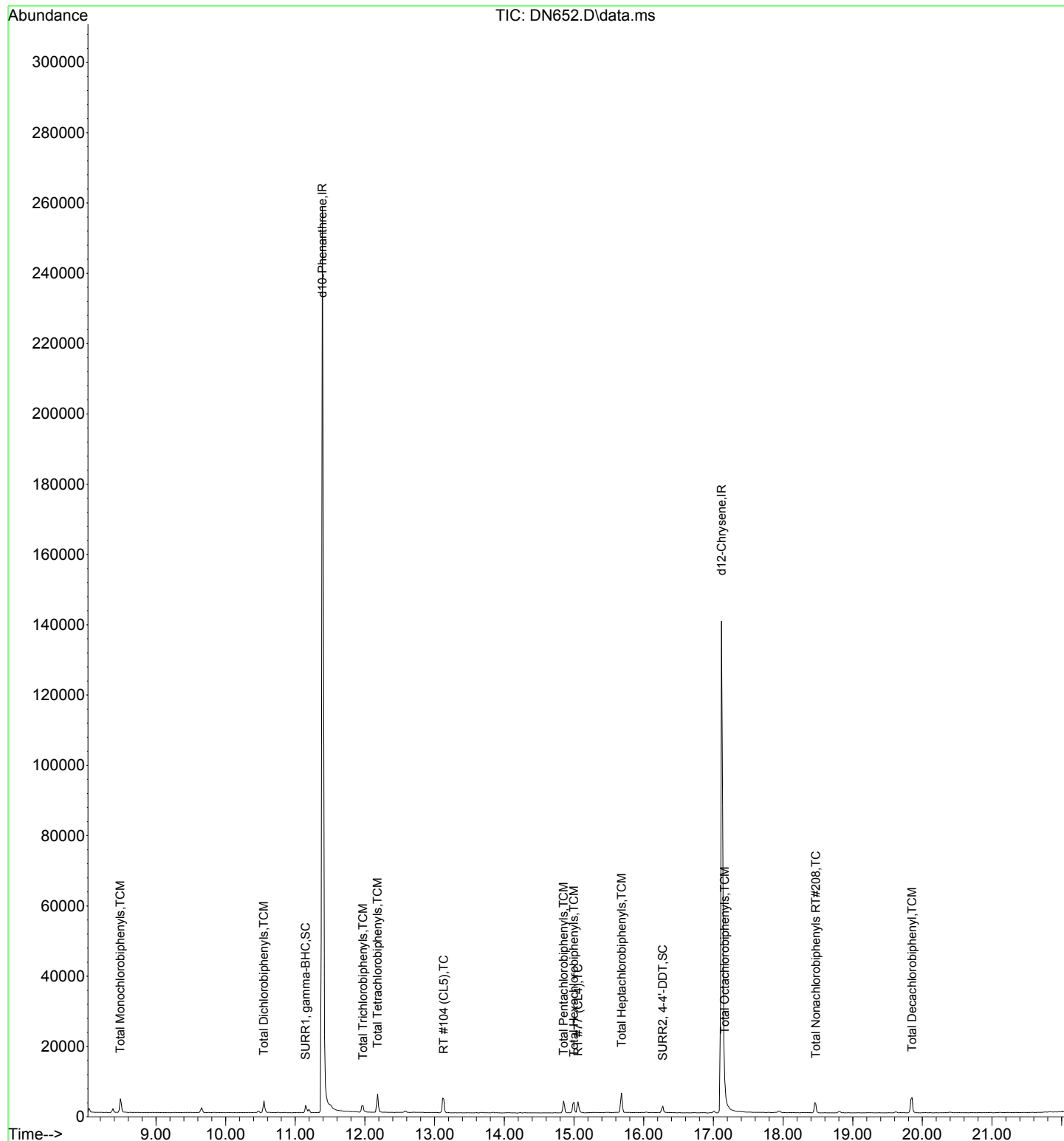
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.388	188	333223	0.75	ppm	0.00
2) d12-Chrysene	17.117	240	231191	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.149	219	841	0.02	ppm	0.00
Spiked Amount	1.000	Range 55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports

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

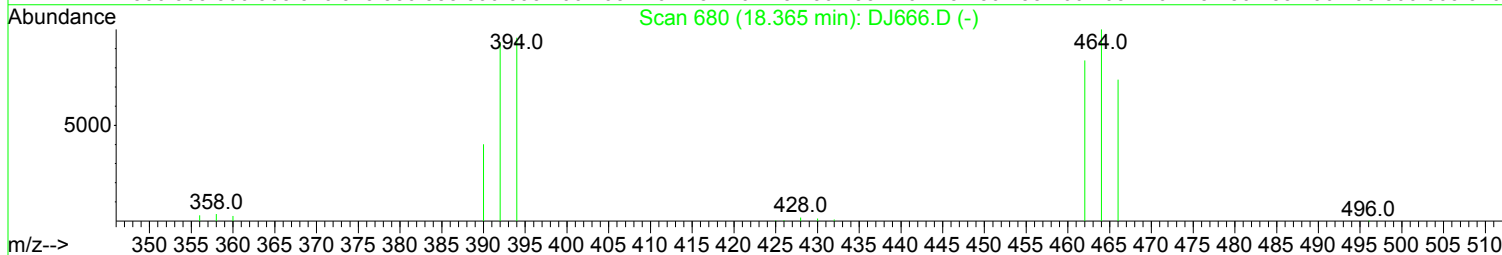
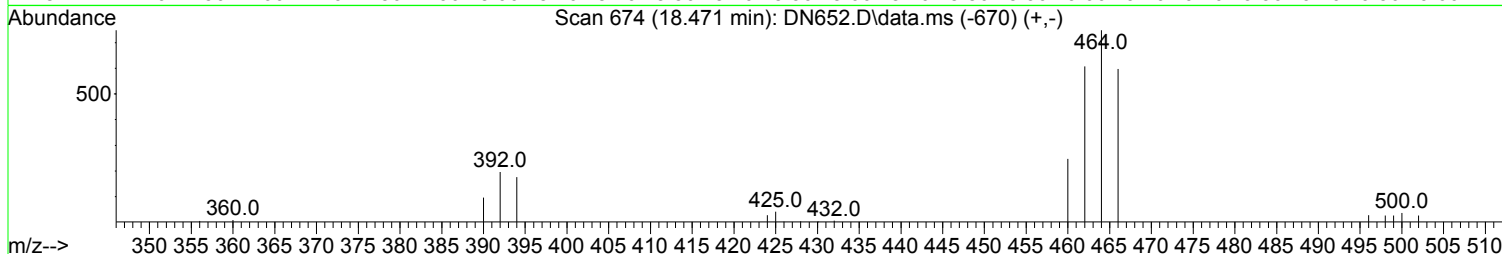
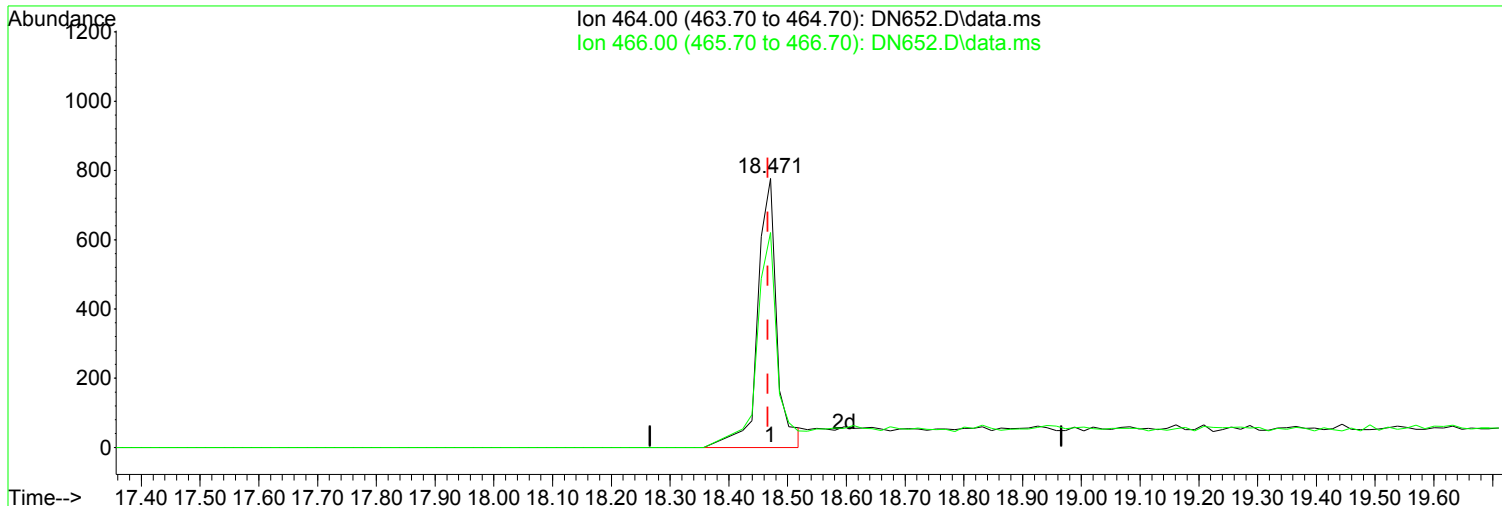
Quant Time: Feb 21 11:54:29 2019
Quant Method : I:\ACQUDATA\5973B\METHODS\680021919B.M
Quant Title : 680.PCB by SIM
QLast Update : Tue Feb 19 15:31:57 2019
Response via : Initial Calibration



APPENDIX D - Laboratory Reports

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)

Manual Integration:

18.471min (+ 0.005) 0.07 ppm

Before

response 2471

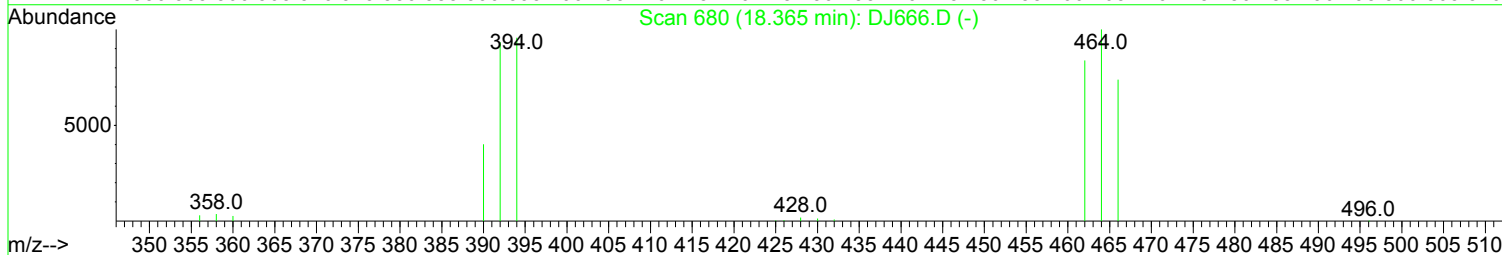
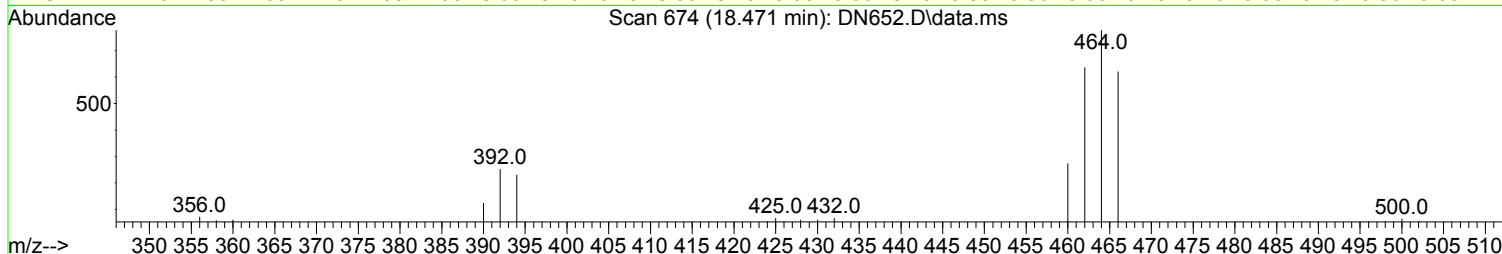
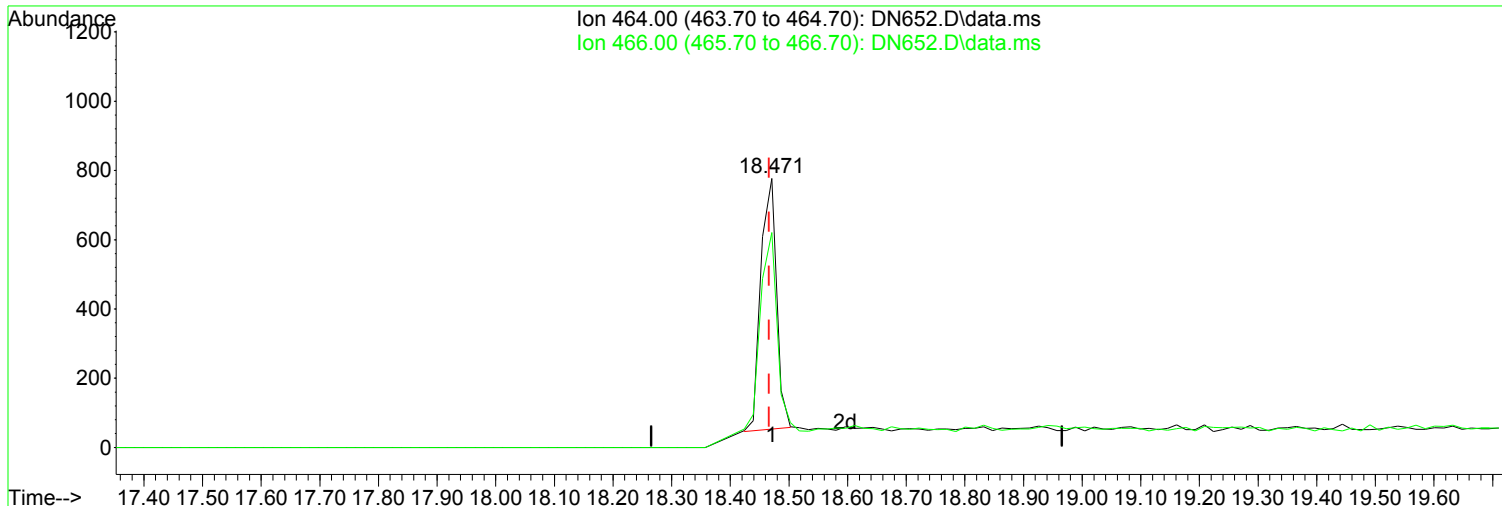
Ion	Exp%	Act%
464.00	100.00	100.00
466.00	78.30	79.76
0.00	0.00	0.00
0.00	0.00	0.00

02/21/19

APPENDIX D - Laboratory Reports

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)

Manual Integration:

18.471min (+ 0.005) 0.04 ppm m

After

response 1344

Poor integration.

02/21/19

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

APPENDIX D - Laboratory Reports

Data Path : I:\ACQUADATA\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:\ACQUADATA\5973B\METHODS\680021919B.M
 Quant Title : 680.PCB by SIM
 QLast Update : Thu Feb 21 12:03:45 2019
 Response via : Initial Calibration

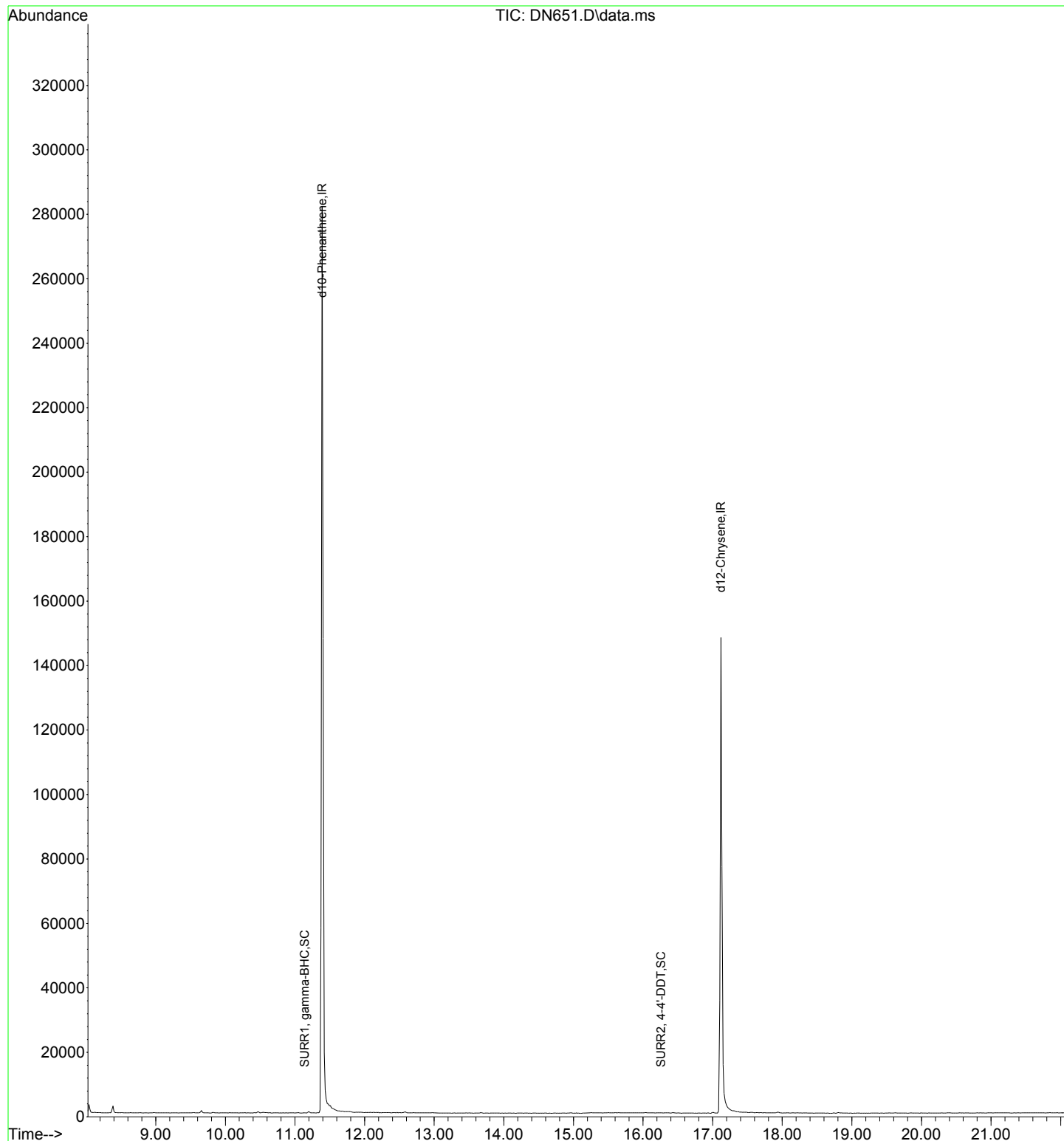
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) d10-Phenanthrene	11.389	188	340864	0.75	ppm	0.00
2) d12-Chrysene	17.118	240	232806	0.75	ppm	0.00
System Monitoring Compounds						
5) SURR1, gamma-BHC	11.135	219	54	0.00	ppm	-0.01
Spiked Amount	1.000	Range	55 - 133	Recovery	=	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

APPENDIX D - Laboratory Reports
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

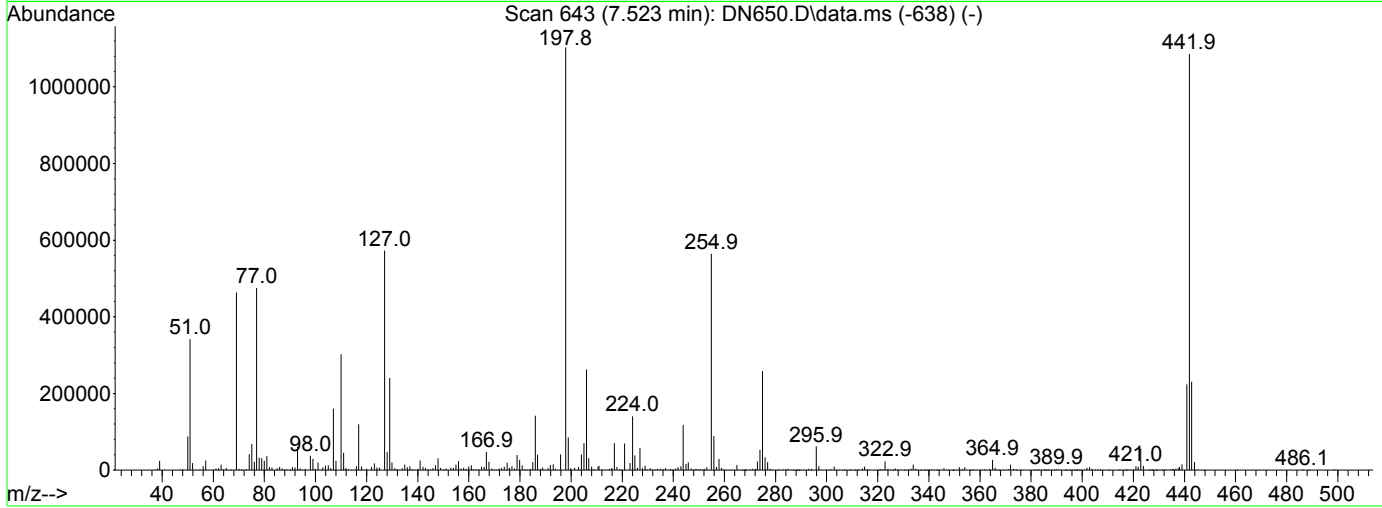
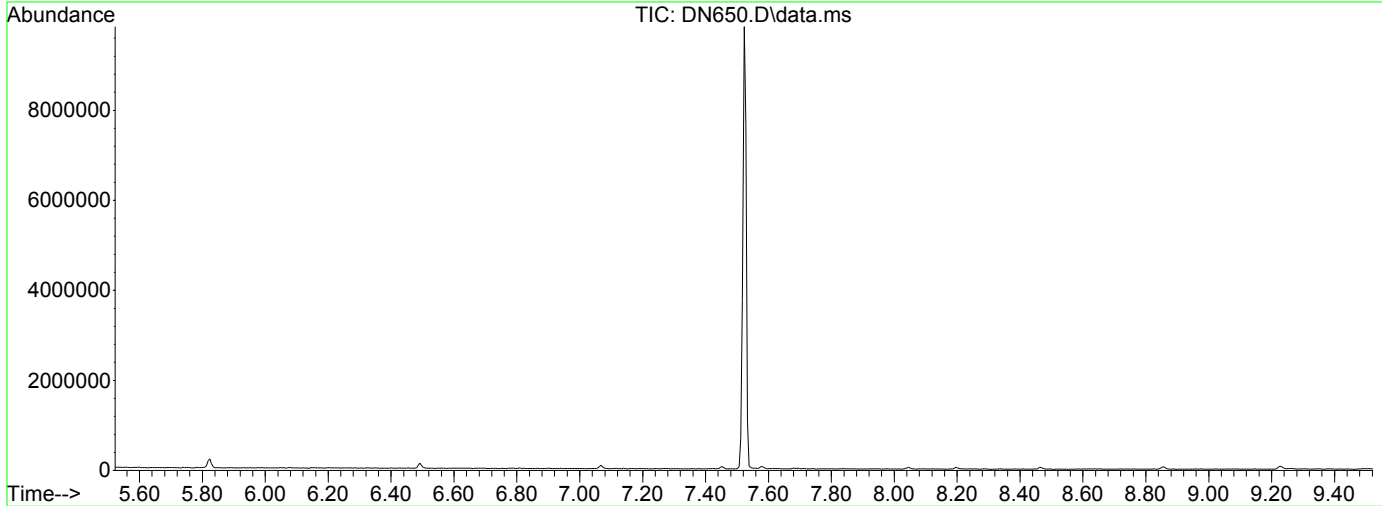


APPENDIX D - Laboratory Reports

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: 1.80 PCB Analyst: DMISURRWIN Run Method: 680 / 680TUNE
 Date: 2/19/19 Instr. 5973B (MS-52) Quant Method: 68002-1918.M
 Syringes: _____ LIMS Run#: _____

Pos.	Sample	Diln.	Stds. ID	File#	OK?	Comments
1	BLK			DN643	-	
2	TUNE			44	✓	
3	CCV			45	Ⓢ	
3	CCV			46	Ⓢ	
2	TUNE		195858	47	✓	
3	CCV			48	Ⓢ	
3	STD check			49	-	
2	TUNE		195858	50	✓	
3	BLK			51	✓	
4	Cal STD 00		197092	52	✓	
5	0		93	53	✓	
6	0.5		94	54	✓	
7	1.0		95	55	✓	
8	1.5		96	56	✓	
9	2.0		97	57	✓	
10	3.0		98	58	✓	
11	ICV		197100	59	YQ	

Handwritten notes in table:
 (PC) 191918
 68002-1918
 197092
 197100
 DM 2/21/19

All samples = _____ mL + _____ uL Combined IS/Surr.;

Primary: _____ exp: _____ Secondary: _____ exp: _____
 Primary: _____ exp: _____ Secondary: _____ exp: _____
 Reagents: _____

Runlog GCEXT r2 4/27/17
 O-999 Page 11

QA/QC Report

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study SW

Service Request: R1901380
Calibration Date: 2/19/2019

Initial Calibration Summary
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Calibration ID: RC1900016
Instrument ID: R-MS-52

Signal ID: 1

#	Lab Code	Sample Name	File Location	Acquisition Date
01	RC1900016-01	CAL STD 00	I:\ACQUADATA\5973B\DATA\021919\DN652.D	02/19/2019 12:13
02	RC1900016-02	CAL STD 0	I:\ACQUADATA\5973B\DATA\021919\DN653.D	02/19/2019 12:42
03	RC1900016-03	CAL STD 0.5	I:\ACQUADATA\5973B\DATA\021919\DN654.D	02/19/2019 13:11
04	RC1900016-04	CAL STD 1.0	I:\ACQUADATA\5973B\DATA\021919\DN655.D	02/19/2019 13:39
05	RC1900016-05	CAL STD 1.5	I:\ACQUADATA\5973B\DATA\021919\DN656.D	02/19/2019 14:08
06	RC1900016-06	CAL STD 2.0	I:\ACQUADATA\5973B\DATA\021919\DN657.D	02/19/2019 14:37
07	RC1900016-07	CAL STD 3.0	I:\ACQUADATA\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
Project: Lockheed Martin Middle River Comparison Study SW

Service Request: R1901380
Calibration Date: 2/19/2019

Initial Calibration Summary
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Calibration ID: RC1900016
Instrument ID: R-MS-52

Signal ID: 1

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
Project: Lockheed Martin Middle River Comparison Study SW

Service Request: R1901380
Calibration Date: 2/19/2019

Initial Calibration Summary
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Calibration ID: RC1900016
Instrument ID: R-MS-52

Signal ID: 1

Analyte Name	Compound Type	Calibration Evaluation				Calibration Evaluation	
		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
Project: Lockheed Martin Middle River Comparison Study SW

Service Request: R1901380
Calibration Date: 2/19/2019

Initial Calibration Verification Summary
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Calibration ID: RC1900016
Instrument ID: R-MS-52

Signal ID: 1

#	Lab Code	Sample Name	File Location	Acquisition Date
08	RC1900016-08	ICV	I:\ACQDATA\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

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study SW/60555202

Service Request: R1901380
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
File ID: I:\ACQUADATA\5973B\DATA\022119\DN730.D\
Signal ID: 1

Calibration Date: 2/19/2019
Calibration ID: RC1900016
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

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study SW/60555202

Service Request: R1901380
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
File ID: I:\ACQUADATA\5973B\DATA\022119\DN743.D\
Signal ID: 1

Calibration Date: 2/19/2019
Calibration ID: RC1900016
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

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study SW/60555202

Service Request: R1901380
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
File ID: I:\ACQUADATA\5973B\DATA\022119\DN745.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	0.450	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

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:\ACQUADATA\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

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study SW/60555202

Service Request:R1901380

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:\ACQU\DATA\5973B\DATA\022119\DN729.D\	ZZZZZZZ	ZZZZZZZ	2/21/2019	16:41:00	
I:\ACQU\DATA\5973B\DATA\022119\DN730.D\	Continuing Calibration Verification	RQ1901484-02	2/21/2019	16:59:00	
I:\ACQU\DATA\5973B\DATA\022119\DN731.D\	Method Blank	RQ1901357-01	2/21/2019	17:28:00	
I:\ACQU\DATA\5973B\DATA\022119\DN732.D\	FB-SW-021419-A	R1901380-003	2/21/2019	17:57:00	
I:\ACQU\DATA\5973B\DATA\022119\DN733.D\	MRC-SW30-021419-A	R1901380-008	2/21/2019	18:26:00	
I:\ACQU\DATA\5973B\DATA\022119\DN734.D\	EB-Tube 2-021419-A	R1901380-011	2/21/2019	18:55:00	
I:\ACQU\DATA\5973B\DATA\022119\DN735.D\	EB-Tube 1-021419-A	R1901380-012	2/21/2019	19:24:00	
I:\ACQU\DATA\5973B\DATA\022119\DN736.D\	MRC-SW31-021419-A	R1901380-013	2/21/2019	19:53:00	
I:\ACQU\DATA\5973B\DATA\022119\DN737.D\	MRC-SW40-S-021419-A	R1901380-015	2/21/2019	20:22:00	
I:\ACQU\DATA\5973B\DATA\022119\DN738.D\	Lab Control Sample	RQ1901357-02	2/21/2019	20:51:00	
I:\ACQU\DATA\5973B\DATA\022119\DN739.D\	Duplicate Lab Control Sample	RQ1901357-03	2/21/2019	21:20:00	
I:\ACQU\DATA\5973B\DATA\022119\DN740.D\	Method Detection Limit Verification	RQ1901357-06	2/21/2019	21:49:00	
I:\ACQU\DATA\5973B\DATA\022119\DN741.D\	Method Detection Limit Verification	RQ1901357-07	2/21/2019	22:17:00	
I:\ACQU\DATA\5973B\DATA\022119\DN742.D\	Method Detection Limit Verification	RQ1901357-08	2/21/2019	22:46:00	
I:\ACQU\DATA\5973B\DATA\022119\DN743.D\	Continuing Calibration Verification	RQ1901484-03	2/21/2019	23:15:00	

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study SW/60555202

Service Request: R1901380

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:\ACQUADATA\5973B\DATA\022119\DN744.D\	ZZZZZZZ	ZZZZZZZ	2/21/2019	23:43:00	
I:\ACQUADATA\5973B\DATA\022119\DN745.D\	Continuing Calibration Verification	RQ1901485-02	2/22/2019	00:02:00	
I:\ACQUADATA\5973B\DATA\022119\DN746.D\	MRC-SW7A-S-021419-A-DUP	R1901380-001	2/22/2019	00:30:00	
I:\ACQUADATA\5973B\DATA\022119\DN748.D\	MRC-SW8A-S-021419-A	R1901380-002	2/22/2019	01:28:00	
I:\ACQUADATA\5973B\DATA\022119\DN750.D\	MRC-SW5A1-S-021419-A	R1901380-004	2/22/2019	02:25:00	
I:\ACQUADATA\5973B\DATA\022119\DN752.D\	MRC-SW5A2-S-021419-A	R1901380-005	2/22/2019	03:22:00	
I:\ACQUADATA\5973B\DATA\022119\DN754.D\	MRC-SW13A-S-021419-A	R1901380-006	2/22/2019	04:19:00	
I:\ACQUADATA\5973B\DATA\022119\DN756.D\	MRC-SW8B-S-021419-A	R1901380-007	2/22/2019	05:16:00	
I:\ACQUADATA\5973B\DATA\022119\DN758.D\	MRC-SW15A-S-021419-A	R1901380-009	2/22/2019	06:14:00	
I:\ACQUADATA\5973B\DATA\022119\DN760.D\	MRC-SW9A-S-021419-A	R1901380-010	2/22/2019	07:11:00	
I:\ACQUADATA\5973B\DATA\022119\DN762.D\	MRC-SW7A-S-021419-A	R1901380-014	2/22/2019	08:09:00	
I:\ACQUADATA\5973B\DATA\022119\DN764.D\	MRC-SW7A-S-021419-A MS	RQ1901357-04	2/22/2019	09:07:00	
I:\ACQUADATA\5973B\DATA\022119\DN766.D\	MRC-SW7A-S-021419-A DMS	RQ1901357-05	2/22/2019	10:04:00	
I:\ACQUADATA\5973B\DATA\022119\DN768.D\	Continuing Calibration Verification	RQ1901485-03	2/22/2019	11:02:00	

Analysis: 680 PCB Analyst: OMIS-urewre Run Method: 680/680Tune
 Date: 2/2/19 Instr. 5973B (MS-52) Quant Method: 680 621919B.M
 Syringes: _____ LIMS Run#: 625888 / 625889

Pos.	Sample	Diln.	Stds. ID	File#	OK?	Comments
1	Blk			DN 727	-	
1	Blk			28	-	
2	Tune		195858	29	Y	
3	CCV		197095	30	YCC	
4	RQ1901357-01	Blk	331543	31	Y	
5	R1901380-003			32	Y	
6				33	Y	
7				34	Y	
8				35	Y	
9				36	Y	
10				37	Y	
11	RQ1901357-02	LCS		38	YQ	
12		LSD		39	YQ	
13		MDLV		40	Y	
14		MDLV		41	Y	
15		MDLV		42	Y	
16	CCV		197095	43	YCC	
17	Tune		195858	44	Y	
18	CCV		197095	45	YCC	
19	R1901380-001			46	Y	
20	Blk			47	-	
21				48	Y	
22	Blk			49	-	
23				50	Y	
24	Blk			51	-	
25				52	Y	
26	Blk			53	-	
27				54	Y	
28	Blk			55	-	
29				56	Y	
30	Blk			57	-	
31				58	Y	
32	Blk			59	-	
33				60	Y	
34	Blk			61	-	
35				62	Y	
36	Blk			63	-	
37	RQ1901357-04			64	Y	
38	Blk			65	-	
39				66	Y	

All samples = 1 mL + 10 uL Combined IS/Surr.; 19577

Primary: _____ exp: _____

Secondary: _____ exp: _____

Primary: _____ exp: _____

Secondary: _____ exp: _____

Runlog GCEXT r2 4/27/17

Reagents:

40 Blk

41 CCV

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 197095 67
 68 YCC DDT b

Analysis: 680 PCB Analyst: OMIS-Vremler Run Method: 680/680 Tune
 Date: 2/21/19 Instr. 5973B (MS-52) Quant Method: 680 621919A.M
 Syringes: _____ LIMS Run#: 625888

Pos.	Sample	Diln.	Stds. ID	File#	OK?	Comments
1	Bik			DN 727	-	
1	Bik			28	-	
2	Tune		195858	29	Y	
3	CCV		197095	30	Y	
4	RQ1901357-01	Bik	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	LSD		39	YQ	
13	-06	MOLV		40	Y	
14	-07	MOLV		41	Y	
15	-08	MOLV		42	Y	
16	CCV		197095	43	YCC	
17	Tune		195858	44		
18	CCV		197095	45		
19	R1901380-001			46		
20	Bik			47		
21	-002			48		
22	Bik			49		
23	-004			50		
24	Bik			51		
25	-005			52		
26	Bik			53		
27	-006			54		
28	Bik			55		
29	-007			56		
30	Bik			57		
31	-009			58		
32	Bik			59		
33	-010			60		
34	Bik			61		
35	-014			62		
36	Bik			63		
37	RQ1901357-04			64		
38	Bik			65		
39	-05			66		

All samples = 1 mL + 10 uL Combined IS/Surr.; 19577

Primary: _____ exp: _____
 Primary: _____ exp: _____
 Reagents:
 40 Bik
 41 CCV

Secondary: _____ exp: _____
 Secondary: _____ exp: _____

Analysis: 1.80 PCB Analyst: DMISURRWIN Run Method: 680 / 680TUNE
 Date: 2/19/19 Instr. 5973B (MS-52) Quant Method: 68002-1918.M
 Syringes: _____ LIMS Run#: _____

Pos.	Sample	Diln.	Stds. ID	File#	OK?	Comments
1	BLK			DN643	-	
2	TUNE			44	✓	
3	CCV			45	Ⓢ	
3	CCV			46	Ⓢ	
2	TUNE		195858	47	✓	
3	CCV			48	Ⓢ	
3	STD check			49	-	
2	TUNE		195858	50	✓	
3	BLK			51	✓	
4	Cal STD 00		197092	52	✓	
5	0		93	53	✓	
6	0.5		94	54	✓	
7	1.0		95	55	✓	
8	1.5		96	56	✓	
9	2.0		97	57	✓	
10	3.0		98	58	✓	
11	ICV		197100	59	YQ	

68002-1918.M
 68002-1918.M
 68002-1918.M

DM 2/21/19

All samples = _____ mL + _____ uL Combined IS/Surr.;

Primary: _____ exp: _____
 Secondary: _____ exp: _____

Primary: _____ exp: _____
 Secondary: _____ exp: _____

Reagents: _____

Prep Summary Report

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study SW/60555202
Sample Matrix: Water

Service Request:R1901380

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Prep Method: EPA 3510C
Analytical Method: 680

Extraction Lot: 331543
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 **Prep Workflow:** OrgExtAq(7) **Status:** Prepped
Team: Semivoa GCMS/JMISUREWICZ **Prep Method:** EPA 3510C **Prep Date/Time:** 2/15/19 09:15 AM

#	Lab Code	Client ID	B#	Amt. Extl	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		1060mL	680/PCB Homologs	7			0.50mL	Light Yellow	0.5000 mL/195962	
5	R1901380-002	MRC-SW8A-S-021419-A		1060mL	680/PCB Homologs	7			0.50mL	Light Yellow	0.5000 mL/195962	
6	R1901380-003	FB-SW-021419-A		1060mL	680/PCB Homologs	7			0.50mL	Colorless/Clear	0.5000 mL/195962	
7	R1901380-004	MRC-SW5A1-S-021419-A		1060mL	680/PCB Homologs	7			0.50mL	Light Yellow	0.5000 mL/195962	
8	R1901380-005	MRC-SW5A2-S-021419-A		1060mL	680/PCB Homologs	7			0.50mL	Light Yellow	0.5000 mL/195962	
9	R1901380-006	MRC-SW13A-S-021419-A		1060mL	680/PCB Homologs	7			0.50mL	Light Yellow	0.5000 mL/195962	
10	R1901380-007	MRC-SW8B-S-021419-A		1020mL	680/PCB Homologs	7			0.50mL	Light Yellow	0.5000 mL/195962	
11	R1901380-008	MRC-SW30-021419-A		1060mL	680/PCB Homologs	7			0.50mL	Colorless/Clear	0.5000 mL/195962	
12	R1901380-009	MRC-SW15A-S-021419-A		1040mL	680/PCB Homologs	7			0.50mL	Light Yellow	0.5000 mL/195962	
13	R1901380-010	MRC-SW9A-S-021419-A		1040mL	680/PCB Homologs	7			0.50mL	Colorless/Clear	0.5000 mL/195962	
14	R1901380-011	EB-Tube 2-021419-A		1040mL	680/PCB Homologs	7			0.50mL	Colorless/Clear	0.5000 mL/195962	
15	R1901380-012	EB-Tube 1-021419-A		1020mL	680/PCB Homologs	7			0.50mL	Colorless/Clear	0.5000 mL/195962	
16	R1901380-013	MRC-SW31-021419-A		1060mL	680/PCB Homologs	7			0.50mL	Colorless/Clear	0.5000 mL/195962	
17	R1901380-014	MRC-SW7A-S-021419-A		1060mL	680/PCB Homologs	7			0.50mL	Light Yellow	0.5000 mL/195962	
18	R1901380-014	R1901380-014 MS		1060mL	680/PCB Homologs	7			0.50mL	Light Yellow	0.5000 mL/195962; 0.5000 mL/195962	
19	R1901380-014	R1901380-014 DMS		1060mL	680/PCB Homologs	7			0.50mL	Light Yellow	0.5000 mL/195962	
20	R1901380-015	MRC-SW40-S-021419-A		1040mL	680/PCB Homologs	7			0.50mL	Colorless/Clear	0.5000 mL/195962; 0.5000 mL/195963	
21	RQ1901357-06	MIDL V		1000mL	680/PCB Homologs	7			0.50mL	Colorless/Clear	0.5000 mL/195963	
22	RQ1901357-07	MIDL V		1000mL	680/PCB Homologs	7			0.50mL	Colorless/Clear	0.5000 mL/195962; 0.5000 mL/195963	
23	RQ1901357-08	MIDL V		1000mL	680/PCB Homologs	7			0.50mL	Colorless/Clear	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/JMSIUREWICZ

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) canister (195312) pH Paper 0-14 (195979)
Prepared Sodium Sulfate Na2SO4 (196861) Dichloromethane (Methylene Chloride) 99.9% MeCl2

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:	JMSIUREWICZ	By:	JMSIUREWICZ	By:	JMSIUREWICZ
Comments		Comments		Comments	

APPENDIX D - Laboratory Reports

Comments:

Reviewed By: [Signature] Date: 2/19/19 Spike Witness: BALLGIEIR Date:

Chain of Custody

Relinquished By: [Signature] Date: _____
Received By: _____ Date: _____
Extracts Examined 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
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Phone (585) 288-5380 Fax (585) 288-8475
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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.

A handwritten signature in black ink, appearing to read "Samantha", is written over a horizontal line.

Approved by _____

Date 01/25/2019



Sample Receipt Information

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Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study/60555202

Service Request:R1900554

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R1900554-001	Bottle Blank	1/18/2019	



Miscellaneous Forms

ALS Environmental—Rochester Laboratory
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REPORT QUALIFIERS AND DEFINITIONS

<p>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.</p> <p>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/Aroclors).</p> <p>B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.</p> <p>E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.</p> <p>E Organics- Concentration has exceeded the calibration range for that specific analysis.</p> <p>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.</p> <p>* 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.</p> <p>H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.</p> <p># Spike was diluted out.</p>	<p>+ Correlation coefficient for MSA is <0.995.</p> <p>N Inorganics- Matrix spike recovery was outside laboratory limits.</p> <p>N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.</p> <p>S Concentration has been determined using Method of Standard Additions (MSA).</p> <p>W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.</p> <p>P Concentration >40% difference between the two GC columns.</p> <p>C Confirmed by GC/MS</p> <p>Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\times 100\%$ Difference between two GC columns).</p> <p>X See Case Narrative for discussion.</p> <p>MRL Method Reporting Limit. Also known as:</p> <p>LOQ Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.</p> <p>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).</p> <p>LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.</p> <p>ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.</p>
---	--



Rochester Lab ID # for State Certifications¹

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>

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.

ALS Group USA, Corp.

dba ALS Environmental

Analyst Summary report

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



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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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study/60555202
Sample Matrix: Water
Sample Name: Bottle Blank
Lab Code: R1900554-001

Service Request: R1900554
Date Collected: 01/18/19
Date Received: 01/18/19 08:39

Units: ug/L
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

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Semivolatile Organic Compounds by GC/MS

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Client: AECOM
Project: Lockheed Martin Middle River Comparison Study/60555202
Sample Matrix: Water

Service Request: R1900554

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)	4,4'-DDT
		55-133	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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: AECOM
Project: Lockheed Martin Middle River Comparison Study/60555202
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: RQ1900602-01

Service Request: R1900554
Date Collected: NA
Date Received: NA
Units: ug/L
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
Project: Lockheed Martin Middle River Comparison Study/60555202
Sample Matrix: Water

Service Request: R1900554
Date Analyzed: 01/24/19

Duplicate Lab Control Sample Summary
PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

Units:ug/L
Basis:NA

Analyte Name	Lab Control Sample RQ1900602-02				Duplicate Lab Control Sample RQ1900602-03				RPD	RPD Limit
	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits		
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

The test results in this report meet NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted. Results pertain only to samples listed in this report. This report may not be reproduced, except in full, without the written approval of the laboratory. Questions should be directed to the person who signed this report.

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

TestAmerica Laboratories, Inc.

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Definitions/Glossary

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-163273-1

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.
α	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.

TestAmerica Savannah

Client Sample Results

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

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

QC Sample Results

Client: AECOM
Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-163273-1

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	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
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	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
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	LCS	Unit	D	%Rec	Limits
		Result	Qualifier				
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	LCS	Limits
	%Recovery	Qualifier	
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	LCSD	Unit	D	%Rec	Limits	RPD	RPD Limit
		Result	Qualifier						
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

QC Sample Results

Client: AECOM
 Project/Site: MRC Surface Water Sampling

TestAmerica Job ID: 680-163273-1

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	Limits	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

Lab Chronicle

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

Date Collected: 01/16/19 10:15

Matrix: Water

Date Received: 01/16/19 10:45

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
.SM-680istd_00045	10/13/19	10/13/18	Hexane, Lot 135581	10 mL	Chrys-12_00030	125 uL	Phenanthrene-d10	0.75 ug/mL
..Chrys-12_00030	10/13/19		ultra, Lot cs-2540		Phenan-d10_00038	250 uL	Chrysene-d12	25 ug/mL
..Phenan-d10_00038	10/13/19		ultra, Lot CM-4742				Phenanthrene-d10	25 ug/mL
680cal3ICV_00054	10/13/19	10/13/18	Hexane, Lot K29E01	2 mL	680conCALa_00037	40 uL	Chrysene-d12	2000 ug/mL
							Phenanthrene-d10	1000 ug/mL
							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				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				Decachlorobiphenyl-13C12	40 ug/mL
.PCB RTmixa_00030	10/13/19		AccuStandard, Lot 215031484				Nonachlorobiphenyl	200 ug/mL
680isomerCall1_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				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

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		
							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
680isomerCa15_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

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	10/13/19	10/13/18	Hexane, Lot 135581	10 mL	Chrys-12_00030	125 uL	Chrysene-d12	25 ug/mL
..Chrys-12_00030	10/13/19		ultra, Lot cs-2540		Phenan-d10_00038	250 uL	Phenanthrene-d10	25 ug/mL
..Phenan-d10_00038	10/13/19		ultra, Lot CM-4742		(Purchased Reagent)		Chrysene-d12	2000 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
..Chrys-12_00030	10/13/19		ultra, Lot cs-2540		Phenan-d10_00038	250 uL	Phenanthrene-d10	25 ug/mL
..Phenan-d10_00038	10/13/19		ultra, Lot CM-4742		(Purchased Reagent)		Chrysene-d12	2000 ug/mL
					(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

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		
							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

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.

Reagent

680conCAL_00148

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.

Reagent

680conCAL_00154

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.

Reagent

8270TUNE_00216



110 Benner Circle
 Bellefonte, PA 16823-8812
 Tel: (800)356-1688
 Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis



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:

$$U_{combined\ stressed} = k \sqrt{U_{gravimetric}^2 + U_{homogeneity}^2 + U_{storage\ stability}^2 + U_{shipping\ stability}^2}$$

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



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.



ISO 9001
Registered
TUV USA, Inc.

John Russo
President

Monica Bourgeois
Director of QA/RA

Reagent

DB (680) SUR_00339



Quality Standards:
ISO Guide 34 • ISO/IEC 17025 • ISO 13485 • cGMP

Product Description: DecaCB (PCB-209) ($^{13}\text{C}_{12}$, 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 ($\mu\text{g/mL}$)	Concentration by Gravimetry ($\mu\text{g/mL}$)	Analyzed Concentration \pm Uncertainty, $k=2$ ($\mu\text{g/mL}$)
DecaCB ($^{13}\text{C}_{12}$, 99%)	209	99.9%	40 \pm 2	40.2	39.6 \pm 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) (¹³C₁₂, 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



10/23

Product Description: DecaCB (PCB-209) (¹³C₁₂, 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/NCSLZ540-1-1994, 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-Barak
Quality Review

Reagent

EX-NONA (208) _00068

Certificate of Analysis



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

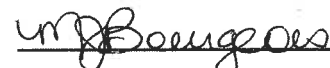
Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NC SL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.



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John Russo
President


Monica Bourgeois
Director of QA/RA

Reagent

PCB Elut_00103



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

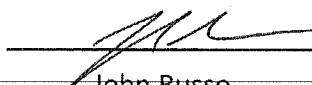
This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
decachlorobiphenyl (BZ # 209)	002051-24-3	RM01256	100.0 ± 0.5 µg/mL

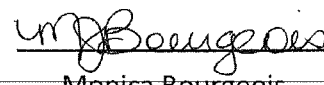
Matrix: hexane

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

Reagent

PCB RTmix_00013

1/21



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/NCCL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.



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TUV USA, Inc.


 William J. Leary
 Quality Assurance Manager

Reagent

PCB RTmixa_00030

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

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



Danger 2

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

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



ISO/IEC 17025:2005 - General Requirements for the Competence of Testing and Calibration Laboratories ACLASS Certificate Number 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: $u_m = \sqrt{(u(P))^2 + (u(m))^2 + (u(V))^2}$. 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

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.

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

13CDCB = Decachlorobiphenyl-13C12

QC LIMITS
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
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	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 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
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 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

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

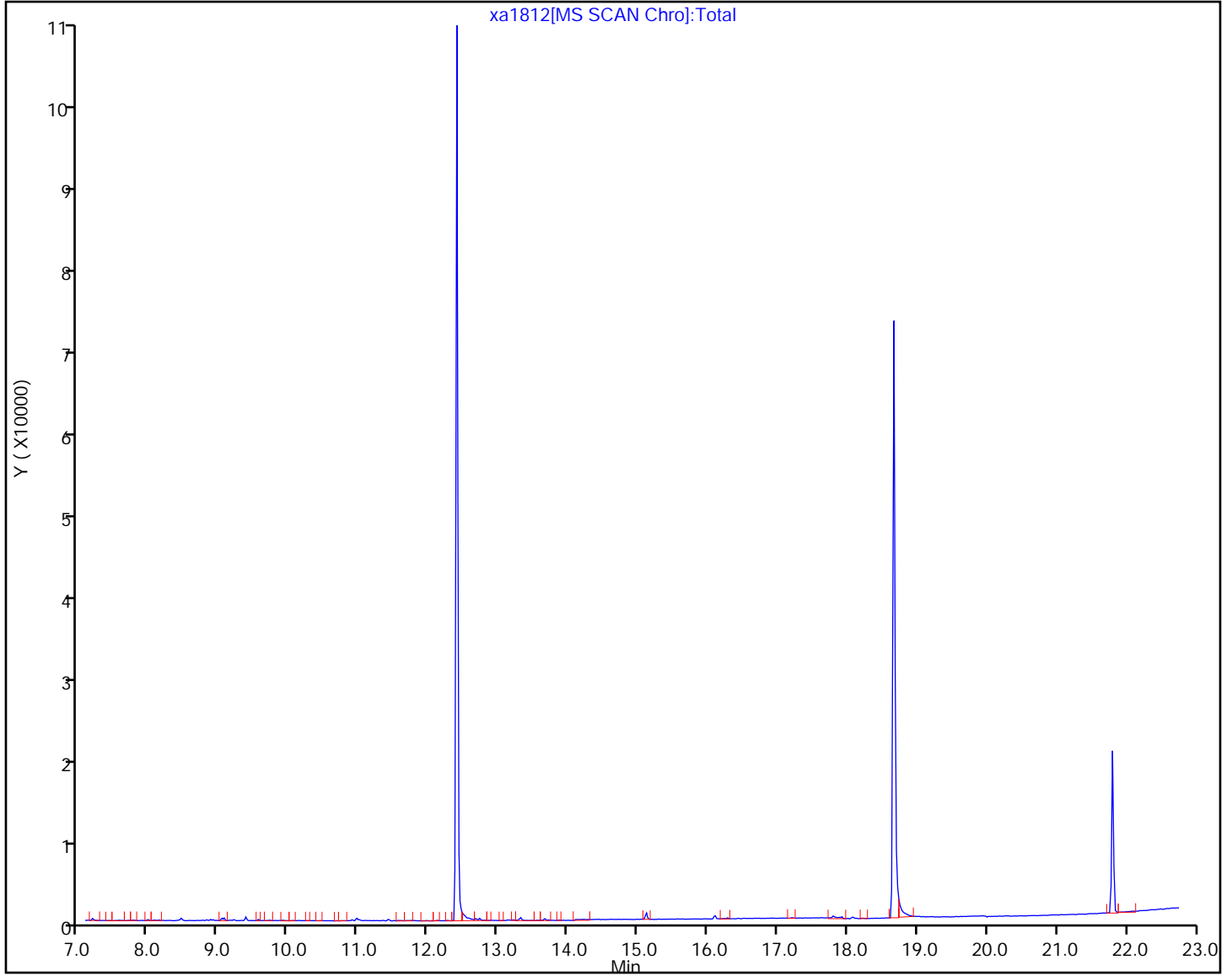
Injection Vol: 2.0 ul

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\k0703.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\k0710.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										
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		a

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										
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		a
32 DCB Decachlorobiphenyl										
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

TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\yk0703.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

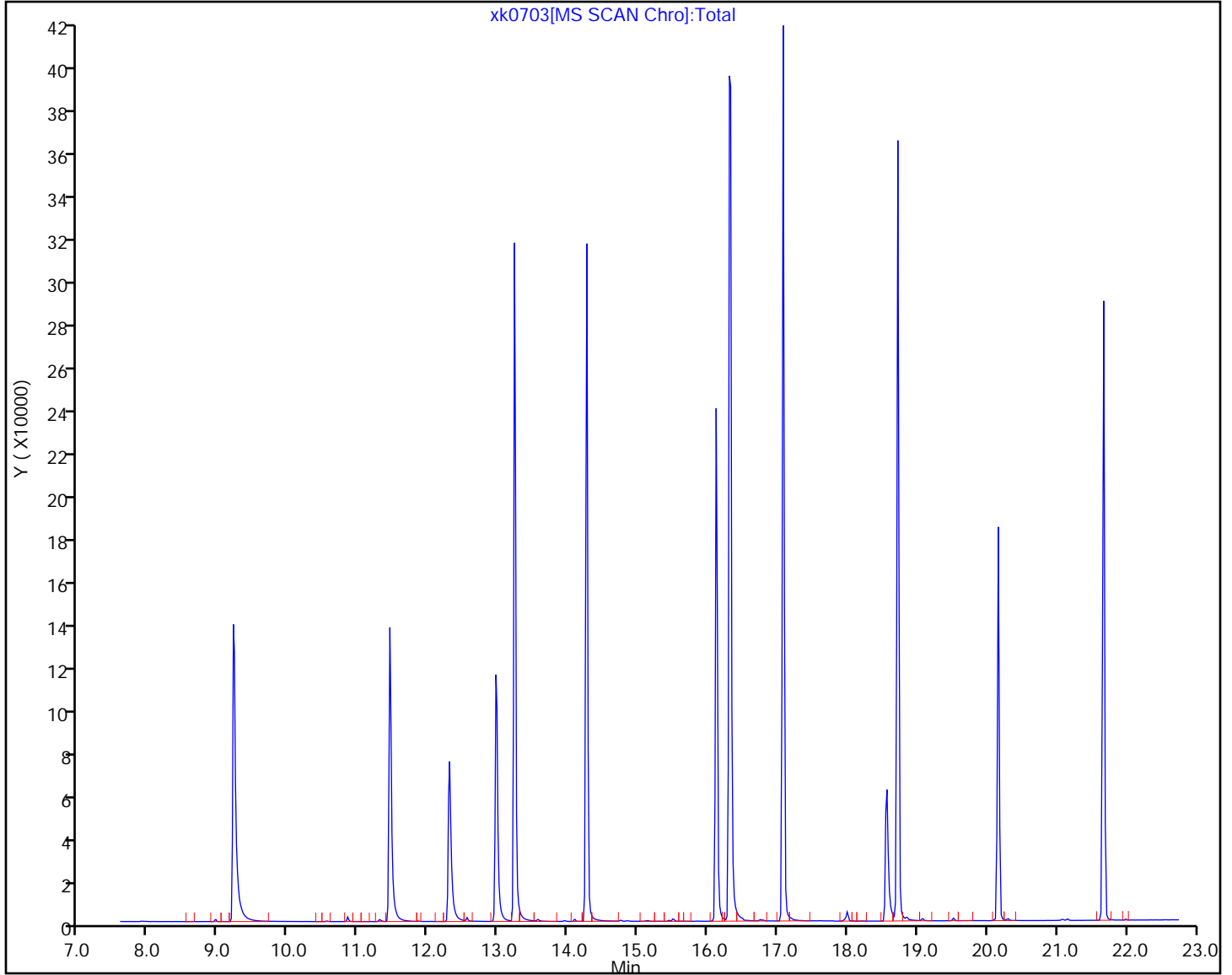
Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 680\CMSX

Limit Group: 680

Column: HP-5MS (0.25 mm)



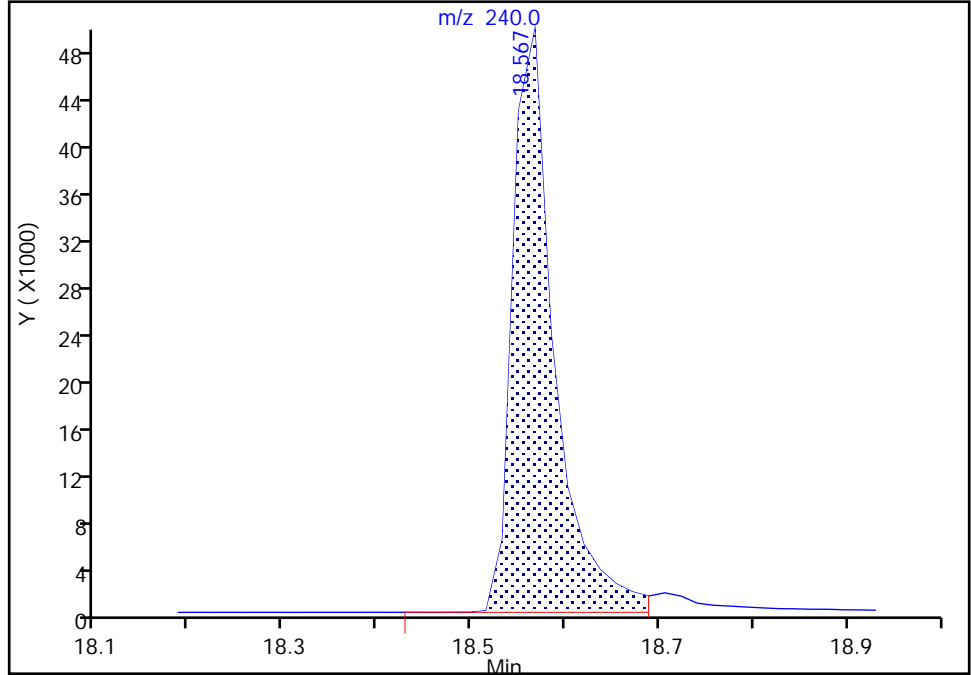
TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0703.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

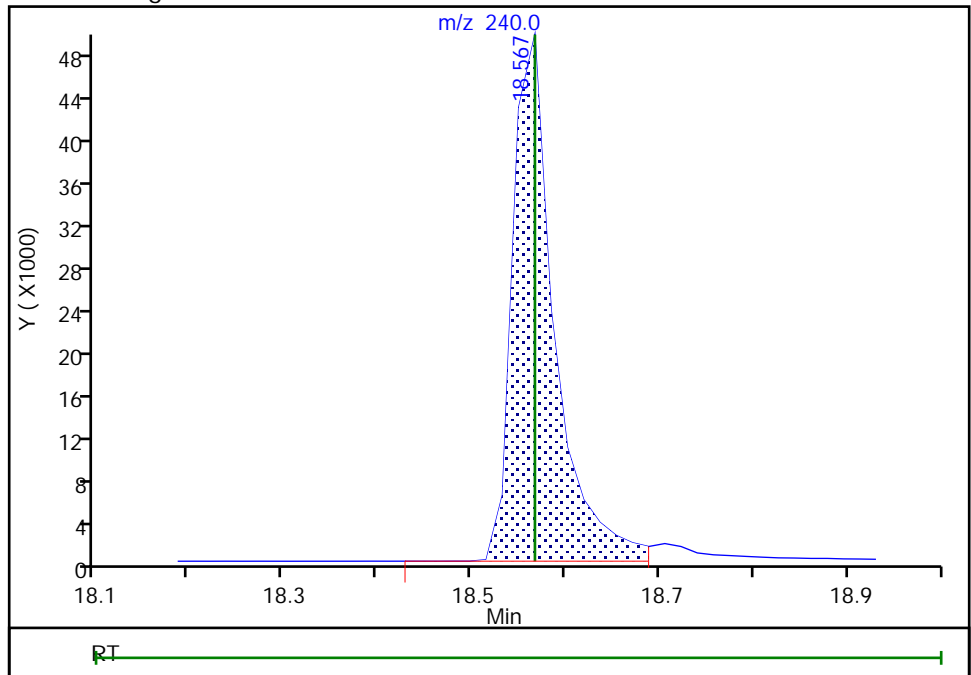
RT: 18.57
Area: 153362
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.57
Area: 153362
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 08-Nov-2018 08:22:52
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

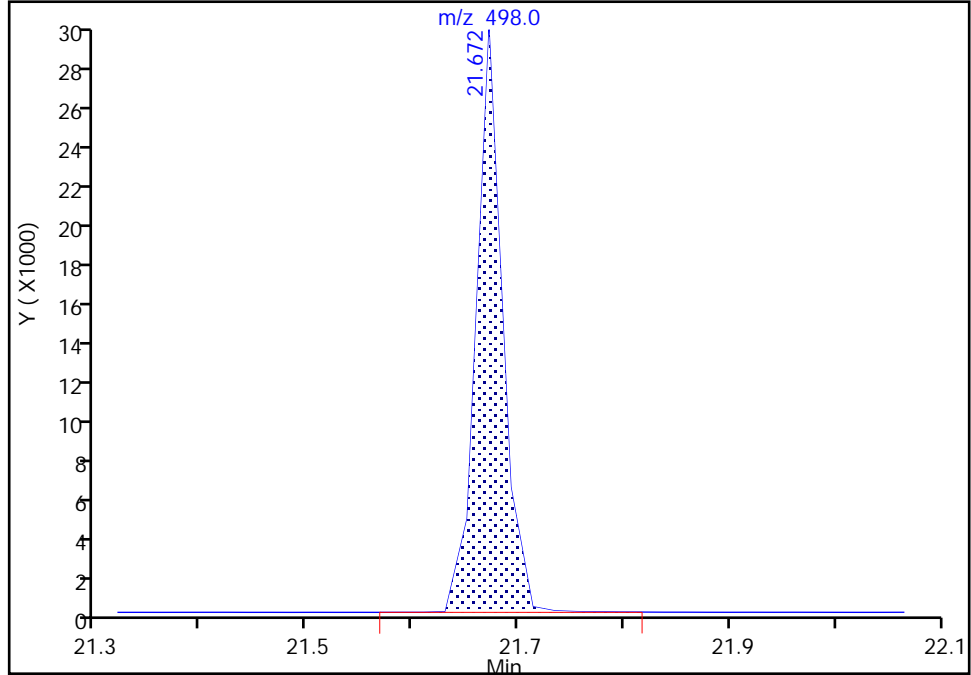
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0703.D
Injection Date: 07-Nov-2018 13:33:30 Instrument ID: CMSX
Lims ID: icis
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

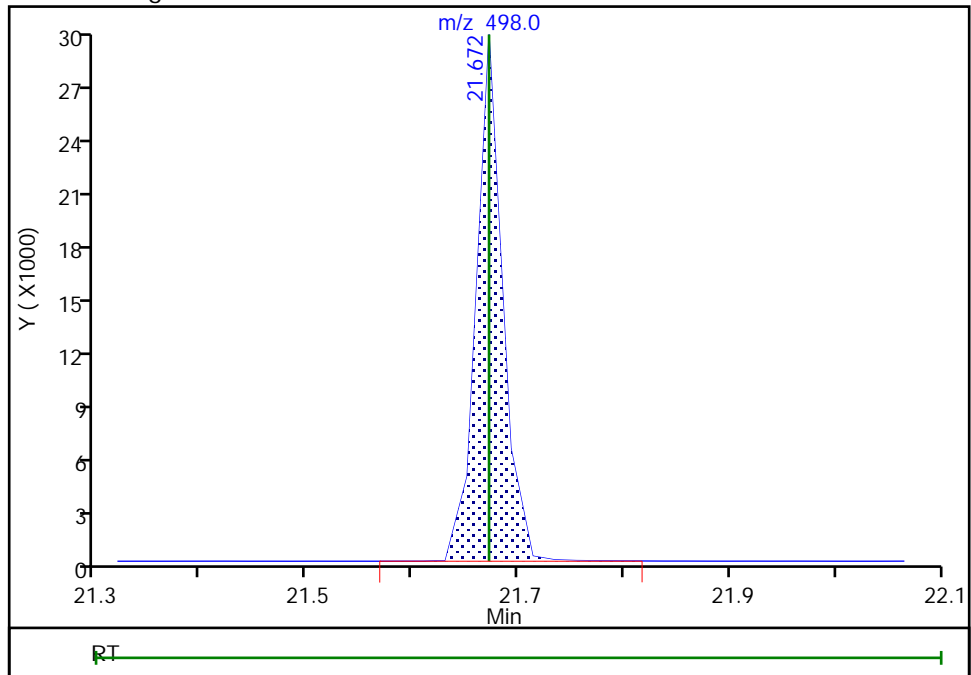
RT: 21.67
Area: 50447
Amount: 5.559882
Amount Units: ug/ml

Processing Integration Results



RT: 21.67
Area: 50447
Amount: 5.559882
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 08-Nov-2018 08:23:20
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

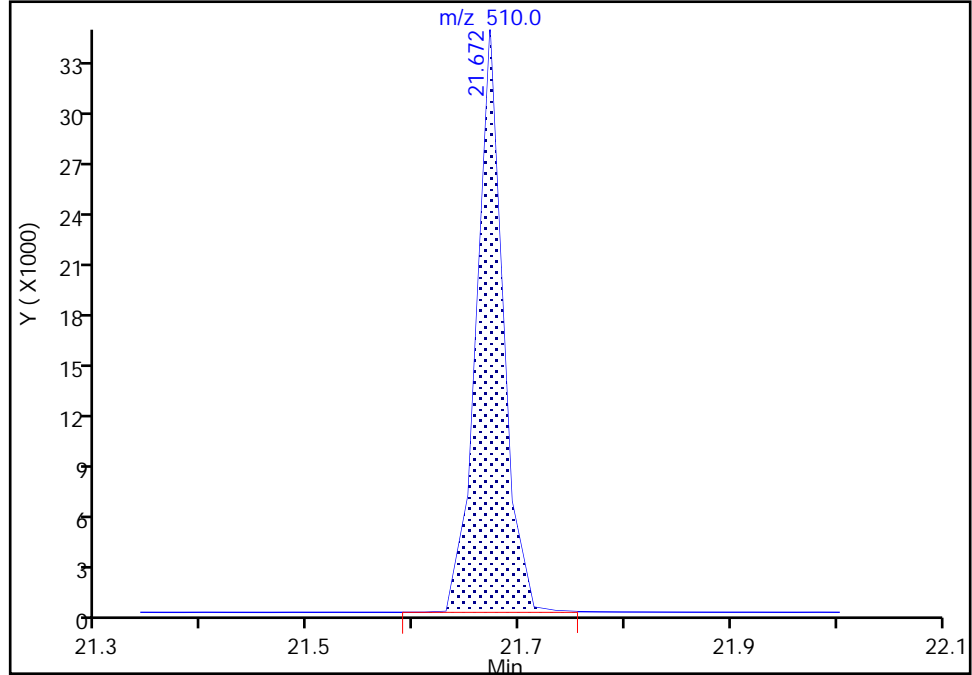
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0703.D
Injection Date: 07-Nov-2018 13:33:30 Instrument ID: CMSX
Lims ID: icis
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

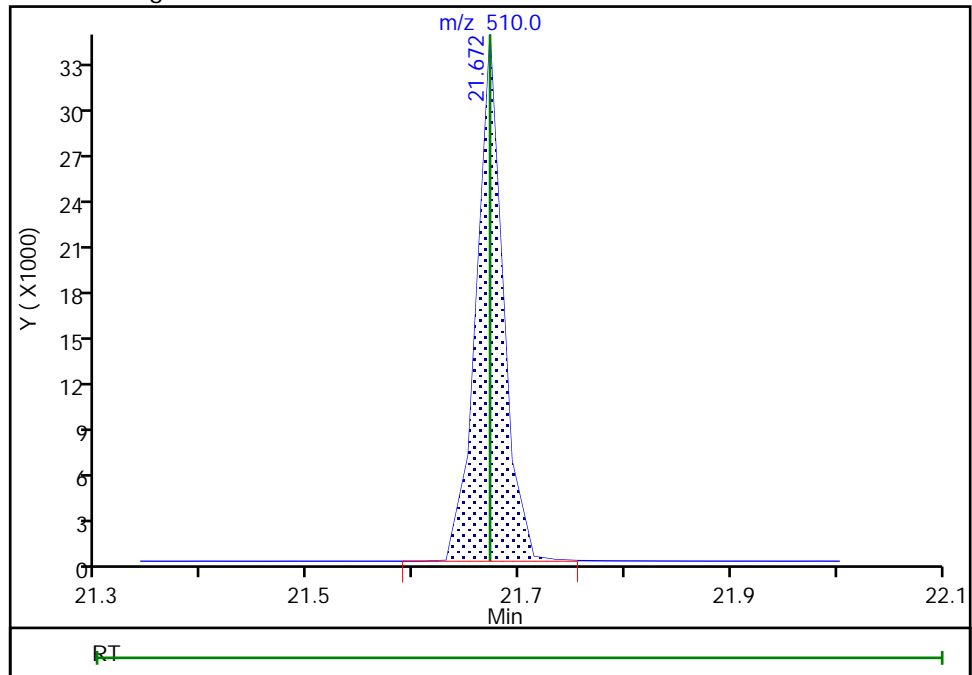
RT: 21.67
Area: 60087
Amount: 5.524783
Amount Units: ug/ml

Processing Integration Results



RT: 21.67
Area: 60087
Amount: 5.524783
Amount Units: ug/ml

Manual Integration Results



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\k0706.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\k0710.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									
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	a

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									
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	a
32 DCB Decachlorobiphenyl									
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

TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\yk0706.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

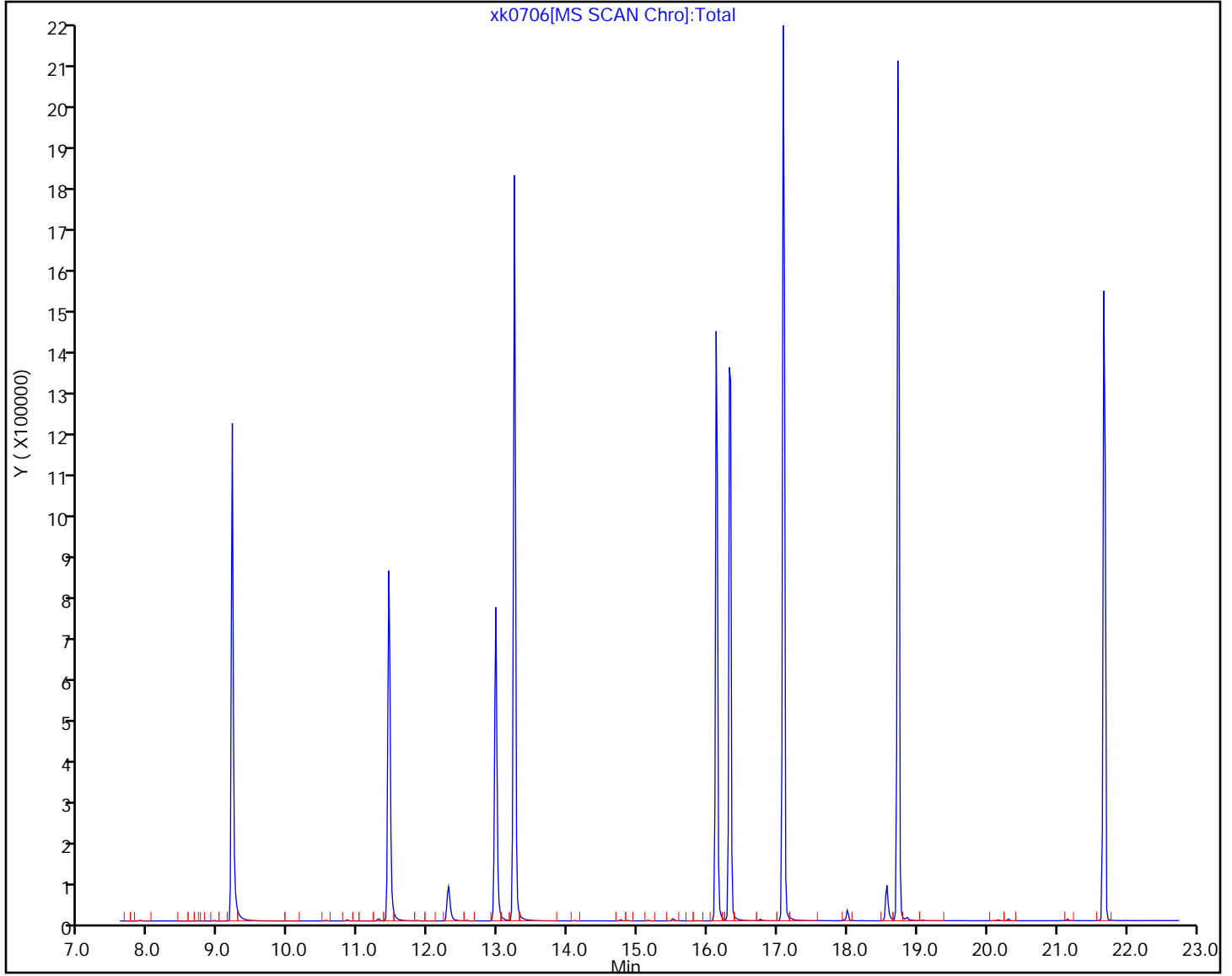
Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 680\CMSX

Limit Group: 680

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

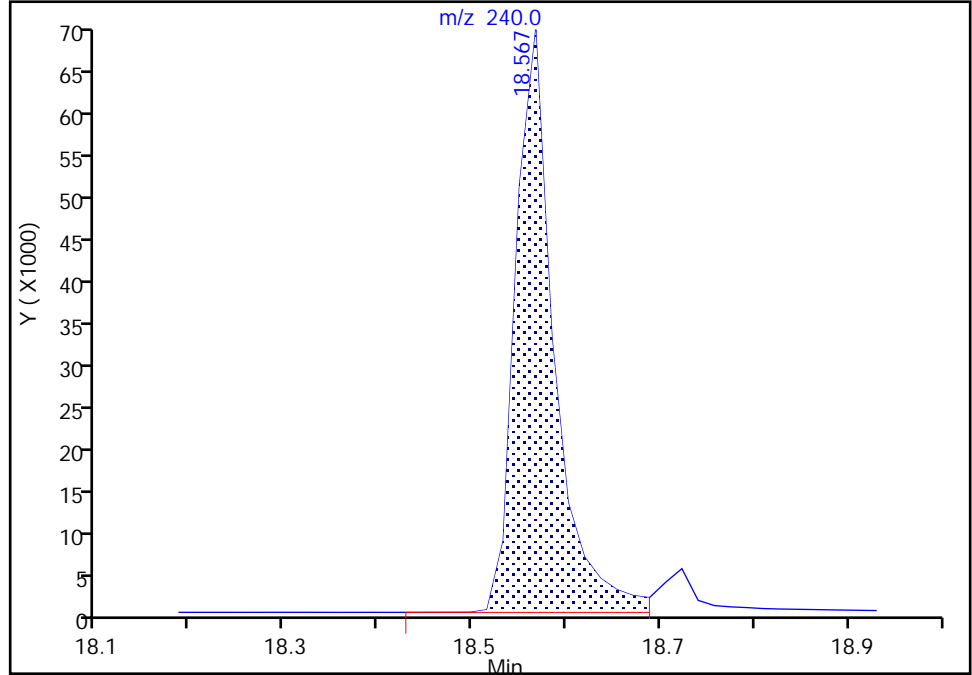
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0706.D
Injection Date: 07-Nov-2018 15:12:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

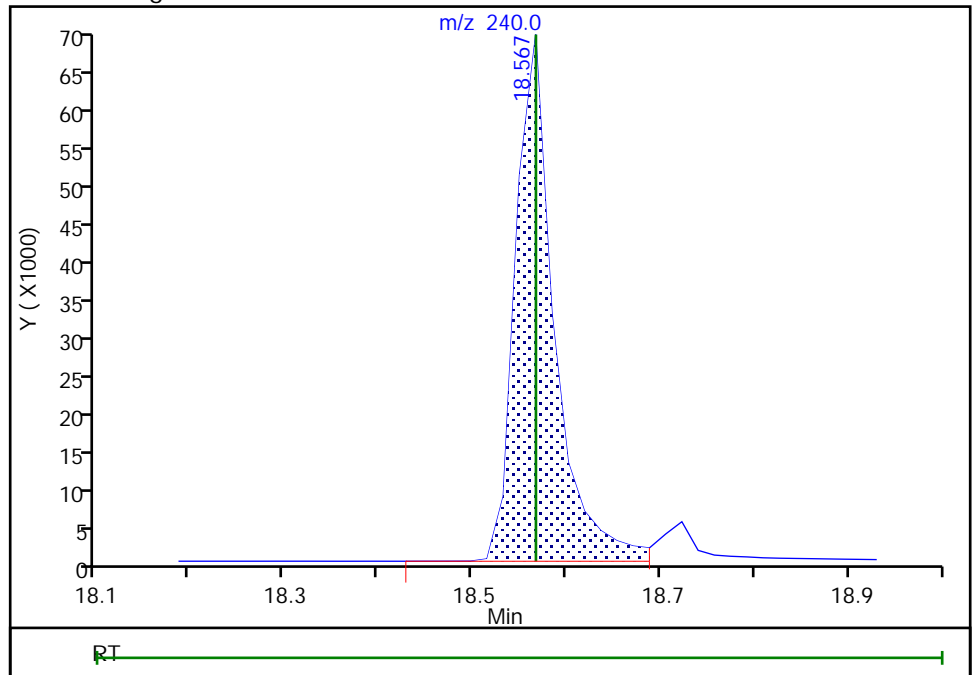
RT: 18.57
Area: 200323
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.57
Area: 200323
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



TestAmerica Savannah

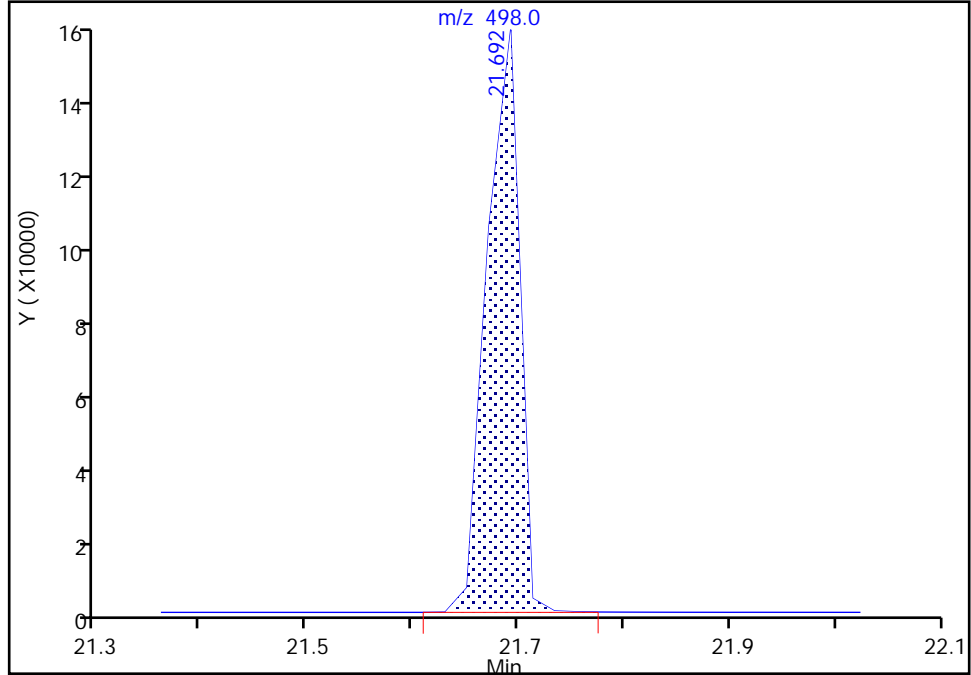
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0706.D
Injection Date: 07-Nov-2018 15:12:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

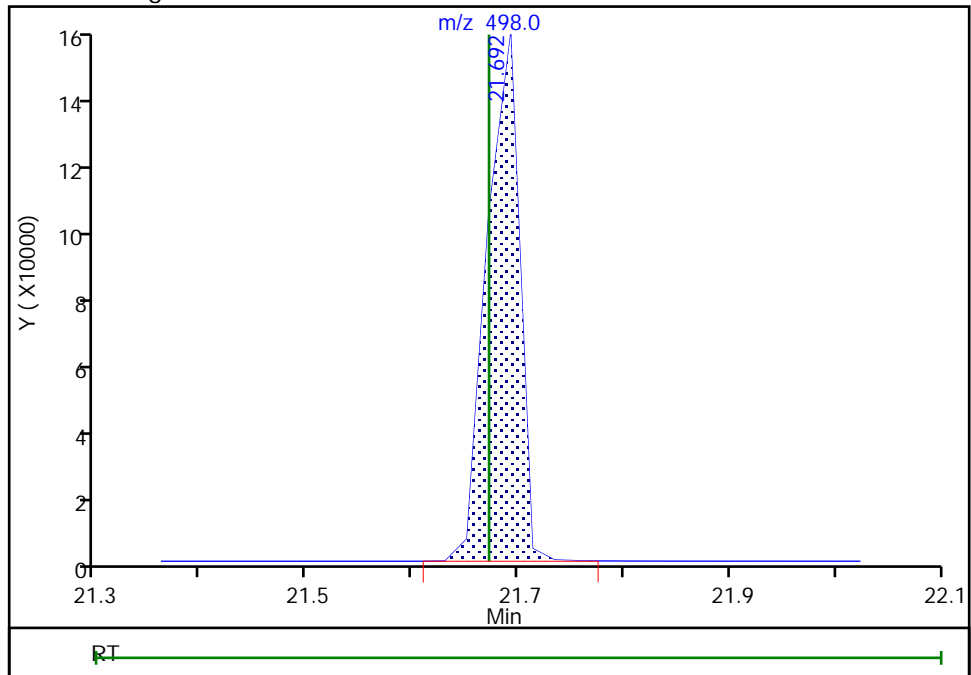
RT: 21.69
Area: 333740
Amount: 28.159534
Amount Units: ug/ml

Processing Integration Results



RT: 21.69
Area: 333740
Amount: 28.159534
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 08-Nov-2018 08:25:07
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

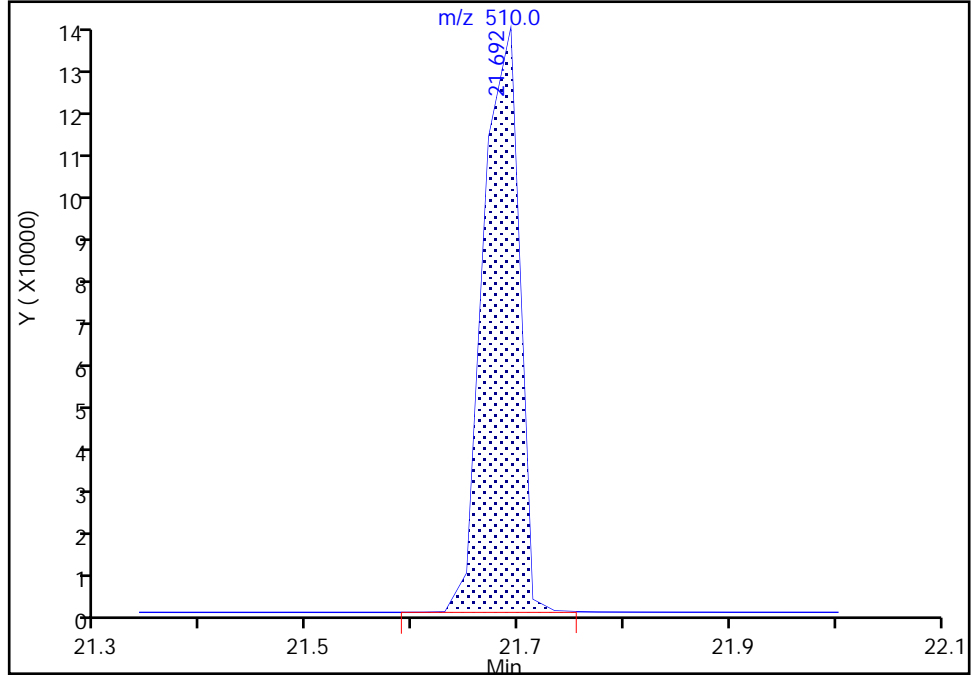
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0706.D
Injection Date: 07-Nov-2018 15:12:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

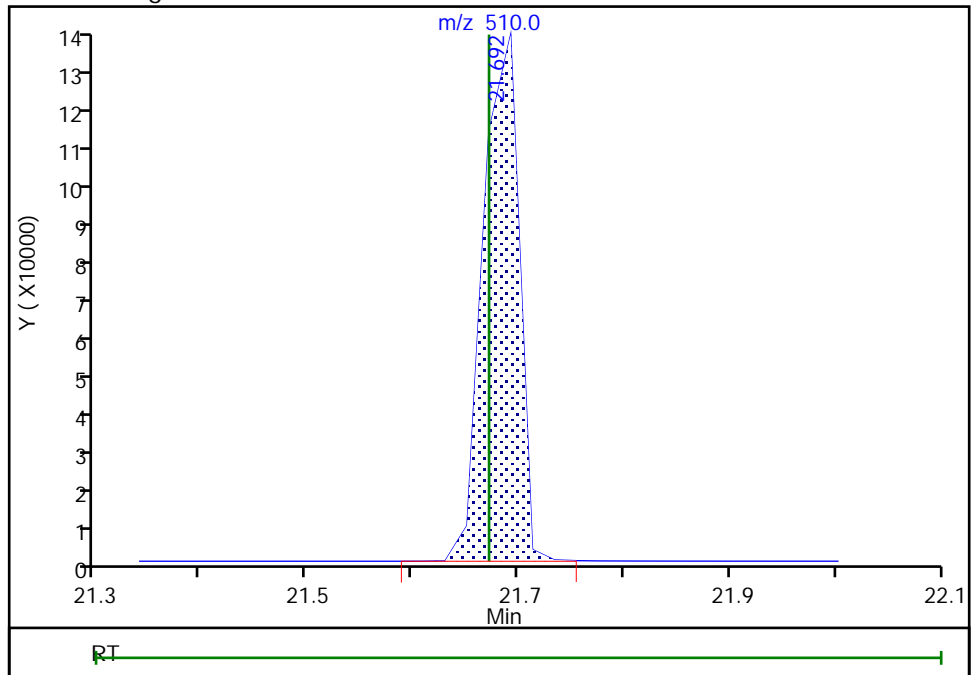
RT: 21.69
Area: 317550
Amount: 22.352894
Amount Units: ug/ml

Processing Integration Results



RT: 21.69
Area: 317550
Amount: 22.352894
Amount Units: ug/ml

Manual Integration Results



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\k0707.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\k0710.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									
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	a

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

TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\yk0707.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

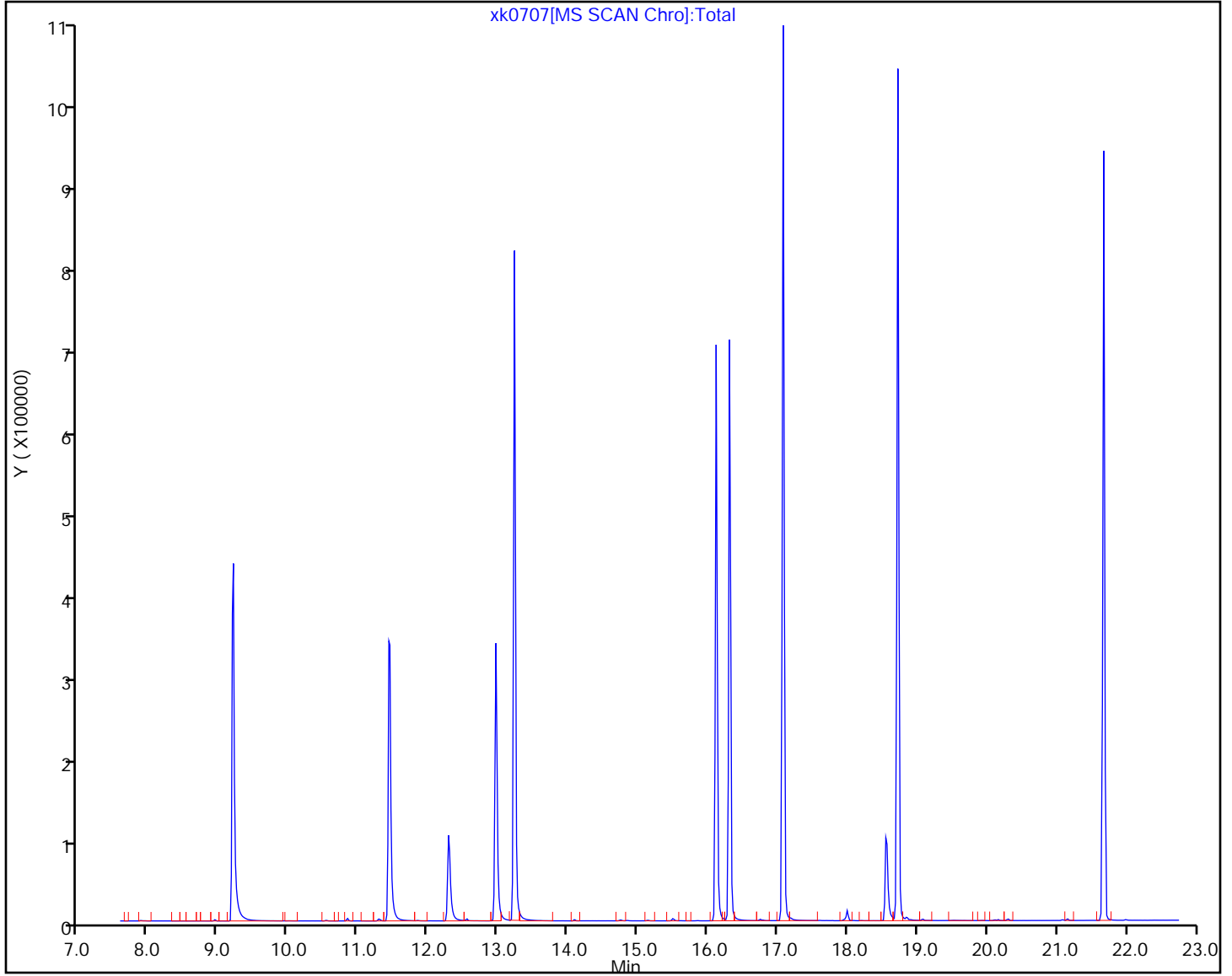
Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 680\CMSX

Limit Group: 680

Column: HP-5MS (0.25 mm)



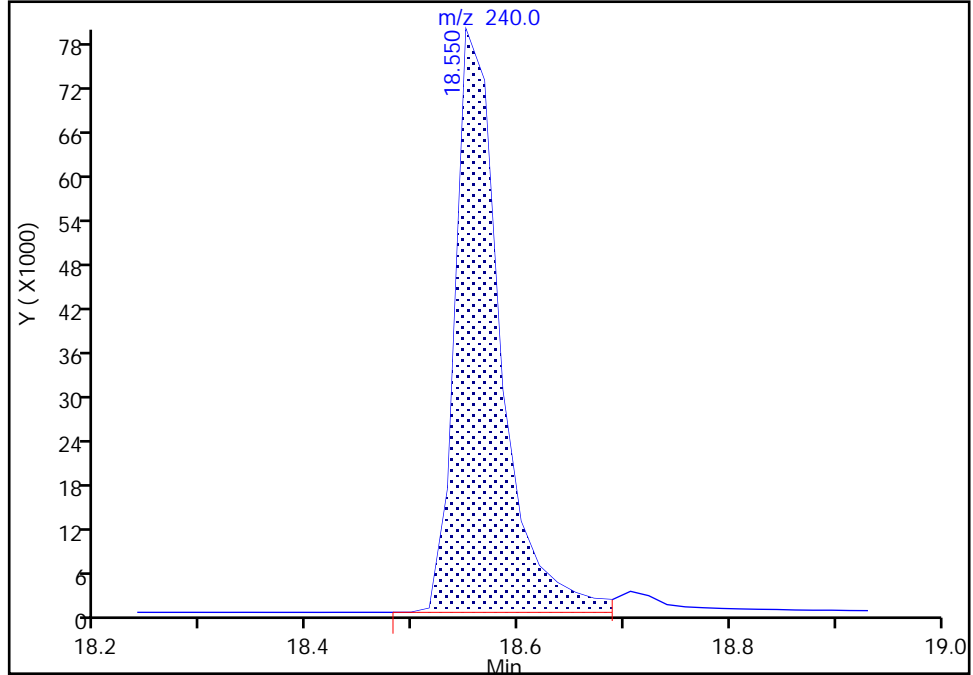
TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0707.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

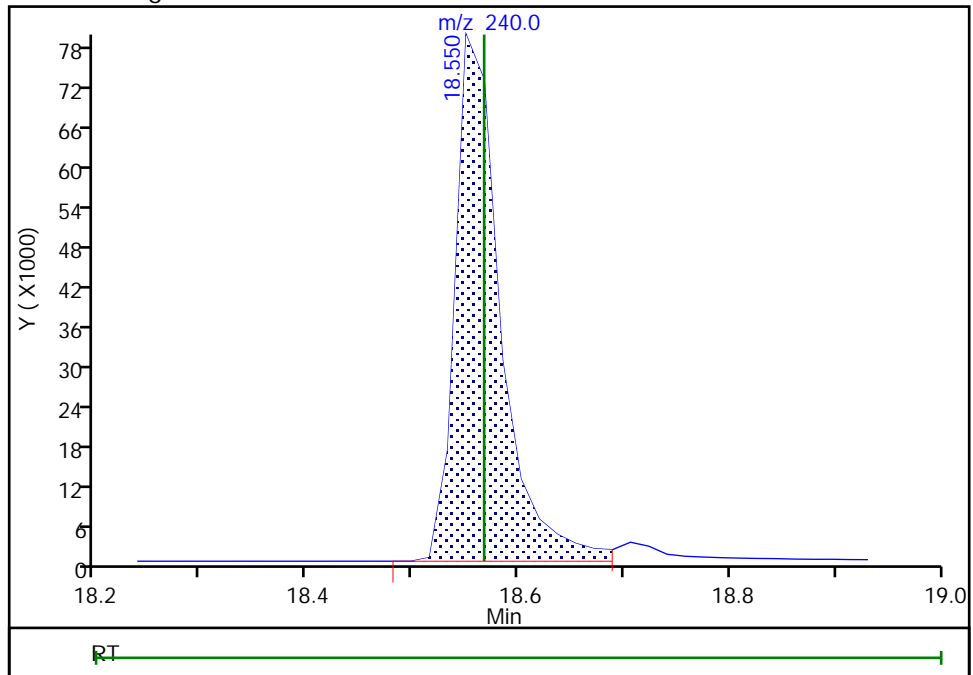
RT: 18.55
Area: 236737
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.55
Area: 236737
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0708.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\k0710.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									
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	a

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									
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	a
32 DCB Decachlorobiphenyl									
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

TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\yk0708.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

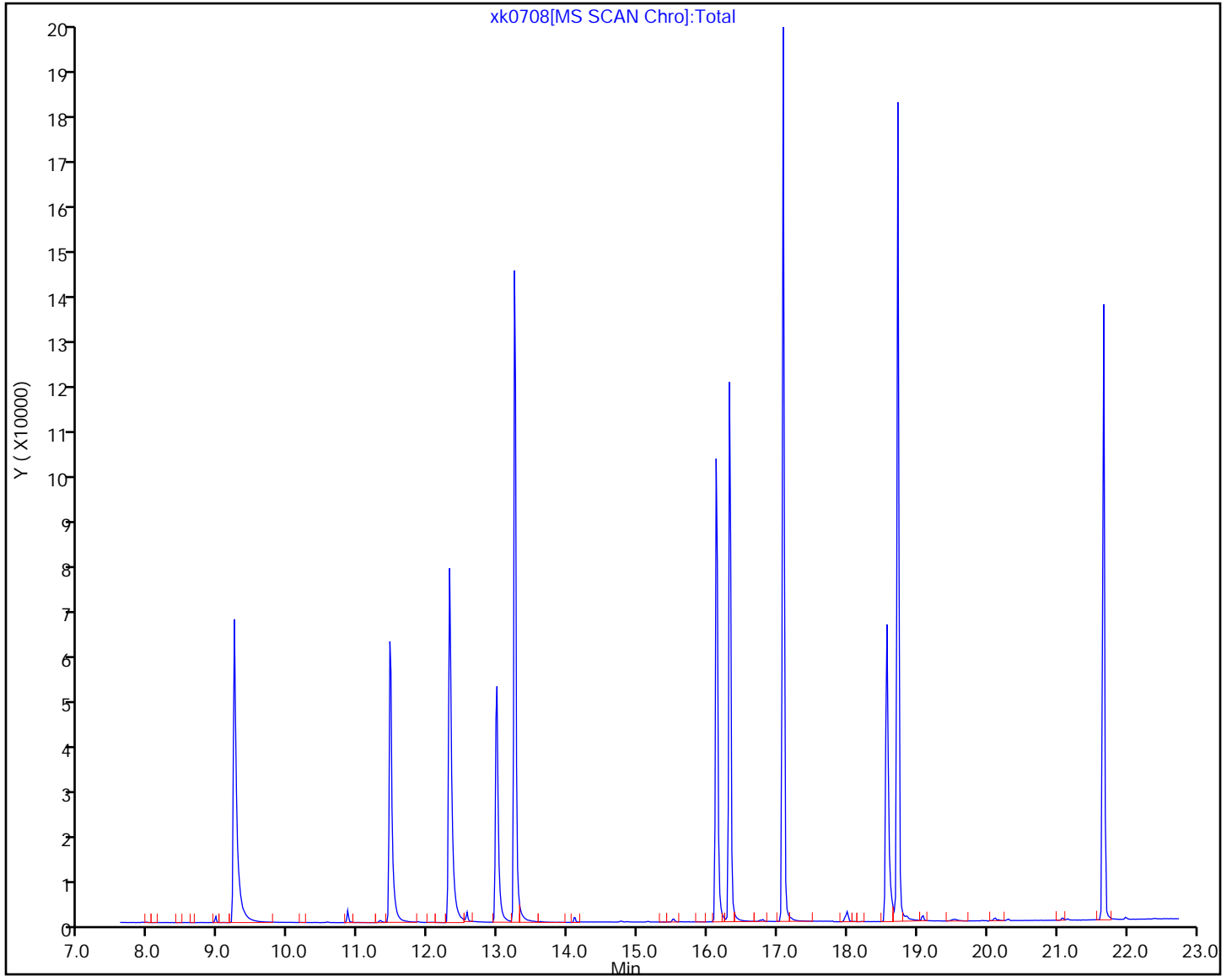
Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 680\CMSX

Limit Group: 680

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

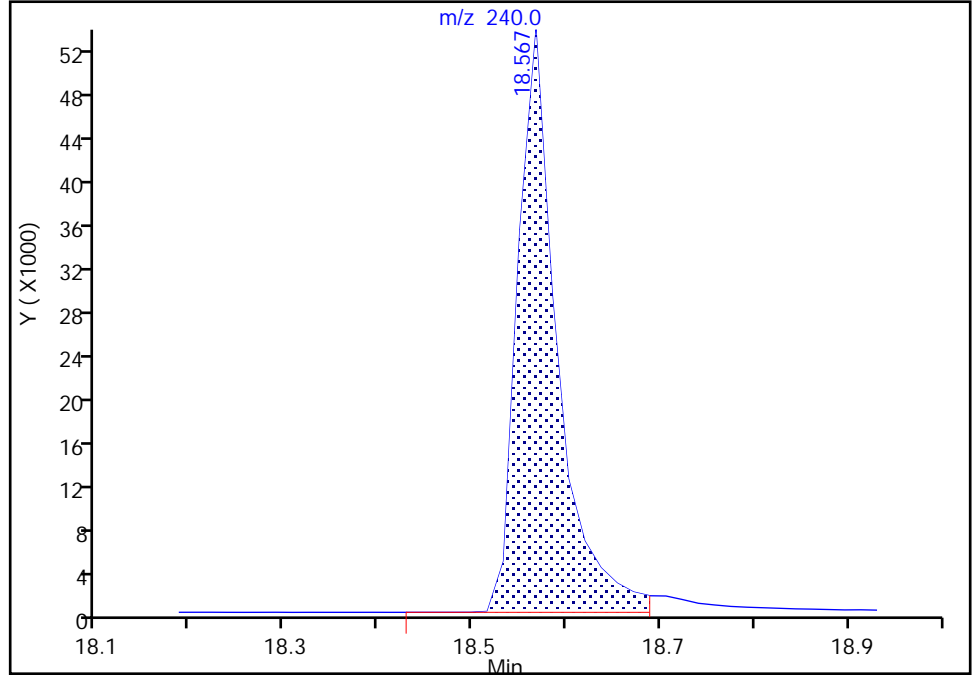
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0708.D
Injection Date: 07-Nov-2018 16:09:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

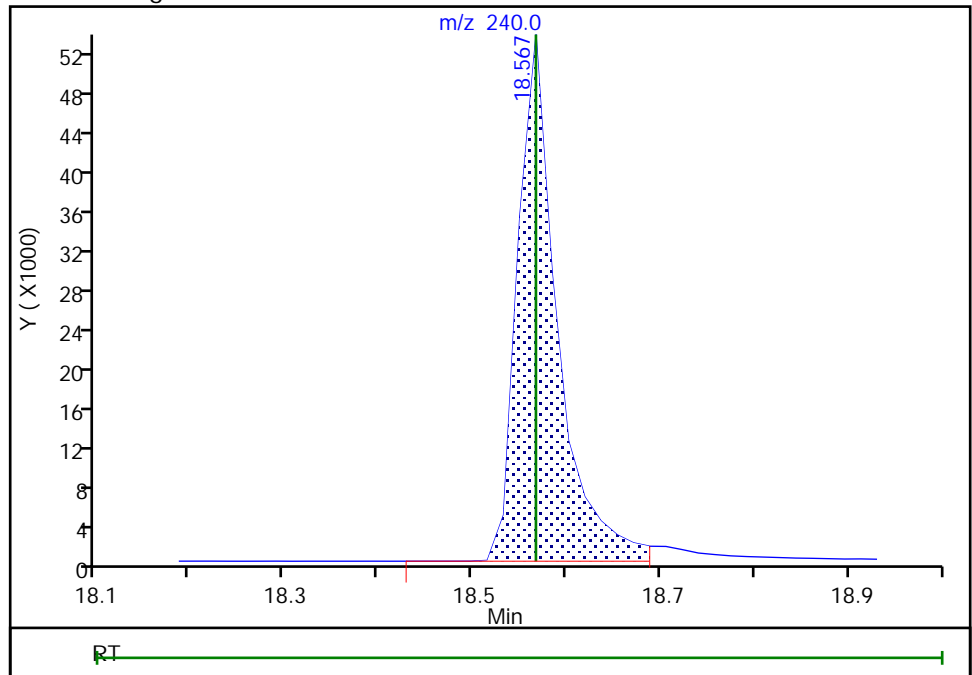
RT: 18.57
Area: 155766
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.57
Area: 155766
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 08-Nov-2018 08:27:19
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

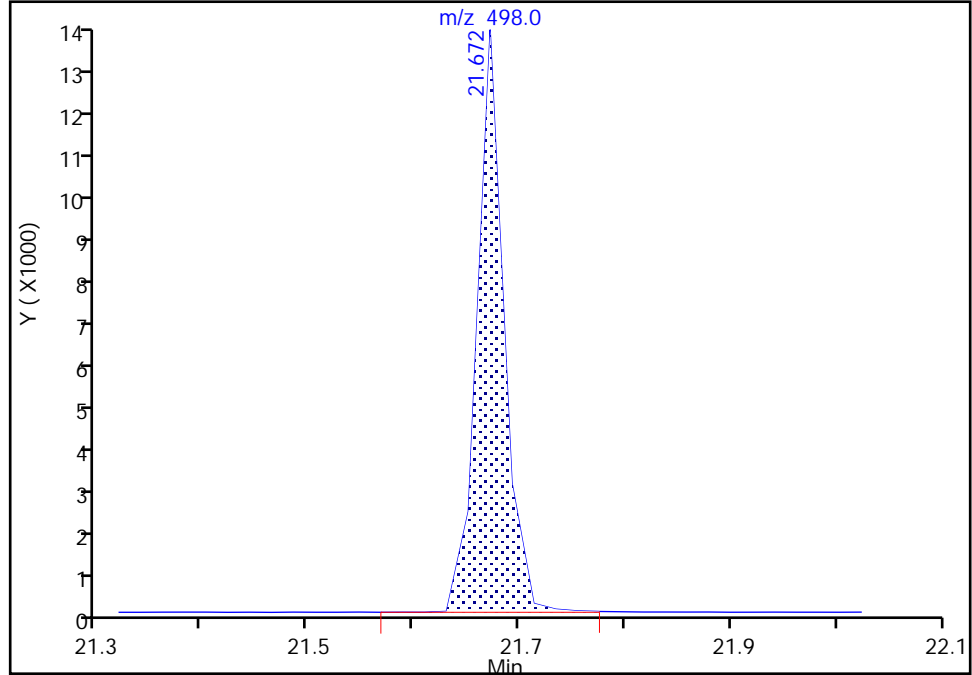
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0708.D
Injection Date: 07-Nov-2018 16:09:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

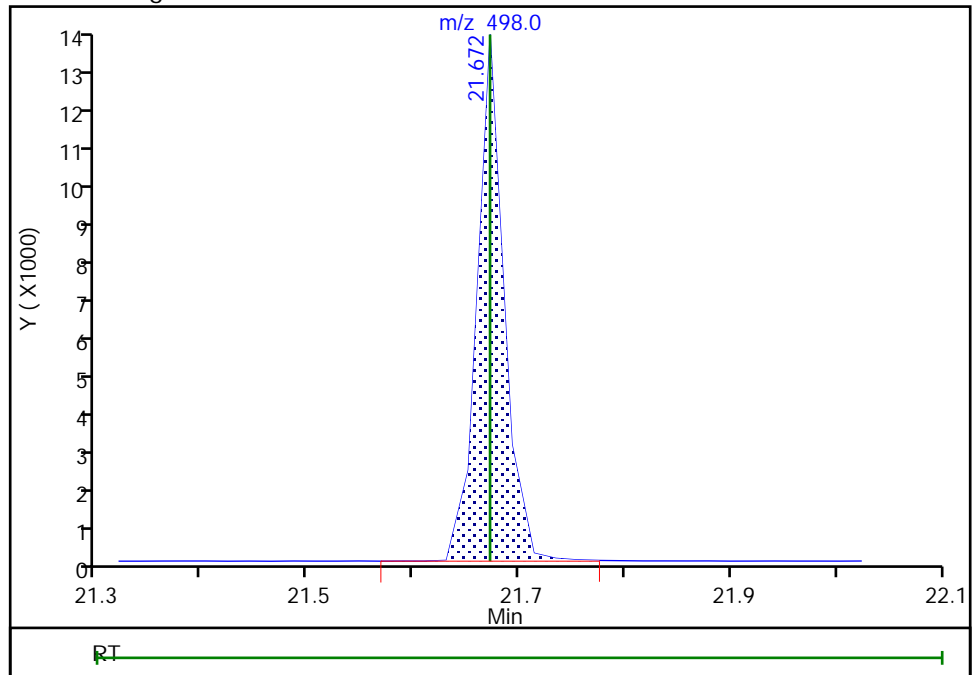
RT: 21.67
Area: 23021
Amount: 2.498041
Amount Units: ug/ml

Processing Integration Results



RT: 21.67
Area: 23021
Amount: 2.498041
Amount Units: ug/ml

Manual Integration Results



TestAmerica Savannah

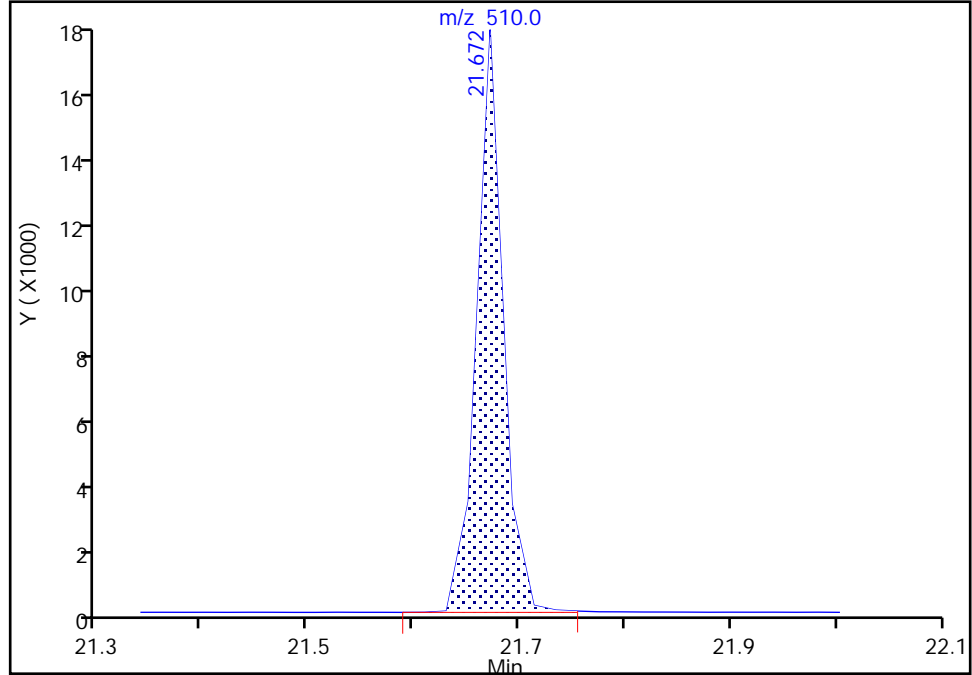
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0708.D
Injection Date: 07-Nov-2018 16:09:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

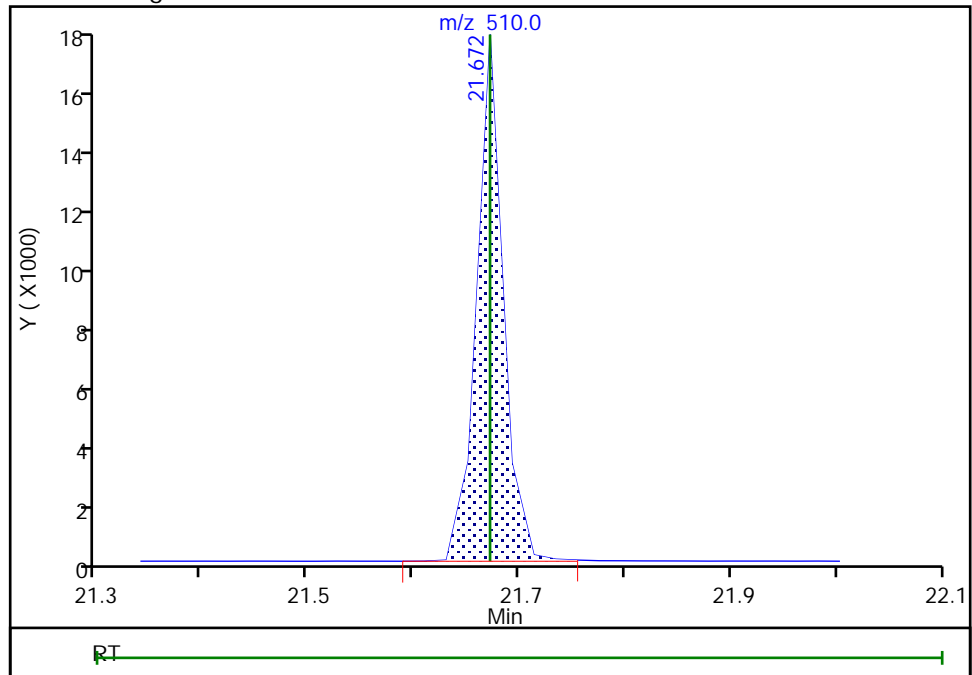
RT: 21.67
Area: 30354
Amount: 2.747867
Amount Units: ug/ml

Processing Integration Results



RT: 21.67
Area: 30354
Amount: 2.747867
Amount Units: ug/ml

Manual Integration Results



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\k0709.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\k0710.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									
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	a

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									
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	a
32 DCB Decachlorobiphenyl									
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

TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\yk0709.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

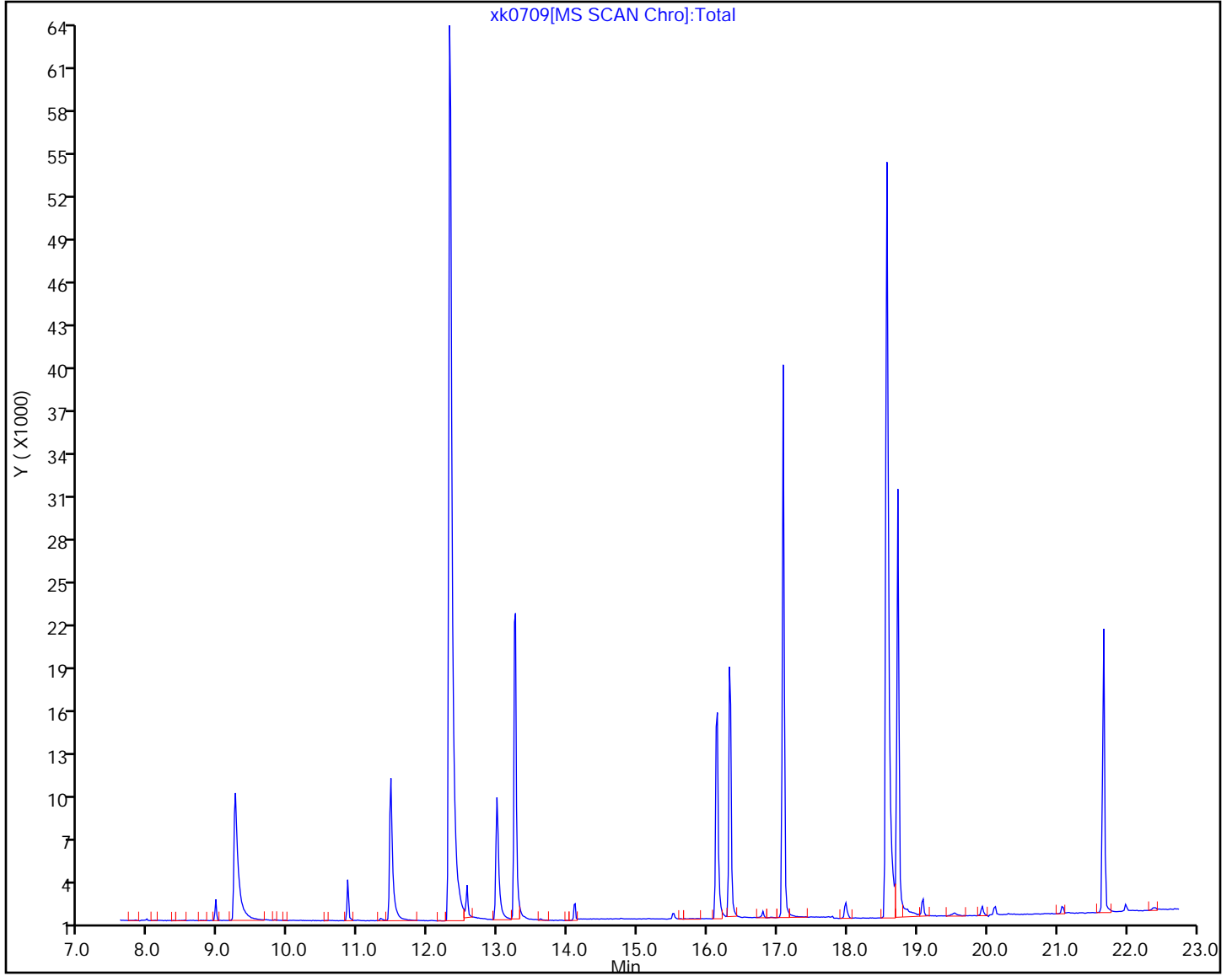
Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 680\CMSX

Limit Group: 680

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

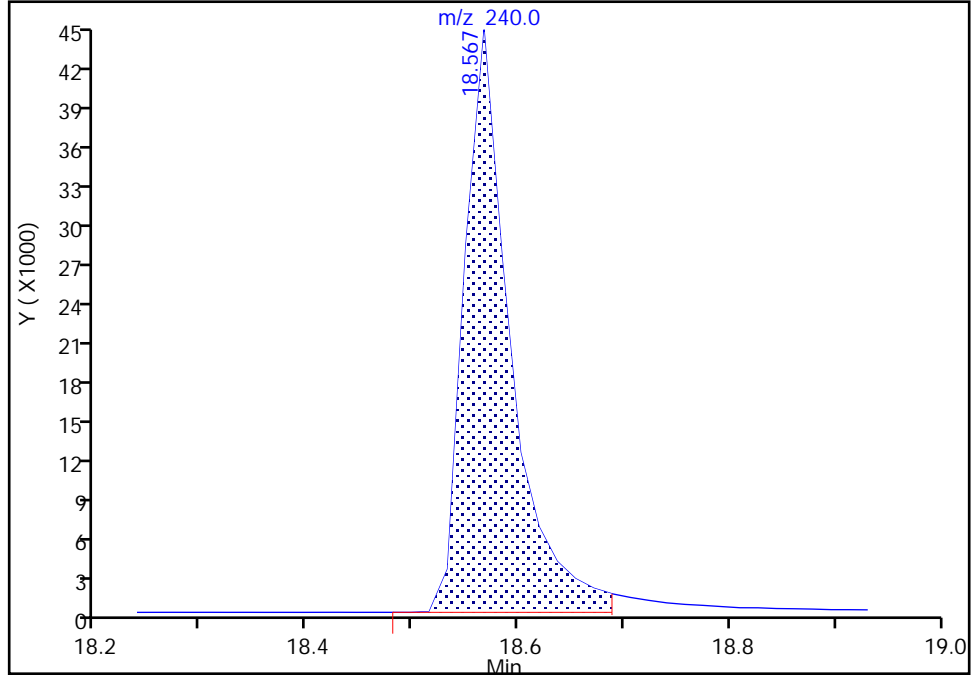
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0709.D
Injection Date: 07-Nov-2018 16:37:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 8 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

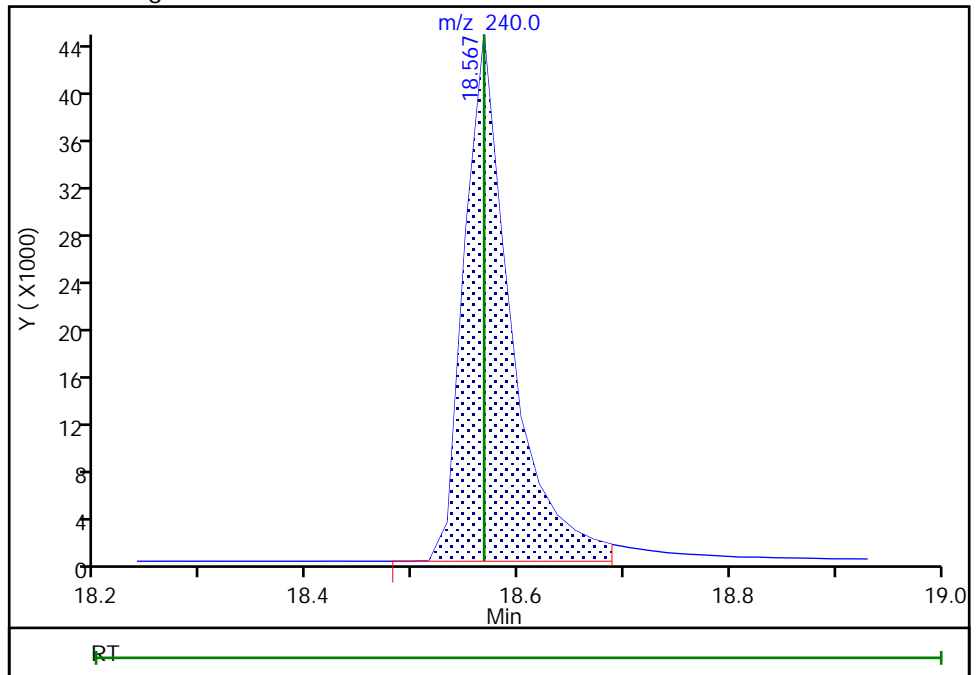
RT: 18.57
Area: 135849
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.57
Area: 135849
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 08-Nov-2018 08:28:01
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

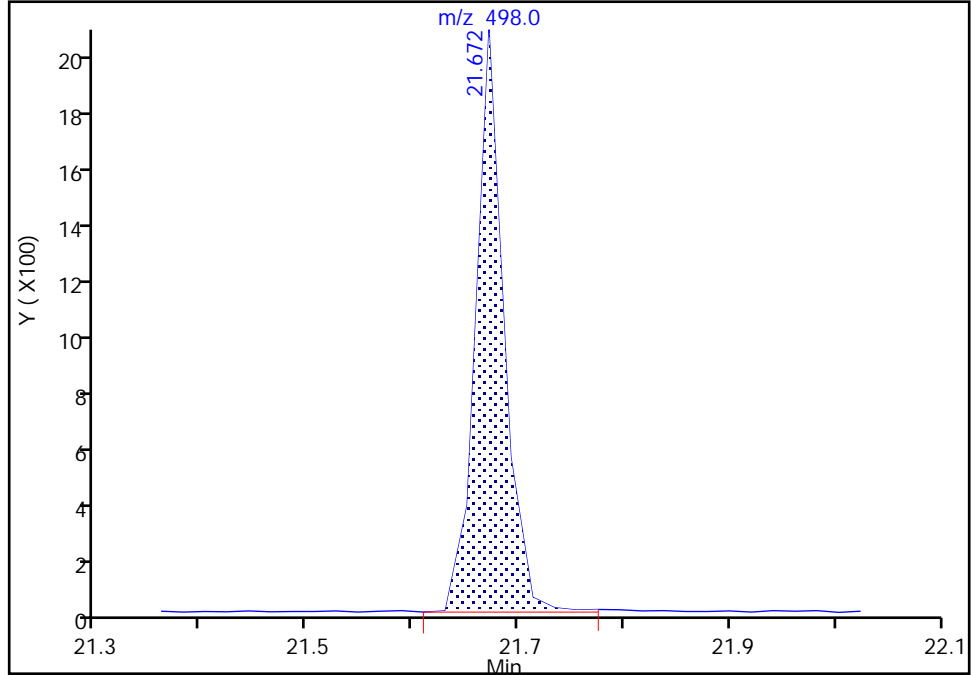
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0709.D
Injection Date: 07-Nov-2018 16:37:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 8 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

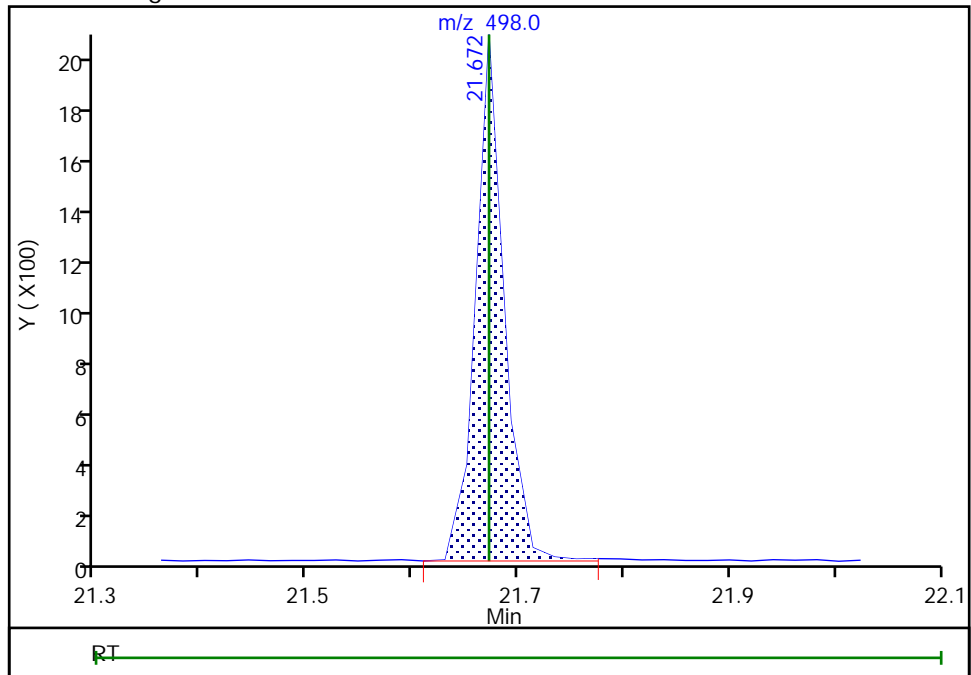
RT: 21.67
Area: 3725
Amount: 0.463466
Amount Units: ug/ml

Processing Integration Results



RT: 21.67
Area: 3725
Amount: 0.463466
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 08-Nov-2018 08:28:08
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

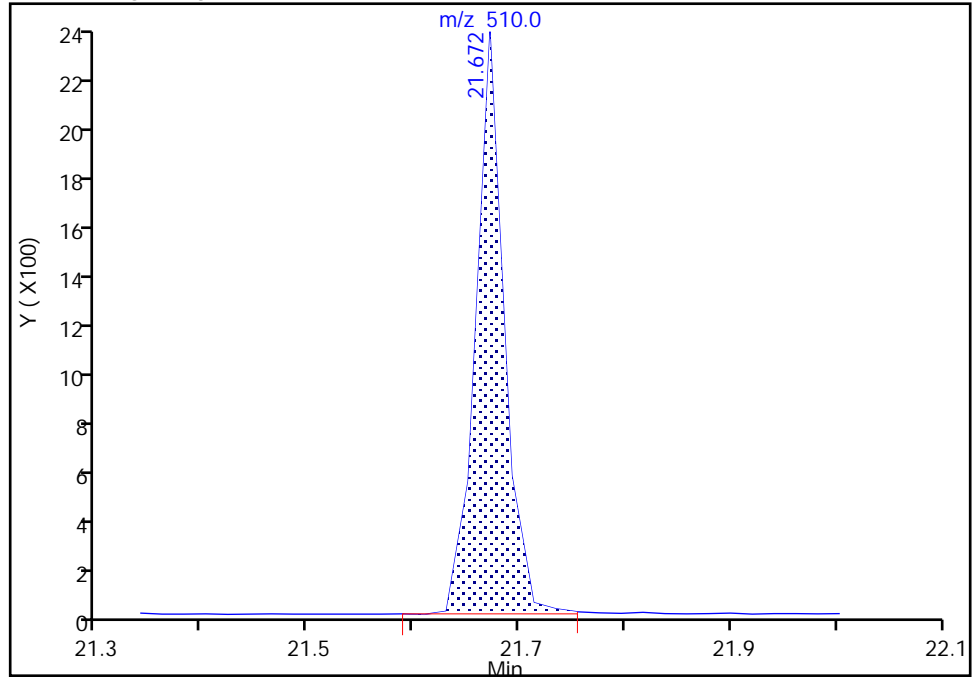
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0709.D
Injection Date: 07-Nov-2018 16:37:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 8 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

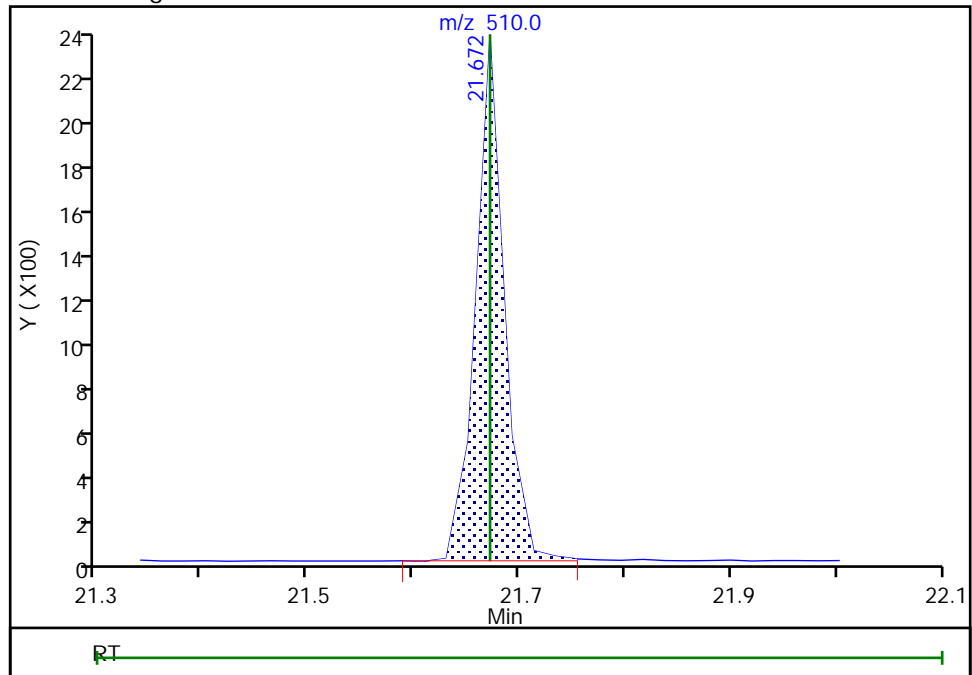
RT: 21.67
Area: 4242
Amount: 0.440318
Amount Units: ug/ml

Processing Integration Results



RT: 21.67
Area: 4242
Amount: 0.440318
Amount Units: ug/ml

Manual Integration Results



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\k0710.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\k0710.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									
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	a

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									
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	a
32 DCB Decachlorobiphenyl									
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

TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\yk0710.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

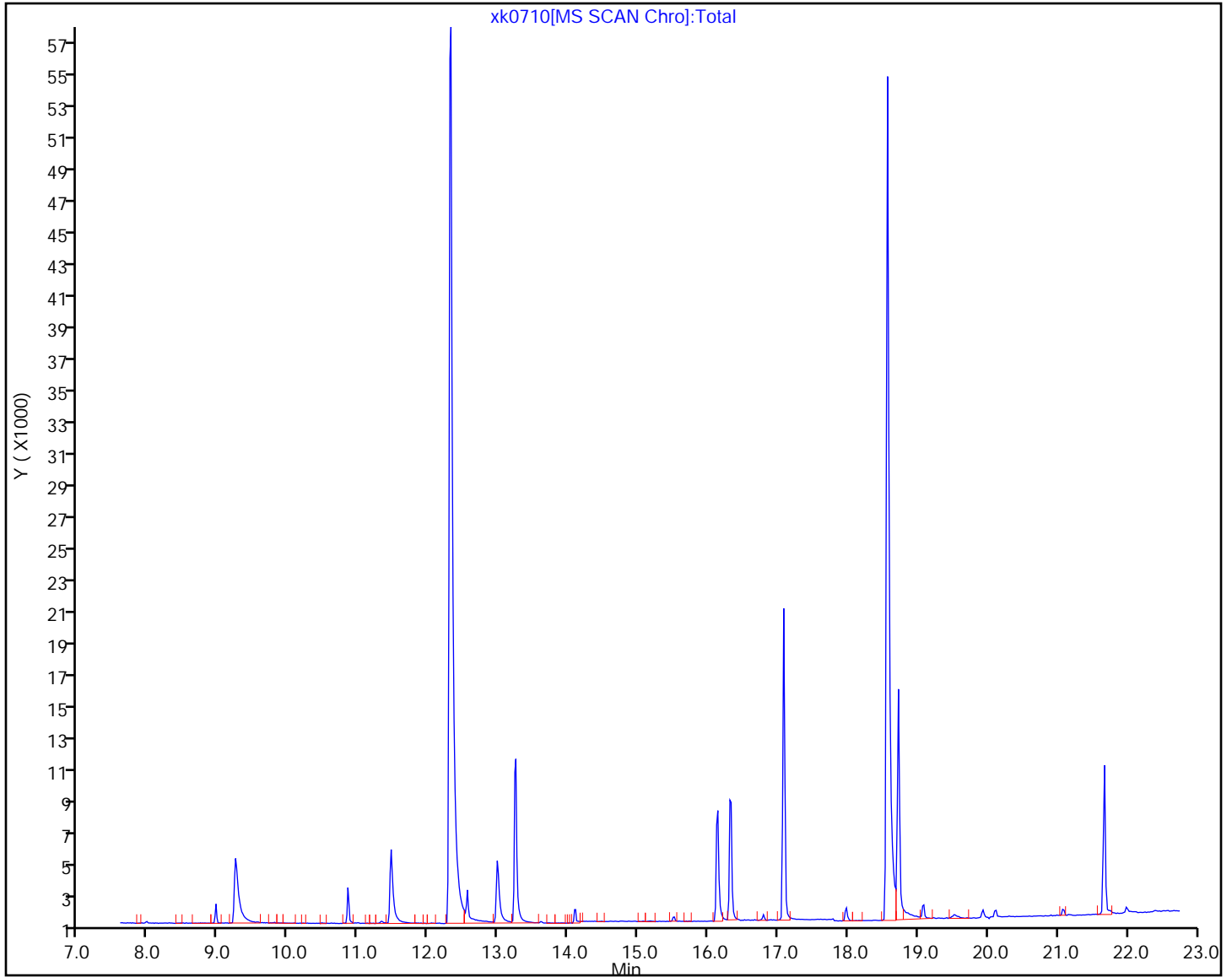
Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 680\CMSX

Limit Group: 680

Column: HP-5MS (0.25 mm)



TestAmerica Savannah

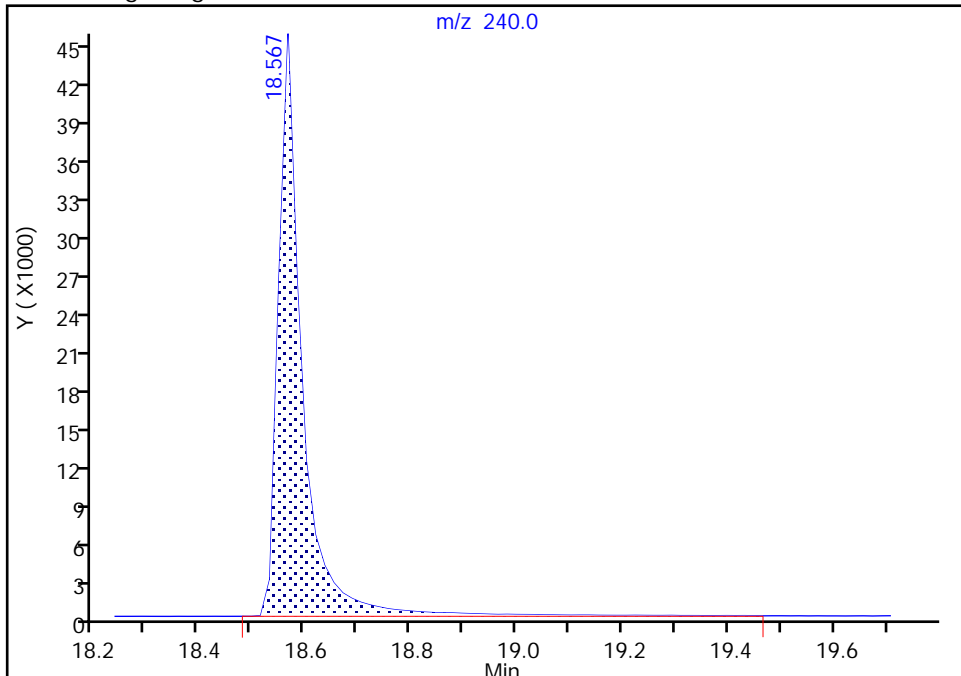
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0710.D
Injection Date: 07-Nov-2018 17:06:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 9 Worklist Smp#: 14
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

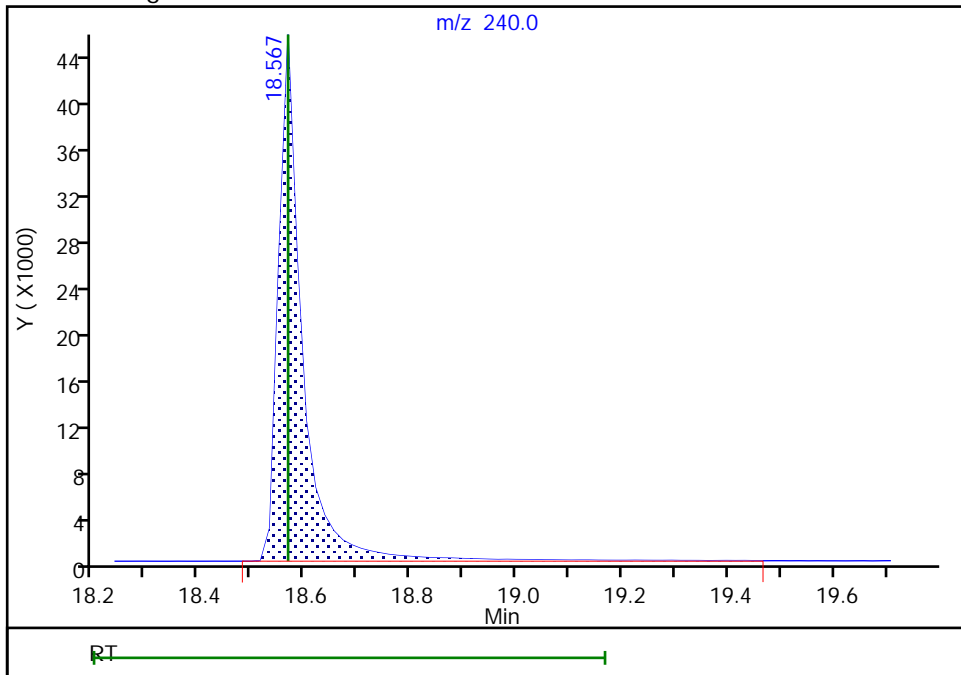
RT: 18.57
Area: 141602
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.57
Area: 141602
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



TestAmerica Savannah

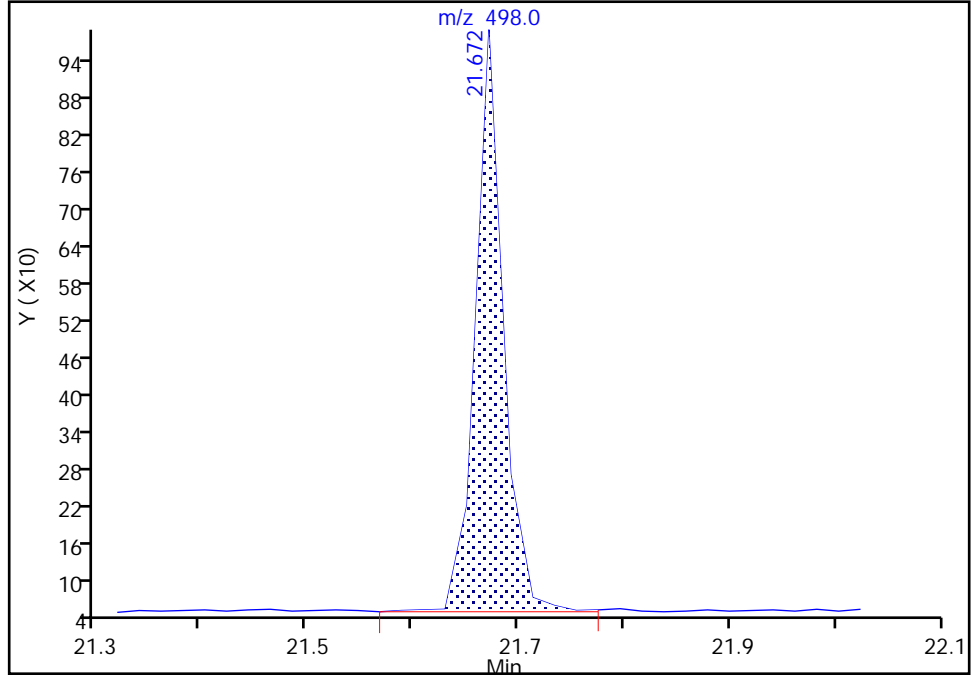
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0710.D
Injection Date: 07-Nov-2018 17:06:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 9 Worklist Smp#: 14
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

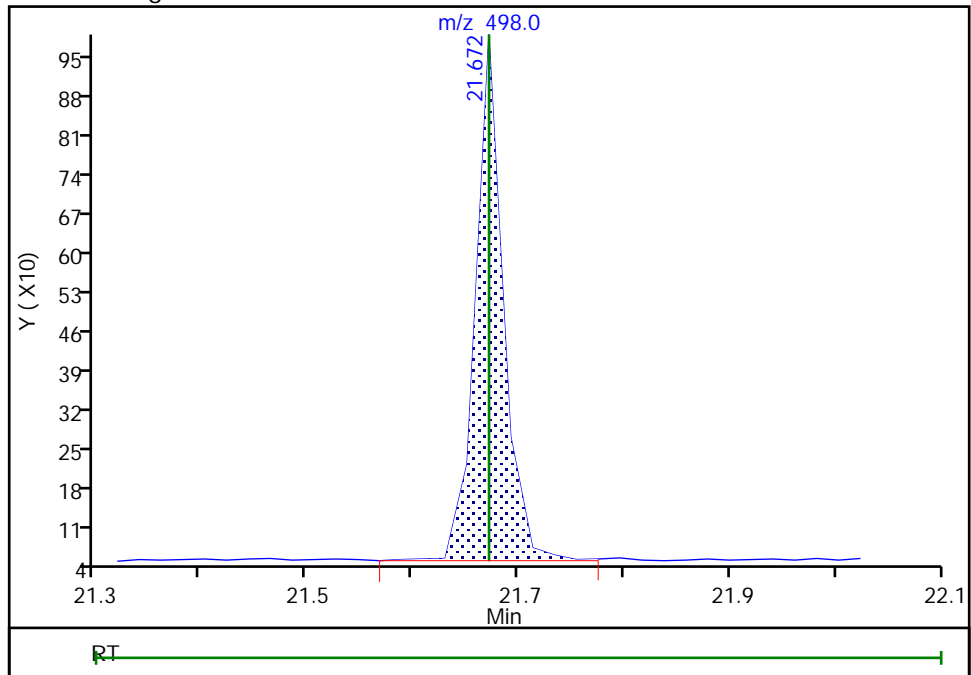
RT: 21.67
Area: 1716
Amount: 0.204831
Amount Units: ug/ml

Processing Integration Results



RT: 21.67
Area: 1716
Amount: 0.204831
Amount Units: ug/ml

Manual Integration Results



TestAmerica Savannah

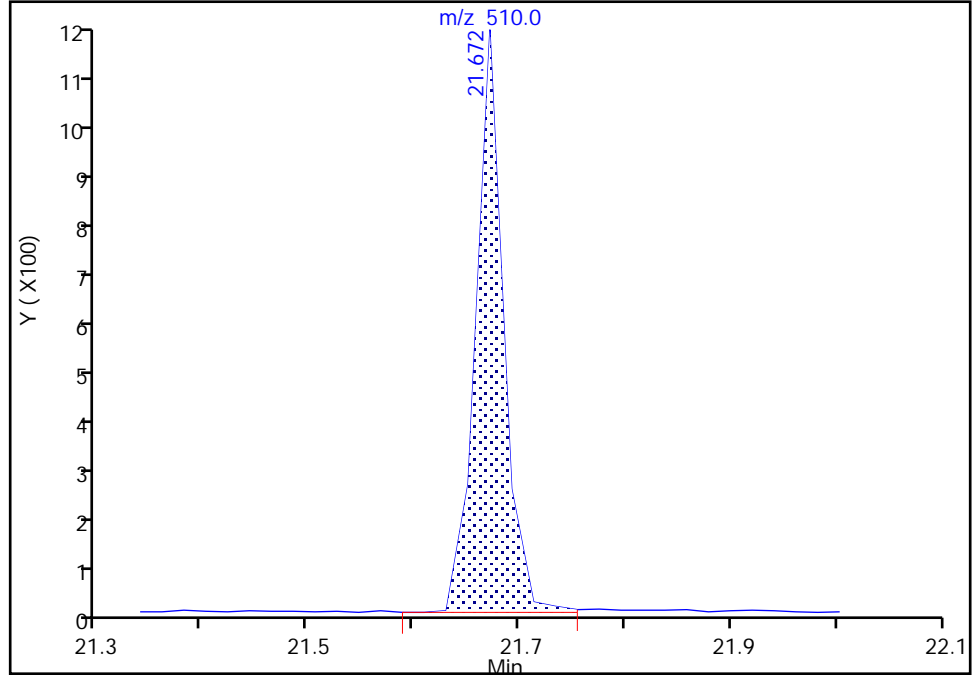
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0710.D
Injection Date: 07-Nov-2018 17:06:30 Instrument ID: CMSX
Lims ID: ic
Client ID:
Operator ID: ALS Bottle#: 9 Worklist Smp#: 14
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

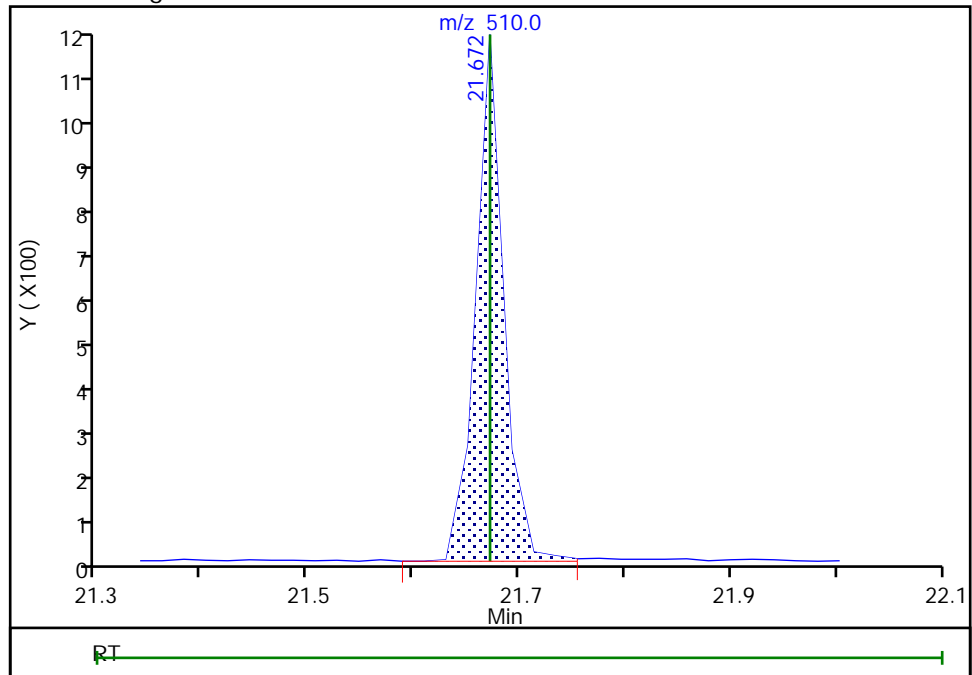
RT: 21.67
Area: 1944
Amount: 0.193588
Amount Units: ug/ml

Processing Integration Results



RT: 21.67
Area: 1944
Amount: 0.193588
Amount Units: ug/ml

Manual Integration Results



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\k0711.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\k0710.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									
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	a

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									
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	a
32 DCB Decachlorobiphenyl									
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	a
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

TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\yk0711.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

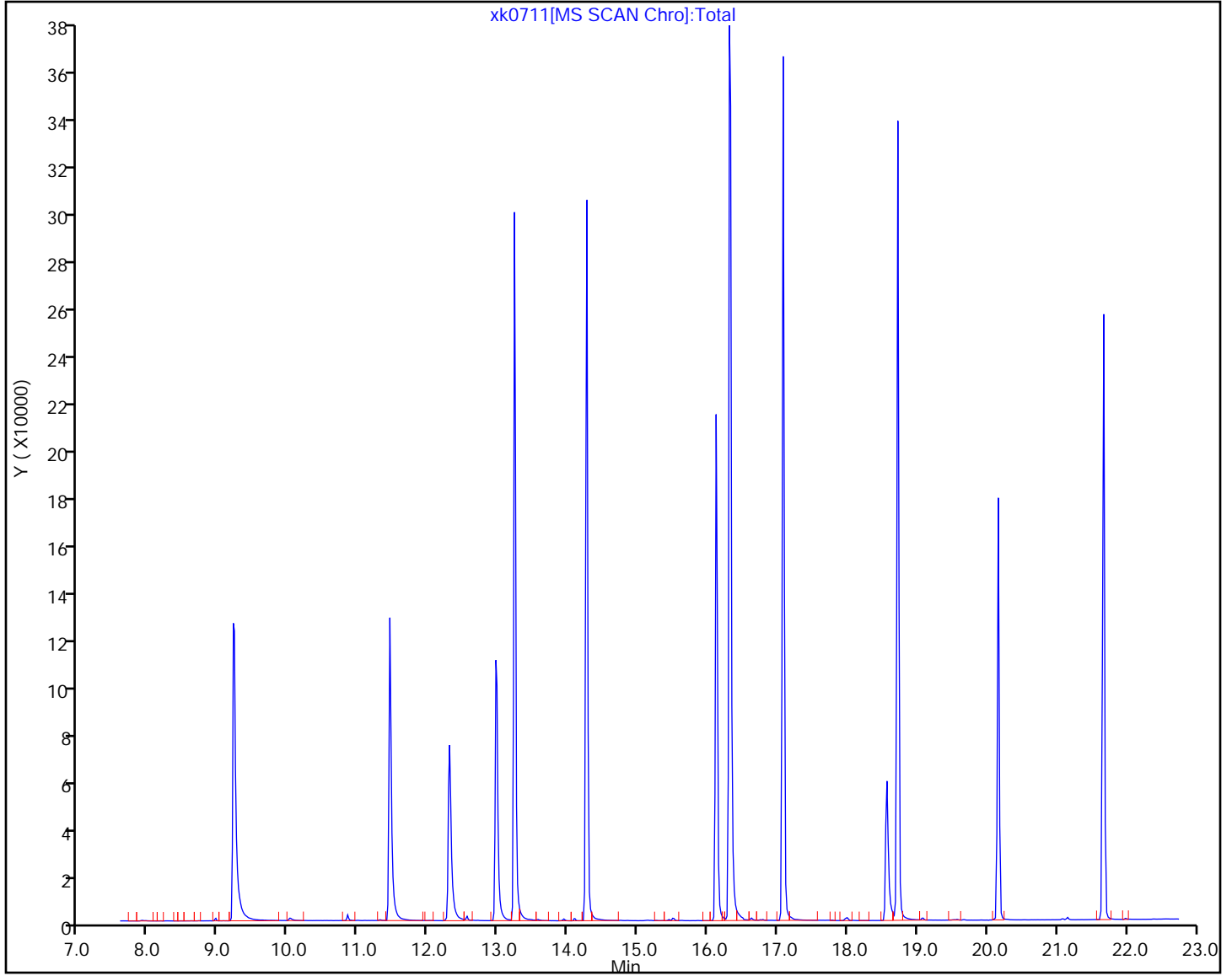
Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 680\CMSX

Limit Group: 680

Column: HP-5MS (0.25 mm)



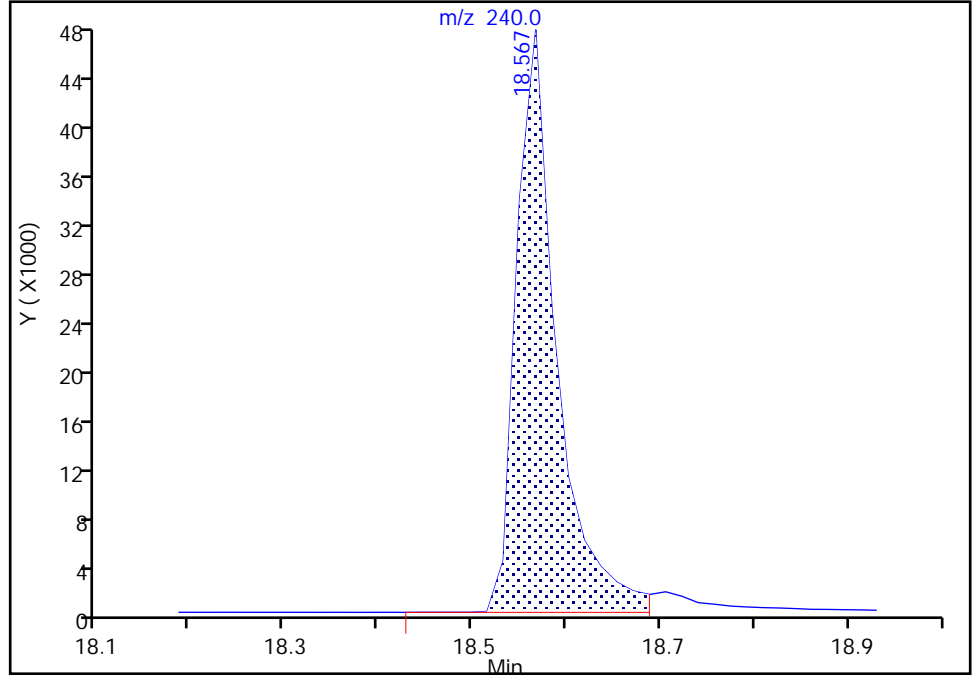
TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0711.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

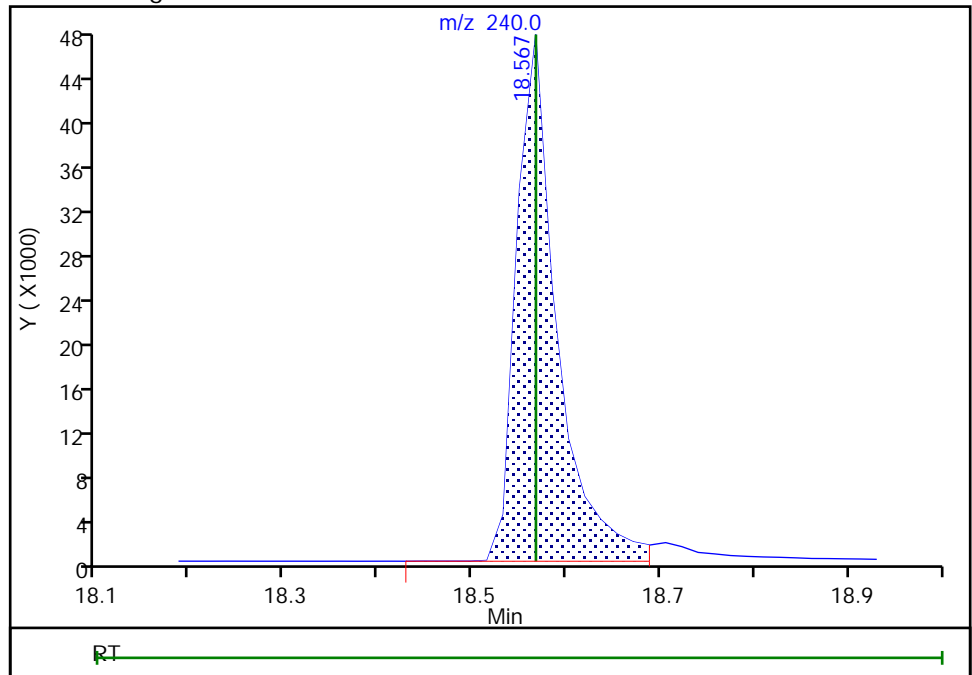
RT: 18.57
Area: 140292
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.57
Area: 140292
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 08-Nov-2018 08:30:44
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

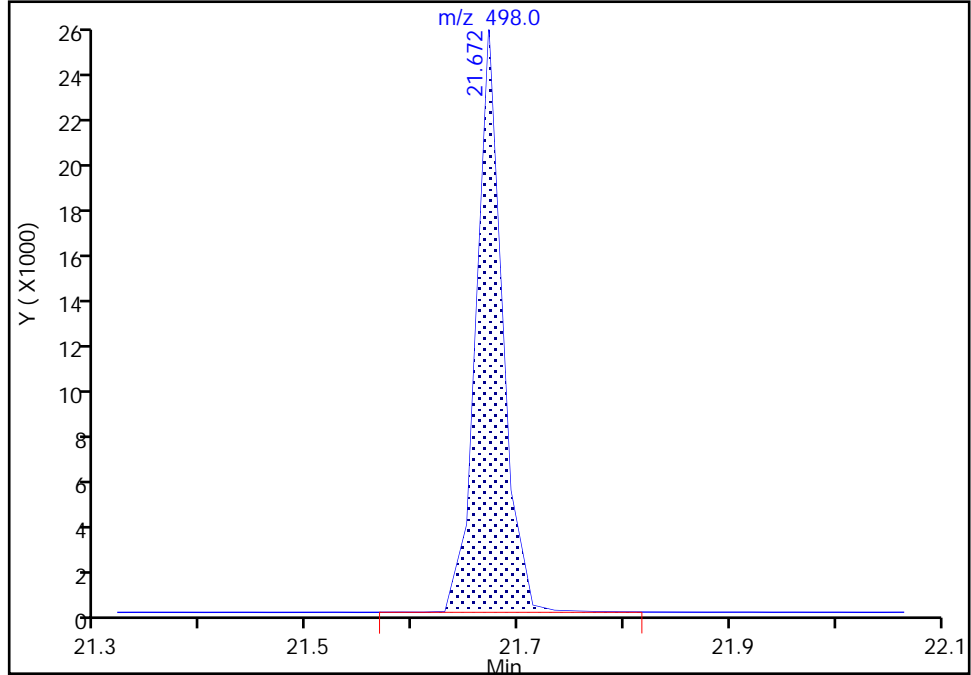
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0711.D
Injection Date: 07-Nov-2018 17:34:30 Instrument ID: CMSX
Lims ID: icv
Client ID:
Operator ID: ALS Bottle#: 10 Worklist Smp#: 15
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

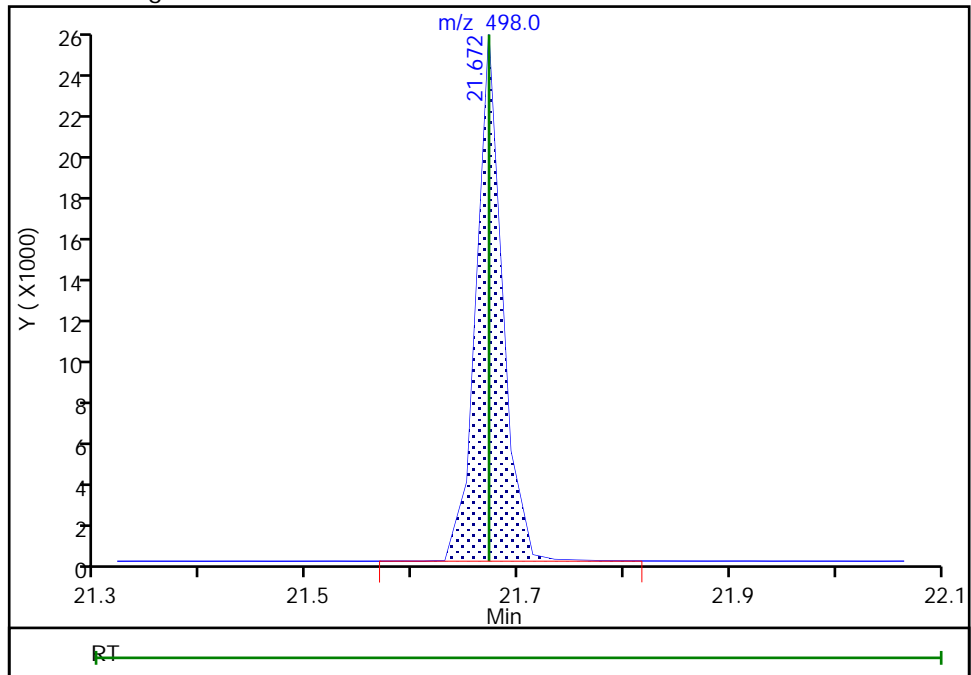
RT: 21.67
Area: 44221
Amount: 5.327748
Amount Units: ug/ml

Processing Integration Results



RT: 21.67
Area: 44221
Amount: 5.327748
Amount Units: ug/ml

Manual Integration Results



TestAmerica Savannah

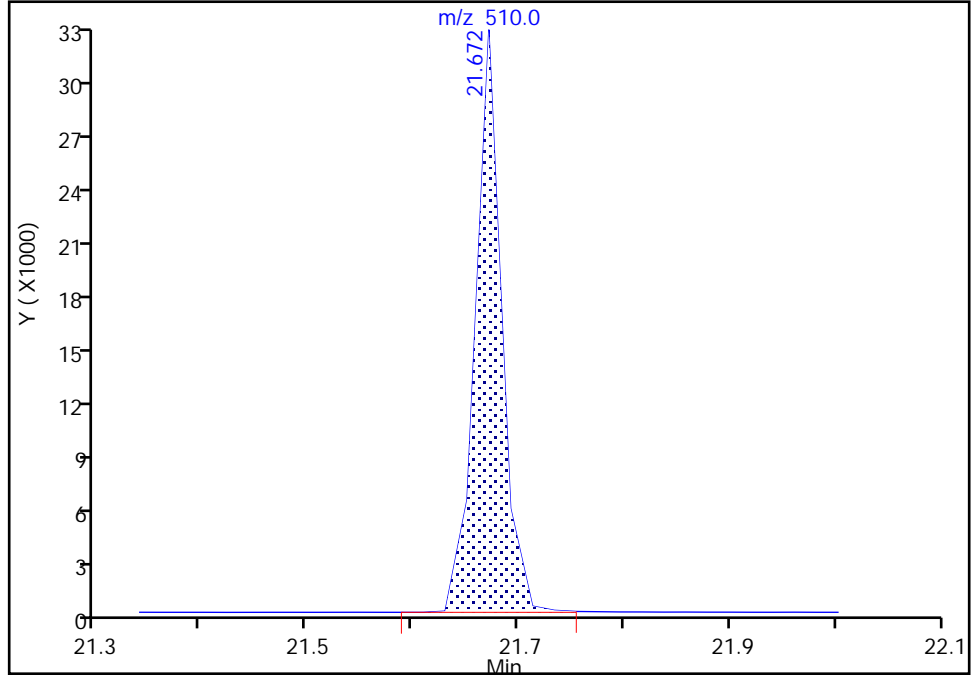
Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0711.D
Injection Date: 07-Nov-2018 17:34:30 Instrument ID: CMSX
Lims ID: icv
Client ID:
Operator ID: ALS Bottle#: 10 Worklist Smp#: 15
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

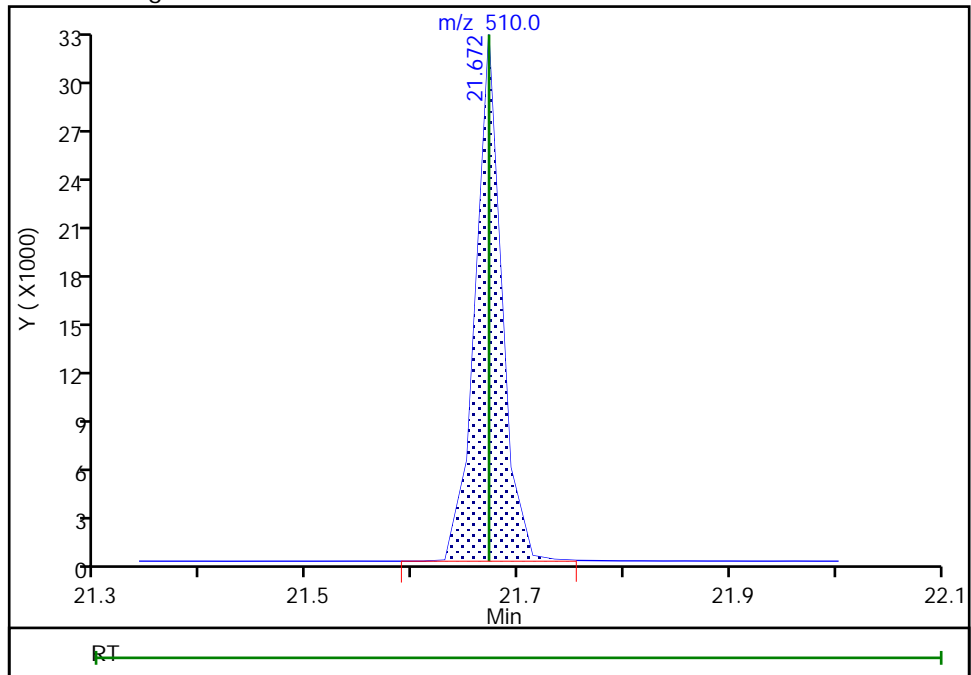
RT: 21.67
Area: 56195
Amount: 5.648293
Amount Units: ug/ml

Processing Integration Results



RT: 21.67
Area: 56195
Amount: 5.648293
Amount Units: ug/ml

Manual Integration Results



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\k0711.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\k0710.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									
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	a

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									
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	a
32 DCB Decachlorobiphenyl									
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	a
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

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

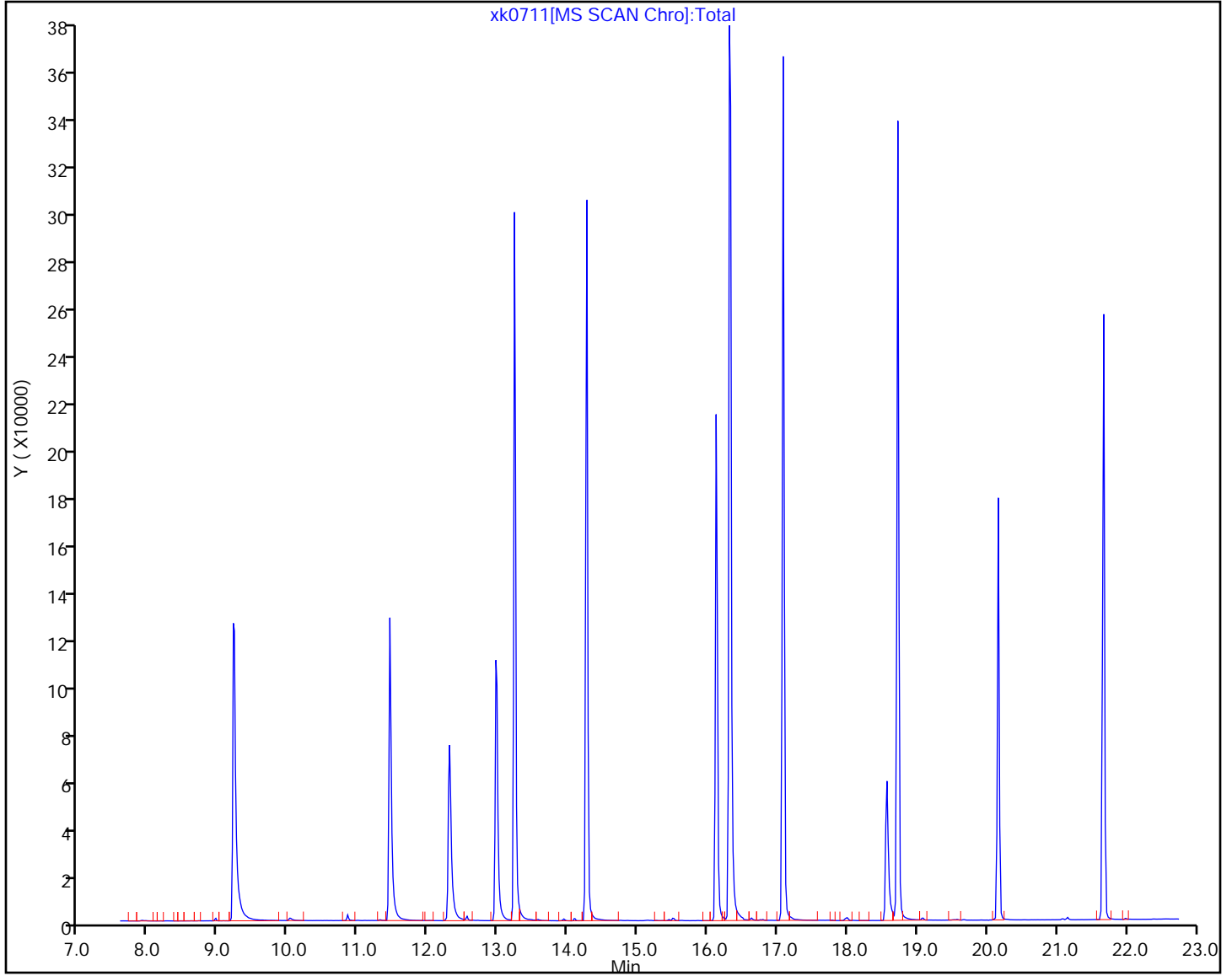
Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 680\CMSX

Limit Group: 680

Column: HP-5MS (0.25 mm)



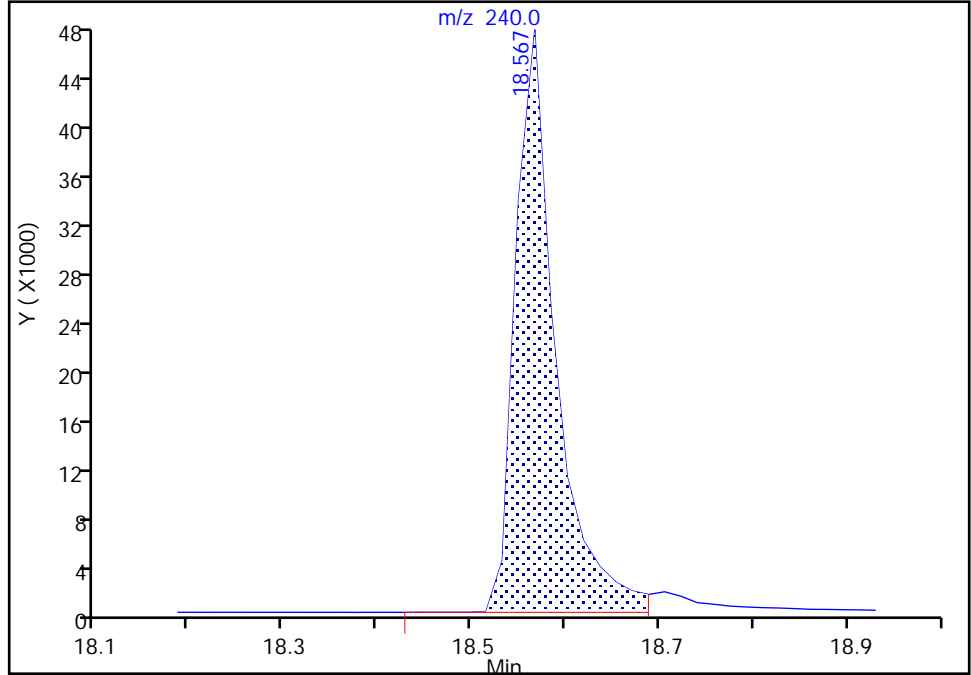
TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0711.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

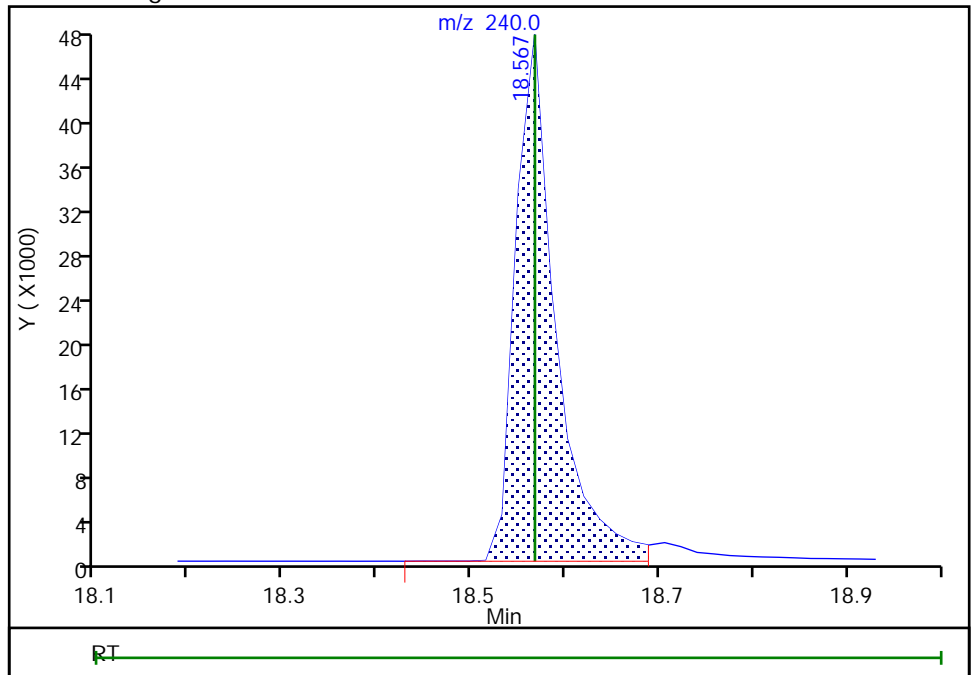
RT: 18.57
Area: 140292
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.57
Area: 140292
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



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\1807.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\1807.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										
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
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

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

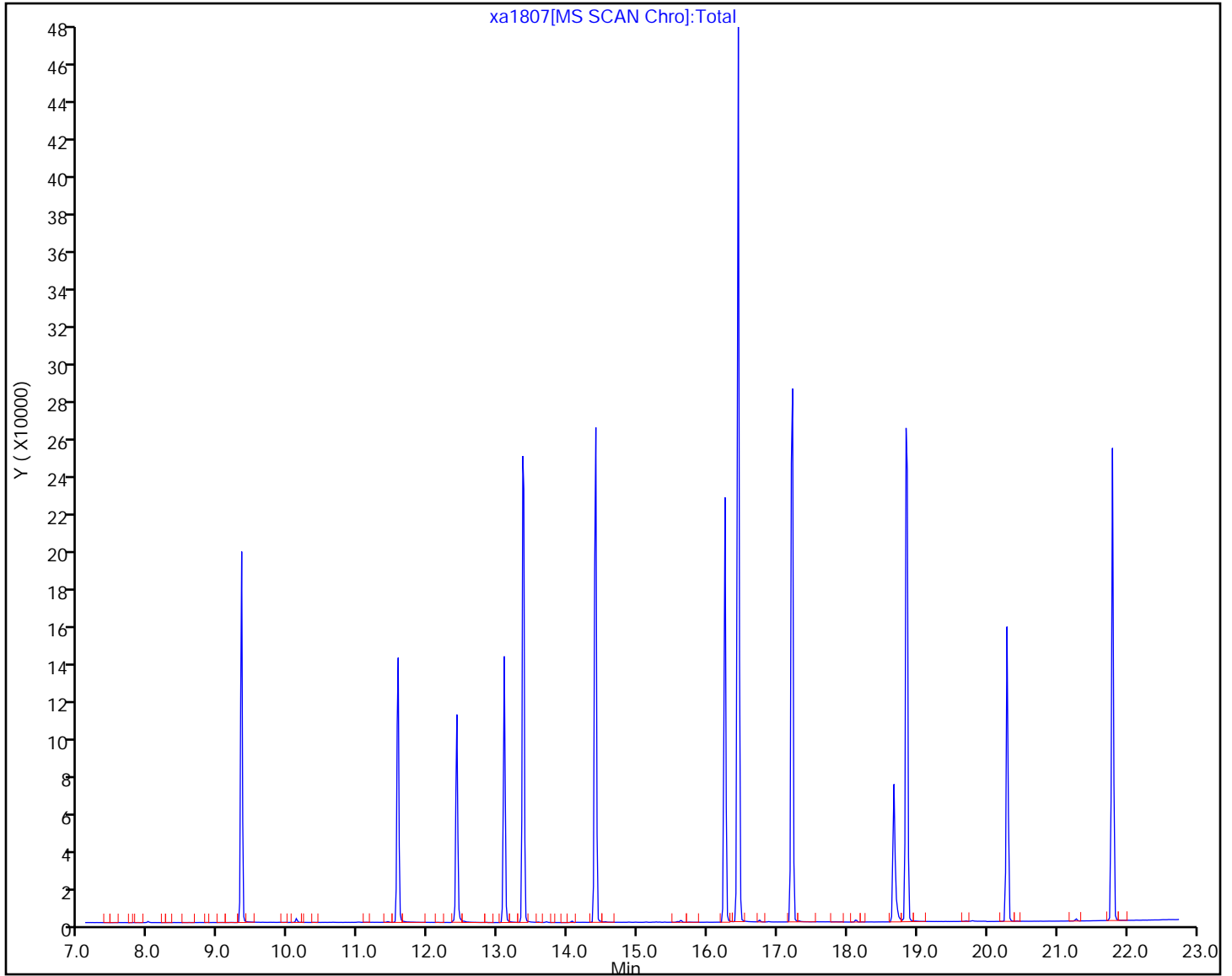
Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 680\CMSX

Limit Group: 680

Column: HP-5MS (0.25 mm)



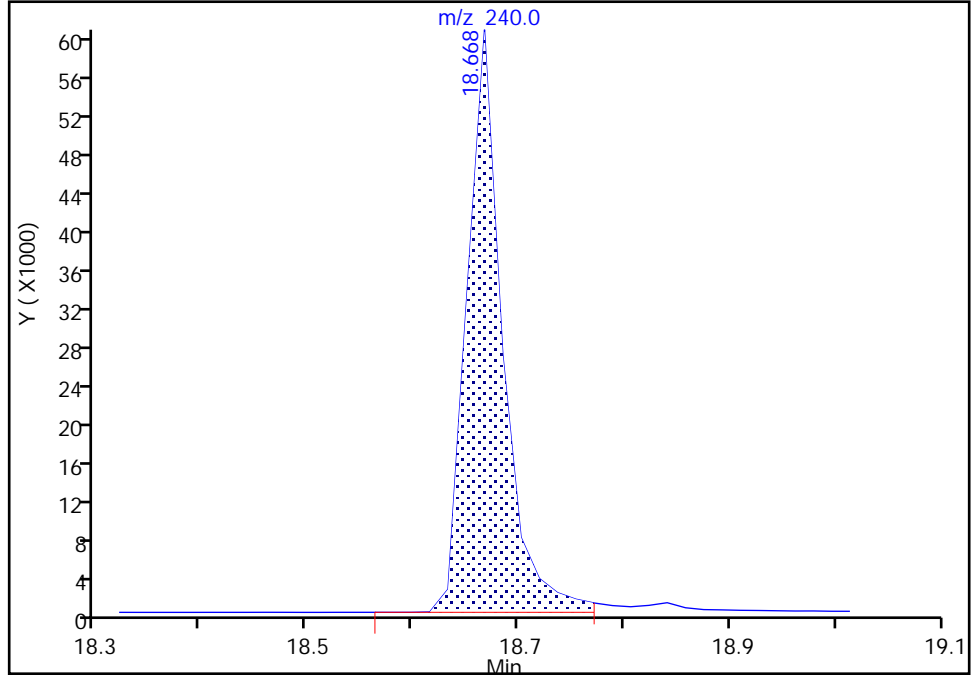
TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\1807.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

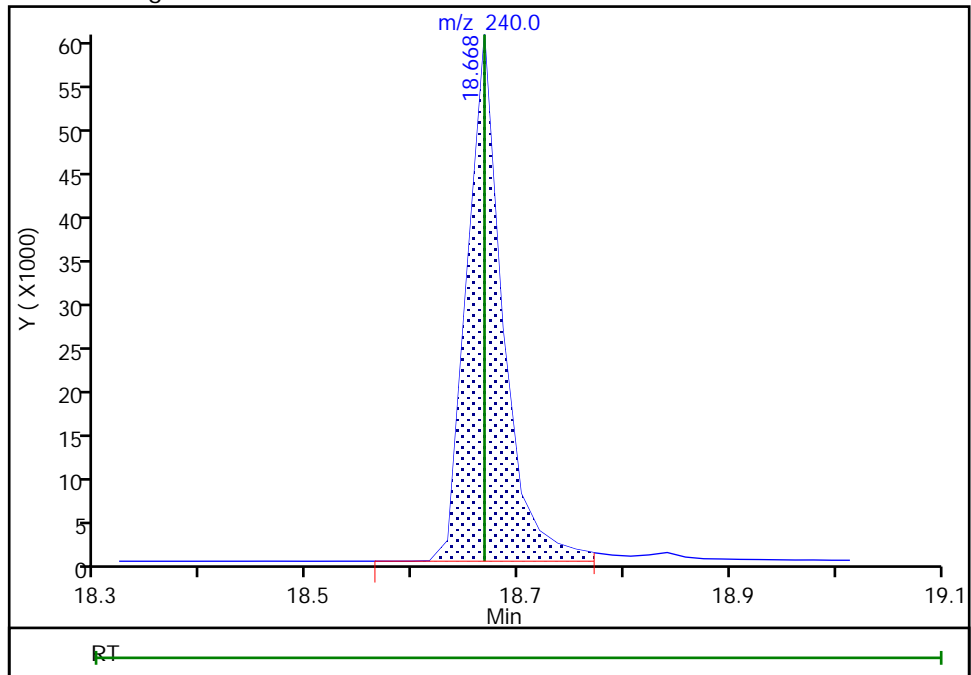
RT: 18.67
Area: 143472
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.67
Area: 143472
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



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\1813.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\1812.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									
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
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									
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	a
32 DCB Decachlorobiphenyl									
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	a
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

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

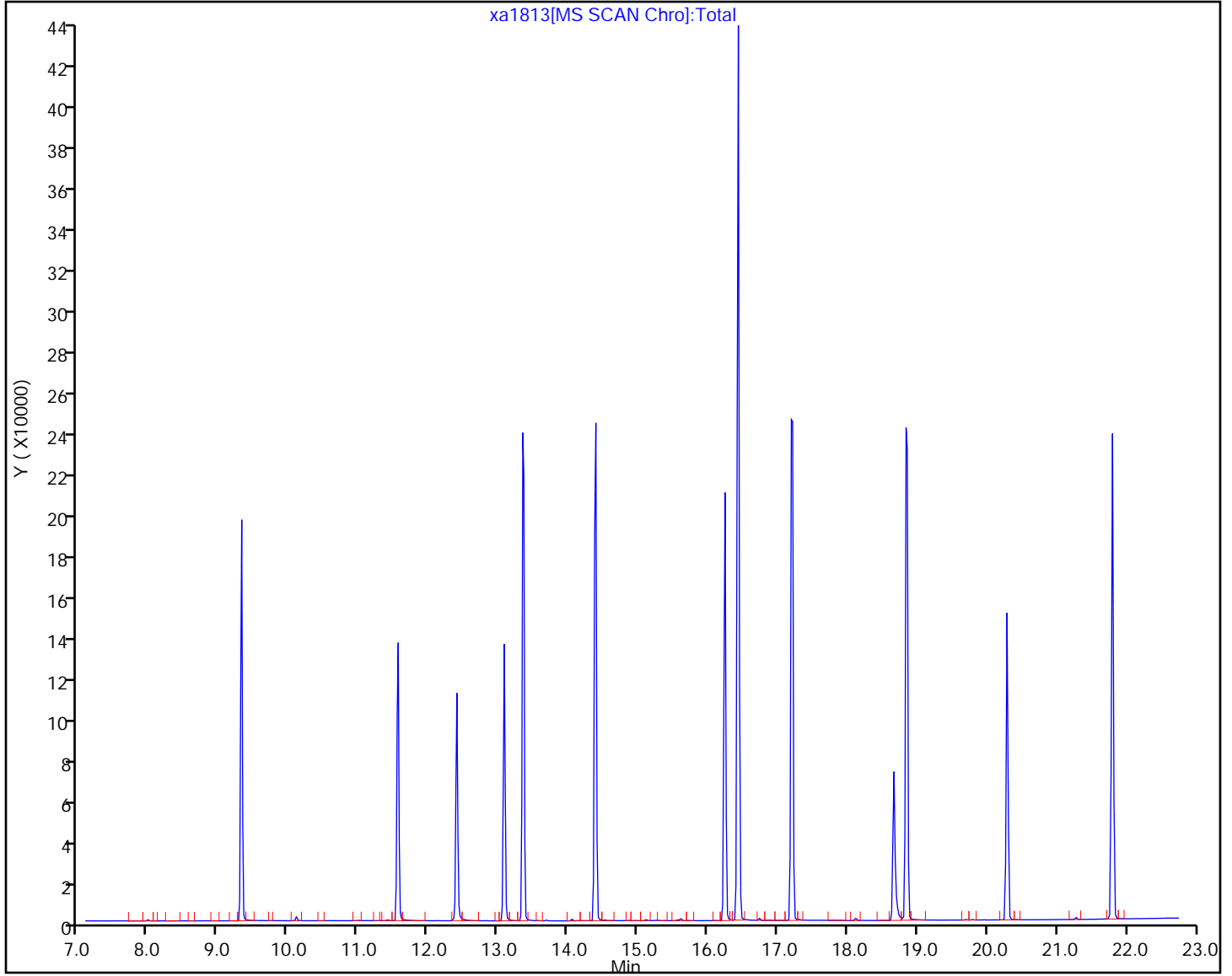
Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 680\CMSX

Limit Group: 680

Column: HP-5MS (0.25 mm)



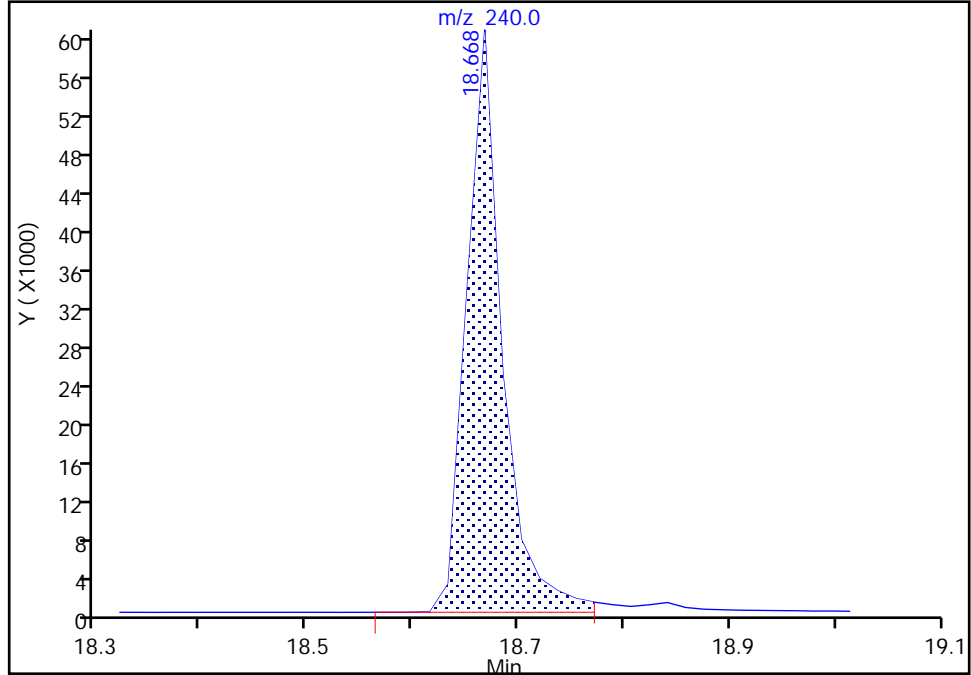
TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\1813.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

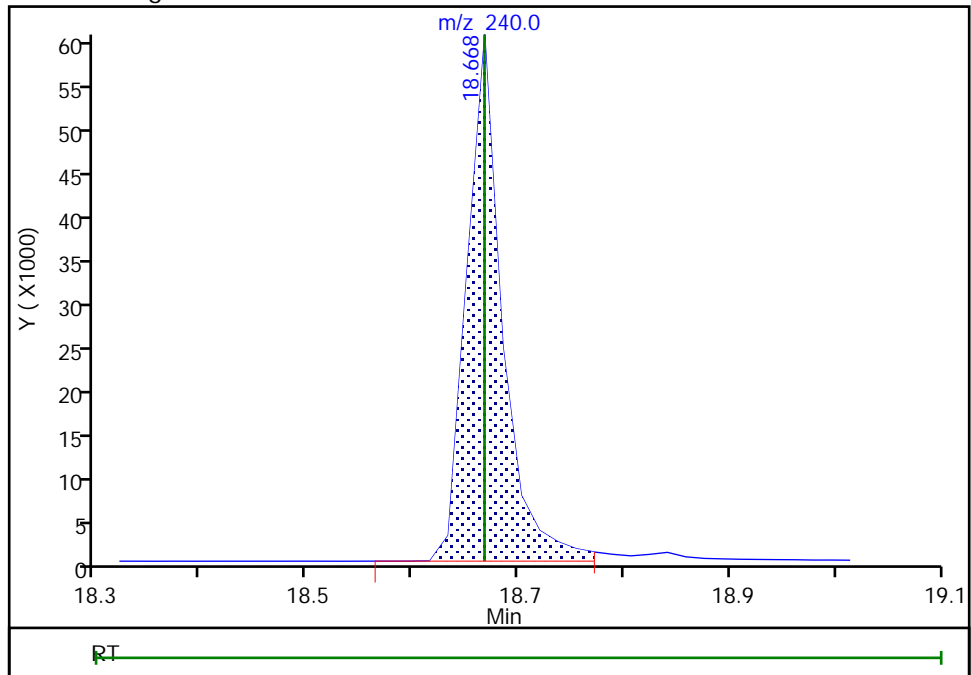
RT: 18.67
Area: 141829
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.67
Area: 141829
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



TestAmerica Savannah

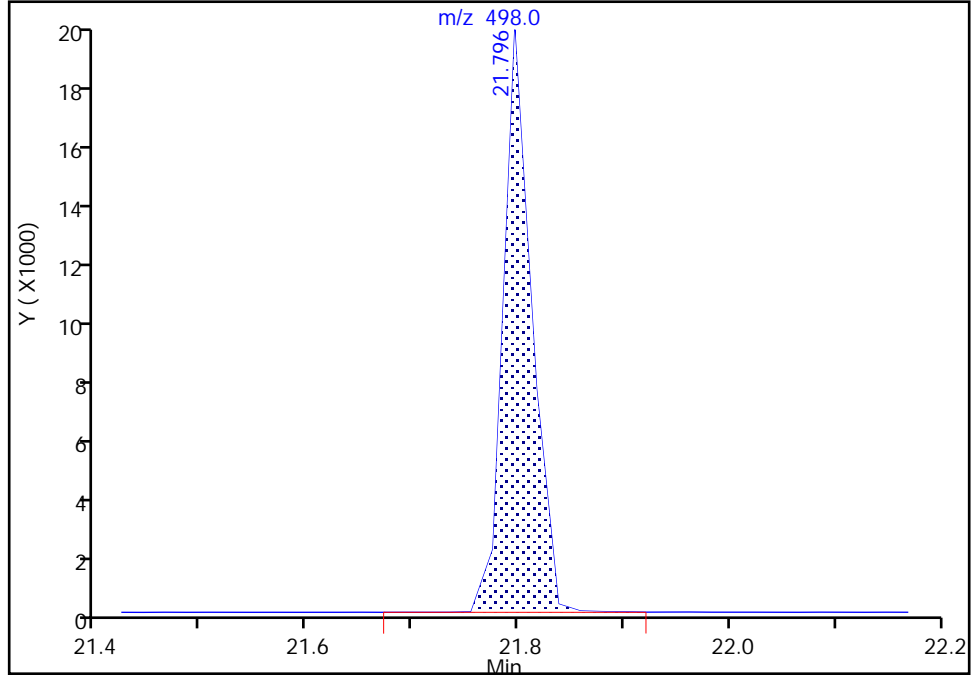
Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\1813.D
Injection Date: 18-Jan-2019 21:10:30 Instrument ID: CMSX
Lims ID: ccv
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

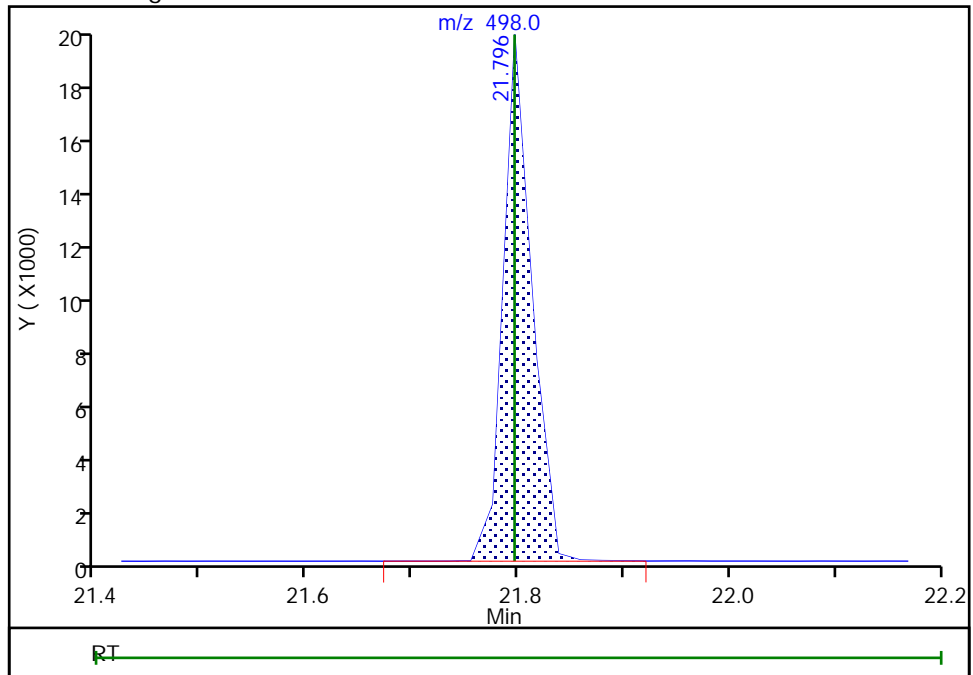
RT: 21.80
Area: 35912
Amount: 4.525387
Amount Units: ug/ml

Processing Integration Results



RT: 21.80
Area: 35912
Amount: 4.525387
Amount Units: ug/ml

Manual Integration Results



TestAmerica Savannah

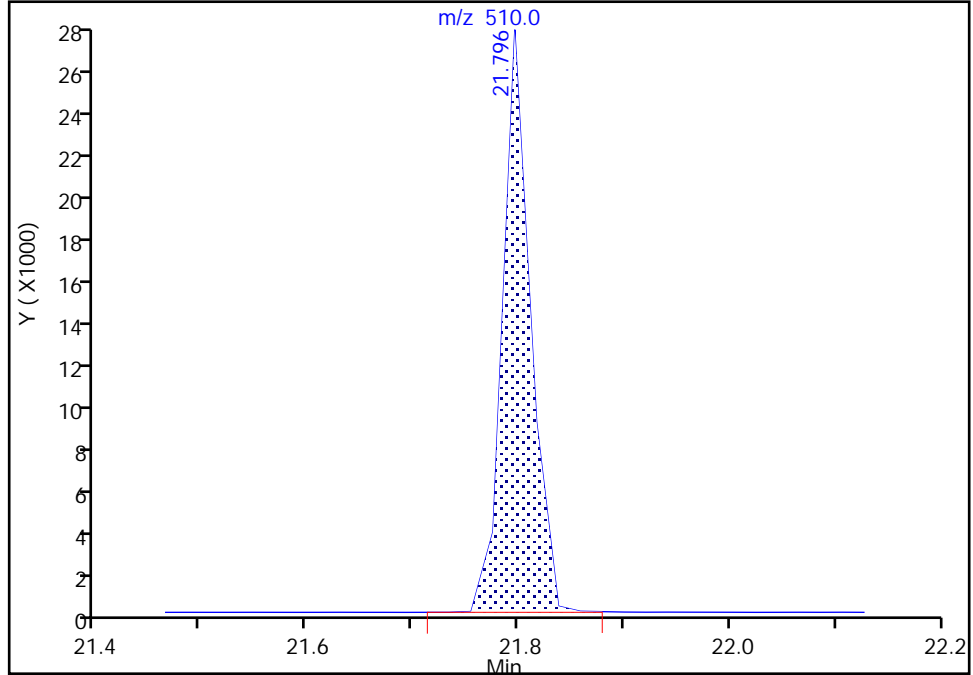
Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\1813.D
Injection Date: 18-Jan-2019 21:10:30 Instrument ID: CMSX
Lims ID: ccv
Client ID:
Operator ID: ALS Bottle#: 3 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

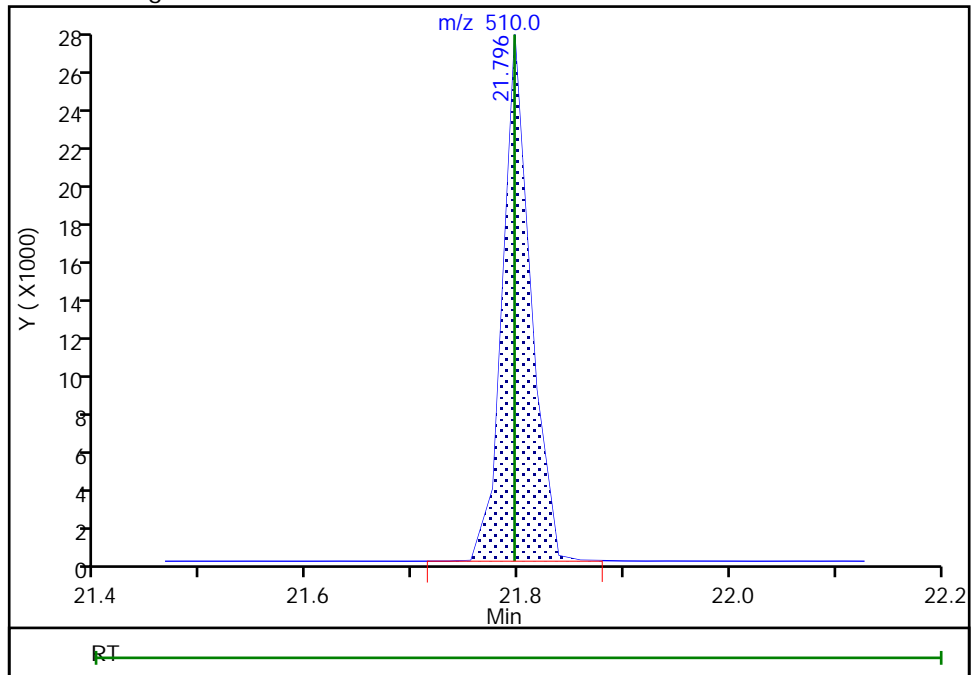
RT: 21.80
Area: 50451
Amount: 4.950411
Amount Units: ug/ml

Processing Integration Results



RT: 21.80
Area: 50451
Amount: 4.950411
Amount Units: ug/ml

Manual Integration Results



TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\wk0701.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\wk0710.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
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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
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8 DFTPP
 198 13.416 13.416 0.0 0 293058 -1.0- -1.0

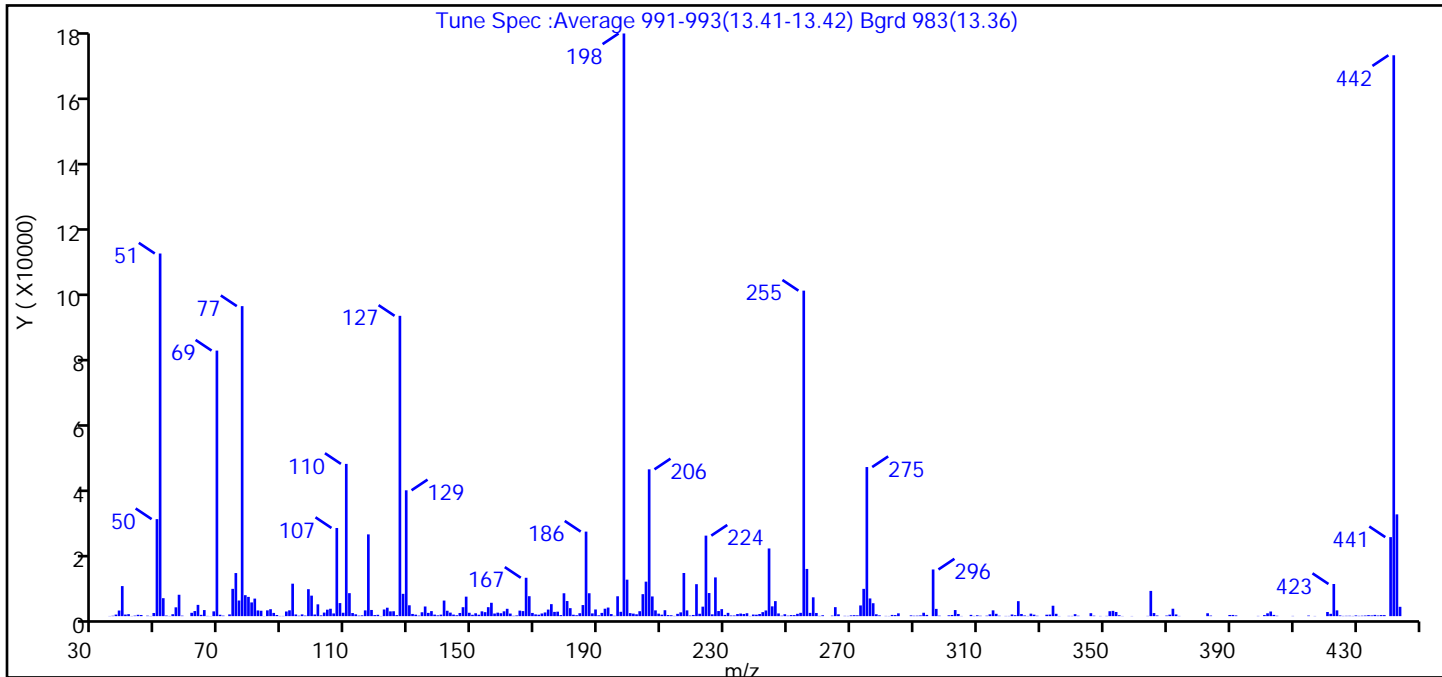
Reagents:

SM680dftpp_00038 Amount Added: 1.00 Units: mL

TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0701.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.blxk0701.D\680\CMSX.rsl\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

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.blxk0701.D\680\CMSX.rsl\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

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\k0701.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		

TestAmerica Savannah

Data File: \\ChromNA\Savannah\ChromData\CMSX\20181107-51662.b\yk0701.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

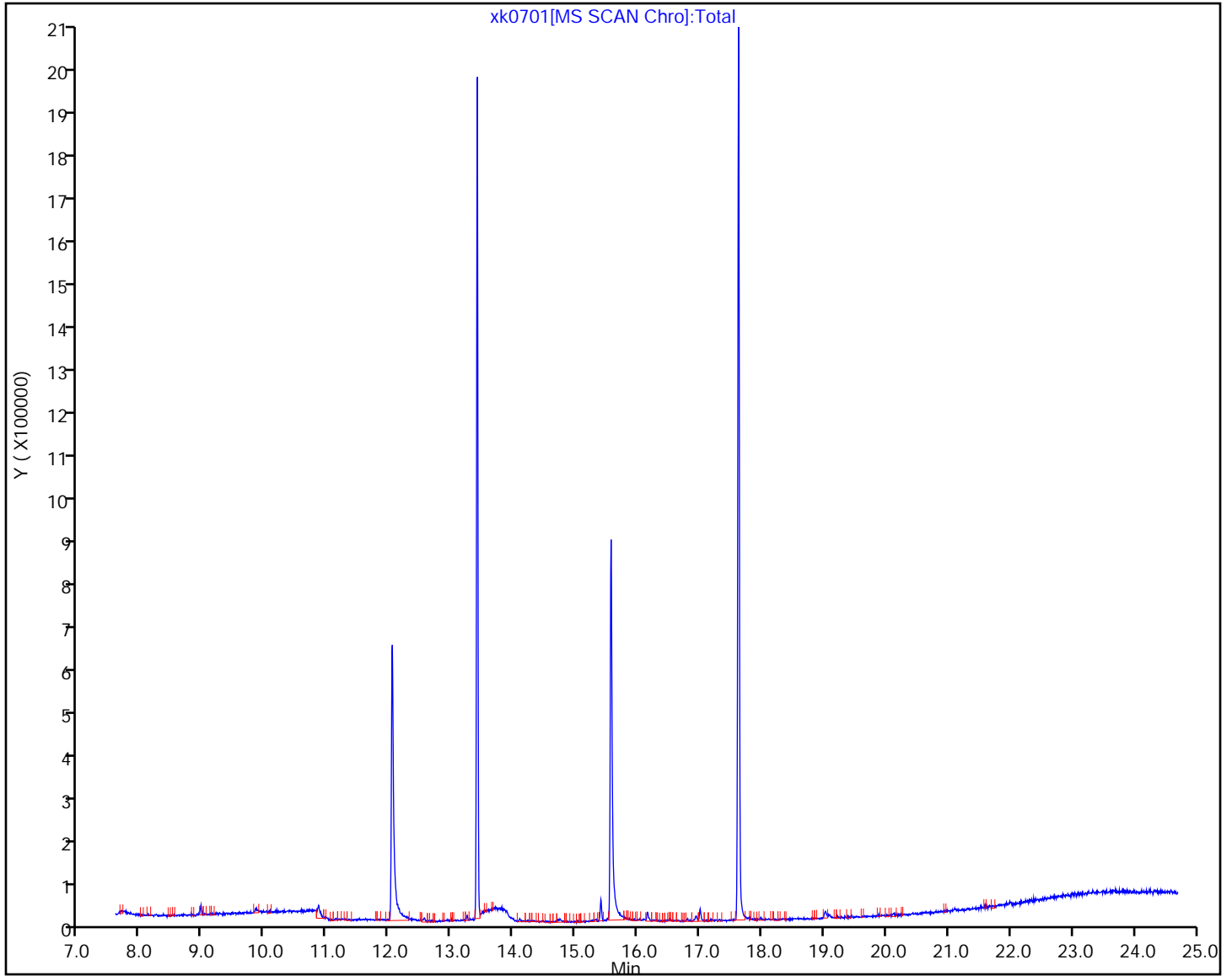
Injection Vol: 2.0 ul

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
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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
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8 DFTPP
 198 13.528 13.528 0.0 0 211506 -1.0- -1.0

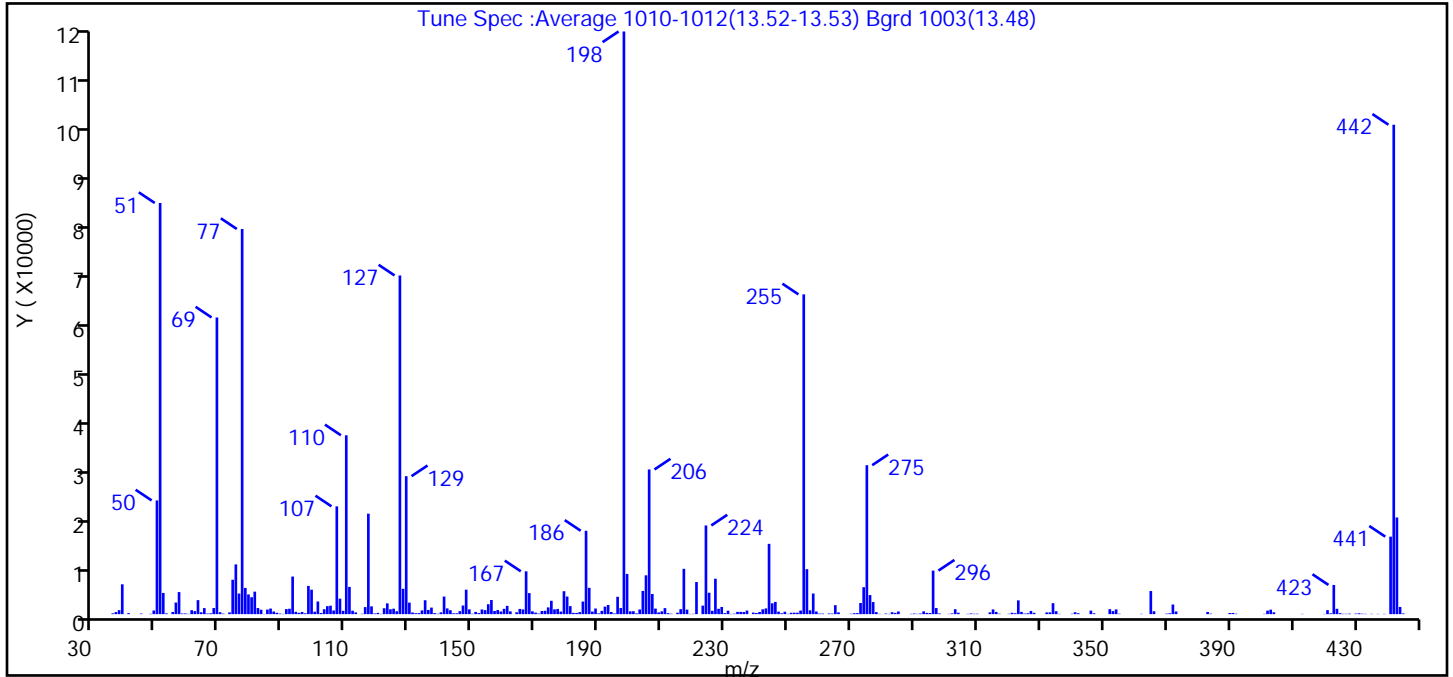
Reagents:

SM680dftpp_00038 Amount Added: 1.00 Units: mL

TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\1802.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\1802.D\680\CMSX.rsl\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

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\1802.D\680\CMSX.rsl\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\1802.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

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

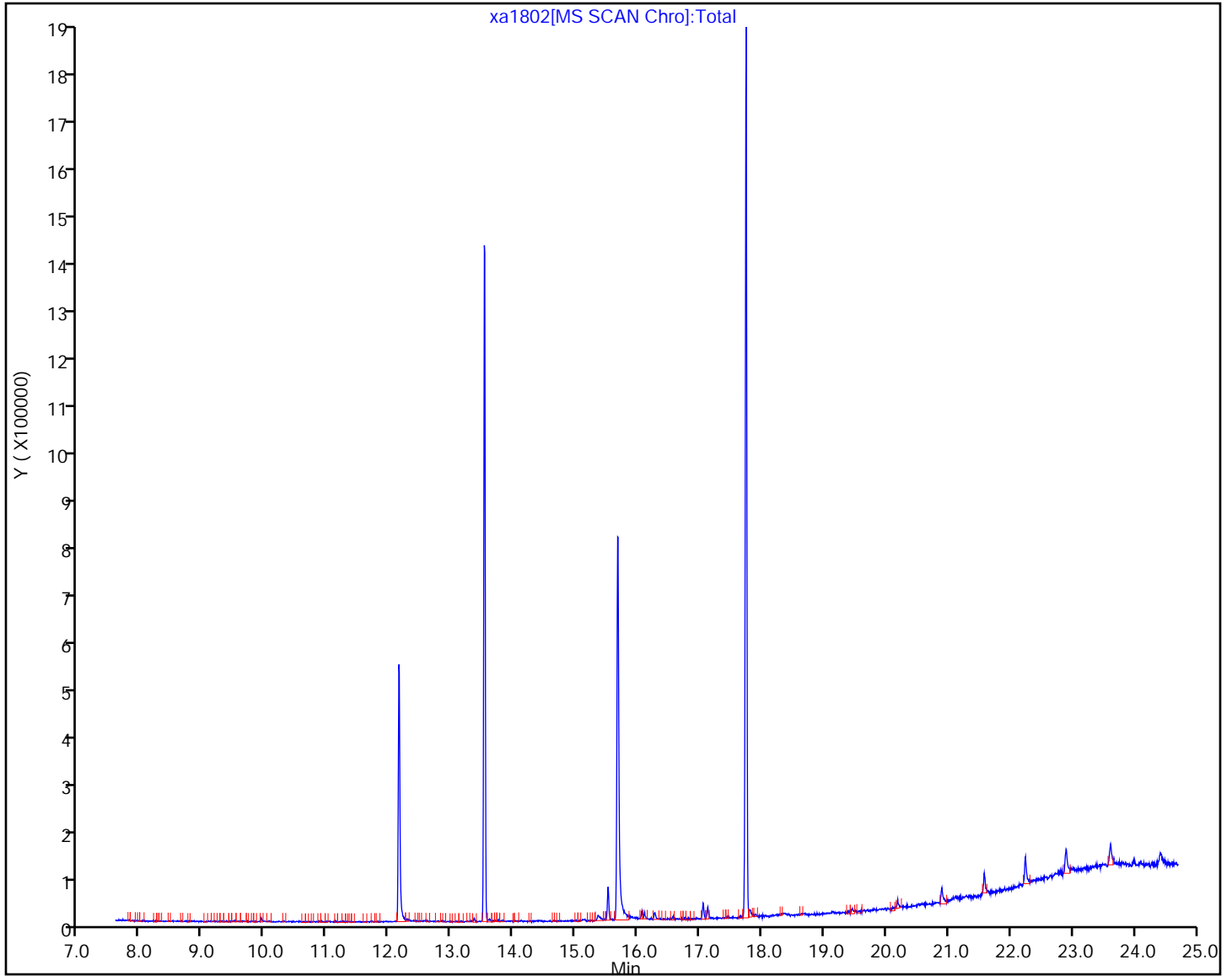
Injection Vol: 2.0 ul

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									
394	17.206	17.206	0.0	1	4018	NC			a
396	17.206	17.206	0.0		0		1.0- 1.0		a
32 DCB Decachlorobiphenyl									
498	21.799	21.799	0.0	1	6042	0			a
500	21.796	21.799	-0.003		0		0.9- 1.3		a
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

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

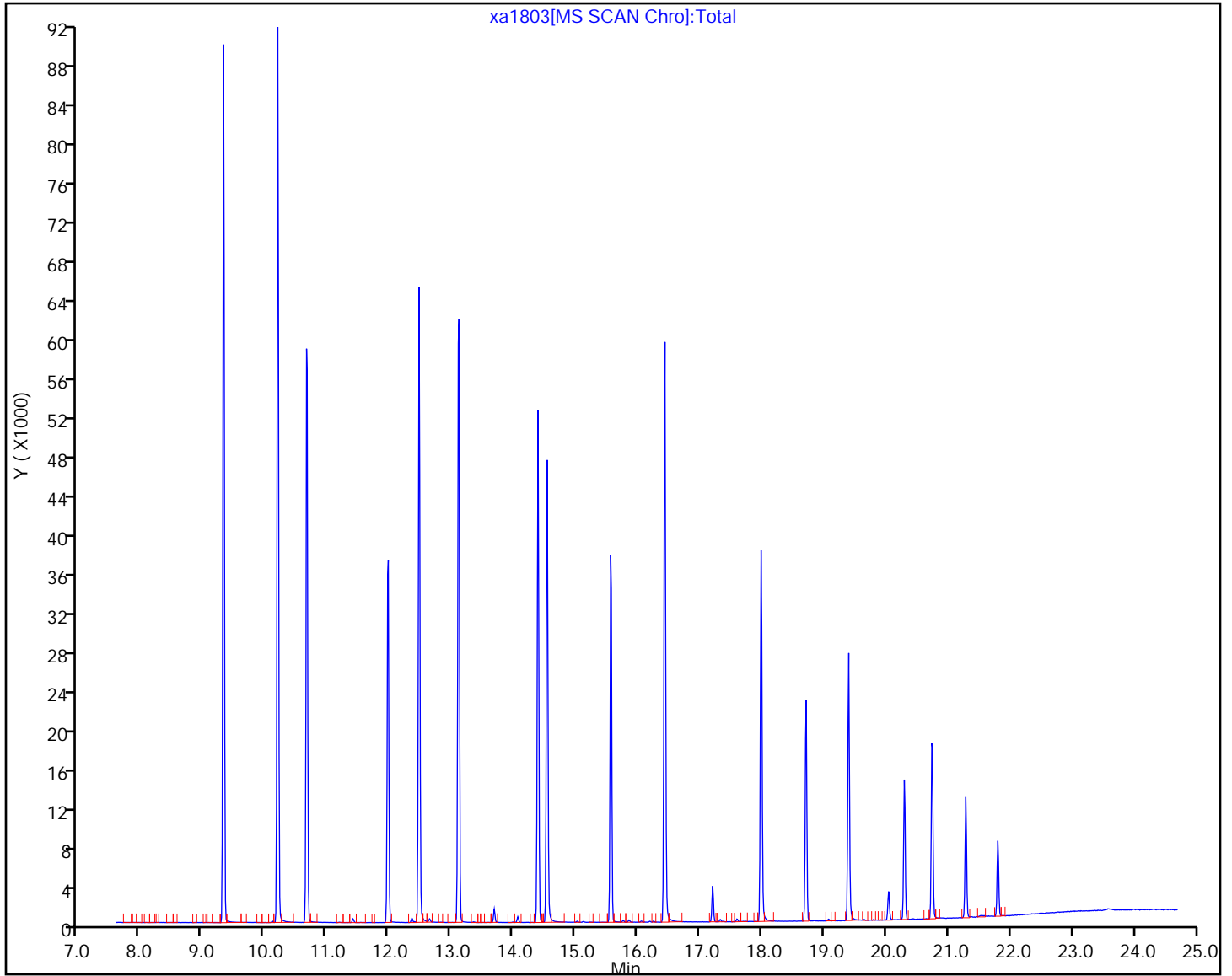
Injection Vol: 2.0 ul

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\1809.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\18012.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

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

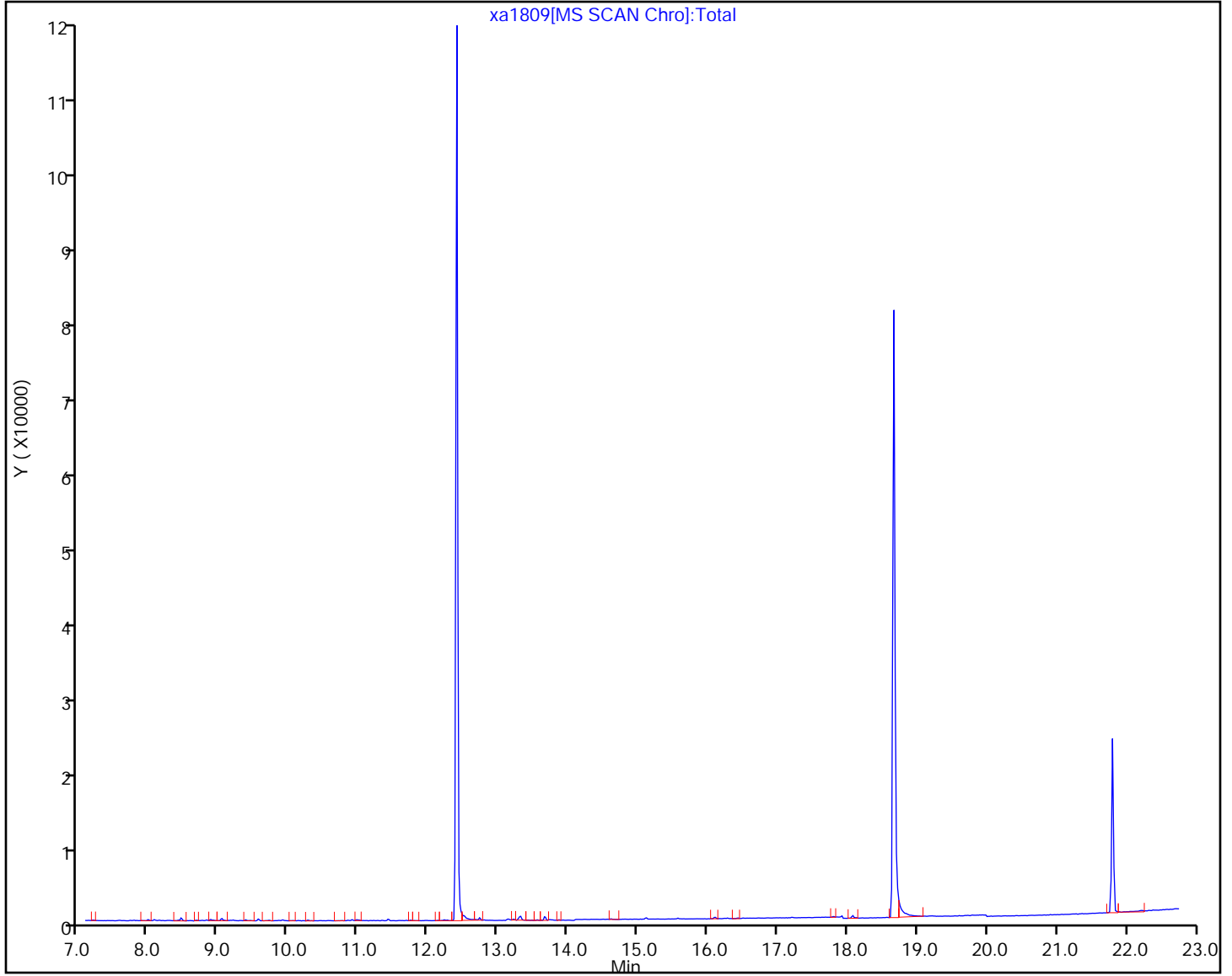
Injection Vol: 2.0 ul

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\1810.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\1810.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									
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
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									
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	a
32 DCB Decachlorobiphenyl									
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	a
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

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

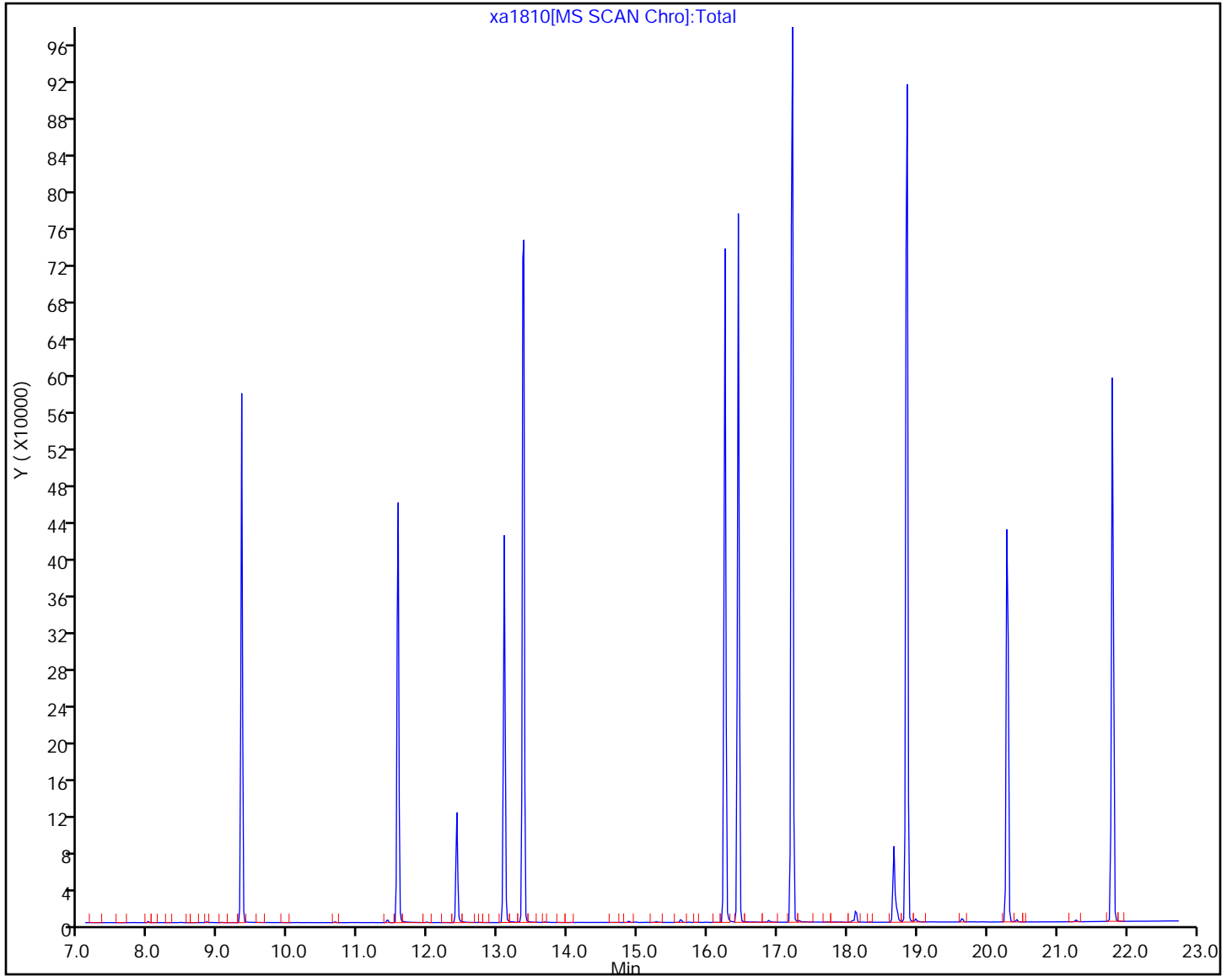
Injection Vol: 2.0 ul

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

TestAmerica Savannah

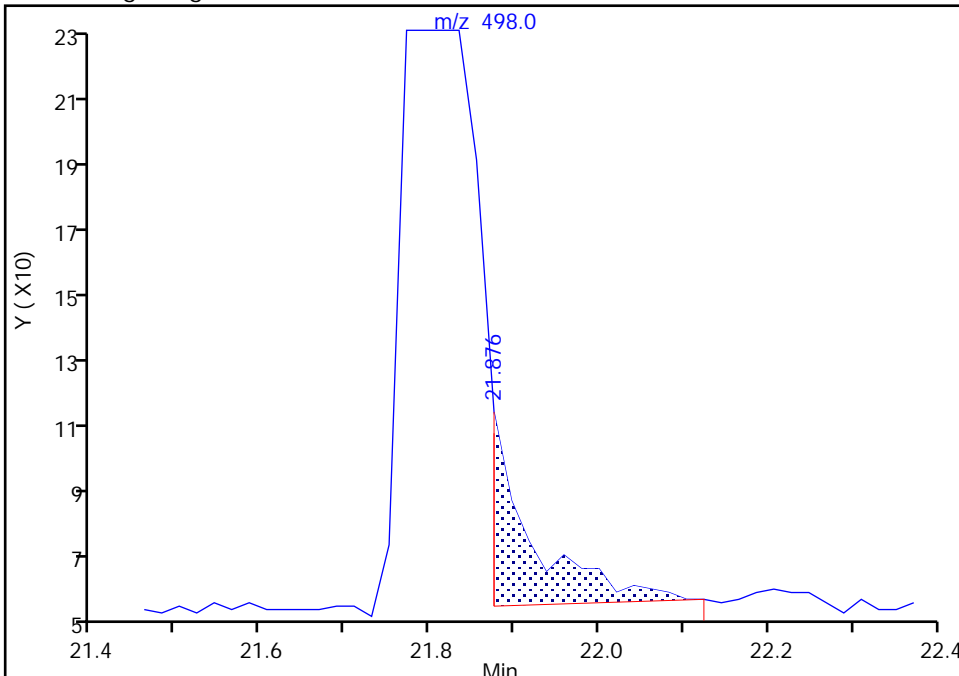
Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\1810.D
Injection Date: 18-Jan-2019 19:44:30 Instrument ID: CMSX
Lims ID: LCS 680-555398/3-A
Client ID:
Operator ID: ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

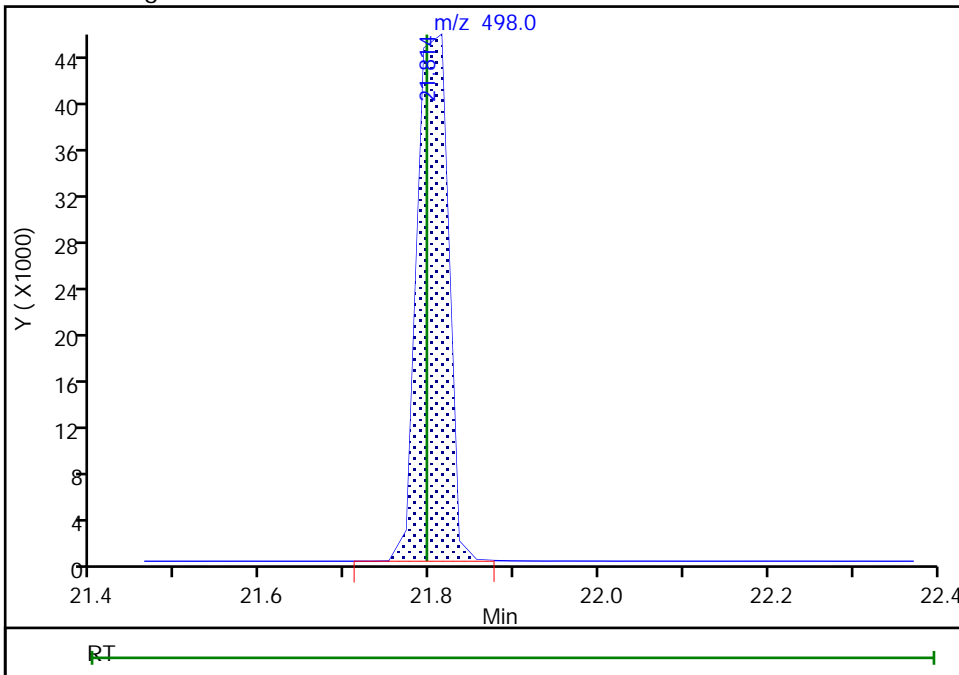
RT: 21.88
Area: 204
Amount: 0.024416
Amount Units: ug/ml

Processing Integration Results



RT: 21.81
Area: 118396
Amount: 14.170326
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 20-Jan-2019 12:30:07
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

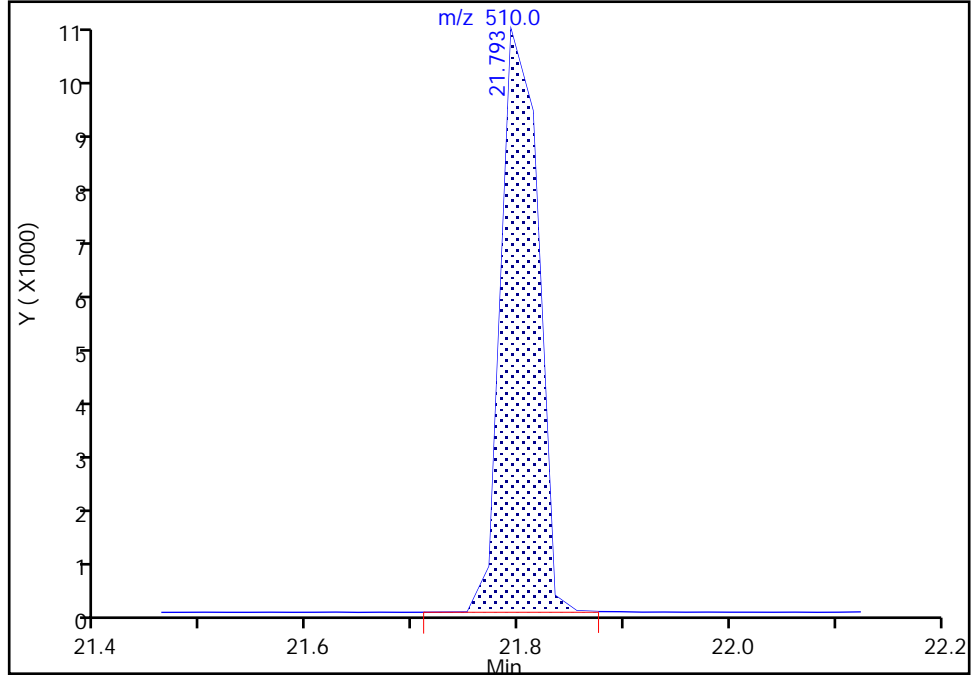
Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\1810.D
Injection Date: 18-Jan-2019 19:44:30 Instrument ID: CMSX
Lims ID: LCS 680-555398/3-A
Client ID:
Operator ID: ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

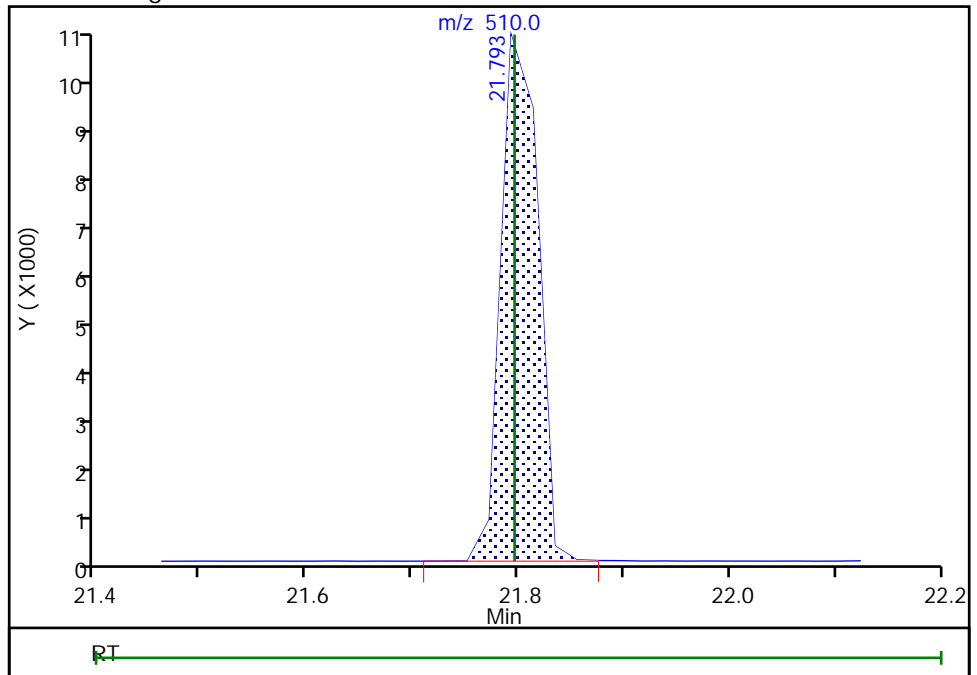
RT: 21.79
Area: 24790
Amount: 2.310334
Amount Units: ug/ml

Processing Integration Results



RT: 21.79
Area: 24790
Amount: 2.310334
Amount Units: ug/ml

Manual Integration Results



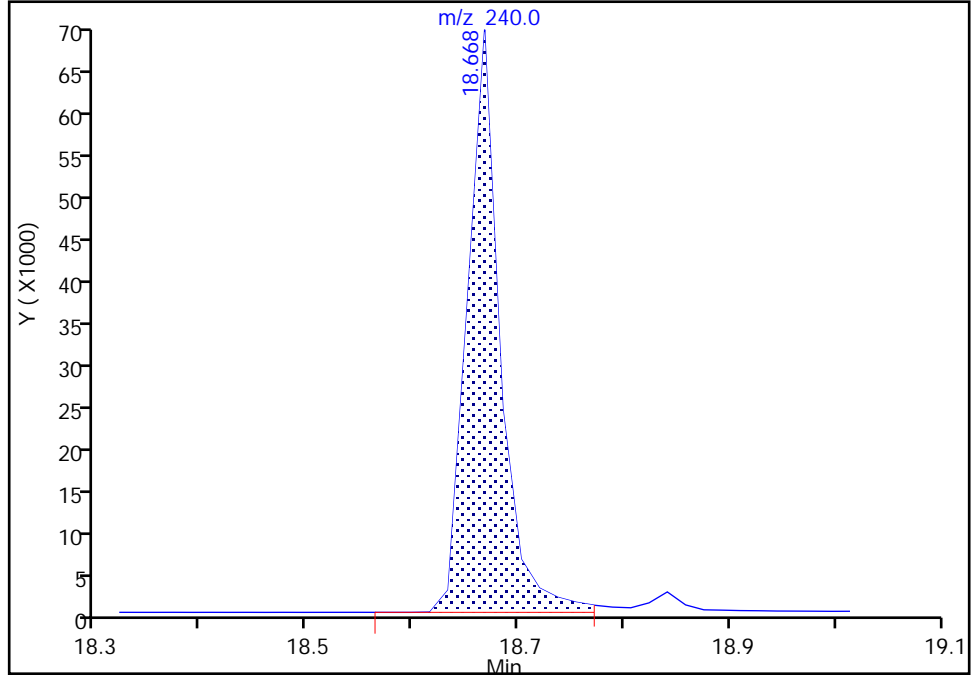
TestAmerica Savannah

Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\1810.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

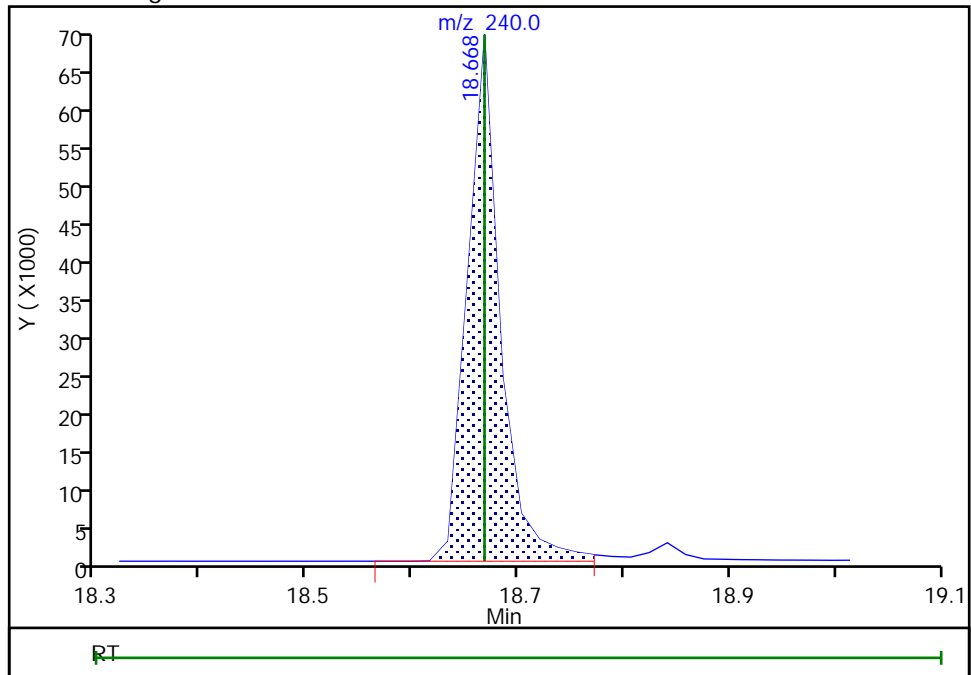
RT: 18.67
Area: 149327
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.67
Area: 149327
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



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\1811.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\1811.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									
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
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	

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

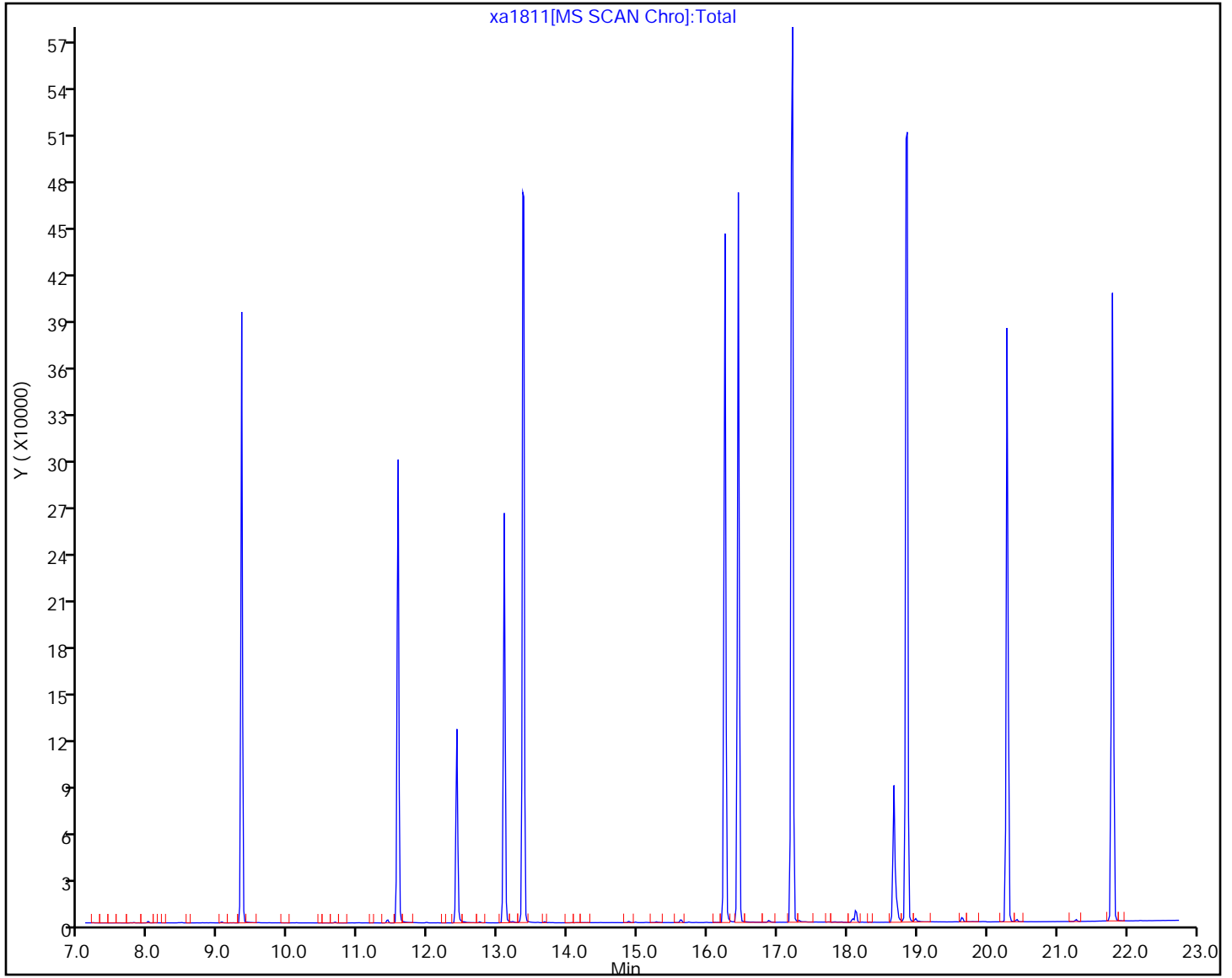
Injection Vol: 2.0 ul

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

TestAmerica Savannah

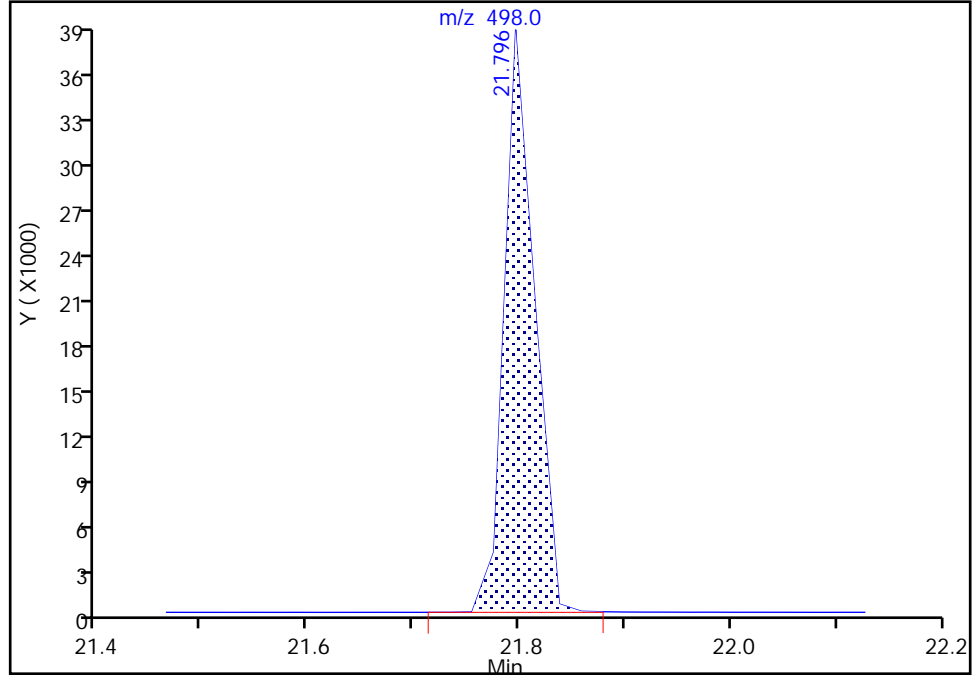
Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\1811.D
Injection Date: 18-Jan-2019 20:13:30 Instrument ID: CMSX
Lims ID: LCSD 680-555398/4-A
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

32 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

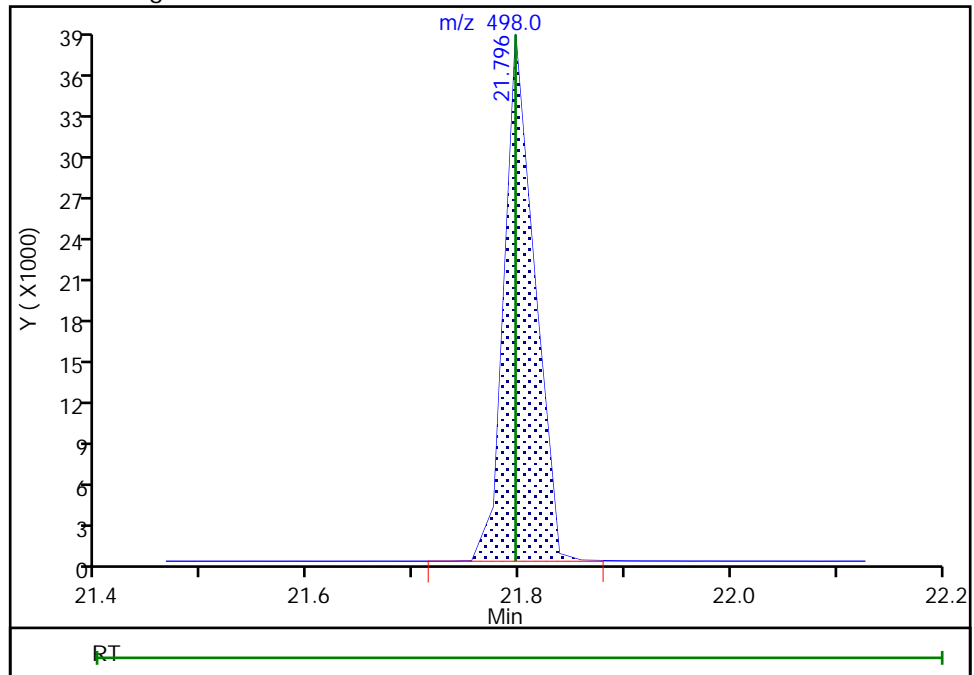
RT: 21.80
Area: 76465
Amount: 8.389449
Amount Units: ug/ml

Processing Integration Results



RT: 21.80
Area: 76465
Amount: 8.389449
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 20-Jan-2019 12:32:00
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

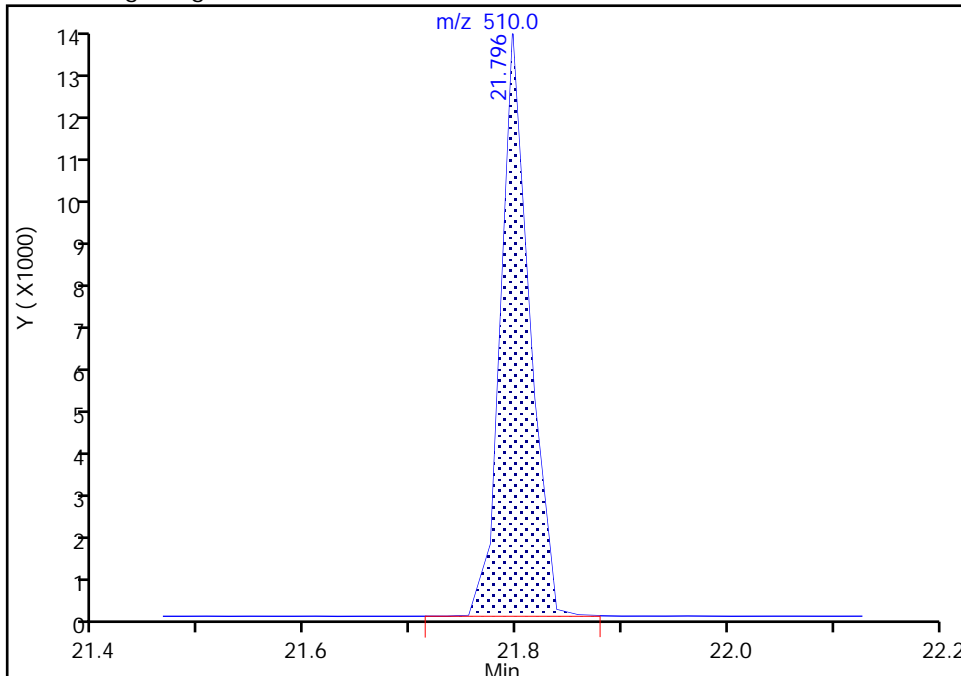
Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\1811.D
Injection Date: 18-Jan-2019 20:13:30 Instrument ID: CMSX
Lims ID: LCSD 680-555398/4-A
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

\$ 22 Decachlorobiphenyl-13C12, CAS: STL00281

Signal: 1

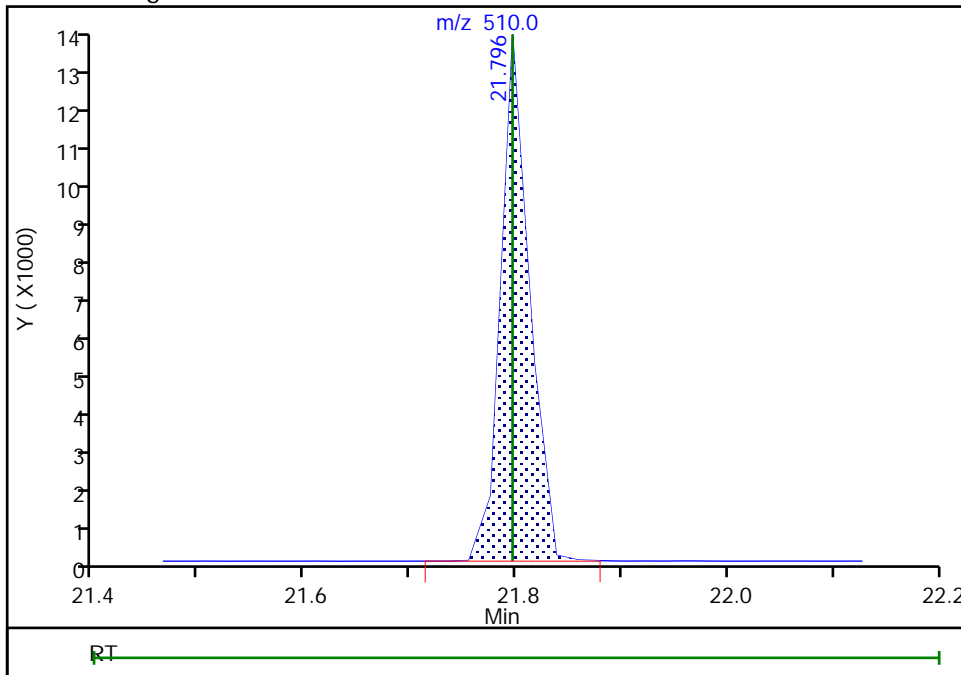
RT: 21.80
Area: 25294
Amount: 2.160945
Amount Units: ug/ml

Processing Integration Results



RT: 21.80
Area: 25294
Amount: 2.160945
Amount Units: ug/ml

Manual Integration Results



Reviewer: davisn, 20-Jan-2019 12:31:58
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

TestAmerica Savannah

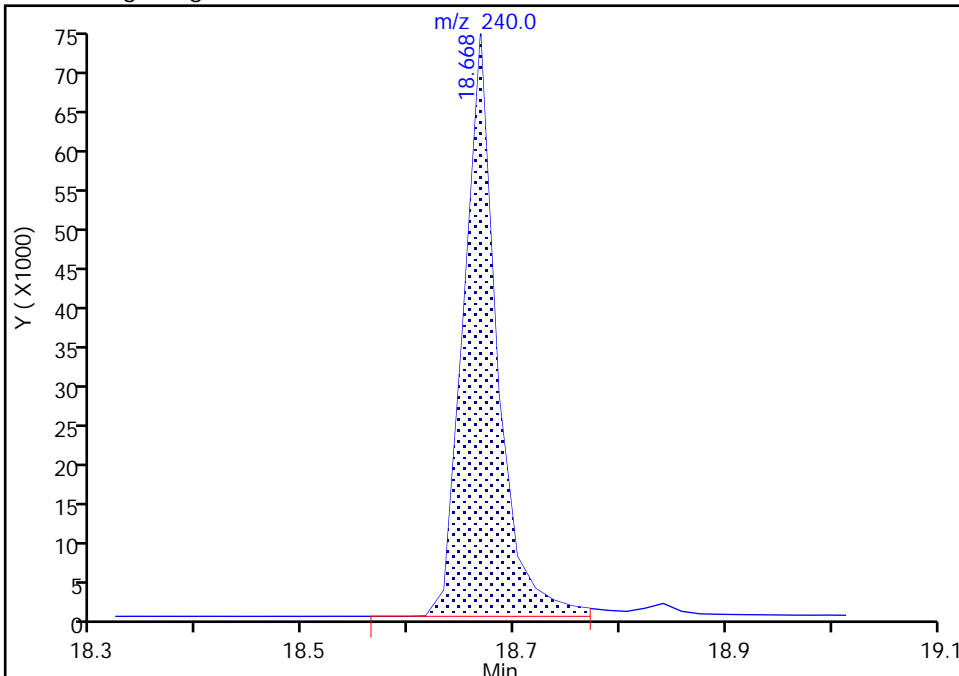
Data File: \\chromna\Savannah\ChromData\CMSX\20190118-53301.b\1811.D
Injection Date: 18-Jan-2019 20:13:30 Instrument ID: CMSX
Lims ID: LCSD 680-555398/4-A
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 680\CMSX Limit Group: 680
Column: HP-5MS (0.25 mm) Detector: MS SCAN

* 15 Chrysene-d12, CAS: 1719-03-5

Signal: 1

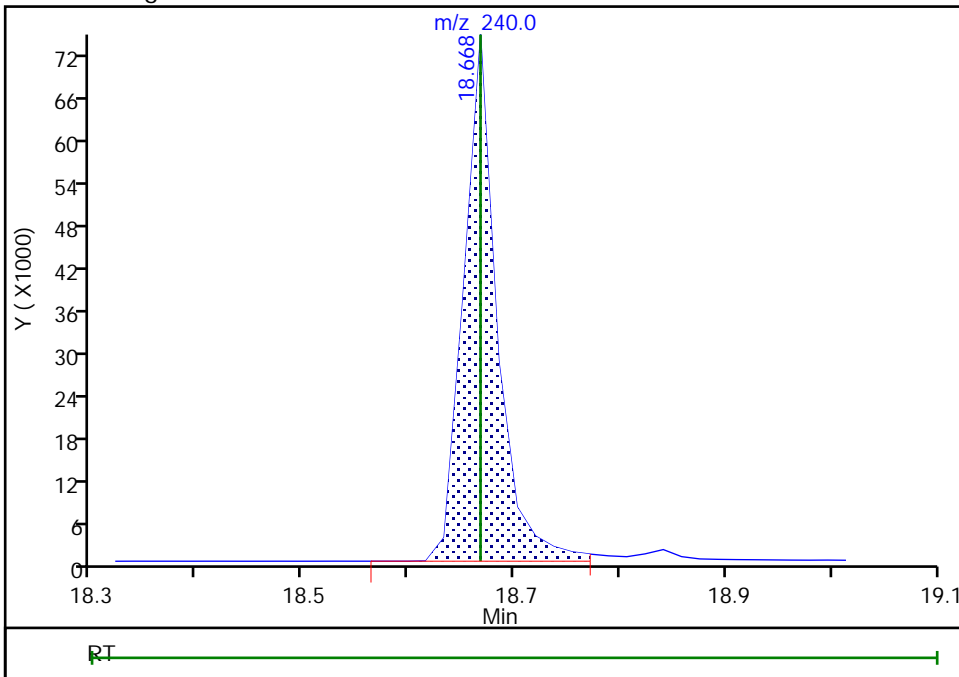
RT: 18.67
Area: 162896
Amount: 0.750000
Amount Units: ug/ml

Processing Integration Results



RT: 18.67
Area: 162896
Amount: 0.750000
Amount Units: ug/ml

Manual Integration Results



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	ResidualChloChe ck	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

Chain of Custody Record

Client Information Mr. Naoum Tavantzis AECOM		Sampler: TA-Savannah Phone: 301-267-8761 E-Mail: eddie.barnett@testamericainc.com		Lab PM: Barnett, Eddie T		Carrier Tracking Note(s):					
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#:		Analysis Requested					
Sample Identification Lot Bottle Blank		Sample Date: 1/16/19	Sample Time: 12:00 1015	Sample Type (C=Comp, G=grab): G	Matrix (W=water, S=solid, O=other):	Preservation Code: W	Field Filtered Sample (Yes or No): N	Perform MS/MSD (Yes or No): N	680 - Routine 680 Sublist	Total Number of containers:	Special Instructions/Note: Rush - 5 day TAT
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological											
Deliverable Requested: I, II, III, IV, Other (specify): IV											
Empty Kit Relinquished by:											
Relinquished by: N.T. via Email on 01/16/19 @ 1020											
Relinquished by:											
Relinquished by:											
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No											
Custody Seal No.:											
Received by: [Signature] Company: AECOM Date/Time: 01/16/19 1045											
Received by: [Signature] Company: TH-SAV Date/Time:											
Received by: [Signature] Company: Date/Time:											
Cooler Temperature(s) °C and Other Remarks: 15.4 °C - Ambient, Lab-Provided											

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 \leq 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 $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	