From: "non responsive based on revised [redacted]

Cc: "non responsive based on revised scope" [redacted] Scurato, Jesse; Van Reed, Paul

Subject: Case# 48539, SDG# C0AY7 - Validated Data for Shiloh Church Road Removal Site

Date: Thursday, December 19, 2019 3:35:00 PM

Attachments: 48539 C0AY7 ltr.pdf
image001.png
48539_C0AY7_DVR.pdf
48539_C0AY7_SSR.pdf
EQuIS 1_48539_C0AY7_VAL.xls
EQuIS 2_48539_C0AY7_VAL.xls
EQuIS 3_48539_C0AY7_VAL.xls
EQuIS_48397_C0B07_VAL.xls

Christine Wagner
US EPA Region 3
1650 Arch Street
Philadelphia, PA 19103-2029

Christine,

Attached to this message you will find electronic files containing the validation report and validated data for Shiloh Church Road Removal Site, Case# 48539, SDG# C0AY7. The validation of this case was completed by the Region III Environmental Services Assistance Team (ESAT).

Please contact ESAT's RPO, Brandon McDonald by phone at 410-305-2607 or e-mail at "non responsive based on revised scope" [redacted] if additional assistance is needed.

TO # 0002 TDF # 1019074

"non responsive based on revised sc [redacted] | Research Technician | 410-305-3013 | "non responsive based on revised scope" [redacted]
ICF | 701 Mapes Road, Fort Meade, MD 20755-5350

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
Environmental Sciences Center
701 Mapes Road
Fort Meade, Maryland 20755-5350

DATE: 12/18/2019

SUBJECT: Region III Data QA Review

FROM: Brandon McDonald
Region III ESAT RPO (3LS20)

TO: CHRIS WAGNER
Hazardous Site Cleanup Division (HSCD)

Attached is the data validation report for the SHILOH CHURCH RD REMOVAL ACTION site for RAS# 48539; SDG# C0AY7 completed by the Region III Environmental Services Assistance Team (ESAT) contractor, ICF International, under the direction of Region III EAID.

If you have any questions regarding this review, please call Brandon McDonald at (410) 305-2607 or you can call Eric Graybill at (410)-305-2665.

Attachment

cc: [redacted]

TO: #0002 TDF: #1019074

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ICF
ESAT Region 3
US Environmental Protection Agency Environmental Science Center
701 Mapes Road Ft. Meade, MD 20755-5350
Phone 410-305-3012

Date: November 29, 2019

To: Brandon McDonald
ESAT Region 3 Project Officer

From: "non responsive based on revised scope" [redacted]
Validator

"non responsive based on revised sc" [redacted]
Reviewer

Subject: Organic Data Validation (S4VEM)
Shiloh Church Road
48539, C0AY7

Overview

This data package consisted of two (2) water samples analyzed for trace volatile, semivolatile and Aroclor analytes and one (1) trip blank analyzed for trace volatiles.

Analyses were performed by Chemtech Consulting Group (CHM) according to Contract Laboratory Program (CLP) Statement of Work (SOW) SOM02.4.

Data were validated according to the National Functional Guidelines for Organic Superfund Methods Data Review and applicable USEPA Region 3 modifications. Electronic validation was performed by the Electronic Data eXchange & Evaluation System (EXES). The validation report has been assigned the Superfund Data Validation Label S4VEM (Stage_4_Validation_Electronic_Manual).

The following validation narrative is an evaluation of laboratory reported data based on the electronic data package available through the EXES Data Manager dated October 18, 2019.

Summary

No significant data quality outliers were identified that would require rejection or estimation of sample results.

Notes

Detected concentrations for target analytes less than Contract Required Quantitation Limit (CRQL) are estimated and have been qualified “J” unless raised to the CRQL and qualified “U” due to blank contamination.

The trip blank reported concentrations of acetone, methylene chloride and toluene <CRQL. Methylene chloride and toluene were not detected in the field samples. Concentrations of acetone <CRQL have

been raised to the CRQL and qualified “U” due to trip blank contamination.

Laboratory blanks were free of contamination in all fractions.

Laboratory Control Samples (LCS) analyzed in Aroclor fraction reported acceptable recoveries of spiked analytes.

Tentatively Identified Compounds (TICs) are not reviewed by the data validators. The validation qualifiers are applied by EXES electronic validation based on laboratory qualifiers. By definition, all compounds identified as TICs should be treated as tentative identifications and all reported results should be considered estimated.

Sample calculation checks were performed. All calculated results had RPDs less than 5% of the reported results. No sample data were qualified.

Manual integrations were performed and identified by the laboratory. A subset of these was evaluated and were found to be accurate and consistent. No action was taken based on manual integrations.

Glossary of Organic Data Qualifier Codes

Validation Qualifiers	In order of descending precedence. Only one of these qualifiers may apply to any result.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.

Additional Qualifiers	Additional qualifiers may be combined with other qualifiers.
N	The analyte has been “tentatively identified” or “presumptively” as present.
B	The result is presumed a blank contaminant. This qualifier is used for drinking water samples only.
C	The target Pesticide or Aroclor analyte identification has been confirmed by Gas Chromatography/Mass Spectrometry (GC/MS). This qualifier may be added to other qualifiers.
X	The target Pesticide or Aroclor analyte identification was not confirmed when GC/MS analysis was performed. This qualifier may be added to other qualifiers.

Sample Summary Report

Project Name: SHILOH CHURCH ROAD SITE Project | **GroupID: 48539/EPW14030/C0AY7** | **Lab Name: Chemtech Consulting Group**

Sample Number: ABLK92	Method: Aroclors	Matrix: Water	MA Number:
Sample Location:	pH: 6	Sample Date:	Sample Time:
% Moisture:		% Solids: 0	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1221	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1232	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1242	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1248	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1254	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1260	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1262	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1268	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM

Sample Summary Report

Project Name: SHILOH CHURCH ROAD SITE Project | **GroupID: 48539/EPW14030/C0AY7** | **Lab Name: Chemtech Consulting Group**

Sample Number: ALCS92	Method: Aroclors	Matrix: Water	MA Number:
Sample Location:	pH: 6	Sample Date:	Sample Time:
% Moisture:		% Solids: 0	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Spike	0.86	J	ug/L	0.86	J	1.0	YES	S4VEM
Aroclor-1221	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1232	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1242	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1248	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1254	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1260	Spike	1.0		ug/L	1.0		1.0	YES	S4VEM
Aroclor-1262	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1268	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM

Sample Summary Report

Project Name: SHILOH CHURCH ROAD SITE Project | **GroupID: 48539/EPW14030/C0AY7** | **Lab Name: Chemtech Consulting Group**

Sample Number: C0AY7	Method: Aroclors	Matrix: Water	MA Number:
Sample Location: RW-20	pH: 6	Sample Date: 10/10/2019	Sample Time: 10:15:00
% Moisture:		% Solids: 0	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1221	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1232	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1242	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1248	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1254	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1260	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1262	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1268	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM

Sample Summary Report

Project Name: SHILOH CHURCH ROAD SITE Project | **GroupID: 48539/EPW14030/C0AY7** | **Lab Name: Chemtech Consulting Group**

Sample Number: C0AY7	Method: Semivolatiles	Matrix: Water	MA Number:
Sample Location: RW-20	pH: 6	Sample Date: 10/10/2019	Sample Time: 10:15:00
% Moisture:		% Solids: 0	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
1,4-Dioxane	Target	2.0	U	ug/L	2.0	U	1.0	YES	S4VEM
Benzaldehyde	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Phenol	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Bis(2-Chloroethyl)ether	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
2-Chlorophenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2-Methylphenol	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
2,2-oxybis(1-Chloropropane)	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Acetophenone	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
4-Methylphenol	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
N-Nitroso-di-n-propylamine	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Hexachloroethane	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Nitrobenzene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Isophorone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2-Nitrophenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2,4-Dimethylphenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Bis(2-Chloroethoxy)methane	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2,4-Dichlorophenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Naphthalene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
4-Chloroaniline	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Hexachlorobutadiene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Caprolactam	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
4-Chloro-3-methylphenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2-Methylnaphthalene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Hexachlorocyclopentadiene	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
2,4,6-Trichlorophenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2,4,5-Trichlorophenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
1,1-Biphenyl	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2-Chloronaphthalene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2-Nitroaniline	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Dimethylphthalate	Target	2.3	J	ug/L	2.3	J	1.0	YES	S4VEM
2,6-Dinitrotoluene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Acenaphthylene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
3-Nitroaniline	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Acenaphthene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2,4-Dinitrophenol	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
4-Nitrophenol	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Dibenzofuran	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2,4-Dinitrotoluene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Diethylphthalate	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Fluorene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
4-Chlorophenyl-phenylether	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
4-Nitroaniline	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
4,6-Dinitro-2-methylphenol	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
N-Nitrosodiphenylamine	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
1,2,4,5-Tetrachlorobenzene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
4-Bromophenyl-phenylether	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Hexachlorobenzene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Atrazine	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Pentachlorophenol	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Phenanthrene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Anthracene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM

Sample Summary Report

Project Name: SHILOH CHURCH ROAD SITE Project | **GroupID: 48539/EPW14030/C0AY7** | **Lab Name: Chemtech Consulting Group**

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Carbazole	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Di-n-butylphthalate	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Fluoranthene	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Pyrene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Butylbenzylphthalate	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
3,3-Dichlorobenzidine	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Benzo(a)anthracene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Chrysene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Bis(2-ethylhexyl)phthalate	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Di-n-octyl phthalate	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Benzo(b)fluoranthene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Benzo(k)fluoranthene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Benzo(a)pyrene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Indeno(1,2,3-cd)pyrene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Dibenzo(a,h)anthracene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Benzo(g,h,i)perylene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2,3,4,6-Tetrachlorophenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
unknown-01	TIC	5.8	J	ug/L	5.8	J	1.0	YES	NV
Total Alkanes	TIC		N	ug/L		N	1.0	YES	NV
Squalene	TIC	6.6	JN	ug/L	6.6	JN	1.0	YES	NV

Sample Summary Report

Project Name: SHILOH CHURCH ROAD SITE Project | **GroupID: 48539/EPW14030/C0AY7** | **Lab Name: Chemtech Consulting Group**

Sample Number: C0AY7	Method: Trace Volatiles	Matrix: Water	MA Number:
Sample Location: RW-20	pH: 1.0	Sample Date: 10/10/2019	Sample Time: 10:15:00
% Moisture:		% Solids: 0	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Vinyl chloride	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Bromomethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Trichlorofluoromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1-Dichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Acetone	Target	5.0	U	ug/L	1.2	J	1.0	YES	S4VEM
Carbon disulfide	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methyl Acetate	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methylene chloride	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
trans-1,2-Dichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methyl tert-butyl Ether	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1-Dichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
cis-1,2-Dichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
2-Butanone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Bromochloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chloroform	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,1-Trichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Cyclohexane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Carbon tetrachloride	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Benzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Trichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methylcyclohexane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dichloropropane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Bromodichloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
cis-1,3-Dichloropropene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
4-Methyl-2-pentanone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Toluene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
trans-1,3-Dichloropropene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,2-Trichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Tetrachloroethene	Target	0.48	J	ug/L	0.48	J	1.0	YES	S4VEM
2-Hexanone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Dibromochloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dibromoethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Ethylbenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
o-Xylene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
m,p-Xylene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Styrene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Bromoform	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Isopropylbenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,2,2-Tetrachloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,3-Dichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,4-Dichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dibromo-3-chloropropane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2,4-trichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2,3-Trichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Total Alkanes	TIC		N	ug/L		N	1.0	YES	NV

Sample Summary Report

Project Name: SHILOH CHURCH ROAD SITE Project | **GroupID: 48539/EPW14030/C0AY7** | **Lab Name: Chemtech Consulting Group**

Sample Number: C0AY8	Method: Aroclors	Matrix: Water	MA Number:
Sample Location: RW-20	pH: 6	Sample Date: 10/10/2019	Sample Time: 10:20:00
% Moisture:		% Solids: 0	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aroclor-1016	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1221	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1232	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1242	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1248	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1254	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1260	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1262	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Aroclor-1268	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM

Sample Summary Report

Project Name: SHILOH CHURCH ROAD SITE Project | **GroupID: 48539/EPW14030/C0AY7** | **Lab Name: Chemtech Consulting Group**

Sample Number: C0AY8	Method: Semivolatiles	Matrix: Water	MA Number:
Sample Location: RW-20	pH: 6	Sample Date: 10/10/2019	Sample Time: 10:20:00
% Moisture:		% Solids: 0	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
1,4-Dioxane	Target	2.0	U	ug/L	2.0	U	1.0	YES	S4VEM
Benzaldehyde	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Phenol	Target	1.1	J	ug/L	1.1	J	1.0	YES	S4VEM
Bis(2-Chloroethyl)ether	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
2-Chlorophenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2-Methylphenol	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
2,2-oxybis(1-Chloropropane)	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Acetophenone	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
4-Methylphenol	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
N-Nitroso-di-n-propylamine	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Hexachloroethane	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Nitrobenzene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Isophorone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2-Nitrophenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2,4-Dimethylphenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Bis(2-Chloroethoxy)methane	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2,4-Dichlorophenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Naphthalene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
4-Chloroaniline	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Hexachlorobutadiene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Caprolactam	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
4-Chloro-3-methylphenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2-Methylnaphthalene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Hexachlorocyclopentadiene	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
2,4,6-Trichlorophenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2,4,5-Trichlorophenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
1,1-Biphenyl	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2-Chloronaphthalene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2-Nitroaniline	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Dimethylphthalate	Target	3.8	J	ug/L	3.8	J	1.0	YES	S4VEM
2,6-Dinitrotoluene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Acenaphthylene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
3-Nitroaniline	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Acenaphthene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2,4-Dinitrophenol	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
4-Nitrophenol	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Dibenzofuran	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2,4-Dinitrotoluene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Diethylphthalate	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Fluorene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
4-Chlorophenyl-phenylether	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
4-Nitroaniline	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
4,6-Dinitro-2-methylphenol	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
N-Nitrosodiphenylamine	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
1,2,4,5-Tetrachlorobenzene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
4-Bromophenyl-phenylether	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Hexachlorobenzene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Atrazine	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Pentachlorophenol	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Phenanthrene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Anthracene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM

Sample Summary Report

Project Name: SHILOH CHURCH ROAD SITE Project | **GroupID: 48539/EPW14030/C0AY7** | **Lab Name: Chemtech Consulting Group**

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Carbazole	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Di-n-butylphthalate	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Fluoranthene	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Pyrene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Butylbenzylphthalate	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
3,3-Dichlorobenzidine	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Benzo(a)anthracene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Chrysene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Bis(2-ethylhexyl)phthalate	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Di-n-octyl phthalate	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Benzo(b)fluoranthene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Benzo(k)fluoranthene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Benzo(a)pyrene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Indeno(1,2,3-cd)pyrene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Dibenzo(a,h)anthracene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Benzo(g,h,i)perylene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2,3,4,6-Tetrachlorophenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
unknown-01	TIC	5.0	J	ug/L	5.0	J	1.0	YES	NV
Total Alkanes	TIC		N	ug/L		N	1.0	YES	NV

Sample Summary Report

Project Name: SHILOH CHURCH ROAD SITE Project | **GroupID: 48539/EPW14030/C0AY7** | **Lab Name: Chemtech Consulting Group**

Sample Number: C0AY8	Method: Trace Volatiles	Matrix: Water	MA Number:
Sample Location: RW-20	pH: 1.0	Sample Date: 10/10/2019	Sample Time: 10:20:00
% Moisture:		% Solids: 0	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Vinyl chloride	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Bromomethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Trichlorofluoromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1-Dichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Acetone	Target	5.0	U	ug/L	1.3	J	1.0	YES	S4VEM
Carbon disulfide	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methyl Acetate	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methylene chloride	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
trans-1,2-Dichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methyl tert-butyl Ether	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1-Dichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
cis-1,2-Dichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
2-Butanone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Bromochloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chloroform	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,1-Trichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Cyclohexane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Carbon tetrachloride	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Benzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Trichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methylcyclohexane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dichloropropane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Bromodichloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
cis-1,3-Dichloropropene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
4-Methyl-2-pentanone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Toluene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
trans-1,3-Dichloropropene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,2-Trichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Tetrachloroethene	Target	0.45	J	ug/L	0.45	J	1.0	YES	S4VEM
2-Hexanone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Dibromochloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dibromoethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Ethylbenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
o-Xylene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
m,p-Xylene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Styrene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Bromoform	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Isopropylbenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,2,2-Tetrachloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,3-Dichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,4-Dichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dibromo-3-chloropropane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2,4-trichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2,3-Trichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Total Alkanes	TIC		N	ug/L		N	1.0	YES	NV

Sample Summary Report

Project Name: SHILOH CHURCH ROAD SITE Project | **GroupID: 48539/EPW14030/C0AY7** | **Lab Name: Chemtech Consulting Group**

Sample Number: C0AY9	Method: Trace Volatiles	Matrix: Water	MA Number:
Sample Location: Trip Blank	pH: 1.0	Sample Date: 10/10/2019	Sample Time: 10:30:00
% Moisture:		% Solids: 0	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Vinyl chloride	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Bromomethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Trichlorofluoromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1-Dichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Acetone	Target	3.7	J	ug/L	3.7	J	1.0	YES	S4VEM
Carbon disulfide	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methyl Acetate	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methylene chloride	Target	0.18	J	ug/L	0.18	J	1.0	YES	S4VEM
trans-1,2-Dichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methyl tert-butyl Ether	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1-Dichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
cis-1,2-Dichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
2-Butanone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Bromochloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chloroform	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,1-Trichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Cyclohexane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Carbon tetrachloride	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Benzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Trichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methylcyclohexane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dichloropropane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Bromodichloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
cis-1,3-Dichloropropene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
4-Methyl-2-pentanone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Toluene	Target	0.19	J	ug/L	0.19	J	1.0	YES	S4VEM
trans-1,3-Dichloropropene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,2-Trichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Tetrachloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
2-Hexanone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Dibromochloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dibromoethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Ethylbenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
o-Xylene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
m,p-Xylene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Styrene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Bromoform	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Isopropylbenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,2,2-Tetrachloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,3-Dichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,4-Dichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dibromo-3-chloropropane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2,4-trichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2,3-Trichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Total Alkanes	TIC		N	ug/L		N	1.0	YES	NV

Sample Summary Report

Project Name: SHILOH CHURCH ROAD SITE Project | **GroupID: 48539/EPW14030/C0AY7** | **Lab Name: Chemtech Consulting Group**

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Isopropyl Alcohol	TIC	0.52	JN	ug/L	0.52	JN	1.0	YES	NV

Sample Summary Report

Project Name: SHILOH CHURCH ROAD SITE Project | **GroupID: 48539/EPW14030/C0AY7** | **Lab Name: Chemtech Consulting Group**

Sample Number: SBLK91	Method: Semivolatiles	Matrix: Water	MA Number:
Sample Location:	pH: 6	Sample Date:	Sample Time:
% Moisture:		% Solids: 0	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
1,4-Dioxane	Target	2.0	U	ug/L	2.0	U	1.0	YES	S4VEM
Benzaldehyde	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Phenol	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Bis(2-Chloroethyl)ether	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
2-Chlorophenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2-Methylphenol	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
2,2-oxybis(1-Chloropropane)	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Acetophenone	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
4-Methylphenol	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
N-Nitroso-di-n-propylamine	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Hexachloroethane	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Nitrobenzene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Isophorone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2-Nitrophenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2,4-Dimethylphenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Bis(2-Chloroethoxy)methane	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2,4-Dichlorophenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Naphthalene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
4-Chloroaniline	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Hexachlorobutadiene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Caprolactam	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
4-Chloro-3-methylphenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2-Methylnaphthalene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Hexachlorocyclopentadiene	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
2,4,6-Trichlorophenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2,4,5-Trichlorophenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
1,1-Biphenyl	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2-Chloronaphthalene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2-Nitroaniline	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Dimethylphthalate	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2,6-Dinitrotoluene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Acenaphthylene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
3-Nitroaniline	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Acenaphthene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2,4-Dinitrophenol	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
4-Nitrophenol	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Dibenzofuran	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2,4-Dinitrotoluene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Diethylphthalate	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Fluorene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
4-Chlorophenyl-phenylether	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
4-Nitroaniline	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
4,6-Dinitro-2-methylphenol	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
N-Nitrosodiphenylamine	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
1,2,4,5-Tetrachlorobenzene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
4-Bromophenyl-phenylether	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Hexachlorobenzene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Atrazine	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Pentachlorophenol	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Phenanthrene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Anthracene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM

Sample Summary Report

Project Name: SHILOH CHURCH ROAD SITE Project | **GroupID: 48539/EPW14030/C0AY7** | **Lab Name: Chemtech Consulting Group**

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Carbazole	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Di-n-butylphthalate	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Fluoranthene	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Pyrene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Butylbenzylphthalate	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
3,3-Dichlorobenzidine	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Benzo(a)anthracene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Chrysene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Bis(2-ethylhexyl)phthalate	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Di-n-octyl phthalate	Target	10	U	ug/L	10	U	1.0	YES	S4VEM
Benzo(b)fluoranthene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Benzo(k)fluoranthene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Benzo(a)pyrene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Indeno(1,2,3-cd)pyrene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Dibenzo(a,h)anthracene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Benzo(g,h,i)perylene	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
2,3,4,6-Tetrachlorophenol	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Total Alkanes	TIC		N	ug/L		N	1.0	YES	NV

Sample Summary Report

Project Name: SHILOH CHURCH ROAD SITE Project | **GroupID: 48539/EPW14030/C0AY7** | **Lab Name: Chemtech Consulting Group**

Sample Number: VBLK20	Method: Trace Volatiles	Matrix: Water	MA Number:
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture:		% Solids: 0	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Vinyl chloride	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Bromomethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Trichlorofluoromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1-Dichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Acetone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Carbon disulfide	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methyl Acetate	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methylene chloride	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
trans-1,2-Dichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methyl tert-butyl Ether	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1-Dichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
cis-1,2-Dichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
2-Butanone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Bromochloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chloroform	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,1-Trichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Cyclohexane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Carbon tetrachloride	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Benzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Trichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methylcyclohexane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dichloropropane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Bromodichloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
cis-1,3-Dichloropropene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
4-Methyl-2-pentanone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Toluene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
trans-1,3-Dichloropropene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,2-Trichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Tetrachloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
2-Hexanone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Dibromochloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dibromoethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Ethylbenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
o-Xylene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
m,p-Xylene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Styrene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Bromoform	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Isopropylbenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,2,2-Tetrachloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,3-Dichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,4-Dichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dibromo-3-chloropropane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2,4-trichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2,3-Trichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Total Alkanes	TIC		N	ug/L		N	1.0	YES	NV

Sample Summary Report

Project Name: SHILOH CHURCH ROAD SITE Project | **GroupID: 48539/EPW14030/C0AY7** | **Lab Name: Chemtech Consulting Group**

Sample Number: VBLK21	Method: Trace Volatiles	Matrix: Water	MA Number:
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture:		% Solids: 0	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Vinyl chloride	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Bromomethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Trichlorofluoromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1-Dichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Acetone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Carbon disulfide	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methyl Acetate	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methylene chloride	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
trans-1,2-Dichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methyl tert-butyl Ether	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1-Dichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
cis-1,2-Dichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
2-Butanone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Bromochloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chloroform	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,1-Trichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Cyclohexane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Carbon tetrachloride	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Benzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Trichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methylcyclohexane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dichloropropane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Bromodichloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
cis-1,3-Dichloropropene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
4-Methyl-2-pentanone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Toluene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
trans-1,3-Dichloropropene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,2-Trichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Tetrachloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
2-Hexanone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Dibromochloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dibromoethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Ethylbenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
o-Xylene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
m,p-Xylene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Styrene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Bromoform	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Isopropylbenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,2,2-Tetrachloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,3-Dichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,4-Dichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dibromo-3-chloropropane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2,4-trichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2,3-Trichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Total Alkanes	TIC		N	ug/L		N	1.0	YES	NV

Sample Summary Report

Project Name: SHILOH CHURCH ROAD SITE Project | **GroupID: 48539/EPW14030/C0AY7** | **Lab Name: Chemtech Consulting Group**

Sample Number: VBLK23	Method: Trace Volatiles	Matrix: Water	MA Number:
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture:		% Solids: 0	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Vinyl chloride	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Bromomethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Trichlorofluoromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1-Dichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Acetone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Carbon disulfide	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methyl Acetate	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methylene chloride	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
trans-1,2-Dichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methyl tert-butyl Ether	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1-Dichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
cis-1,2-Dichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
2-Butanone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Bromochloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chloroform	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,1-Trichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Cyclohexane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Carbon tetrachloride	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Benzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Trichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methylcyclohexane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dichloropropane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Bromodichloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
cis-1,3-Dichloropropene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
4-Methyl-2-pentanone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Toluene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
trans-1,3-Dichloropropene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,2-Trichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Tetrachloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
2-Hexanone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Dibromochloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dibromoethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Ethylbenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
o-Xylene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
m,p-Xylene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Styrene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Bromoform	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Isopropylbenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,2,2-Tetrachloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,3-Dichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,4-Dichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dibromo-3-chloropropane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2,4-trichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2,3-Trichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Total Alkanes	TIC		N	ug/L		N	1.0	YES	NV

Sample Summary Report

Project Name: SHILOH CHURCH ROAD SITE Project | **GroupID: 48539/EPW14030/C0AY7** | **Lab Name: Chemtech Consulting Group**

Sample Number: VHBLK01	Method: Trace Volatiles	Matrix: Water	MA Number:
Sample Location:	pH: 1.0	Sample Date:	Sample Time:
% Moisture:		% Solids: 0	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Dichlorodifluoromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Vinyl chloride	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Bromomethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Trichlorofluoromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1-Dichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,2-Trichloro-1,2,2-trifluoroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Acetone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Carbon disulfide	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methyl Acetate	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methylene chloride	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
trans-1,2-Dichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methyl tert-butyl Ether	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1-Dichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
cis-1,2-Dichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
2-Butanone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Bromochloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chloroform	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,1-Trichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Cyclohexane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Carbon tetrachloride	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Benzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Trichloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Methylcyclohexane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dichloropropane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Bromodichloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
cis-1,3-Dichloropropene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
4-Methyl-2-pentanone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Toluene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
trans-1,3-Dichloropropene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,2-Trichloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Tetrachloroethene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
2-Hexanone	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Dibromochloromethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dibromoethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Chlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Ethylbenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
o-Xylene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
m,p-Xylene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Styrene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Bromoform	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Isopropylbenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,1,2,2-Tetrachloroethane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,3-Dichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,4-Dichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2-Dibromo-3-chloropropane	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2,4-trichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
1,2,3-Trichlorobenzene	Target	0.50	U	ug/L	0.50	U	1.0	YES	S4VEM
Total Alkanes	TIC		N	ug/L		N	1.0	YES	NV

USEPA CLP COC (REGION COPY)

DateShipped: 10-Oct-19
CarrierName: FedEx
AirbillNo: 7766 7006 8378

CHAIN OF CUSTODY RECORD

Shiloh Church Road/VA
Case #: 48539
Cooler #: 2

No: 3-10-10-19-114353-0074

Lab: Chemtech Consulting Group
Lab Contact: [redacted]
Lab Phone: 9[redacted]

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	Sample Type
SCR-101019-RW-20	C0AY7	Water/ START	Grab	ICP-PCBs(7), TAL SVOA(7), Trace VOC(7)	2087 (None), 2088 (None), 2090 (None), 2091 (None), 2092 (HCl to pH < 2), 2093 (HCl to pH < 2), 2094 (HCl to pH < 2) (7)	RW-20	10-10-2019 10:15	Field Sample
SCR-101019-RW-20-D	C0AY8	Water/ START	Grab	ICP-PCBs(7), TAL SVOA(7), Trace VOC(7)	2095 (None), 2096 (None), 2098 (None), 2099 (None), 2100 (HCl to pH < 2), 2101 (HCl to pH < 2), 2102 (HCl to pH < 2) (7)	RW-20	10-10-2019 10:20	Field Sample
SCR-101019-TB-01	C0AY9	Water/ START	Grab	Trace VOC(7)	2108 (HCl to pH < 2), 2109 (HCl to pH < 2), 2110 (HCl to pH < 2) (3)	Trip Blank	10-10-2019 10:30	Field Sample

Special Instructions:	**Shipment for Case Complete? N**
	Samples Transferred From Chain of Custody #

Analysis Key: ICP-PCBs=CLP ICP-MPCBs by SOM02.4, TAL SVOA=TAL SVOCs by SOM02.4, Trace VOC=Trace VOCs by SOM02.4

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt

US EPA Region 3 Analytical Request (ARF) Report

CT Number: CT8799 | Date Receipt: 10/01/2019 | Sample(s) Shipping Dates Start: 10/01/2019 End: 10/11/2019 | ARF Status: COMPLETE

Site: SHILOH CHURCH RD REMOVAL ACTION | Site Activity: REMOVAL (RV) | Program: SUPERFUND (RAS AND/OR DAS)

Street: 2234-2298 SHILOH CHURCH ROAD | City: NATHALIE | State: VA | Zip: 24577

Account No: 2019-T-03-N-303DC6-A38Q-RV-00 | SPILL ID: A38Q | OPERABLE UNIT: 00 | EPA ID (aka CERCLIS):

QA Title: FIELD SAMPLING PLAN SHILOH CHURCH ROAD SITE, NATHALIE, HALIFAX COUNTY, VIRGINIA | QA Date Approved: 05/14/18

EPA Project Lead: CHRIS WAGNER	Phone: 804-698-4164	Cell Phone #: - -	E-mail: WAGNER.CHRISTINE@EPA.GOV
Site Leader: [redacted]	Phone: 6[redacted]	Cell Phone #: [redacted]	E-mail: [redacted]
Request Preparer: [redacted]	Phone: - -	Cell Phone #: [redacted]	E-mail: [redacted]
Contractor:	EPA CO/PO:		Equivalent method substitution allowed: YES

Special Instructions:

Comments:

DAS	RAS	Lab Assigned	QTY	Matrix	Parameter	Requested Method	Accepted Method	Validation Level	Unvalidated Data Due	Final Report Due	EDD Required
R35669		OASQA	2	DRINKING WATER	METALS (TOTAL)	SW 6020A (ICP-MS)	SW 6020A (ICP-MS)	IM2	7	35	Y
	48539	CHEM	2	DRINKING WATER	PCB AROCLORS	SOM02 4		M3	7	35	Y
	48539	CHEM	2	DRINKING WATER	SEMIVOLATILES (SVOCS)	SOM02 4		M3	7	35	Y
	48539	CHEM	3	DRINKING WATER	VOLATILE ORGANIC COMPOUNDS (VOC) TRACE	SOM02 4 (TRACE)		M3	0	45	Y

ESAT DATA VALIDATION EVALUATION CHECKLIST
Contract # EP-W-13-023

TDF #: 1019074	Revision: 0	Case #: 48539	SDG: C0AY7

Site Name: Shiloh Church Road

Parameter(s): TV/SV/Aroclor

Method(s): SOM02.4

Laboratory: CHM

Reviewer: [redacted] | Date Submitted to EPA:

EPA RPM/OSC: Chris Wagner | Number of hours spent on review: 3

cc: [redacted] Solutions) | Number of Samples/Aliquots: 3/7

Validation Level/Stage: M3/S4VEM | EDD: Yes

CRITERIA	YES	NO	COMMENTS
Format according to Region III protocol			
Clarity of report			
Qualifiers applied correctly			
Consistency between narrative and data summary form(s)			
Error-free transcription			
EFFICIENCY OF CONTRACTOR			
Approval recommended for current submission			
Time spent on review is reasonable			
Technical Evaluation			EPA Oversight

ESD OVERSIGHT DATES	TPO	Oversight	ESAT
Received at EPA			
Oversight assigned			
Oversight received			
Oversight completed			
Feedback given			
Mailed to RPM			

Data Validation Checklist

Task Order #: 0002	TDF #: 1019074	Revision #: 0	Case/DAS #: 48539
Site Name: Shiloh Church Road		SDG #: C0AY7	
Analysis Type: Trace Volatile		SOW #: SOM02.4	
Reviewer: [redacted]			
CLP Laboratory Code: CHM			

Peer Reviewer: _____ Due Date: ___12/11/19_____

Data Validation Checklist - General

CRITERIA	CHECK	COMMENTS
EPA Oversight Checklist		
TDF #	☐	
Case #	☐	
SDG #	☐	
Site Name	☐	
Laboratory	☐	
EPA CLP TPO	☐	
EPA OSC/RPM	☐	
Validation Type	☐	
Narrative		
Report Header	☐	
Report Footer	☐	
Overview		
Laboratory	☐	
Analytical method	☐	
Analytical services program	☐	
NFG reference	☐	
Validation level	☐	
Data package receipt date	☐	
Criteria		
Qualifier list	☐	
Appendix A		
Regional COC	☐	
EPA ARF	☐	
Appendix B		
Laboratory narrative	☐	
Appendix C		
EXES report	☐	

General Comments:

Peer Reviewed By: _____ Date: _____

Data Validation Checklist

Task Order #: 0002	TDF #: 1019074	Revision #: 0	Case/DAS #: 48539
Site Name: Shiloh Church Road		SDG #: C0AY7	
Analysis Type: Trace Volatile		SOW #: SOM02.4	
Reviewer: M. Mecanic			
CLP Laboratory Code: CHM			

Technical - Organics

Section	Check	Comments
Overview	☐	
Matrix and # of samples	☐	
Field QC samples	☐	
Summary	☐	
Major problems	☐	
Minor problems	☐	
Notes	☐	
Compounds below CRQL	☐	
Blank contaminants	☐	
Field Duplicates	☐	
Field/Trip Blanks	☐	
Dilutions	☐	
Carryover	☐	
Manual integration	☐	
TICs	☐	
SSRs/Form Is	☐	
EDD	☐	

DV Item	Check	Qualifier Applied	Comments
Preservation/Holding Time	☐		
Instrument Performance Check	☐		
Initial Calibration	☐		
Continuing Calibration	☐		
Blanks	☐		
DMCs/Surrogates	☐		
MS/MSDs	☐		
LCS/LCSDs	☐		
Internal Standards	☐		
Other:	☐		

General Comments:

Peer Reviewed By: _____ Date: _____

Data Validation Report

Data Review Results

Mon, 21 Oct 2019 08:47:33

Project Name: SHILOH CHURCH ROAD SITE Project	**GroupID: 48539/EPW14030/C0AY7**	**Lab Name: Chemtech Consulting Group**
Submission Group Id: 31524314	**Organization: EPA Region 3**	**SOW: SOM02.4**

HoldingTimes_Preservation

NONE FOUND

Data Validation Report

Data Review Results

Mon, 21 Oct 2019 08:47:33

Project Name: SHILOH CHURCH ROAD SITE Project	**GroupID: 48539/EPW14030/C0AY7**	**Lab Name: Chemtech Consulting Group**
Submission Group Id: 31524314	**Organization: EPA Region 3**	**SOW: SOM02.4**

TUNE

NONE FOUND

Data Validation Report

Data Review Results

Mon, 21 Oct 2019 08:47:33

Project Name: SHILOH CHURCH ROAD SITE Project | **GroupID: 48539/EPW14030/C0AY7** | **Lab Name: Chemtech Consulting Group**

Submission Group Id: 31524314 | **Organization: EPA Region 3** | **SOW: SOM02.4**

InitialCalibration

Method - Semivolatiles

Test Name: EXES-793
Defect Message: The following samples are associated with an initial calibration percent relative standard deviation (%RSD) outside criteria. Detects are qualified as estimated J. Use professional judgment to qualify nondetects.

Associated Samples: SBLK91

Defective Analyte	Defective Samples/Analyses
2,4-Dinitrotoluene	SSTD00501

Calibration is associated with laboratory blank with no positive result for this analyte. No data were qualified.
DV 11/25/19

Data Validation Report

Data Review Results

Mon, 21 Oct 2019 08:47:33

Project Name: SHILOH CHURCH ROAD SITE Project	**GroupID: 48539/EPW14030/C0AY7**	**Lab Name: Chemtech Consulting Group**
Submission Group Id: 31524314	**Organization: EPA Region 3**	**SOW: SOM02.4**

InitialCalibrationVerification

NONE FOUND

Data Validation Report

Data Review Results

Mon, 21 Oct 2019 08:47:33

Project Name: SHILOH CHURCH ROAD SITE Project	**GroupID: 48539/EPW14030/C0AY7**	**Lab Name: Chemtech Consulting Group**
Submission Group Id: 31524314	**Organization: EPA Region 3**	**SOW: SOM02.4**

ContinuingCalibrationVerification

NONE FOUND

Data Validation Report

Data Review Results

Mon, 21 Oct 2019 08:47:33

Project Name: SHILOH CHURCH ROAD SITE Project	**GroupID: 48539/EPW14030/C0AY7**	**Lab Name: Chemtech Consulting Group**
Submission Group Id: 31524314	**Organization: EPA Region 3**	**SOW: SOM02.4**

Blanks

NONE FOUND

Data Validation Report

Data Review Results

Mon, 21 Oct 2019 08:47:33

Project Name: SHILOH CHURCH ROAD SITE Project	**GroupID: 48539/EPW14030/C0AY7**	**Lab Name: Chemtech Consulting Group**
Submission Group Id: 31524314	**Organization: EPA Region 3**	**SOW: SOM02.4**

DMC_Surrogate

NONE FOUND

Data Validation Report

Data Review Results

Mon, 21 Oct 2019 08:47:33

Project Name: SHILOH CHURCH ROAD SITE Project	**GroupID: 48539/EPW14030/C0AY7**	**Lab Name: Chemtech Consulting Group**
Submission Group Id: 31524314	**Organization: EPA Region 3**	**SOW: SOM02.4**

MatrixSpikes

NONE FOUND

Data Validation Report

Data Review Results

Mon, 21 Oct 2019 08:47:33

Project Name: SHILOH CHURCH ROAD SITE Project	**GroupID: 48539/EPW14030/C0AY7**	**Lab Name: Chemtech Consulting Group**
Submission Group Id: 31524314	**Organization: EPA Region 3**	**SOW: SOM02.4**

LaboratoryControlSample

NONE FOUND

Data Validation Report

Data Review Results

Mon, 21 Oct 2019 08:47:33

Project Name: SHILOH CHURCH ROAD SITE Project	**GroupID: 48539/EPW14030/C0AY7**	**Lab Name: Chemtech Consulting Group**
Submission Group Id: 31524314	**Organization: EPA Region 3**	**SOW: SOM02.4**

Cleanup

NONE FOUND

Data Validation Report

Data Review Results

Mon, 21 Oct 2019 08:47:33

Project Name: SHILOH CHURCH ROAD SITE Project	**GroupID: 48539/EPW14030/C0AY7**	**Lab Name: Chemtech Consulting Group**
Submission Group Id: 31524314	**Organization: EPA Region 3**	**SOW: SOM02.4**

InternalStandard

NONE FOUND

Data Validation Report

Data Review Results

Mon, 21 Oct 2019 08:47:33

Project Name: SHILOH CHURCH ROAD SITE Project	GroupID: 48539/EPW14030/C0AY7	Lab Name: Chemtech Consulting Group
Submission Group Id: 31524314	Organization: EPA Region 3	SOW: SOM02.4

TargetAnalyteQuantitation

Method - Aroclors

Test Name: EXES-790
Defect Message: The following samples have analyte results greater than or equal to detection limit (MDL) and below quantitation limit (CRQL). Detects are qualified as estimated J.

Associated Samples: ALCS92

Defective Analyte	Defective Samples/Analyses
Aroclor-1016	ALCS92

Method - Trace Volatiles

Test Name: EXES-790
Defect Message: The following samples have analyte results greater than or equal to detection limit (MDL) and below quantitation limit (CRQL). Detects are qualified as estimated J.

Associated Samples: C0AY7, C0AY8, C0AY9

Defective Analyte	Defective Samples/Analyses
Acetone	C0AY7, C0AY8, C0AY9
Methylene chloride	C0AY9
Toluene	C0AY9
Tetrachloroethene	C0AY7, C0AY8

Method - Semivolatiles

Data Validation Report

Data Review Results

Mon, 21 Oct 2019 08:47:33

Project Name: SHILOH CHURCH ROAD SITE Project | **GroupID: 48539/EPW14030/C0AY7** | **Lab Name: Chemtech Consulting Group**

Submission Group Id: 31524314 | **Organization: EPA Region 3** | **SOW: SOM02.4**

Test Name: EXES-790
Defect Message: The following samples have analyte results greater than or equal to detection limit (MDL) and below quantitation limit (CRQL). Detects are qualified as estimated J.

Associated Samples: C0AY7, C0AY8

Defective Analyte	Defective Samples/Analyses
Phenol	C0AY8
Dimethylphthalate	C0AY7, C0AY8

Data Validation Report

Data Review Results

Mon, 21 Oct 2019 08:47:33

Project Name: SHILOH CHURCH ROAD SITE Project	**GroupID: 48539/EPW14030/C0AY7**	**Lab Name: Chemtech Consulting Group**
Submission Group Id: 31524314	**Organization: EPA Region 3**	**SOW: SOM02.4**

PercentSolids

NONE FOUND

Data Validation Report

Data Review Results

Mon, 21 Oct 2019 08:47:33

Project Name: SHILOH CHURCH ROAD SITE Project	**GroupID: 48539/EPW14030/C0AY7**	**Lab Name: Chemtech Consulting Group**
Submission Group Id: 31524314	**Organization: EPA Region 3**	**SOW: SOM02.4**

SampleAnalysis

NONE FOUND

SDG COVER PAGE

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Cas No.: 48539 MA No. : SDG No.: C0AY7

SOW No. : SOM02.4

EPA Sample No.	Lab Sample ID	Analysis Method					
		Trace VOA	Low Med VOA	SVOA	SVOA SIM	PEST	ARO
C0AY7	K5342-01	X		X			X
C0AY8	K5342-02	X		X			X
C0AY9	K5342-03	X					
VHBLK01	K5342-04	X					

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the SDG Narrative.Release of the data contained in this hardcopy data package and in the electronic data submitted has been authorized by the Laboratory Manager or the Manager's designee,as verified by the following signature.

Signature: [redacted] "non responsive based on revised scope" Name: [redacted] "non responsive based on revised scope"

Date: 10/17/19 Title: QA/QC, DCO

SDG NARRATIVE

LAB NAME: CHEMTECH CONSULTING GROUP
CASE: 48539
SDG: C0AY7
CONTRACT: EPW14030
LAB CODE: CHM
CHEMTECH PROJECT: K5342
MODIFICATION REF. NUMBER: NA

Sample ID	EPA Sample ID	pH
K5342-01	C0AY7	1.0
K5342-02	C0AY8	1.0
K5342-03	C0AY9	1.0

3 Water samples were delivered to the laboratory intact on 10/11/2019.

Test requested on the Chain of Custody was Volatile Organic, Semivolatile Organic and Aroclor by Method SOM02.4.

The temperature of the samples was measured using an I R Gun. The samples temperature was 4.3 degree Celsius for the samples received on 10/11/2019.

Shipping Discrepancies and/or QC issues:

Issue: Laboratory QC is scheduled for ARO samples for this Case; however, no sample was designated on the COC and extra volume was not received. The laboratory would like to confirm they may proceed without laboratory QC as the laboratory has received the same number of samples as scheduled.

Resolution: Per Region 3, the laboratory may proceed with the samples without laboratory QC. Please note the issue in the SDG Narrative and proceed with the analysis of the samples.

Trace Volatiles:

The analysis performed on instrument MSVOA_U were done using GC column DB-624UI 20m 0.18mm 1.0 um. Cat#121-1324UI. The Trap was supplied by OI Analytical, OI #10 Trap , OI Eclipse 4660 Concentrator.

The analysis of VOC-Low Level -15 was based on method SOM02.4_Trace.

The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
Instrument Performance Check met requirements

The Retention Times met requirements.
The Internal Standards Areas met the acceptable requirements.
The Tuning criteria met requirements.
The Initial Calibration met the requirements.
The Continuous Calibration met the requirements.
The Blank did not indicate the presence of lab contamination.
The storage blank did not indicate the presence of lab contamination.

See **Manual Integration report** for the manual integration information at the end of the case narrative.

Calculation:

$$\text{Concentration in ug/L} = \frac{(Ax)\ (Is)\ (DF)}{(Ais)\ (RRF)\ (Vo)}$$

Where,
Ax = Area of the characteristic ion (EICP) for the compound to be measured.
Ais = Area of the characteristic ion (EICP) for the internal standard.
Is = Amount of internal standard added in ng.
RRF = Mean Relative Response Factor from the initial calibration standard.
Vo = Total volume of water purged, in mL.
DF = Dilution Factor.

Example Calculation for sample **C0AY7** for **Acetone:**

Ax = 3014
Is = 125
RRF= 0.071
DF = 1
Ais = 169783
Vo. = 25

$$\text{Concentration in ug/L} = \frac{(3014)\ (125)\ (1)}{(169783)(\ 0.071)(25)}$$

$$= 1.24\text{ug/L}$$

Reported Result = 1.2 ug/L

Relative Response Factor = **Dichlorodifluoromethane**: RUN **VU100719** for 0.5 ppb

$$RRF = \frac{\text{Area of compound}}{\text{Area of Internal Standard}} \times \frac{\text{Conc. of Internal Standard}}{\text{Conc. of Compound}}$$

$$RRF = \frac{8881}{191338} \times \frac{5.0}{0.5}$$

RRF= 0.464

Semivolatiles

The samples were analyzed on instrument BNA_M using GC Column ZB-GR Semi Volatiles Guardian which is 30 meters, 0.25 mm ID, 0.5 um df, Catalog # 7HG-G027-17-GGA.

Semis volatile Organic samples for water were extracted by Method SOM02.4 on 10/11/19.The analysis of SVOC was based on method SOM02.4_SVOC.

The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The Blank analysis did not indicate the presence of lab contamination.

The %RSD met requirement for initial Calibration except for 2,4-Dinitrotoluene (22.6%), for the initial calibration with dated 10/14/2019 with instrument M . As per method, the %RSD of 4 compounds can be failed within 40% Therefore no corrective action was required.
The Continuous Calibration met the requirements.

The Tuning criteria met requirements.

See **Manual Integration report** for the manual integration information at the end of the case narrative.

Concentration of Water Sample:

$$\text{Concentration ug/L} = \frac{(Ax)\,(Is)\,(Vt)\,(DF)\,(GPC)}{(Ais)\,(\overline{RRF})\,(Vo)\,(Vi)}$$

Where,
Ax = Area of the characteristic ion for the compound to be measured.
Ais = Area of the characteristic ion for the internal standard.
Is = Amount of internal standard injected in ng.
Vo = Volume of water extracted in mL.
Vi = Volume of extract injected in uL.
Vt = Volume of the concentrated extract in uL
RRF = Mean Relative Response Factor determined from the initial calibration standard.
GPC = Vin = GPC factor (If no GPC is performed, GPC=1)
Vout = Volume of extract collected after GPC cleanup.

Example calculation of C0AY7 for Dimethylphthalate:

Ax = 64734
Ais = 350994
Is = 20
Vo = 1000
Vi = 1
Vt = 1000
RRF = 1.595
GPC = 1

$$\text{Concentration ug/L} = \frac{(64734)\ (20)\ (1000)\ (1)\ (1)}{(350994)\ (1.595)\ (1000)\ (1)}$$

Reported Result = 2.3 ug/L

RRF Calculation of standard 20 ppb for **Naphthalene** with instrument M for method 09/27/19

$$\text{RRF} = \frac{\text{Area of compound}}{\text{Area of Internal Standard}} \times \frac{\text{Conc. of Internal Standard}}{\text{Conc. of Compound}}$$

= 1006484/987747 X 20/20

= 1.019 (Reported RRF)

Aroclors:

The analyses were performed on instrument GCECD_Q. The front column is ZB-MR1 which is 30 meters, 0.32 mm ID, 0.5 um df, Catalogue # 7HM-G016-17. The rear column is ZB-MR2 which is 30 meters, 0.32 mm ID, 0.25 µm; Catalogue # 7HM-G017-11.

Samples were analyzed on a single injection dual column system. To distinguish the second column analysis from the first column a -2 suffix was added to the file id on the form 8 and form 1. These referrers to forms were both columns are reported. Form 1s for the IBLK and ALCS have the -2 on the form as per the method section 3.3.7.1 foot notes.

Aroclor sample were extracted by Method SOM02.4 on 10/11/2019 and analyzed on 10/12/2019. All the samples were subjected to a Sulfuric acid cleanup. The samples were extracted and analyzed within contractual holding time.

The Surrogate recoveries met the acceptable criteria.
The Retention Times were acceptable for all samples.

The Laboratory Control Sample met requirements.
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements.
The Continuing Calibrations met the requirements.
Please see EPA communication in shipping discrepancy section.

See **Manual Integration report** for the manual integration information at the end of the case narrative.

Calculation for Concentration in Water Samples:

$$\text{Concentration ug/L} = \frac{(Ax)\,(Vt)\,(DF)\,(GPC)}{(CF)\,(Vo)\,(Vi)}$$

Where,
Ax = Response (peak area or height) of the compound to be measured.
CF = Mean Calibration Factor from the initial calibration (area/ng).
Vo = Volume of water extracted in mL.
Vi = Volume of extract injected in uL.
Vt = Volume of the concentrated extract in uL
GPC = $\frac{Vin}{Vout}$ = GPC factor (If no GPC is performed, GPC=1)
Vin = Volume of extract loaded onto GPC column.
Vout = Volume of extract collected after GPC cleanup.
DF = Dilution Factor.

Example of AR1260 calculation for Peak 1

Calibration factor Peak 1 100ppb ISTD= $\frac{\text{peak area}}{\text{Mass injected ng}}$
Column1

$$= \frac{16295667}{0.100}$$

= 162956670 calibration factor for Peak 1 100ppb

Average of 5 peaks = 150533442

No target **Aroclors** were detected in the samples.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature "non responsive based on revised scope" [redacted] Name: "non responsive based on revised scope" [redacted]

Date: 10/17/19 Title: Document Control Officer.

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Manual Integration Report

Sequence:	VU100719	Instrument	MSVOA_u

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTD0.505/ VSTD0.505	VU034949.D	1,2,3-Trichlorobenzene	*non responsive based on [redacted]	10/9/2019 8:17:26 AM	*non responsive based on [redacted]	10/9/2019 3:03:27 PM	Peak Integrated by Software incorrectly
VSTD0.505/ VSTD0.505	VU034949.D	1,2,4-trichlorobenzene	*non responsive based on [redacted]	10/9/2019 8:17:26 AM	*non responsive based on [redacted]	10/9/2019 3:03:27 PM	Peak Integrated by Software incorrectly
VSTD0.505/ VSTD0.505	VU034949.D	1,2-Dibromo-3-chloropro pane	*non responsive based on [redacted]	10/9/2019 8:17:26 AM	*non responsive based on [redacted]	10/9/2019 3:03:27 PM	Peak Integrated by Software incorrectly
VSTD0.505/ VSTD0.505	VU034949.D	Naphthalene	*non responsive based on [redacted]	10/9/2019 8:17:26 AM	*non responsive based on [redacted]	10/9/2019 3:03:27 PM	Peak Integrated by Software incorrectly
VSTD00106/ VSTD00106	VU034950.D	1,2,3-Trichlorobenzene	*non responsive based on [redacted]	10/9/2019 8:17:30 AM	*non responsive based on [redacted]	10/9/2019 3:03:32 PM	Peak Integrated by Software incorrectly
VSTD00106/ VSTD00106	VU034950.D	1,2,4-trichlorobenzene	*non responsive based on [redacted]	10/9/2019 8:17:30 AM	*non responsive based on [redacted]	10/9/2019 3:03:32 PM	Peak Integrated by Software incorrectly
VSTD00106/ VSTD00106	VU034950.D	Naphthalene	*non responsive based on [redacted]	10/9/2019 8:17:30 AM	*non responsive based on [redacted]	10/9/2019 3:03:32 PM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	VU101219	Instrument	MSVOA_u

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason

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Manual Integration Report

Sequence:	VU101419	Instrument	MSVOA_u

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason

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Manual Integration Report

Sequence:	VU101519	Instrument	MSVOA_u

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason

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Manual Integration Report

Sequence:	BM092719	Instrument	BNA_m

Sample ID	File ID	Parameter	*non responsive based on revised [redacted]	Review On	Supervised By	Supervised On	Reason
SSTD04055/ SSTD04055	BM022788.D	Benzaldehyde	[redacted]	9/30/2019 6:46:08 AM	*non responsive based on r [redacted]	9/30/2019 8:14:24 AM	Peak Integrated by Software incorrectly
SSTD04055/ SSTD04055	BM022788.D	Caprolactam	[redacted]	9/30/2019 6:46:08 AM	*non responsive based on r [redacted]	9/30/2019 8:14:24 AM	Peak Integrated by Software incorrectly
SSTD02056/ SSTD02056	BM022789.D	Benzaldehyde	[redacted]	9/30/2019 6:46:11 AM	*non responsive based on r [redacted]	9/30/2019 8:14:28 AM	Peak Integrated by Software incorrectly
SSTD02056/ SSTD02056	BM022789.D	Caprolactam	[redacted]	9/30/2019 6:46:11 AM	*non responsive based on r [redacted]	9/30/2019 8:14:28 AM	Peak Integrated by Software incorrectly
SSTD08057/ SSTD08057	BM022790.D	Benzaldehyde	[redacted]	9/30/2019 6:46:13 AM	m *non responsive based [redacted]	9/30/2019 8:14:30 AM	Peak Integrated by Software incorrectly
SSTD08057/ SSTD08057	BM022790.D	Caprolactam	[redacted]	9/30/2019 6:46:13 AM	m *non responsive based [redacted]	9/30/2019 8:14:30 AM	Peak Integrated by Software incorrectly
SSTD16058/ SSTD16058	BM022791.D	Benzaldehyde	[redacted]	9/30/2019 6:46:15 AM	*non responsive based on r [redacted]	9/30/2019 8:14:32 AM	Peak Integrated by Software incorrectly
SSTD16058/ SSTD16058	BM022791.D	Caprolactam	[redacted]	9/30/2019 6:46:15 AM	*non responsive based on r [redacted]	9/30/2019 8:14:32 AM	Peak Integrated by Software incorrectly
SSTDICV020/ SICV59	BM022792.D	Benzaldehyde	[redacted]	9/30/2019 6:46:17 AM	*non responsive based on r [redacted]	9/30/2019 8:14:35 AM	Peak Integrated by Software incorrectly
SSTDICV020/ SICV59	BM022792.D	Caprolactam	[redacted]	9/30/2019 6:46:17 AM	*non non responsive based [redacted]	9/30/2019 8:14:35 AM	Peak Integrated by Software incorrectly
SSTDCCC020/ SSTD02099	BM022793.D	Caprolactam	*non respon [redacted]	9/30/2019 6:46:19 AM	*non non responsive based [redacted]	9/30/2019 8:14:38 AM	Peak Integrated by Software incorrectly
SSTDCCC020E C/ SSTD02004	BM022808.D	Caprolactam	J *non respon [redacted]	9/30/2019 6:46:21 AM	m *non responsive based [redacted]	9/30/2019 8:14:44 AM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	BM101119	Instrument	BNA_m

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason

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Manual Integration Report

Sequence:	BM101419	Instrument	BNA_m

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
SSTD04004/ SSTD04004	BM023151.D	Caprolactam	[redacted]	10/15/2019 6:25:46 PM	[redacted]	10/16/2019 7:53:56 AM	Peak Integrated by Software incorrectly
SSTD08005/ SSTD08005	BM023152.D	Caprolactam	[redacted]	10/15/2019 6:25:48 PM	[redacted] d	10/16/2019 7:53:59 AM	Peak Integrated by Software incorrectly
SSTD16006/ SSTD16006	BM023153.D	Caprolactam	[redacted]	10/15/2019 6:25:51 PM	[redacted]	10/16/2019 7:54:01 AM	Peak Integrated by Software incorrectly
SSTD16006/ SSTD16006	BM023153.D	Fluoranthene	[redacted]	10/15/2019 6:25:51 PM	[redacted]	10/16/2019 7:54:01 AM	Peak Integrated by Software incorrectly
SSTDICV020/ SICV07	BM023154.D	Caprolactam		10/15/2019 6:25:53 PM		10/16/2019 7:54:04 AM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	BM101519	Instrument	BNA_m

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
SSTDCCC020/ SSTD02009	BM023170.D	Caprolactam	non responsive based o [redacted]	10/17/2019 1:09:48 AM	non responsive based on revised s [redacted]	10/17/2019 7:57:54 AM	Peak Integrated by Software incorrectly
SSTDCCC020EC/ SSTD02011	BM023193.D	Caprolactam	[redacted]	10/17/2019 1:10:15 AM	[redacted]	10/17/2019 7:58:33 AM	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	PQ100819	Instrument	ECD_q

Sample ID	File ID	Parameter	[redacted]	Review On	Supervised By	Supervised On	Reason
AR1660ICC100/ AR1660101	PQ044090.D	AR-1016-3 #2	[redacted]	10/10/2019 9:31:25 AM	[redacted]	10/10/2019 9:39:20	Peak Integrated by Software incorrectly
AR1232ICC100/ AR1232101	PQ044100.D	AR-1232-3 #2	[redacted]	10/10/2019 9:31:27 AM	[redacted]	10/10/2019 9:39:32	Peak Integrated by Software incorrectly
AR1232ICC100/ AR1232101	PQ044100.D	AR-1232-4 #2	[redacted]	10/10/2019 9:31:27 AM	[redacted]	10/10/2019 9:39:32	Peak Integrated by Software incorrectly
AR1242ICC100/ AR1242101	PQ044105.D	AR-1242-4	[redacted]	10/10/2019 9:31:29 AM	[redacted]	10/10/2019 9:39:22	Peak Integrated by Software incorrectly
AR1262ICC100/ AR1262101	PQ044120.D	AR-1262-4	[redacted]	10/10/2019 9:31:31 AM	[redacted]	10/10/2019 9:39:24	Peak Integrated by Software incorrectly
AR1262ICC200/ AR1262201	PQ044121.D	AR-1262-4	[redacted]	10/10/2019 9:31:34 AM	[redacted]	10/10/2019 9:39:26	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	PQ101119	Instrument	ECD_q

Sample ID	File ID	Parameter	[redacted]	Review On	Supervised By	Supervised On	Reason
AR1248CCC400 / AR1248314	PQ044266.D	AR-1248-1	[redacted]	10/14/2019 2:19:02 PM	[redacted]	10/14/2019 3:08:32	Peak Integrated by Software incorrectly
AR1248CCC400 / AR1248314	PQ044266.D	AR-1248-4	[redacted]	10/14/2019 2:19:02 PM	A[redacted]	10/14/2019 3:08:32	Peak Integrated by Software incorrectly
AR1660CCC400 / AR1660315	PQ044282.D	AR-1016-5	[redacted]	10/14/2019 2:19:13 PM	A[redacted]	10/14/2019 3:06:03	Peak Integrated by Software incorrectly
AR1660CCC400 / AR1660315	PQ044282.D	AR-1016-5 #2	[redacted]	10/14/2019 2:19:13 PM	A[redacted]	10/14/2019 3:06:03	Peak Integrated by Software incorrectly
AR1660CCC400 / AR1660315	PQ044282.D	AR-1260-1	[redacted]	10/14/2019 2:19:13 PM	A[redacted]	10/14/2019 3:06:03	Peak Integrated by Software incorrectly
AR1660CCC400 / AR1660315	PQ044282.D	AR-1260-1 #2	[redacted]	10/14/2019 2:19:13 PM	A[redacted]	10/14/2019 3:06:03	Peak Integrated by Software incorrectly
AR1660CCC400 / AR1660315	PQ044282.D	AR-1260-2	[redacted]	10/14/2019 2:19:13 PM	A[redacted]	10/14/2019 3:06:03	Peak Integrated by Software incorrectly
AR1660CCC400 / AR1660315	PQ044282.D	AR-1260-2 #2	[redacted]	10/14/2019 2:19:13 PM	[redacted]	10/14/2019 3:06:03	Peak Integrated by Software incorrectly
AR1660CCC400 / AR1660315	PQ044282.D	AR-1260-3 #2	[redacted]	10/14/2019 2:19:13 PM	[redacted]	10/14/2019 3:06:03	Peak Integrated by Software incorrectly
AR1660CCC400 / AR1660315	PQ044282.D	Decachlorobiphenyl	[redacted]	10/14/2019 2:19:13 PM	[redacted]	10/14/2019 3:06:03	Peak Integrated by Software incorrectly
AR1248CCC400 / AR1248315	PQ044283.D	Decachlorobiphenyl	[redacted]	10/14/2019 2:19:15 PM	[redacted]	10/14/2019 3:06:05	Peak Integrated by Software incorrectly
AR1660CCC400 / AR1660316	PQ044312.D	AR-1016-5	[redacted]	10/14/2019 2:27:03 PM	[redacted]	10/15/2019 2:22:52	Peak Integrated by Software incorrectly
AR1660CCC400 / AR1660316	PQ044312.D	AR-1016-5 #2	[redacted]	10/14/2019 2:27:03 PM	[redacted]	10/15/2019 2:22:52	Peak Integrated by Software incorrectly

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Manual Integration Report

Sequence:	PQ101119	Instrument	ECD_q

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
AR1660CCC400 / AR1660316	PQ044312.D	AR-1260-1	h[redacted]	10/14/2019 2:27:03 PM	[redacted]	10/15/2019 2:22:52	Peak Integrated by Software incorrectly
AR1660CCC400 / AR1660316	PQ044312.D	AR-1260-2	[redacted]	10/14/2019 2:27:03 PM	[redacted]	10/15/2019 2:22:52	Peak Integrated by Software incorrectly
AR1248CCC400 / AR1248316	PQ044313.D	AR-1248-4 #2	[redacted]l	10/14/2019 2:27:05 PM	[redacted]	10/15/2019 2:21:42	Peak Integrated by Software incorrectly
AR1248CCC400 / AR1248316	PQ044313.D	AR-1248-5 #2	[redacted]	10/14/2019 2:27:05 PM	[redacted]	10/15/2019 2:21:42	Peak Integrated by Software incorrectly
AR1254CCC400 / AR1254316	PQ044314.D	AR-1254-1 #2	[redacted]l	10/14/2019 2:27:28 PM	[redacted]	10/15/2019 2:21:57	Peak Integrated by Software incorrectly
AR1254CCC400 / AR1254316	PQ044314.D	AR-1254-2 #2	[redacted]	10/14/2019 2:27:28 PM	[redacted]	10/15/2019 2:21:57	Peak Integrated by Software incorrectly
AR1254CCC400 / AR1254316	PQ044314.D	AR-1254-5	[redacted]	10/14/2019 2:27:28 PM	[redacted]	10/15/2019 2:21:57	Peak Integrated by Software incorrectly

EPA SAMPLE NO.

VBLK20

FORM 4-OR
METHOD BLANK SUMMARY

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 48539
MA No. : SDG No.: C0AY7
Analytical Method: Trace VOA
Level :
Matrix : Water
Lab Sample ID: VU1012WBL03
Instrument ID: MSVOA_U
Lab File ID : VU035116.D
Extraction Type : PT
Date Extracted :
GC Column ( ) : DB-624UI ID : 0.18 (mm)
Date Analyzed : 10/12/2019
GC Column ( ) : ID : (mm)
Time Analyzed : 02:51
Heated Purge: (Y/N) N Cleanup(Y/N):
Cleanup Types :

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE/TIME ANALYZED
C0AY7	K5342-01	VU035122.D	10/12/2019 05:17
C0AY8	K5342-02	VU035123.D	10/12/2019 05:42

EPA SAMPLE NO.

VBLK21

FORM 4-OR
METHOD BLANK SUMMARY

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 48539
MA No. : SDG No.: C0AY7
Analytical Method: Trace VOA
Level :
Matrix : Water
Lab Sample ID: VU1014WBL01
Instrument ID: MSVOA_U
Lab File ID : VU035141.D
Extraction Type : PT
Date Extracted :
GC Column ( ) : DB-624UI ID : 0.18 (mm)
Date Analyzed : 10/14/2019
GC Column ( ) : ID : (mm)
Time Analyzed : 10:35
Heated Purge: (Y/N) N Cleanup(Y/N):
Cleanup Types :

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE/TIME ANALYZED
C0AY9	K5342-03	VU035142.D	10/14/2019 11:05

EPA SAMPLE NO.

VBLK23

FORM 4-OR
METHOD BLANK SUMMARY

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 48539
MA No. : SDG No.: C0AY7
Analytical Method: Trace VOA
Level :
Matrix : Water
Lab Sample ID: VU1015WBL01
Instrument ID: MSVOA_U
Lab File ID : VU035180.D
Extraction Type : PT
Date Extracted :
GC Column ( ) : DB-624UI ID : 0.18 (mm)
Date Analyzed : 10/15/2019
GC Column ( ) : ID : (mm)
Time Analyzed : 09:54
Heated Purge: (Y/N) N Cleanup(Y/N):
Cleanup Types :

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE/TIME ANALYZED
VHBLK01	K5342-04	VU035181.D	10/15/2019 10:22

FORM 5-OR
GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.
BFB14

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 48539
MA No.: SDG No.: C0AY7
Analytical Method : Trace VOA
Lab File ID : VU034948.D
Instrument ID: MSVOA_U
BFB / DFTPP : BFB
GC Column : DB-624UI ID : 0.18 (mm) :
Injection Date : 10/07/2019
Injection Time: 08:59

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	21.4	
75	30.0 - 80.0% of mass 95	52.6	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.7	
173	Less than 2.0% of mass 174	0.4(0.5)	1
174	50.0 - 120% of mass 95	84.1	
175	5.0 - 9.0% of mass 174	6.4(7.6)	1
176	95.0 - 101% of mass 174	82.3(97.8)	1
177	5.0 - 9.0% of mass 176	5.3(6.5)	2

EPA SAMPLE NO.	LAB SAMPLE	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTD0.505	VSTD0.505	VU034949.D	10/07/2019	09:54
VSTD00106	VSTD00106	VU034950.D	10/07/2019	10:18
VSTD00501	VSTD00501	VU034951.D	10/07/2019	10:42
VSTD01002	VSTD01002	VU034952.D	10/07/2019	11:07
VSTD02003	VSTD02003	VU034953.D	10/07/2019	11:31
VICV04	VSTDICV005	VU034954.D	10/07/2019	12:04

FORM 5-OR
GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.
BFB18

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 48539
MA No.: SDG No.: C0AY7
Analytical Method : Trace VOA
Lab File ID : VU035076.D
Instrument ID: MSVOA_U
BFB / DFTPP : BFB
GC Column : DB-624UI ID : 0.18 (mm) :
Injection Date : 10/11/2019
Injection Time: 08:26

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	21.6	
75	30.0 - 80.0% of mass 95	54.4	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.8	
173	Less than 2.0% of mass 174	0.8(1)	1
174	50.0 - 120% of mass 95	84.4	
175	5.0 - 9.0% of mass 174	6.4(7.5)	1
176	95.0 - 101% of mass 174	81(96)	1
177	5.0 - 9.0% of mass 176	5.2(6.4)	2

EPA SAMPLE NO.	LAB SAMPLE	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTD00514	VSTDCCC005	VU035077.D	10/11/2019	09:47
VSTD00515	VSTDCCC005	VU035090.D	10/11/2019	15:12
VSTD00516	VSTDCCC005	VU035115.D	10/12/2019	02:03
VBLK20	VU1012WBL03	VU035116.D	10/12/2019	02:51
C0AY7	K5342-01	VU035122.D	10/12/2019	05:17
C0AY8	K5342-02	VU035123.D	10/12/2019	05:42
VSTD00517	VSTDCCC005EC	VU035138.D	10/12/2019	11:47

FORM 5-OR

GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

BFB19

Lab Name : Chemtech Consulting Group

Contract : EPW14030

Lab Code: CHM Case No.: 48539

MA No.: SDG No.: C0AY7

Analytical Method : Trace VOA

Lab File ID : VU035139.D

Instrument ID: MSVOA_U

BFB / DFTPP : BFB

GC Column : DB-624UI ID : 0.18 (mm) :

Injection Date : 10/14/2019

Injection Time: 09:35

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	21.8	
75	30.0 - 80.0% of mass 95	54.2	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.9	
173	Less than 2.0% of mass 174	0.5(0.6)	1
174	50.0 - 120% of mass 95	81.1	
175	5.0 - 9.0% of mass 174	6.7(8.2)	1
176	95.0 - 101% of mass 174	79.5(97.9)	1
177	5.0 - 9.0% of mass 176	5(6.2)	2

EPA SAMPLE NO.	LAB SAMPLE	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTD00518	VSTDCCC005	VU035140.D	10/14/2019	10:03
VBLK21	VU1014WBL01	VU035141.D	10/14/2019	10:35
C0AY9	K5342-03	VU035142.D	10/14/2019	11:05
VSTD00519	VSTDCCC005	VU035151.D	10/14/2019	15:34

FORM 5-OR

GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

BFB40

Lab Name : Chemtech Consulting Group

Contract : EPW14030

Lab Code: CHM Case No.: 48539

MA No.: SDG No.: C0AY7

Analytical Method : Trace VOA

Lab File ID : VU035178.D

Instrument ID: MSVOA_U

BFB / DFTPP : BFB

GC Column : DB-624UI ID : 0.18 (mm) :

Injection Date : 10/15/2019

Injection Time: 08:26

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	21.1	
75	30.0 - 80.0% of mass 95	54.4	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.5	
173	Less than 2.0% of mass 174	0.0(0.0)	1
174	50.0 - 120% of mass 95	82.2	
175	5.0 - 9.0% of mass 174	6.2(7.5)	1
176	95.0 - 101% of mass 174	78.3(95.3)	1
177	5.0 - 9.0% of mass 176	5(6.4)	2

EPA SAMPLE NO.	LAB SAMPLE	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTD00521	VSTDCCC005	VU035179.D	10/15/2019	09:22
VBLK23	VU1015WBL01	VU035180.D	10/15/2019	09:54
VHBLK01	K5342-04	VU035181.D	10/15/2019	10:22
VSTD00522	VSTDCCC005EC	VU035199.D	10/15/2019	19:53

EPA SAMPLE NO.

SBLK91

FORM 4-OR
METHOD BLANK SUMMARY

Lab Name : Chemtech Consulting Group

Contract : EPW14030

Lab Code: CHM Case No.: 48539

MA No. : _____ sdg no.: C0AY7

Analytical Method: SVOA

Level : _____

Matrix : Water

Lab Sample ID: PB123891BL

Instrument ID: BNA_M

Lab File ID : BM023168.D

Extraction Type : CONH

Date Extracted : 10/11/2019

GC Column ( ) : ZB-GR ID : 0.25 (mm)

Date Analyzed : 10/15/2019

GC Column ( ) : _____ ID : _____ (mm)

Time Analyzed : 16:11

Heated Purge: (Y/N) _____ Cleanup(Y/N): N

Cleanup Types : _____

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE / TIME ANALYZED
C0AY7	K5342-01	BM023140.D	10/11/2019 21:20
C0AY8	K5342-02	BM023141.D	10/11/2019 21:56

FORM 5-OR
GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

DFTPP01

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 48539
MA No. : SDG No.: C0AY7
Analytical Method : SVOA
Lab File ID : BM022783.D
Instrument ID: BNA_M
BFB / DFTPP : DFTPP
GC Column : ZB-GR ID : 0.25 (mm)
Injection Date : 09/27/2019
Injection Time : 10:48

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	33.3
68	Less than 2.0% of mass 69	0.6(1.8) 1
69	Present	35.2
70	Less than 2.0% of mass 69	0.2(0.6) 1
127	10.0 - 80.0% of mass 198	47.2
197	Less than 2.0% of mass 198	0.4
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 60.0% of mass 198	27.1
365	Greater than 1% of mass 198	3.5
441	Present, but less than mass 443	12
442	Greater than 50.0% of mass 198	79.1
443	15.0 - 24.0% of mass 442	15.4(19.5) 2

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTD00552	SSTD00552	BM022785.D	09/27/2019	13:54
SSTD01053	SSTD01053	BM022786.D	09/27/2019	14:30
SSTD04055	SSTD04055	BM022788.D	09/27/2019	15:43
SSTD02056	SSTD02056	BM022789.D	09/27/2019	16:20
SSTD08057	SSTD08057	BM022790.D	09/27/2019	16:56
SSTD16058	SSTD16058	BM022791.D	09/27/2019	17:33
SICV59	SSTDICV020	BM022792.D	09/27/2019	18:35

FORM 5-OR
GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

DFTPP07

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 48539
MA No. : SDG No.: C0AY7
Analytical Method : SVOA
Lab File ID : BM023119.D
Instrument ID: BNA_M
BFB / DFTPP : DFTPP
GC Column : ZB-GR ID : 0.25 (mm)
Injection Date : 10/11/2019
Injection Time : 08:45

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	31.6
68	Less than 2.0% of mass 69	0.5(1.6) 1
69	Present	34
70	Less than 2.0% of mass 69	0.2(0.5) 1
127	10.0 - 80.0% of mass 198	44.6
197	Less than 2.0% of mass 198	0.3
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 60.0% of mass 198	27.6
365	Greater than 1% of mass 198	3.8
441	Present, but less than mass 443	13.4
442	Greater than 50.0% of mass 198	88.1
443	15.0 - 24.0% of mass 442	17.3(19.7) 2

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTD02007	SSTDCCC020	BM023120.D	10/11/2019	09:21
SSTD02098	SSTDCCC020	BM023132.D	10/11/2019	16:32
C0AY7	K5342-01	BM023140.D	10/11/2019	21:20
C0AY8	K5342-02	BM023141.D	10/11/2019	21:56
SSTD02099	SSTDCCC020EC	BM023146.D	10/12/2019	00:55

FORM 5-OR
GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

DFTPP09

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 48539
MA No. : SDG No.: C0AY7
Analytical Method : SVOA
Lab File ID : BM023147.D
Instrument ID: BNA_M
BFB / DFTPP : DFTPP
GC Column : ZB-GR ID : 0.25 (mm)
Injection Date : 10/14/2019
Injection Time : 16:29

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	30.9
68	Less than 2.0% of mass 69	0.6(1.7) 1
69	Present	35.4
70	Less than 2.0% of mass 69	0.1(0.2) 1
127	10.0 - 80.0% of mass 198	43.5
197	Less than 2.0% of mass 198	0.1
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 60.0% of mass 198	31.2
365	Greater than 1% of mass 198	4.2
441	Present, but less than mass 443	12.9
442	Greater than 50.0% of mass 198	82.6
443	15.0 - 24.0% of mass 442	15.8(19.1) 2

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTD00501	SSTD00501	BM023148.D	10/14/2019	17:04
SSTD01002	SSTD01002	BM023149.D	10/14/2019	17:40
SSTD02003	SSTD02003	BM023150.D	10/14/2019	18:16
SSTD04004	SSTD04004	BM023151.D	10/14/2019	18:52
SSTD08005	SSTD08005	BM023152.D	10/14/2019	19:28
SSTD16006	SSTD16006	BM023153.D	10/14/2019	20:04
SICV07	SSTDICV020	BM023154.D	10/14/2019	20:40

FORM 5-OR
GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

DFTPP10

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 48539
MA No. : SDG No.: C0AY7
Analytical Method : SVOA
Lab File ID : BM023155.D
Instrument ID: BNA_M
BFB / DFTPP : DFTPP
GC Column : ZB-GR ID : 0.25 (mm)
Injection Date : 10/15/2019
Injection Time : 07:50

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	31.6
68	Less than 2.0% of mass 69	0.7(1.9) 1
69	Present	35
70	Less than 2.0% of mass 69	0.2(0.5) 1
127	10.0 - 80.0% of mass 198	43.4
197	Less than 2.0% of mass 198	0.2
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 60.0% of mass 198	31.3
365	Greater than 1% of mass 198	4
441	Present, but less than mass 443	13.1
442	Greater than 50.0% of mass 198	85
443	15.0 - 24.0% of mass 442	16(18.8) 2

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTD02008	SSTDCCC020	BM023156.D	10/15/2019	09:01
SBLK91	PB123891BL	BM023168.D	10/15/2019	16:11
SSTD02009	SSTDCCC020	BM023170.D	10/15/2019	17:22

FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: Chemtech Consulting Group
Contract: EPW14030
Lab Code: CHM Case No.: 48539
MA No.: SDG No.: C0AY7
Analytical Method : SVOA
Level :
Instrument ID: BNA_M
Calibration Date(s): 10/14/2019 10/14/2019
GC Column: ZB-GR ID: 0.25 (mm)
Calibration Time(s): 17:04 20:04
Length : 30 (m)
Heated Purge: (Y/N)
Purge Volume : (mL)

LAB FILE ID: RRF005 =BM023148.D RRF010= BM023149.D RRF020 =BM023150.D
RRF040 =BM023151.D RRF080= BM023152.D RRF160 =BM023153.D

ANALYTE	RRF005	RRF010	RRF020	RRF040	RRF080	RRF160	$\overline{RRF}$	% RSD
Acenaphthene	1.319	1.265	1.263	1.308	1.244		1.280	2.5
2,4-Dinitrophenol		0.067	0.081	0.108	0.128	0.165	0.110	35.5
4-Nitrophenol		0.196	0.214	0.234	0.233	0.240	0.224	8.1
Dibenzofuran	1.844	1.806	1.781	1.875	1.778		1.817	2.3
2,4-Dinitrotoluene	0.260	0.286	0.352	0.426	0.437		0.352	22.6
Diethylphthalate	1.588	1.558	1.558	1.606	1.523		1.567	2.0
Fluorene	1.531	1.467	1.464	1.524	1.468		1.491	2.2
4-Chlorophenyl-phenylether	0.773	0.769	0.768	0.804	0.778		0.779	1.9
4-Nitroaniline		0.267	0.297	0.337	0.326	0.335	0.312	9.6
4,6-Dinitro-2-methylphenol		0.057	0.074	0.097	0.110	0.127	0.093	29.9
N-Nitrosodiphenylamine	0.647	0.609	0.606	0.630	0.594		0.617	3.4
4-Bromophenyl-phenylether	0.242	0.233	0.239	0.251	0.243		0.241	2.8
1,2,4,5-Tetrachlorobenzene	0.653	0.626	0.639	0.667	0.649		0.647	2.4
Hexachlorobenzene	0.277	0.263	0.270	0.284	0.275		0.274	2.9
Atrazine		0.228	0.234	0.245	0.236	0.239	0.236	2.6
Pentachlorophenol		0.133	0.141	0.156	0.160	0.177	0.153	11.2
Phenanthrene	1.160	1.107	1.104	1.153	1.089		1.122	2.8
Anthracene	1.200	1.148	1.142	1.191	1.118		1.160	3.0
Carbazole		1.051	1.059	1.084	1.023	0.964	1.036	4.4
Di-n-butylphthalate	1.278	1.214	1.223	1.268	1.181		1.233	3.2
Fluoranthene		1.377	1.395	1.438	1.368	1.097	1.335	10.2
Pyrene	1.291	1.236	1.239	1.293	1.205		1.253	3.0
Butylbenzylphthalate	0.383	0.397	0.437	0.485	0.478		0.436	10.6
3,3-Dichlorobenzidine		0.476	0.505	0.537	0.487	0.418	0.484	9.0
Benzo(a)anthracene	1.403	1.345	1.346	1.387	1.296		1.355	3.1
Chrysene	1.307	1.254	1.249	1.280	1.202		1.258	3.1
Bis(2-ethylhexyl)phthalate	0.679	0.663	0.689	0.729	0.705		0.693	3.7
Di-n-octyl phthalate		0.987	1.035	1.106	1.067	0.964	1.032	5.6
Benzo(b)fluoranthene	1.208	1.183	1.183	1.287	1.203		1.213	3.5
Benzo(k)fluoranthene	1.183	1.113	1.171	1.185	1.170		1.164	2.5
Benzo(a)pyrene	1.173	1.129	1.148	1.211	1.157		1.163	2.7
Indeno(1,2,3-cd)pyrene	1.450	1.341	1.390	1.434	1.305		1.384	4.4
Dibenzo(a,h)anthracene	1.202	1.125	1.162	1.199	1.098		1.157	3.9

FORM 3B-OR
LABORATORY CONTROL
SAMPLE RECOVERY

EPA SAMPLE NO.

ALCS92

Lab Name : Chemtech Consulting Group Contract : EPW14030

Lab Code : CHM Case No 48539 MA No. : SDG No.: C0AY7

Analytical Method: ARO

Matrix : Water Lab Sample ID : PB123892BS

LCS Lot No. : PP15874 Date Extracted : 10/11/2019

Concentration Units (ug/L,mg/L,ug/kg): ug/L

Instrument ID (1) : ECD_Q GC Column (1) : ZB-MR1 ID : 0.32 (mm)

Date Analyzed (1) : 10/12/2019

ANALYTE	AMOUNT ADDED	AMOUNT RECOVERED	% R	QC LIMITS
AR1016	1.0	0.90	90	50-150
AR1260	1.0	1.1	106	50-150

Instrument ID (2) : ECD_Q GC Column (2) : ZB-MR2 ID : 0.32 (mm)

Date Analyzed (2) : 10/12/2019

ANALYTE	AMOUNT ADDED	AMOUNT RECOVERED	% R	QC LIMITS
AR1016	1.0	0.86	86	50-150
AR1260	1.0	1.0	105	50-150

EPA SAMPLE NO.

ABLK92

FORM 4-OR
METHOD BLANK SUMMARY

Lab Name : Chemtech Consulting Group
Contract : EPW14030
Lab Code: CHM Case No.: 48539
MA No.: SDG No.: C0AY7
Analytical Method: ARO
Level :
Matrix : Water
Lab Sample ID : PB123892BL
Instrument ID: ECD_Q
Lab File ID : PQ044274.D
Extraction Type: SEPF
Date Extracted : 10/11/2019
GC Column (1) : ZB-MR1 ID : 0.32 (mm)
Date Analyzed : 10/12/2019
GC Column (2) : ZB-MR2 ID : 0.32 (mm)
Time Analyzed : 07:32
Heated Purge : (Y/N) Cleanup(Y/N) : Y
Cleanup Types : Acid

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE / TIME ANALYZED
ALCS92	PB123892BS	PQ044275.D	10/12/2019 07:49
C0AY7	K5342-01	PQ044278.D	10/12/2019 08:39
C0AY8	K5342-02	PQ044279.D	10/12/2019 08:56

EPA SAMPLE NO.

ALCS92

FORM 10B-OR
IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No. 48539 MA No.: SDG No.: C0AY7

Analytical Method: ARO Lab Sample ID: PB123892BS

Instrument ID (1): ECD_Q Date(s) Analyzed : 10/12/2019

Instrument ID (2): ECD_Q

GC Column(1): ZB-MR1 ID: 0.32 (mm) GC Column(2): ZB-MR2 ID: 0.32 (mm)

Concentration Units (µg/L, mg/L, µg/kg): ug/L

ANALYTE	PEAK	RT	RT WINDOW		CONCENTRATION		%D
			FROM	TO	PEAK	MEAN	
Aroclor 1016	1	6 65	6 57	6 71	0 8628		
COLUMN 1	2	6 67	6 59	6 73	0 8875		
	3	6 74	6 66	6 80	0 8896	0 90	
	4	6 85	6 77	6 91	0 9184		
	5	7 16	7 09	7 23	0 9620		
	1	5 64	5 57	5 71	0 8107		5 60
COLUMN 2	2	5 66	5 59	5 73	0 8776		
	3	5 86	5 79	5 93	0 8683	0 86	
	4	5 91	5 84	5 98	0 8323		
	5	6 14	6 07	6 21	0 8906		
Aroclor-1260	1	8.35	8.27	8.41	1.1404		
COLUMN 1	2	8.61	8.54	8.68	1.1448		
	3	8.99	8.91	9.05	0.9438	1.1	
	4	9.24	9.16	9.30	1.0772		
	5	9.59	9.51	9.65	0.9924		
	1	7.25	7.18	7.32	1.1026		0.90
COLUMN 2	2	7.44	7.37	7.51	1.1219		
	3	7.60	7.54	7.68	1.1120	1.0	
	4	8.09	8.02	8.16	0.9780		
	5	8.34	8.27	8.41	0.9348		

From: "non responsive based on revised scope"
Sent: Friday, October 11, 2019 12:20 PM
To: "non responsive based on revised scope"
Cc: Burman.Jarmael (Burman.Jarmael@epa.gov); roberson.sharon@epa.gov
Subject: Region 03 | Case 48539 | Lab CHM | Issue Insufficient/inappropriate designation of laboratory QC | FINAL
Attachments: 48539-1011.pdf

Good afternoon "non responsive based o

Issue: Laboratory QC is scheduled for ARO samples for this Case; however, no sample was designated on the COC and extra volume was not received. The laboratory would like to confirm they may proceed without laboratory QC as the laboratory has received the same number of samples as scheduled.
Resolution: Per Region 3, the laboratory may proceed with the samples without laboratory QC. Please note the issue in the SDG Narrative and proceed with the analysis of the samples.

Please note that the laboratory will have to contact the Regional CLP COR and the appropriate ASB CLP COR should any defects need to be waived for this issue.

Thanks,
"non responsive based on revised scope"
Data Analyst Associate
CLP SMO Coordinator – EPA Regions 3 and 9/Team Leader
Federal Civilian Division

"non responsive based on revised scope"
sed scope"
om

GENERAL DYNAMICS
Information Technology

-----Original Message-----
From: Burman, Jarmael <Burman.Jarmael@epa.gov>
Sent: Friday, October 11, 2019 11:04 AM
To: "non responsive based on revised scope" >; Roberson, Sharon <Roberson.Sharon@epa.gov>
Subject: RE: NEW ISSUE | Case 48539 | Lab CHM | Issue Insufficient/inappropriate designation of laboratory QC

Katherine,

Have the laboratory make note of the issue in their SDG Narrative and proceed with the analysis of the samples.

Jarmael A. Burman
US EPA Region 3 - CLP PO/RSCC/DDS
701 Mapes Road
Fort Meade, Maryland 20755-5350

(410) 305-2743 (office)
(410) 305-3095 (fax)

-----Original Message-----
From: "non responsive based on revised scope" [redacted]
Sent: Friday, October 11, 2019 10:59 AM
To: Burman, Jarmael <Burman.Jarmael@epa.gov>; Roberson, Sharon <Roberson.Sharon@epa.gov>
Subject: NEW ISSUE | Case 48539 | Lab CHM | Issue Insufficient/inappropriate designation of laboratory QC

Good morning Jay,

Issue: Laboratory QC is scheduled for ARO samples for this Case; however, no sample was designated on the COC and extra volume was not received. The laboratory would like to confirm they may proceed without laboratory QC as the laboratory has received the same number of samples as scheduled.

Thanks,
[redacted]
Data Analyst Associate
CLP SMO Coordinator - EPA Regions 3 and 9/Team Leader Federal Civilian Division

[redacted]

[cid:image005.png@01D4EB9E.C87DBA30]

From: "non responsive based on revised scope" [redacted]>
Sent: Friday, October 11, 2019 10:25 AM
To: "non responsive based on revised scope" [redacted]
Cc: "non responsive based on revised scope" [redacted]>; Brandon-Bazile.Kim@epa.gov; 'Moody, Brett' <Moody.Brett@epa.gov>; 'Strock, Troy' <strock.troy@epa.gov>; [redacted]
[redacted]>
Subject: Region 03 | Case 48539 | Lab CHM | Issue Discrepancies with tags, jars, and/or COC

Hi [redacted]

Samples received with 10/11 shipment has below discrepancy,

Issue1: Lab has received water samples under this case and Lab QC is required for PCB analysis as per the ASR. However, there is no any sample designated on the COC nor extra volume received for any of the samples therefore lab would like to confirm that can lab proceed without Lab QC and is this case complete because the same quantity of the samples received per the ASR?

Please see attachment for your reference.

Thanks & Regards,

"non responsive based on revised
QA/QC Director
Direct Line: "non responsive based on revised scope
"non responsive base
"non responsive based on revised scope"

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